FINAL STUDY REPORT
CONOWINGO EAST FISH LIFT ATTRACTION FLOWS
Statistical Analysis of Turbine Operations and East Fish Lift Catch
RSP 3.6

CONOWINGO HYDROELECTRIC PROJECT

FERC PROJECT NUMBER 405

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EXECUTIVE SUMMARY

Exelon Generation Company, LLC (Exelon) has initiated with the Federal Energy Regulatory Commission (FERC) the process of relicensing the 573-megawatt Conowingo Hydroelectric Project (Conowingo Project). The current license for the Conowingo Project was issued on August 14, 1980 and expires on September 1, 2014. FERC issued the final study plan determination for the Conowingo Project on February 4, 2010, approving the revised study plan with certain modifications.

The final study plan determination required Exelon to conduct a Conowingo East Fish Lift (EFL) Attraction Flow Study (RSP 3.6) for American shad, Alosa sapidissima and gizzard shad, Dorosoma cepediense. The objectives of the study were to: 1) review and analyze applicable data from 2000 through 2009 under the designation of historical data, as it relates to Conowingo turbine and EFL operation data; 2) analyze and report turbine on/off times, duration of turbine operation, and water temperature, in conjunction with attraction flow velocity data and hourly fish passage data for the two species for 2010; and 3) analyze and report 2010 Conowingo station operation and fish passage data in conjunction with the passage of radio-telemetered American shad from Conowingo RSP 3.5-Upstream Fish Passage Effectiveness Study.

An initial study report (ISR) was filed on February 22, 2011, containing Exelon's 2010 study findings. An initial study report meeting was held on March 9, 10 and 11, 2011 with resource agencies and interested members of the public. Formal comments on the ISR including requested study plan modifications were filed with FERC on April 27, 2011 by Commission Staff, several resource agencies and interested members of the public. Exelon filed responses to the ISR comments with FERC on May 27, 2011. On June 24, 2011, FERC issued a study plan modification determination order. The order specified what, if any, modifications to the ISRs should be made. For this study, FERC's June 24, 2011 order required no modifications to the original study plan.

However, upon review of stakeholder comments, it was apparent that there was disagreement amongst the parties on the methods of analyses of the hourly fish passage data in conjunction with Project turbine operations/discharges. In their April 27, 2011 comment letters, stakeholders provided several suggestions relative to potential analytical methods, but a consensus on how best to analyze the data was not evident. In an effort to reach consensus, Exelon hosted meetings in August and September 2011 to discuss these comments and appropriate variables and statistical methods for these additional analyses.

After significant discussion, the parties reached a consensus as to which statistical methods and variables were to be used to analyze the data. The additional analysis included: 1) limiting analysis to the peak of

American shad run (April 25 - May 21) based on Julian date; 2) hourly fish counts lagged by 0.5 hr; 3) first hourly count of each day excluded from analysis; 4) average discharge data from each turbine for the years 2001-2003, and 5) specific flow intervals were established to segregate the EFL fish catch data : 7,500 – 17,999 cfs, 18,000 – 27,999 cfs, 28,000 – 35,999 cfs, 36,000 – 44,999 cfs, 45,000 – 54,999 cfs, 55,000 – 65,999 cfs, and 66,000 – 80,000 cfs.

Only turbine operating scenarios occurring in each flow interval at least ten times during the 2001 through 2010 time period were analyzed except for two flow intervals, (18,000 – 27,999 cfs and 36,000 – 44,999 cfs) that included turbine scenarios occurring at least seven times. The threshold was relaxed for these two flow intervals, because both intervals had a relatively small number of unique turbine combinations that occurred more than 10 times. To adjust for day-to-day and year-to-year variability, fish passage counts were standardized using daily and annual means using Z-scores. These standardized counts were then used in an ANOVA analysis.

An updated study report (USR) analyzing the 2010 study data was filed on January 23, 2012. This final study report detailing the analysis of 2010 data is being filed with the Final License Application for the Project.

The findings of the additional statistical analysis revealed that Z-scores based on the daily mean showed no significant relationship between fish passage (American shad or gizzard shad) and turbine scenarios in all but one flow interval (36,000 – 44,999 cfs). It appears that analysis using the daily mean lacked sensitivity due to the small number of observations recorded each day (≤ 9).

Z-scores based on the daily mean showed no significant relationship between fish passage (American shad or gizzard shad) and turbine scenarios in all but one flow interval (36,000 – 44,999 cfs). The ANOVA using Z-scores based on annual means detected significant differences between turbine scenarios in all but one flow interval (18,000 – 27,999 cfs).

Overall, the results of the statistical analyses were confounded. For flow interval 7,500 – 17,999 cfs, turbine scenarios Francis units 2 and 5 on, Francis units 5 and 7 on, and Francis units 4 and 7 on, passed more fish. In contrast, Francis units 5 and 6 on passed the fewest fish. Intuitively, one would not expect a significant difference in flow hydraulics between Francis units 5 and 7 on, and Francis units 5 and 6 on. Therefore, it is difficult to determine whether the difference between these scenarios is significant in terms of fish passage, or simply coincidental.

The flow interval ranging from 28,000 – 35,999 cfs was the only interval with no overlap in the Waller groupings. Within this interval, more American shad were passed during the turbine scenario with Francis units 2, 3, 5, and 7 on, and Kaplan unit 11 on.

For the 36,000 - 44,999 cfs flow interval Francis units 3,5,6,7, and Kaplan unit 10, appeared to pass more fish. Generally, for the intermediate flow intervals, turbine scenarios with Kaplan turbine units 10 and/or 11 on passed more shad than those scenarios with Kaplan turbine units 8 and/or 9 on. Analysis of the 2010 radio telemetry seemed to support this hypothesis, as a greater number of successful forays to the EFL were observed with Kaplan unit 11 operating, compared to when Kaplan units 8 and/or 9 were operating.

However, this was not always consistent in the statistical analysis, as seen with the 45,000 - 54,999 cfs flow interval, which passed nearly the same number of fish with Francis units 4, 5, 6, 7, and Kaplan units 9 and 10 on, than Francis units 2, 3, 4, 5, 6, 7, and Kaplan unit 11 on.

Aside from the general observations noted above, a meaningful relationship between hourly fish passage and turbine discharge (flow intervals) was not observed. This was likely due to the dataset's highly irregular and variable nature, which is due to several factors. While the introduction of several assumptions (30 minute lag time, first hour excluded, etc.) allowed the dataset to be analyzed, these assumptions may in themselves introduce additional error and/or variance into the data. For example, though the 30 minutes lag time is a reasonable estimate of the Conowingo tailrace to observation window lag time, the actual time it takes for some fish to travel from the Conowingo tailrace to the fish observation window (from which all these data are derived from) may vary from this value substantially, up to several hours in some instances.

Though the analysis results may suggest that a turbine operating scenario substituting the use of Kaplan units 10 and /or 11 for Kaplan units 8 or 9 should be analyzed further, designing and implementing such a field experiment to test the hypothesis would be problematic and perhaps impractical. For example, to compare one scenario of fish passage rates when Kaplan unit 8 is on versus when Kaplan unit 11 is on will require that other conditions, (number of Francis turbines generating and total station discharge) remain the same during each test scenario. Considering the natural flow variability during the spring season, this may not be a realistic expectation. Additionally, all fish remaining in the trough from one test condition would have to be removed prior to the start of the second test condition to avoid sample bias. This would likely be a time consuming process, resulting in losing potential experiment time. More

importantly, the number of American shad present in the tailrace at any time or for any condition is unknown, resulting in an additional (and potentially large) sample bias.

A more practical approach to determine turbine operations influence on fish passage may be to analyze the 2010 and planned 2012 telemetry data further. One potential study design would be to determine, for each individual fish, how long it was in the tailrace and under what conditions. Additional analysis could be done to determine under what conditions the fish entered the fish lift; and then determine fish passage per generation scenario. Although the radio-telemetered fish data set will be smaller than the 10-year hourly fish passage data set, it lends itself to a more thorough analysis that avoids the need to assume roughly estimated lag times for fish transport between the fish lift and exit hopper or deleting blocks of time (which may bias study results) to account for conditions that occur from standard EFL operating procedures. The radio telemetry data may also provide a clearer perspective on how shad react to changing turbine scenarios that occur throughout the daily generating and fish lift operating cycle.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

cfs	cubic feet per second
EFL	East Fish Lift
Exelon	Exelon Generation Company, LLC
FERC	Federal Energy Regulatory Commission
fps	feet per second
ft	foot/feet
ILP	Integrated Licensing Process
ISR	Initial Study Report
MW	megawatt
NOI	Notice of Intent
PAD	Pre-Application Document
PSP	Proposed Study Plan
RSP	Revised Study Plan
USFWS	United States Fish and Wildlife Service
USR	Updated Study Report

1.0 INTRODUCTION

Exelon Generation Company, LLC (Exelon) has initiated with the Federal Energy Regulatory Commission (FERC) the process of relicensing the 573-megawatt Conowingo Hydroelectric Project (Conowingo Project). The current license for the Conowingo Project was issued on August 14, 1980 and expires on September 1, 2014. FERC issued the final study plan determination for the Conowingo Project on February 4, 2010, approving the revised study plan with certain modifications.

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An initial study report (ISR) was filed on February 22, 2011, containing Exelon's 2010 study findings. An initial study report meeting was held on March 9, 10 and 11, 2011 with resource agencies and interested members of the public. Formal comments on the ISR including requested study plan modifications were filed with FERC on April 27, 2011 by Commission Staff, several resource agencies and interested members of the public. Exelon filed responses to the ISR comments with FERC on May 27, 2011. On June 24, 2011, FERC issued a study plan modification determination order. The order specified what, if any, modifications to the ISRs should be made. For this study, FERC's June 24, 2011 order required no modifications to the original study plan.

Upon review of stakeholder comments, it was apparent that there was disagreement amongst the parties on the analyses of the hourly fish passage data and how it was analyzed in the context of Project turbine operations/discharges, EFL operations, time of day, time of season (early, mid, and late portions), natural river flow, and water temperature. In their April 27, 2011 comment letters, stakeholders provided several suggestions relative to potential analytical methods, but a consensus on how best to analyze the data was not evident. In an effort to reach consensus, Exelon hosted meetings in August and September, 2011 to discuss these comments and appropriate variables and statistical methods for these additional analyses.

After extensive discussion, the parties reached a consensus as to which statistical methods and variables were best for analyzing the data. An updated study report (USR) analyzing the 2010 study data was filed on January 23, 2012. This final study report detailing the analysis of 2010 data is being filed with the Final License Application for the Project.

2.0 METHODS

Based on discussions at the August and September 2011 stakeholder meetings, it was agreed that if the effects of Project operation on American shad and gizzard shad passage can be demonstrated, it is most likely to be seen during the peak of the American shad run. Historic daily EFL fish count data were plotted for the period 2001 thru 2010 (Figure 2.1). Based on the plot, it appeared that limiting the analysis to the period from April 25 to May 21 (based on Julian date for years 2001 - 2010), maximizes the likelihood that American shad are present within the tailrace. Also, dividing this period into three sub-periods, Apr 25 – May 4, May 5 – May 14, May 15 – May 21, allowed for exploration of Project effects on different segments of the run (i.e., early, mid, and late run shad).

Several steps were taken prior to subjecting the data to the agreed upon statistical analysis. First, there is an estimated lag time of approximately 0.5 hours between the time that a fish typically enters the EFL from the tailrace, and arrives at the counting window. To account for this delay, fish counts were lagged by 0.5 hours so that the enumerated fish were more reflective of the tailrace conditions (*e.g.*, gate openings, station flow, turbine unit combinations) that the fish experienced prior to entering the EFL.

Second, observations at the EFL indicate that all fish lifted in the last lift of the day, do not pass the counting window before the exit gate is closed for the night. As a result, the following day's first hourly fish count is a mixture of fish from the previous day's last lift, and fish that were part of the first lift that morning. As a consequence, the first count of the day reflects this "mixture" of fish and is not an accurate sample of the operation during that first hour. To negate the "mixture" effect, the first hourly count of each day was excluded from the statistical analysis.

Since the primary purpose of the analysis was to assess the effects that various Project operations may have on fish catch rates at the EFL, individual turbine discharge data were obtained for 2004 to 2010. Since actual data for years 2001 through 2003 period were not available, the average discharge of each unit when it was running during the 2004 – 2010 period was used to estimate discharges from these units when they were in operation prior to 2004. Appendix A contains the frequency of operations scenarios used in the analysis by year and total.

Plotting fish counts against total station discharge revealed breaks of fish counts into various discharge intervals (or bins) of station discharge (Figure 2.2). After discussions with stakeholders, the intervals of station discharge were further refined, and the following intervals were agreed upon for use in the analysis: 7,500 – 17,999 cfs, 18,000 – 27,999 cfs, 28,000 – 35, 999 cfs, 36,000 – 44,999 cfs, 45,000 - 54,999 cfs, 55,000 – 65,999 cfs, and 66,000 – 80, 000 cfs.

Consideration was given to analyzing the American shad counts from EFL entrance gate A and gate C separately. However, 81% of the gate A counts fell into the first two flow intervals (7,500 – 17,999 cfs, and 18,000 – 27,999 cfs), while only 14% of the gate C counts fell into those intervals.

Because the same turbine unit combinations are not operated consistently within each discharge interval over time, a large number of station turbine operating combinations occurred. Many combinations occurred rarely in the ten year period, 65% of the 169 operational scenarios occurred 3 times or fewer. As there was concern that these rare scenarios might obscure the assessment of fish catch rates at the EFL compared to the more frequently occurring scenarios, the analysis included only those combinations which occurred at least 10 times over the 2001-2010 period. The only exceptions were the 18,000 – 27,999 cfs and the 36,000 cfs – 44,999 cfs discharge intervals. For these two intervals, combinations that occurred at least 7 times in 10 years were included. This step was taken because both intervals had a relatively small number (n=4) of unique turbine combinations that occurred more than 10 times. After discussion with stakeholders, it was decided that relaxing the constraint to a minimum of seven occurrences for these discharge intervals allowed for the analysis of a greater range of variability with regard to turbine unit combinations.

Another adjustment for the day-to-day and the year-to-year variability of the shad run in the Conowingo tailrace was to transform to standardized counts (x) relative to the daily and yearly means ($\overline{\chi}$) (z scores, $z = \frac{x - \bar{x}}{s}$).

When using the daily means, a number of days had to be dropped from the analyses because the standard deviation (s) was zero and the z score could not be calculated $z = \frac{x - \bar{x}}{s}$). The transformed counts were then used in an ANOVA analysis using the SAS Institute's Proc GLM (SAS Institute, 2002-2003). In addition, the Waller-Duncan k-ratio test was done to separate out similar means when differences were detected with the ANOVA analysis. Probability of significance level used was P=0.05.

The effect of transforming the data is that the mean of the z scores used in this analysis is 0 and the standard deviation is 1, as it is in normal distributed z scores. However, the transformed z scores were still skewed to the right (to the positive side of the distribution). Figure 2-3 illustrates a box plot of a normal distribution and Figure 2-4 depicts the transformed z scores. This appeared to be caused by one or two days each year in which several hours of counts would be an order of magnitude greater than the counts in the bracketing hours and days.

The results of ANOVA are reported to be robust even when the assumptions of the analysis, including non-normality, are violated (Snedecor and Cochran, 1967). However, a potential consequence of skewed z scores is that real differences might not be detected. For example, ANOVA analysis of the 18,000 – 27,999 flow interval (Table 2-1) resulted in non-significance (P=0.06) while the nonparametric Kruskal-Wallace test (Table 2-2) detected significant differences (P=<0.0001).

However, the Waller-Duncan test did detect the differences in the means in the 18,000 – 27,999 cfs flow interval. To further check the sensitivity of the Waller-Duncan test, a pair of means were pulled from several flow intervals and tested with the nonparametric Wilcoxon test (Table 2-3). Means pairs were chosen if they were in the same Waller grouping and the number of observations were similar for each. The results of the Wilcoxon test (Table 2-3) concur with the Waller-Duncan test.

3.0 RESULTS

3.1 American Shad

Using the z scores based on the daily mean, there was no significant difference detected between fish passage and the station operation scenarios in any of the flow intervals except the 36,000 cfs – 44,999 cfs interval ($p<0.05$) (Table 3-1). Although a significant result was obtained for flow interval 36,000 – 44,999 cfs, the model (Table 3-1) explains only 15% of the variation based on the error mean square.

The Waller-Duncan results (Table 3-2) broke the 36,000 cfs – 44,999 cfs interval scenarios into only two groups, compared with four groups using z scores based on the annual mean (Table 3-3) showing a lack of sensitivity. The lack of sensitivity of analyses based on the daily mean is mostly likely because of the small number of observations during each day ($N \leq 9$). Additionally, a number of days had to be dropped from the analyses because the standard deviation (s) was zero and the z score could not be calculated.

Analysis of variance using the z score-based on annual means (Table 2-1), however, detected significant differences ($p<0.05$) between station operation scenarios in each of the discharge intervals except the 18,000 cfs – 27,999 cfs interval. The Waller-Duncan k ratio test (Table 3-3), a pair-wise comparison of the z- score means, can be more sensitive to differences in data sets. In general, a z score mean > 0 indicates (Table 3-3) more fish were passed than the average. The more positive the z score mean, the more fish were passed relative to the average, and vice versa.

In the case of the 18,000 – 27,999 cfs interval (Table 3-3), the z score means were divided into two Waller groups (A and B). The Waller-Duncan k-ratio is a series of t-tests on all the means, controlling for the risk of detecting differences by chance alone. Means that are grouped together with the same letter are not significantly different from each other. The groups are not exclusive, and many of the discharge scenario z score means belong to both groups. However, the scenario of "Units 2,5,7 on", occurred only in the A group while the scenarios of "Units 2,3,6,7" on, and "Units 3,6,7 on", occurred only in the B group. All other scenarios overlapped between groupings A and B.

In the 7,500 – 17,999 cfs interval, there is much overlap in the Waller groupings. There is no overlap between the A group and the D group. As indicated by the positive mean z scores in Table 3-3, more American shad were passed by the EFL when the station operation scenarios were "Units 2, 5 on", "Units 5, 7 on" and "Units 4, 7 on". The lower numbers of fish were passed when the station operation was "Units 3,7 on", "Units 6,7 on", "Units 2,3 on", "Units 2,7 on" or "Units 5,6 on", as indicated by the near-zero or negative mean z score shown in Table 3-3.

The only discharge interval with no overlap in the Waller groups was the 28,000 – 35,999 cfs interval (Table 3-3). More American shad were passed when Units 2, 3, 5, 7 and 11 were on than other operating scenarios (mean z score =1.5261).

Many of the Waller groups overlap in the 36,000 – 44,999 cfs interval (Table 3-3), but only the A group "Units 3,5,6,7,10 on" and "Units 4,5,6,7,11 on" passed more fish than the average (mean z score = 0).

There was no overlap between the Waller group A in the 45,000 – 54,999 cfs interval. More fish passed through the EFL when the Conowingo operating scenarios were "Units 4,5,6,7,9,10 on" and "Units 2,3,4,5,6,7,11 on" (Table 3-3).

There was even more overlap in the Waller groups in the 55,000 – 65,999 cfs interval. Only part of the A group, "Units 2,3,4,5,6,7,8,9,10,11 on", "Units 3,5,6,7,8,9,10,11 on" and "Units 4,5,6,7,8,9,10,11 on" passed more fish than the average (Table 3-3).

Though there were two Waller groups in the 66,000 – 80,000 cfs interval, no scenario in either group passed more fish than average (Table 3-3).

Splitting the data into three parts, early, middle and late run fish, was not very informative. Dividing the data reduced the sample size for the models and often led to very unbalanced designs (Table 3-4). Even when there were significant differences ($p<0.05$), the Waller groupings overlap or do not reveal differences (Table 3-5). None of partitions in the 18,000 – 27,999 cfs discharge interval showed significant differences in the ANOVA analyses, but the Waller-Duncan k ratio test did show differences in the middle partition. This shows that the Waller-Duncan test is more likely to detect differences when the assumptions of normality are violated than the ANOVA. Station operation scenarios occur in some turbine discharge partitions but not others, making comparisons impossible.

3.2 Gizzard Shad

Gizzard shad hourly counts were transformed into z scores based on the annual mean, since tests done on American shad z scores based on the daily mean lacked sensitivity. The ANOVA analysis on the transformed counts showed significant differences ($p<0.05$) between station operation scenarios in all the flow interval categories (Table 3-6). The Waller-Duncan k ratio test was run on the Gizzard shad z scores (Table 3-7). There was a great deal of overlap of Waller groups except in the 28,000 – 35,999 cfs interval. The A group consisted of one scenario ("Units 4,5,6,7,9 on") which did not occur in any of the other Waller groups.

A correlation analysis done previously (Normandeau Associates and Gomez and Sullivan, 2010) on the raw American shad and Gizzard shad counts indicated there was a significant, though small ($r = 0.09262$, $p < 0.0001$) positive correlation between the two counts. A nonparametric Wilcoxon rank sum test (Table 3-8) was performed using the mean z scores of each discharge scenario to rank the two species response to the scenario. There were significant differences ($p<0.05$) in the response of the two species to the scenarios in the 7,500 – 17,999 cfs, the 18,000 – 27,999 cfs and the 55,000 – 65,999 cfs discharge intervals. In the 7,500 – 17,999 cfs interval significance is probably because the scenario of "Units 2 and 5 on" is ranked first for American shad and last for Gizzard shad. The same is true for the 18,000 – 27,999 cfs interval, where the top two scenarios for American shad are the bottom two for Gizzard shad. In the 55,000 – 65,999 cfs interval, the top scenarios for American shad are among the middle of the Gizzard shad scenarios.

3.3 Turbine Discharges and 2010 Radio-tagged American Shad forays

Table 3-9 compares the sixty-five radio-tagged American shad that made forays (successful or unsuccessful) into the EFL to the station discharge intervals and turbine unit combinations used in the previous analysis. A total of 65 American shad made 81 forays into the EFL. Forty-five (55.5%) of the eighty-one forays occurred between turbine discharges of 7,500 cfs to 27,999 cfs. Twenty-seven (60.0%) of these 45 forays occurred with two Francis turbines operating.

Turbine discharges which include the operation of at least one Kaplan turbine (28,000 cfs to 88,000 cfs) accounted for a total of 36 forays into the EFL. Fifteen (41.7%) of the 36 forays occurred when Kaplan turbine #11 was operating. Eleven of the 15 forays (73%) that occurred when Kaplan turbine #11 was operating were successful, as compared to only 6 successful forays of the 21 total forays (28.5%) noted when Kaplan turbine Units 8 and/or 9 were operating.

4.0 CONCLUSIONS

Z-scores based on the daily mean showed no significant relationship between fish passage (American shad or gizzard shad) and turbine scenarios in all but one flow interval (36,000 – 44,999 cfs). The ANOVA using Z-scores based on annual means detected significant differences between turbine scenarios in all but one flow interval (18,000 – 27,999 cfs).

Overall, the results of the statistical analyses were confounded. For flow interval 7,500 – 17,999 cfs, turbine scenarios Francis units 2 and 5 on, Francis units 5 and 7 on, and Francis units 4 and 7 on, passed more fish (Table 3-3). In contrast, Francis units 5 and 6 on, passed the fewest fish. Intuitively, one would not expect a significant difference in flow hydraulics between Francis units 5 and 7 on, and Francis units 5 and 6 on. Therefore, it is difficult to determine whether the difference between these scenarios is significant in terms of fish passage, or simply coincidental.

The flow interval ranging from 28,000 – 35,999 cfs was the only interval with no overlap in the Waller groupings. Within this interval, more American shad were passed during the turbine scenario with Francis units 2, 3, 5, and 7 on, and Kaplan unit 11 on (Table 3-3).

For the 36,000 - 44,999 cfs flow interval Francis units 3, 5, 6, 7 and Kaplan unit 10, appeared to pass more fish. Generally, for the intermediate flow intervals, turbine scenarios with Kaplan turbine units 10 and/or 11 on passed more shad than those scenarios with Kaplan turbine units 8 and/or 9 on (Table 3-3). Analysis of the 2010 radio telemetry seemed to support this hypothesis, as a greater number of successful forays to the EFL were observed with Kaplan unit 11 operating, compared to when Kaplan units 8 and/or 9 were operating.

However, this was not always consistent in the statistical analysis, as seen with the 45,000 - 54,999 cfs flow interval, which passed nearly the same number of fish with Francis units 4,5,6,7, and Kaplan units 9 and 10 on, than Francis units 2, 3, 4, 5, 6, 7 and Kaplan unit 11 on (Table 3-3).

Aside from the general observations noted above, a meaningful relationship between hourly fish passage and turbine discharge (flow intervals) was not observed. This was likely due to the dataset's highly irregular and variable nature, which is due to several factors. While the introduction of several assumptions (30 minute lag time, first hour excluded, etc) allowed the dataset to be analyzed, these assumptions may in themselves introduce additional error and/or variance into the data. For example, though the 30 minute lag time is a reasonable estimate of the Conowingo tailrace to observation window lag time, the actual time it takes for some fish to travel from the Conowingo tailrace to the fish

observation window (from which all these data are derived from) may vary from this value substantially, up to several hours in some instances.

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A more practical approach to determine turbine operations influence on fish passage may be to analyze the 2010 and planned 2012 telemetry data further. One potential study design would be to determine, for each individual fish, how long it was in the tailrace and under what conditions. Additional analysis could be done to determine under what conditions the fish entered the fish lift; and then determine fish passage per generation scenario. Although the radio-telemetered fish data set will be smaller than the 10-year hourly fish passage data set, it lends itself to a more thorough analysis that avoids the need to assume roughly estimated lag times for fish transport between the fish lift and exit hopper or deleting blocks of time (which may bias study results) to account for conditions that occur from standard EFL operating procedures. The radio telemetry data may also provide a clearer perspective on how shad react to changing turbine scenarios that occur throughout the daily generating and fish lift operating cycle.

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TABLE 2-1: ANOVA RESULTS USING A Z SCORE BASED ON THE ANNUAL MEAN HOURLY AMERICAN SHAD COUNTS AT THE EFL, , 2001 - 2010. ALL TESTS ARE SIGNIFICANT EXCEPT 18,000 - 27,999 CFS, WHICH IS BORDER LINE.

Flow Interval	F value	Probability of > F	R-Square	Coeffcient of Variation	Z Score Mean	N	Error Mean Square
7,500 - 17,999 cfs	3.85	0.0005	0.078174	517.3314	0.217227	326	1.2628853
18,000 - 27,999 cfs	2.07	0.0622	0.093618	258.2449	0.439756	127	1.2896957
28,000 - 35,999 cfs	5.42	0.0003	0.273301	427.0953	0.251408	78	1.1529438
36,000 - 44,999 cfs	6.18	<0.0001	0.291721	-370.1977	-0.162097	113	0.3600959
45,000 - 54,999 cfs	7.83	<0.0001	0.252249	3772.315	0.022645	122	0.7297291
55,000 - 65,999 cfs	3.81	<0.0001	0.151157	-1010.286	-0.085945	225	0.753934
66,000 - 80,000 cfs	3.04	0.0169	0.017524	-217.5026	-0.273725	686	0.3544532

TABLE 2-2: KRUSKAL-WALLACE NON-PARAMETRIC TEST RESULTS USING A Z SCORE BASED ON THE ANNUAL MEAN HOURLY AMERICAN SHAD COUNTS AT THE EFL, 2001 - 2010. ALL TESTS ARE SIGNIFICANT.

Flow Interval	Chi-square value	Degrees of freedom	Probability of > χ^2
7,500 - 17,999 cfs	42.4343	7	< 0.0001
18,000 - 27,999 cfs	19.3254	6	0.0036
28,000 - 35,999 cfs	19.4685	5	0.0016
36,000 - 44,999 cfs	54.2668	7	< 0.0001
45,000 - 54,999 cfs	32.1093	5	< 0.0001
55,000 - 65,999 cfs	66.1556	10	< 0.0001
66,000 - 80,000 cfs	9.5593	4	0.0485

TABLE 2-3: WILCOXON RESULTS USING A MEAN Z SCORE OF AMERICAN SHAD COUNTS COMPARING PAIRED STATION OPERATION SCENARIOS THAT THE WALLER DUNCAN TEST DID NOT FIND SIGNIFICANTLY DIFFERENT.

Flow Interval	N 1	Scenario 1 Wilcoxon Score Mean	N 2	Scenario 2 Wilcoxon Score Mean	Wilcoxon statistic	Two sided z test approximation Probability of > |Z|
Units 3,4,6,7 on v Units 2,4,6,7 on						
18,000 - 27,999 cfs	15	12.533	12	15.833	190.0	0.2941
Units 4,5,6,7,9,10,11 on v Units 4,5,6,7,8,10,11 on						
55,000 - 65,999 cfs	16	14.094	13	16.116	209.5	0.5392
Units 3,4,6,7,8,9,10,11 on v Units 1,2,3,4,5,6,7,8,9,11 on						
66,000 - 80,000 cfs	10	9.800	14	14.429	98.0	0.1207

TABKE 3-1: ANOVA RESULTS USING A Z SCORE BASED ON DAILY MEAN HOURLY AMERICAN SHAD COUNTS AT THE EFL, 2001 - 2010. HIGHLIGHTED ROW IS SIGNIFICANTLY DIFFERENT FROM THE OTHER MEANS.

Flow Interval	F value	Probability of > F	R-Square	Coeffcient of Variation	Z Score Mean	N	Error Mean Square
7,500 - 17,999 cfs	0.93	0.4847	0.0020086	938.4145	0.097786	325	0.8420583
18,000 - 27,999 cfs	0.74	0.6146	0.035906	401.527	0.231001	127	0.8603141
28,000 - 35,999 cfs	1.83	0.1184	0.112583	874.2504	0.103709	78	0.82206653
36,000 - 44,999 cfs	2.58	0.0171	0.149207	-9344.943	-0.009828	111	0.8435647
45,000 - 54,999 cfs	0.32	0.9031	0.013399	-845.29	-0.112823	122	0.9095103
55,000 - 65,999 cfs	0.47	0.9093	0.021505	-803.3685	-0.116959	224	0.8828773
66,000 - 80,000 cfs	0.59	0.6721	0.003519	-1191.965	-0.077434	680	0.8518937

TABLE 3-2: RESULTS OF WALLER-DUNCAN K-RATIO TEST FOR Z SCORES BASED ON THE DAILY MEAN HOURLY AMERICAN SHAD COUNT IN THE 36,000 - 44,999 CFS INTERVAL AT EFL, 2001 - 2010. MEANS GROUPED WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

Waller Grouping	Mean	N	Scenario
A	0.5091	19	Units 4,5,6,7,11 on
A	0.4628	7	Units 3,5,6,7,10 on
A,B	0.3088	7	Units 2,4,6,7,8,10 on
A,B	-0.0051	21	Units 4,5,6,7,8,10 on
A,B	-0.0221	9	Units 3,5,6,8,9 on
A,B	-0.039	20	Units 4,5,6,7,10 on
B	-0.533	21	Units 4,5,6,7,8,9,10 on
B	-0.5549	7	Units 3,4,5,6,8,10 on

TABLE 3-3: RESULTS OF WALLER-DUNCAN K-RATIO TEST FOR Z SCORES BASED ON THE ANNUAL MEAN HOURLY AMERICAN SHAD COUNT AT EFL, 2001 - 2010. MEANS GROUPED WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

Waller Grouping	Mean	N	Scenario
		7,500 - 17,999 cfs	
A	0.7399	26	Units 2,5 on
A,B	0.585	75	Units 5,7 on
A,B,C	0.5478	23	Units 4,7 on
B,C,D	0.0674	91	Units 3,7 on
B,C,D	0.054	18	Units 6,7 on
C,D	-0.069	11	Units 2,3 on
C,D	-0.0944	65	Units 2,7 on
D	-0.3007	17	Units 5,6 on
		18,000 - 27,999 cfs	
A	1.1282	7	Units 2,5,7 on
A,B	0.6563	12	Units 2,4,6,7 on
A,B	0.5694	68	Units 4,5,6,7 on
A,B	0.3324	15	Units 3,4,6,7 on
A,B	0.3303	7	Units 4,5,6 on
B	-0.2924	11	Units 2,3,6,7 on
B	-0.3891	7	Units 3,6,7 on
		28,000 - 35,999 cfs	
A	1.5261	12	Units 2,3,5,7,11 on
B	0.5115	20	Units 4,5,6,7,8 on
B	0.0585	10	Units 4,5,6,7 on
B	-0.102	11	Units 4,5,6,7,10 on
B	-0.3278	10	Units 4,5,6,7,9 on
B	-0.3412	15	Units 2,5,6,7,8,9 on
		36,000 - 44,999 cfs	
A	0.53	7	Units 3,5,6,7,10 on
A,B	0.3139	21	Units 4,5,6,7,11 on
B,C	-0.0987	20	Units 4,5,6,7,10 on
B,C	-0.1391	21	Units 4,5,6,7,8,9,10 on

C	-0.2541	7	Units 2,4,6,7,8,10 on
C,D	-0.4954	9	Units 3,4,5,6,8,9 on
C,D	-0.5627	21	Units 4,5,6,7,8,10 on
D	-0.8102	7	Units 3,4,5,6,8,10 on

45,000 - 54,999 cfs

A	0.8097	19	Units 4,5,6,7,9,10 on
A	0.7695	10	Units 2,3,4,5,6,7,11 on
B	0.1923	19	Units 4,5,6,7,8,9,10,11 on
B,C	-0.173	35	Units 4,5,6,7,9,11 on
C	-0.3711	18	Units 2,3,4,5,6,7,8 on
C	-0.535	21	Units 4,5,6,7,8,9,11 on

55,000 - 65,999 cfs

A	0.3502	47	Units 2,3,4,5,6,7,8,9,10,11 on
A,B	0.1723	20	Units 3,5,6,7,8,9,10,11 on
A,B,C	0.0835	49	Units 4,5,6,7,8,9,10,11 on
A,B,C	-0.0103	12	Units 1,2,3,4,5,6,7,8,9,11 on
A,B,C	-0.2374	10	Units 3,4,7,8,9,10,11 on
B,C	-0.2958	12	Units 1,2,3,4,5,6,7,8,9,10,11 on
B,C,D	0.3234	11	Units 3,4,5,6,8,9,10,11 on
B,C,D	-0.3294	13	Units 4,5,6,7,8,10,11 on
B,C,D	-0.3565	16	Units 4,5,6,7,9,10,11 on
C,D	-0.4748	17	Units 3,4,5,6,7,8,9,10,11 on
D	-0.8708	18	Units 3,4,6,7,8,9,10,11 on

66,000 - 80,000 cfs

A	-0.1118	74	Units 2,3,4,5,6,7,8,9,10,11 on
A,B	-0.1546	14	Units 1,2,3,4,5,6,7,8,9,11 on
A,B	-0.282	558	Units 1,2,3,4,5,6,7,8,9,10,11 on
A,B	-0.4252	10	Units 3,4,6,7,8,9,10,11 on
B	-0.5253	30	Units 1,2,3,4,5,6,8,9,10,11 on

TABLE 3-4: ANOVA RESULTS USING A Z SCORE BASED ON THE ANNUAL MEAN HOURLY AMERICAN SHAD COUNTS SPLIT INTO EARLY, MIDDLE AND LATE RUN AT THE EFL, 2001 - 2010. ALL TESTS ARE SIGNIFICANT EXCEPT 18,000 - 27,999 CFS, WHICH IS BORDER LINE.

Flow Interval	Part of the Run	F value	Probability of > F	R-Square	Coeffcient of Variation	Z Score Mean	N	Error Mean Square
7,500 - 17,999 cfs	Early	4.8	0.0001	0.247868	294.031	0.437719	110	1.6564482
	Middle	4.13	0.0008	0.163321	259.4005	0.37117	134	0.9270172
	Late	14.84	<.0001	0.363326	-166.9497	-0.330123	82	0.3037542
18,000 - 27,999 cfs	Early	0.45	0.5083	0.015235	227.6248	0.463495	31	1.1130882
	Middle	2.01	0.1038	0.118424	175.4854	0.733523	65	1.65695
	Late	1.38	0.2687	0.089606	-236.6326	0.199946	31	0.223859
28,000 - 35,999 cfs	Early	8.14	0.0022	0.635566	178.6336	0.643607	18	1.321807
	Middle	10.61	<.0001	0.589051	268.3379	0.287863	43	0.5966725
	Late	0.89	0.4739	0.169787	-156.8994	-0.256071	17	0.1614224
36,000 - 44,999 cfs	Early	10.49	<.0001	0.744533	-202.3091	-0.179842	24	0.1323776
	Middle	11.31	<.0001	0.52585	-2839.095	-0.020828	57	0.3496697
	Late	10.99	<.0001	0.678803	-51.79794	-0.400424	32	0.0430195
45,000 - 54,999 cfs	Early	3.5	0.0318	0.313258	-222.6055	-0.290097	27	0.4170219
	Middle	4.17	0.0027	0.267876	222.0837	0.437862	63	0.9456015
	Late	12.06	<.0001	0.641238	-32.98522	-0.530937	32	0.0306708
55,000 - 65,999 cfs	Early	2.47	0.0141	0.191363	-693.4945	-0.124282	104	0.7428515
	Middle	5.72	<.0001	0.320218	4339.563	0.018906	93	0.6731478
	Late	0.43	0.8521	0.108907	-292.6575	-0.29181	28	0.7293225
66,000 - 80,000 cfs	Early	1.73	0.1604	0.019466	-135.6812	-0.388343	266	0.2776321
	Middle	10.69	<.0001	0.074167	-1213.22	-0.058346	270	0.5010739
	Late	5.13	0.0021	0.095369	-41.65737	-0.458153	150	0.0364255

TABLE 3-5: RESULTS OF WALLER-DUNCAN K-RATIO TEST FOR Z SCORES BASED ON THE ANNUAL MEAN HOURLY AMERICAN SHAD COUNT SPLIT INTO EARLY, MIDDLE AND LATE RUNS AT THE EFL, 2001 - 2010. MEANS GROUPED WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

Waller Grouping	Mean	N	Scenario
	7,500 - 17,999 cfs - early		
A	1.6014	19	Units 3,7 on
A	1.5409	6	Units 4,7 on
A,B	0.579	2	Units 2,5 on
A,B	0.5326	33	Units 5,7 on
B	0.1097	12	Units 6,7 on
B	-0.2088	6	Units 2,3 on
B	-0.3007	17	Units 5,6 on
B	-0.3473	15	Units 2,7 on
	7,500 - 17,999 cfs - middle		
A	0.9792	22	Units 5,7 on
A	0.9511	21	Units 2,5 on
A,B	0.1973	17	Units 4,7 on
B	0.1411	31	Units 3,7 on
B	0.0988	5	Units 2,3 on
B	0.0108	32	Units 2,7 on
B	-0.0576	6	Units 6,7 on
	7,500 - 17,999 cfs - late		
A	0.2379	20	Units 5,7 on
A	-0.0706	18	Units 2,7 on
B	-0.6309	3	Units 2,5 on
B	-0.6991	41	Units 3,7 on
	18,000 - 27,999 cfs - early		
	Not enough data to calculate Waller groups		
	18,000 – 27,999 cfs -middle		

A	1.1282	7	Units 2,5,7 on
A,B	0.9951	33	Units 4,5,6,7 on
A,B	0.6687	11	Units 4,5,6,7 on
A,B	0.3303	7	Units 4,5,6 on
B	-0.3891	7	Units 3,6,7 on

18,000 - 27,999 cfs - late

A	0.52	1	Units 2,4,6,7 on
A	-0.1843	19	Units 4,5,6,7 on
A	-0.2924	11	Units 2,3,6,7 on

28,000 - 35,999 cfs - early

A	2.5072	6	Units 4,5,6,7,8 on
B	0.1655	2	Units 2,3,5,7,11 on
B	-0.0994	4	Units 4,5,6,7 on
B	-0.5653	6	Units 2,5,6,7,8,9 on

28,000 - 35,999 cfs - middle

A	1.7982	10	Units 2,3,5,7,11 on
B	0.257	5	Units 4,5,6,7 on
B	-0.0152	9	Units 4,5,6,7,10 on
B	-0.3233	7	Units 4,5,6,7,8 on
B	-0.3278	10	Units 4,5,6,7,9 on
B	-0.6055	2	Units 2,5,6,7,8,9 on

28,000 - 35,999 cfs - late

A	-0.0736	7	Units 2,5,6,7,8,9 on
A	-0.3022	1	Units 4,5,6,7 on
A	-0.3644	7	Units 4,5,6,7,9 on
A	-0.4926	2	Units 4,5,6,7,10 on

36,000 - 44,999 cfs - early

A	0.53	7	Units 3,5,6,7,10 on
B	-0.093	2	Units 4,5,6,7,8,9,10 on
B	-0.1813	6	Units 4,5,6,7,10 on
B,C	-0.4654	2	Units 4,5,6,7,11 on

B,C	-0.5238	2	Units 4,5,6,7,8,10 on
C	-0.9548	5	Units 2,4,6,7,8,10 on

36,000 - 44,999 cfs - middle

A	1.4974	2	Units 2,4,6,7,8,10 on
B,C	0.8108	12	Units 4,5,6,7,11 on
C	0.0151	12	Units 4,5,6,7,10 on
C,D	-0.2227	11	Units 4,5,6,7,8,9,10 on
C,D	-0.485	7	Units 3,4,5,6,8,9 on
C,D	-0.6345	13	Units 4,5,6,7,8,10 on

36,000 - 44,999 cfs - late

A	-0.0356	8	Units 4,5,6,7,8,9,10 on
A	-0.3152	7	Units 4,5,6,7,11 on
B	-0.4201	6	Units 4,5,6,7,8,10 on
B,C	-0.5319	2	Units 3,4,5,6,8,9 on
B,C	-0.5335	2	Units 2,4,6,7,8,10 on
C	-0.8102	7	Units 4,5,6,7,10 on

45,000 - 54,999 cfs - early

A	0.5536	5	Units 4,5,6,7,9,10 on
A	-0.4103	1	Units 4,5,6,7,8,9,10,11 on
A	-0.4535	2	Units 4,5,6,7,8,9,11 on
A	-0.4886	19	Units 4,5,6,7,9,11 on

45,000 - 54,999 cfs - middle

A	1.4508	10	Units 4,5,6,7,9,10 on
A,B	0.7695	10	Units 2,3,4,5,6,7,11 on
B,C	0.4527	12	Units 4,5,6,7,9,11 on
B,C	0.22	16	Units 4,5,6,7,8,9,10 on
B,C	0.0352	6	Units 2,3,4,5,6,7,8 on
C	-0.4201	9	Units 4,5,6,7,8,9,11 on

45,000 - 54,999 cfs - late

A	0.272	2	Units 4,5,6,7,8,9,10,11 on
B	-0.4729	4	Units 4,5,6,7,9,10 on
B	-0.5512	4	Units 4,5,6,7,9,11 on
B	-0.5742	12	Units 2,3,4,5,6,7,8 on

B	-0.6547	10	Units 4,5,6,7,8,9,11 on

55,000 - 65,999 cfs - early

A	0.1757	43	Units 2,3,4,5,6,7,8,9,10,11 on
A	0.0945	10	Units 3,5,6,7,8,9,10,11 on
A	0.0504	5	Units 4,5,6,7,8,10,11 on
A	-0.011	5	Units 4,5,6,7,8,9,10,11 on
A	-0.0367	8	Units 1,2,3,4,5,6,7,8,9,11 on
A	-0.2374	10	Units 3,4,7,8,9,10,11 on
A	-0.5192	4	Units 1,2,3,4,5,6,7,8,9,10,11 on
A	-0.6791	1	Units 3,4,5,6,7,8,9,10,11 on
A	-0.8293	1	Units 4,5,6,7,9,10,11 on
A	-0.9042	17	Units 3,4,6,7,8,9,10,11 on

55,000 - 65,999 cfs - middle

A	2.2262	4	Units 2,3,4,5,6,7,8,9,10,11 on
B	0.275	3	Units 1,2,3,4,5,6,7,8,9,11 on
B	0.2502	10	Units 3,5,6,7,8,9,10,11 on
B	0.1402	33	Units 4,5,6,7,8,9,10,11 on
B	-0.2392	9	Units 3,4,5,6,8,9,10,11 on
B	-0.2498	4	Units 1,2,3,4,5,6,7,8,9,10,11 on
B	-0.3253	14	Units 4,5,6,7,9,10,11 on
B	-0.4621	16	Units 3,4,5,6,7,8,9,10,11 on

55,000 - 65,999 cfs - late

A	-0.0436	11	Units 4,5,6,7,8,9,10,11 on
A	-0.1186	4	Units 1,2,3,4,5,6,7,8,9,10,11 on
A	-0.303	1	Units 3,4,6,7,8,9,10,11 on
A	-0.3211	1	Units 4,5,6,7,9,10,11 on
A	-0.5668	8	Units 4,5,6,7,8,10,11 on
A	-0.6547	1	Units 1,2,3,4,5,6,7,8,9,11 on
A	-0.702	2	Units 3,4,5,6,8,9,10,11 on

66,000 - 80,000 cfs - early

A	-0.1307	10	Units 1,2,3,4,5,6,7,8,9,11 on
A	-0.2855	47	Units 2,3,4,5,6,7,8,9,10,11 on
A	-0.4204	188	Units 1,2,3,4,5,6,7,8,9,10,11 on
A	-0.4538	21	Units 1,2,3,4,5,6,8,9,10,11 on

66,000 - 80,000 cfs - middle

A	0.8254	13	Units 2,3,4,5,6,7,8,9,10,11 on
B	-0.1013	253	Units 1,2,3,4,5,6,7,8,9,10,11 on
B	-0.2144	4	Units 1,2,3,4,5,6,7,8,9,11 on

66,000 - 80,000 cfs - late

A	-0.39854	14	Units 2,3,4,5,6,7,8,9,10,11 on
A	-0.42522	10	Units 3,4,6,7,8,9,10,11 on
A	-0.45011	117	Units 1,2,3,4,5,6,7,8,9,11 on
B	-0.69208	9	Units 1,2,3,4,5,6,8,9,10,11 on

TABLE 3-6: ANOVA RESULTS USING A Z SCORE BASED ON THE DAILY MEAN HOURLY GIZZARD SHAD COUNTS AT THE EFL, 2001 - 2010. ALL TESTS ARE SIGNIFICANT.

Flow Interval	F value	Probability of > F	R-Square	Coefficient of Variation	Z Score Mean	N	Error Mean Square
7,500 - 17,999 cfs	4.37	0.0001	0.087836	-523.2442	-0.18055	326	0.892488
18,000 - 27,999 cfs	3.84	0.0016	0.160903	-194.4997	-0.364078	127	0.50145005
28,000 - 35,999 cfs	5.55	0.0002	0.278168	-4431.379	-0.019914	78	0.77877698
36,000 - 44,999 cfs	2.94	0.0074	0.164074	267.6327	0.305225	113	0.66729745
45,000 - 54,999 cfs	2.73	0.0227	0.105284	1106.576	0.085791	122	0.9012427
55,000 - 65,999 cfs	3.54	0.0002	0.141885	454.2813	0.223101	225	1.0271942
66,000 - 80,000 cfs	3.45	0.0083	0.019877	-3050.375	-0.0292	686	0.7933846

TABLE 3-7: RESULTS OF THE WALLER-DUNCAN K-RATIO TEST FOR Z SCORES BASED ON THE ANNUAL MEAN HOURLY GIZZARD SHAD COUNT IN AT EFL, 2001 - 2010. MEANS GROUPED WITH THE SAME LETTER ARE NO SIGNIFICANTLY DIFFERENT.

Waller Grouping	Mean	N	Scenario
		7,500 - 17,999 cfs	
A	0.124	75	Units 5,7 on
A,B	-0.0999	23	Units 4,7 on
A,B	-0.1418	91	Units 3,7 on
A,B	-0.169	65	Units 2,7 on
B,C	-0.4105	11	Units 2,3 on
B,C	-0.419	18	Units 6,7 on
B,C	-0.631	17	Units 5,6 on
C	-0.8777	26	Units 2,5 on
		18,000 - 27,999 cfs	
A	0.3319	11	Units 2,3,6,7 on
A,B	0.0032	15	Units 3,4,6,7 on
B,C	-0.4138	68	Units 4,5,6,7 on
B,C	-0.44	7	Units 4,5,6 on
B,C	-0.4936	7	Units 3,6,7 on
C	-0.6721	7	Units 2,5,7 on
C	-0.8802	12	Units 2,4,6,7 on
		28,000 - 35,999 cfs	
A	1.229	10	Units 4,5,6,7,9 on
B	0.2861	11	Units 4,5,6,7,10 on
B,C	-0.1574	15	Units 2,5,6,7,8,9 on
B,C	-0.2905	20	Units 4,5,6,7,8 on
B,C	-0.3615	12	Units 2,3,5,7,11 on
C	-0.4481	10	Units 4,5,6,7 on
		36,000 - 44,999 cfs	
A	0.7798	9	Units 3,4,5,6,8,9 on
A,B	0.6825	20	Units 4,5,6,7,10 on
A,B	0.6018	21	Units 4,5,6,7,8,9,10 on

A,B,C	0.2351	21	Units 4,5,6,7,8,10 on
A,B,C	0.0655	7	Units 3,5,6,7,10 on
B,C	-0.0796	7	Units 3,4,5,6,8,10 on
B,C	-0.0853	21	Units 4,5,6,7,11 on
C	-0.2664	7	Units 2,4,6,7,8,10 on

45,000 - 54,999 cfs

A	0.6456	10	Units 2,3,4,5,6,7,11 on
A,B	0.583	19	Units 4,5,6,7,8,9,10 on
A,B	0.1869	21	Units 4,5,6,7,8,9,11 on
B,C	-0.0762	19	Units 4,5,6,7,9,10 on
C	-0.1598	18	Units 2,3,4,5,6,7,8 on
C	-0.1905	35	Units 4,5,6,7,9,11 on

55,000 - 65,999 cfs

A	1.0503	18	Units 3,4,6,7,8,9,10,11 on
A	0.8729	11	Units 3,4,5,6,7,9,10,11 on
A,B	0.7028	12	Units 1,2,3,4,5,6,7,8,9,11 on
A,B,C	0.4096	17	Units 3,4,5,6,7,8,9,10,11 on
A,B,C	0.4064	47	Units 2,3,4,5,6,7,8,9,10,11 on
B,C	0.0874	20	Units 3,5,6,7,8,9,10,11 on
B,C	0.007	10	Units 3,4,7,8,9,10,11 on
C	-0.063	13	Units 4,5,6,7,8,10,11 on
C	-0.1273	16	Units 4,5,6,7,9,10,11 on
C	-0.1817	49	Units 4,5,6,7,8,9,10,11 on
C	-0.2387	12	Units 1,2,3,4,5,6,7,8,9,10,11 on

66,000 - 80,000 cfs

A	0.7514	14	Units 1,2,3,4,5,6,7,8,9,11 on
A,B	0.1514	30	Units 1,2,3,4,5,6,8,9,10,11 on
A,B	0.0094	74	Units 2,3,4,5,6,7,8,9,10,11 on
A,B	-0.0584	558	Units 1,2,3,4,5,6,7,8,9,10,11 on
B	-0.3228	10	Units 3,4,6,7,8,9,10,11 on

TABLE 3-8: WILCOX RESULTS USING A MEAN Z SCORE OF AMERICAN SHAD AND GIZZARD SHAD TO RANK THE STATION OPERATION SCENARIOS AT CONOWINGO DAM, 2001 - 2010.

Flow Interval	N	American shad Wilcoxon Score Mean	Gizzard shad Wilcoxon Score Mean	Wilcoxon statistic	Two sided t test approximation Probability of > |Z|
7,500 - 17,999 cfs	8	11.5	5.5	92.0	0.0261
18,000 - 27,999 cfs	7	10.29	4.71	72.0	0.0305
28,000 - 35,999 cfs	6	7.33	5.67	44.0	0.4862
36,000 - 44,999 cfs	8	6.125	10.88	49.0	0.0710
45,000 - 54,999 cfs	6	6.33	6.67	38.0	0.9376
55,000 - 65,999 cfs	11	8.55	14.45	94.0	0.0479
66,000 - 80,000 cfs	5	3.60	7.40	18.0	0.0928

TABLE 3-9: RADIO-TAGGED AMERICAN SHAD THAT MADE SUCCESSFUL OR UNSUCCESSFUL FORBAYS INTO THE EFL IN 2010.

Discharge Range (cfs)	Turbines On	Successful Forays	Unsuccessful Forays
7,500-17,999	2,5	14	12
	2,7	0	1
18,000-27,999	2,5,6	1	0
	2,5,7	9	4
	2,5,6,7	0	4
28,000-35,999	2,5,6,7,8	4	8
	4,5,6,7,8	0	1
	2,5,6,7,8,9	0	3
36,000-44,999	4,5,6,7,8,9,11	1	0
45,000-54,999	2,3,4,5,6,7,8	1	3
55,000-65,999	1,2,3,4,5,6,8,9	1	0
	2,3,4,5,6,7,8,9,11	5	2
66,000-88,000	2,3,4,5,6,7,8,9,10,11	2	0
	1-7,8,9,11	1	2
	1-7,8-11	2	0
	Total # of Forays	**41**	**40**

FIGURE 2-1: JULIAN DATE PLOT TO DETERMINE PEAK RUN FOR AMERICAN SHAD.

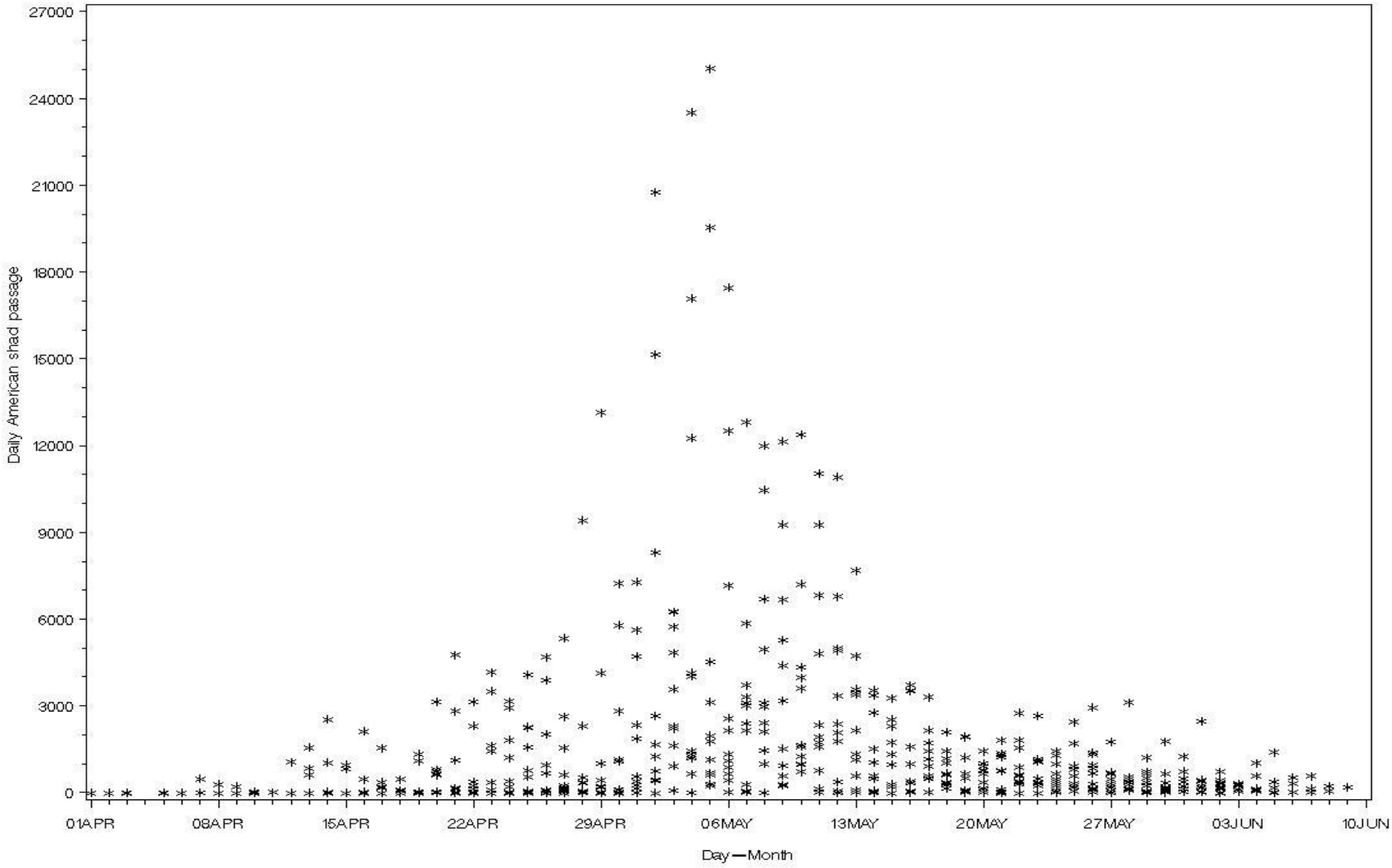


FIGURE 2-2: PASSAGE DATA SEGREGATED INTO INCREMENTS OF TOTAL STATION DISCHARGE.

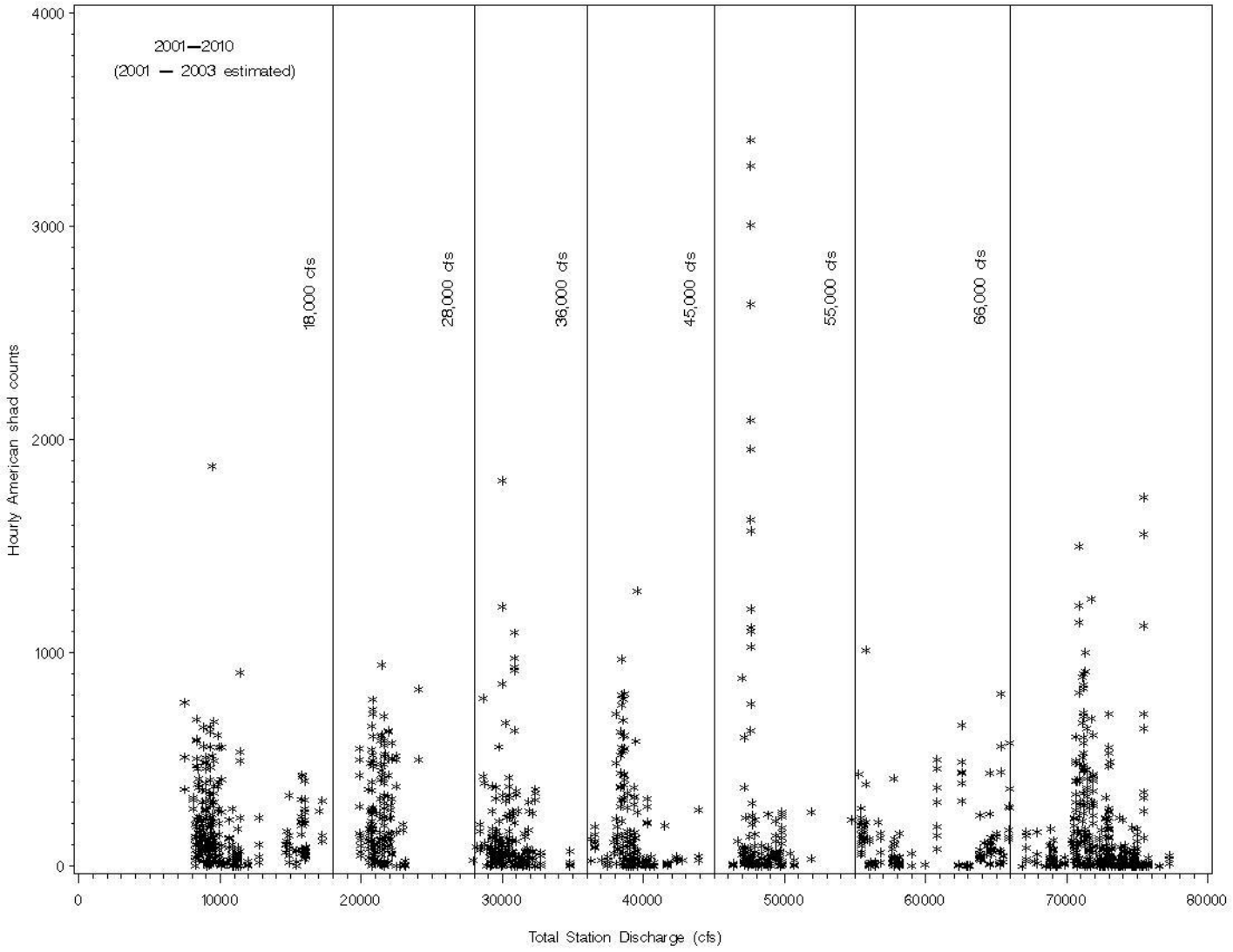


FIGURE 2-3: PERCENTILE BOXPLOT ILLUSTRATING A NORMAL DISTRIBUTION. THE HORIZONTAL LINES OF A BOX PLOT MARK THE 10TH PERCENTILE, THE 25TH PERCENTILE (FIRST QUARTILE), THE 50TH PERCENTILE (MEDIAN OR SECOND QUARTILE), THE 75TH PERCENTILE (THIRD QUARTILE), AND THE 90TH PERCENTILE. A DASHED LINE MARKS THE MEAN VALUE. WHEN THE 5_95 PERCENTILE OPTION IS CHECKED, TWO SYMBOLS WILL BE PLOTTED AT THE 5TH PERCENTILE AND THE 95TH PERCENTILE RESPECTIVELY. TWO LIMIT LINES AT THE MINIMUM VALUE AND MAXIMUM VALUE WILL BE DRAWN WHEN THE LIMIT LINES OPTION IS CHECKED.

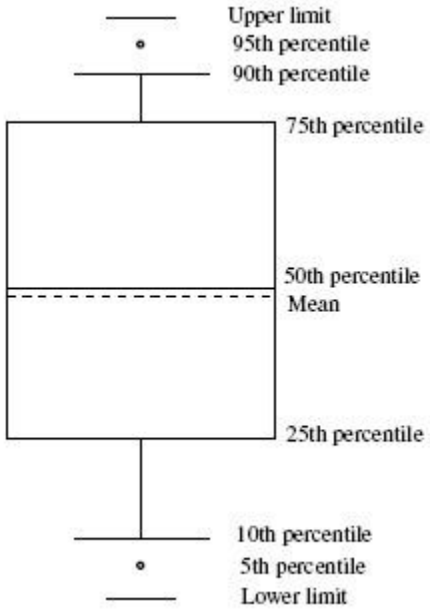
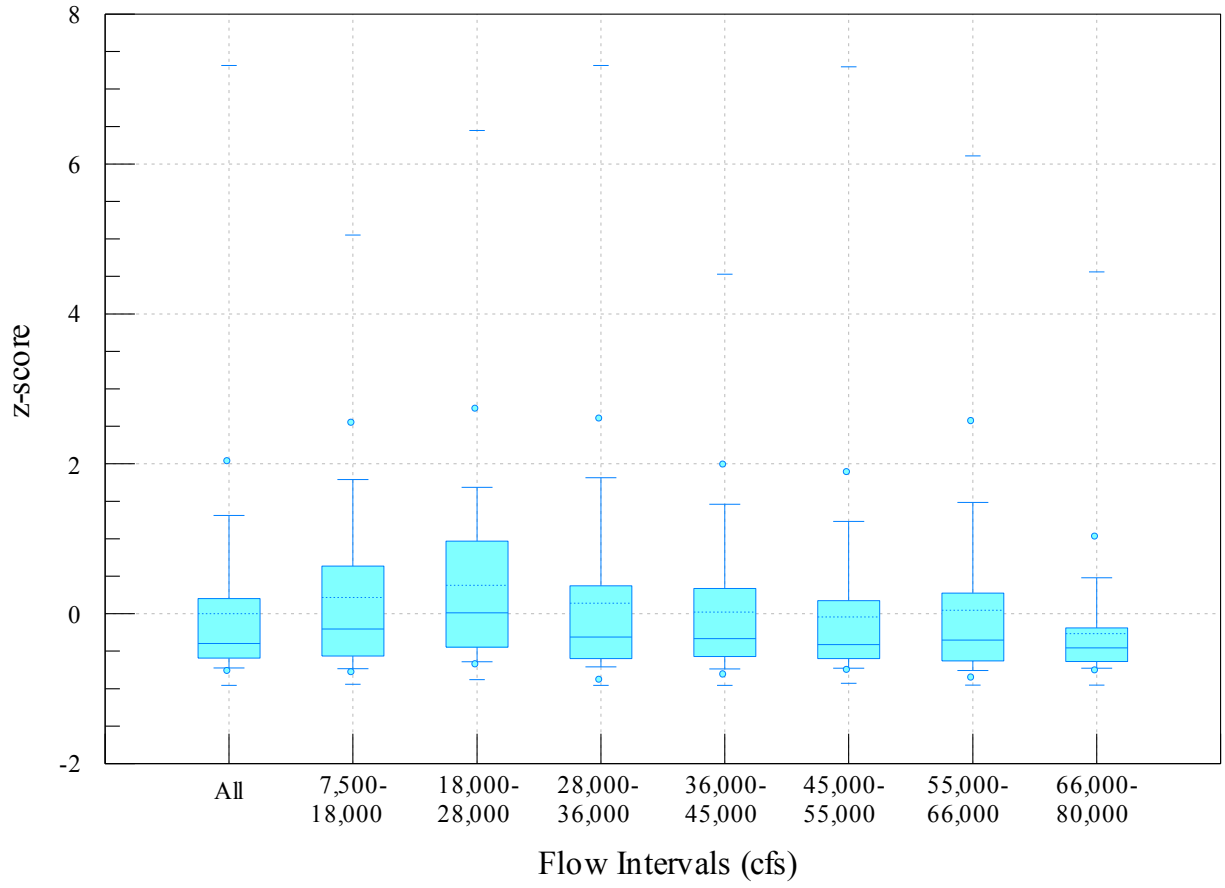


FIGURE 2-4: PERCENTILE BOX PLOTS SHOWING THE DEVIATIONS FROM NORMALITY OF Z SCORES BASED ON THE ANNUAL MEAN OF THE HOUR AMERICAN SHAD COUNTS..



APPENDIX A-FREQUENCY OF OPERATIONS SCENARIOS USED IN THE ANALYSIS BY YEAR AND TOTAL

Station operation scenarios broken out by half hourly total station discharge (estimated 2001 - 2003 using each units average discharge when it was on) , April 25 to May 21, 2001 - 2010.

2001 - 7,500-18,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
_1	_2	_3	_4	_5	_6	_7	_8	_9	_10	_11	count
		on				on					79
	on					on					22
			on			on					10
				on		on					7
		on		on							5
		on									1
		on		on		on					1

2001 - 18,000-28,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
		on				on					5
	on	on		on		on					2
	on					on					1

2001 - 28,000-36,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on	on		on		on				on	12
	on	on		on		on		on			6
	on					on		on	on		4
		on		on	on	on			on		2
	on	on			on	on	on				1
	on	on		on		on			on		1

2001 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on	on		on		on			on	on	3
	on	on		on		on		on	on		2
		on				on		on	on	on	1
		on		on	on	on		on		on	1
	on					on		on	on		1
	on	on			on	on	on				1
	on	on		on		on			on		1
	on	on		on		on		on			1

2001 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on	on		on		on		on	on	on	4
	on	on		on		on	on	on	on	on	2
	on	on		on		on			on	on	1
	on	on		on		on		on		on	1
	on	on		on		on			on		1
	on	on	on	on	on	on	on	on	on	on	1

2001 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on	on	on	on	on	on	on	on	on	on	43
	on	on	on		on	on	on	on	on	on	2
	on	on	on	on	on	on	on		on	on	2
	on	on				on	on	on	on	on	1
	on	on		on		on		on	on	on	1
	on	on		on		on	on	on	on	on	1
	on	on	on	on	on	on	on	on	on	on	11

2002 - 7,500-18,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
				on	on						7

2002 - 18,000-28,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
		on		on	on	on					2

2002 - 28,000-36,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on					1

2002 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on		on		on	2
		on		on	on	on					1
		on		on	on	on		on			1

2002 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on		on		on	24
			on	on	on	on	on		on		3
		on	on	on		on	on	on		on	3
	on			on	on	on		on		on	3
	on	on			on	on		on		on	3
	on		on	on	on	on		on		on	2

2002 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
		on		on	on	on	on	on	on	on	10
			on	on	on	on	on	on	on	on	5
			on	on	on	on		on		on	1
			on	on	on	on		on	on	on	1
			on	on	on	on	on		on		1
		on	on	on		on	on	on		on	1
		on	on	on	on	on	on	on	on	on	1
	on	on	on		on	on		on		on	1
on	on	on	on	on		on	on	on		on	1

2002 - 66,000-80,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
on	on	on	on	on	on	on	on	on	on	on	82
	on	on	on	on	on	on	on	on	on	on	18
		on	on	on	on	on	on	on	on	on	4
on		on	on	on	on	on	on	on	on	on	4
			on	on	on	on	on	on	on	on	1

2003 - 7,500-18,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
					on	on					12
		on				on					9
	on	on									6
			on			on					4
			on	on		on					3
			on	on	on	on					1

2003 - 18,000-28,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N

			on	on	on	on					13
		on	on	on		on					5
		on	on	on	on						3
					on	on					2
			on	on		on					2
			on		on	on	on				1
		on	on	on		on	on				1

2003 - 28,000-36,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on				12
			on		on	on	on				7
		on		on	on	on	on				5
			on	on	on	on					3
		on		on	on	on		on			3
		on	on		on		on	on			1
		on	on	on		on					1
		on	on	on	on						1
		on	on	on	on		on	on			1
on					on	on		on		on	1

2003 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on		on		17
		on	on	on	on		on	on			9
		on	on	on	on		on		on		7
		on	on	on		on	on		on		5
		on	on		on		on	on			3
			on	on	on	on	on				2
					on	on					1
			on		on	on	on		on		1
			on	on	on	on					1
			on	on	on	on		on	on		1
		on	on	on		on					1
	on	on									1
on	on	on	on	on	on	on	on	on	on	on	1

2003 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on	on	on	on	on	on				on	10
			on	on	on	on		on		on	7
			on	on	on	on	on		on		5
			on	on	on	on		on	on		2
			on	on	on	on	on				2
			on		on	on	on		on		1
			on	on	on	on	on	on	on		1
			on	on	on	on	on	on	on	on	1
		on		on	on	on		on			1
		on		on	on	on	on	on	on	on	1
		on	on		on	on	on	on			1
		on	on	on		on	on		on	on	1
		on	on	on		on	on	on	on	on	1
		on	on	on	on		on		on		1
		on	on	on	on		on	on			1
on	on	on		on	on	on	on	on	on	on	1

2003 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on	on	on	on	27
		on		on	on	on	on	on	on	on	8
		on	on	on	on		on	on	on	on	5
on	on	on	on	on	on	on	on	on	on	on	4

		on	on	on		on	on		on	on	3
on	on				on	on	on	on	on	on	3
		on	on	on		on	on	on	on	on	2
		on	on	on		on	on		on		1
on	on	on	on		on		on	on	on	on	1
on	on	on	on	on	on	on	on	on	on		1

2003 - 66,000-80,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
on	on	on	on	on	on	on	on	on	on	on	11
on	on	on	on	on	on		on	on	on	on	9
	on	on	on	on	on	on	on	on	on	on	5
on	on	on	on		on		on	on	on	on	5
on	on	on	on	on	on	on	on	on	on		3
			on	on	on	on	on	on	on	on	1
on	on		on	on	on	on	on	on	on	on	1
on	on	on	on		on	on	on	on	on	on	1

2004 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
		on	on	on		on			on		6
on		on	on			on	on	on			6

2004 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
		on	on		on	on		on		on	7
		on	on	on		on	on	on	on		5
		on		on	on	on			on	on	4
		on	on		on	on	on			on	4
on		on	on			on	on	on	on		4
	on	on	on			on	on		on	on	1

2004 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on	on	on			on	on		on	on	7
		on	on		on	on		on	on	on	6
		on		on	on	on			on	on	2
		on	on		on	on	on	on	on	on	1
on		on	on			on	on	on			1
on		on	on			on	on	on	on		1

2004 - 66,000-80,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
on	on	on	on	on	on	on	on	on	on	on	176
		on	on		on	on	on	on	on	on	10
on		on	on			on	on	on	on	on	8
on	on	on	on	on		on	on	on	on	on	6
on	on	on	on	on	on	on	on	on		on	6
on	on		on	on	on	on	on	on	on	on	4
	on	on	on	on	on	on	on	on	on	on	3
	on	on	on			on	on		on	on	1

2005 - 7,500-18,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on					on					43
											9
	on	on									5
			on			on					3
	on	on			on	on					3

	on		on		on	on		on			1
	on		on		on	on	on		on		1
	on	on	on			on				on	1

2005 - 18,000-28,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
		on	on		on	on					15
	on		on		on	on					12
	on	on			on	on					11
	on	on	on			on					6
	on	on				on					5
on	on	on				on					5
											4
	on	on			on						2
	on					on					1
	on		on		on	on	on				1
	on	on			on	on			on		1
	on	on		on		on	on				1
	on	on	on			on	on	on			1
on	on	on			on			on	on	on	1

2005 - 28,000-36,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on	on	on			on	on				9
	on		on		on	on	on				7
	on	on		on		on	on				5
											2
	on					on					2
	on	on			on	on	on				2
	on	on	on			on		on			2
			on		on	on		on			1
		on	on		on	on	on	on	on	on	1
	on	on			on						1
on	on	on				on			on		1

2005 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on		on		on	on	on		on		7
	on	on			on	on			on		6
	on	on	on			on	on		on		6
	on	on	on			on	on	on			4
	on	on	on		on				on		4
	on	on	on		on		on		on		3
	on		on		on	on		on			2
											1
	on	on	on			on					1
	on	on	on			on				on	1
	on	on	on			on	on				1
on	on	on	on	on	on	on	on	on	on	on	1

2005 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on		on		on	on	on	on	on		3
	on	on	on			on		on	on		2
	on	on	on		on		on		on		2
			on		on	on		on			1
			on		on	on	on	on	on		1
		on	on		on	on					1
on	on	on	on	on	on	on	on	on	on	on	1

2005 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N

		on	on		on	on	on	on	on	on	17
on	on	on	on	on	on	on	on	on	on	on	2
on	on	on			on			on	on	on	1

2005 - 66,000-80,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
on	on	on	on	on	on	on	on	on	on	on	3
	on		on		on	on					2
	on		on		on	on	on		on		1
	on	on	on			on	on	on	on	on	1

2006 - 7,500-18,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
				on		on					12
					on	on					6
				on	on	on					4
				on	on						2
			on	on	on	on			on		1

2006 - 18,000-28,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on					24
			on	on	on						7
		on			on	on					7
				on	on	on					4
		on		on	on	on					4
	on		on	on	on	on	on	on			3
	on		on	on	on	on		on			2
on		on		on	on						2
				on		on					1
			on	on	on	on		on		on	1
on				on	on	on					1

2006 - 28,000-36,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on			on		11
			on	on	on	on		on			10
		on	on	on	on		on				5
			on	on	on	on	on				4
				on		on					2
	on			on	on	on				on	2
				on	on	on					1
			on	on	on	on					1
			on	on	on	on	on	on	on		1
		on		on	on	on	on	on		on	1
		on	on	on	on		on		on	on	1
	on		on		on	on				on	1
	on		on	on	on	on	on	on	on	on	1

2006 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on			on		4
	on		on		on	on				on	2
					on	on					1
			on	on	on	on	on		on	on	1
		on	on	on		on	on	on	on		1
	on		on		on	on		on		on	1

2006 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N

			on	on	on	on		on	on		8
	on			on	on	on		on		on	4
			on	on	on	on		on		on	2
		on		on	on	on	on	on		on	2
			on	on	on	on					1
			on	on	on	on			on		1
			on	on	on	on			on	on	1
			on	on	on	on	on	on		on	1
	on		on		on	on		on		on	1
on	on	on	on	on	on	on	on	on	on	on	1

2006 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on		on	on	13
			on	on	on	on		on	on	on	4
			on	on	on	on	on	on	on	on	4
		on		on	on	on	on	on	on	on	2
		on	on	on	on		on		on	on	2
	on		on	on	on	on	on	on	on	on	2
			on	on	on	on					1
			on	on	on	on			on		1
			on	on	on	on		on			1
		on		on	on	on		on	on	on	1
		on	on	on	on		on				1
	on		on		on	on				on	1
	on		on		on	on		on	on	on	1
	on		on	on	on	on		on			1

2002 - 66,000-80,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
on	on	on	on	on	on	on	on	on	on	on	46
			on	on	on	on					1
			on	on	on	on	on		on	on	1

2007 - 18,000-28,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on					22
	on		on	on	on						4
				on			on				1

2007 - 28,000-36,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on					4
				on		on					1
			on	on	on	on		on	on	on	1
			on	on	on	on	on	on	on		1
	on			on	on	on					1
	on		on	on	on						1

2007 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on				on	19
			on	on	on	on	on		on		4
		on	on	on	on					on	4
on		on	on	on	on	on					4
	on		on	on	on		on		on		2
			on	on	on	on					1
			on	on	on	on	on	on		on	1
	on	on	on	on	on	on	on	on	on	on	1
on		on	on	on	on	on	on	on			1

2007 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on	on		on	9
on				on	on	on			on	on	4
			on	on	on	on					2
			on	on	on	on		on		on	2
	on		on	on	on		on		on		2
on	on	on	on	on	on	on	on	on	on	on	2
			on	on		on			on	on	1
			on	on	on	on	on	on	on		1
		on	on	on	on					on	1
on		on	on	on	on	on					1
on		on	on	on	on	on	on	on			1

2007 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on		on	on	on	11
			on	on	on	on	on	on	on	on	7
on	on	on	on	on	on	on	on	on	on		5
			on	on		on		on	on	on	2
			on	on	on	on				on	2
		on	on	on	on	on		on	on	on	2
on	on	on	on	on	on	on	on	on	on	on	2
	on			on	on	on		on	on	on	1
	on		on	on	on						1
	on		on	on	on		on		on		1
on				on	on	on			on	on	1

2007 - 66,000-80,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
on	on	on	on	on	on	on	on	on	on	on	52
	on	on	on	on	on	on	on	on	on	on	9
		on	on	on	on	on	on	on	on	on	4
on	on	on	on	on	on	on	on		on	on	4
			on	on	on	on	on				1
			on	on	on	on	on		on		1

2008 - 7,500-18,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
				on		on					12
				on	on						4
		on	on	on	on			on			1

2008 - 18,000-28,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on					4
		on	on	on	on						2
				on		on					1
				on	on						1
			on	on	on	on		on			1

2008 - 28,000-36,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on				3
				on		on					1

2008 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
		on	on	on	on			on			3

			on	on	on	on				on	2
			on	on	on	on		on			2
				on		on					1
			on	on	on	on					1
			on	on	on	on	on	on	on		1
on	on	on	on	on	on	on	on	on	on	on	1

2008 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on	on	on		7
			on	on	on	on		on	on		5

2008 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on	on	on	on	6
		on	on	on	on		on	on	on	on	6
on	on	on	on	on	on	on	on	on	on	on	3
		on	on	on	on			on	on		2
			on	on	on	on				on	1
			on	on	on	on	on				1
		on	on	on	on						1
		on	on	on	on			on	on	on	1

2008 - 66,000-80,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
on	on	on	on	on	on	on	on	on	on	on	102
on	on	on	on	on	on		on	on	on	on	21
			on	on	on	on	on	on	on	on	2
			on	on	on	on		on	on		1
		on	on	on	on			on	on	on	1

2009 - 7,500-18,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
				on		on					16
			on			on					6
		on				on					3
				on	on						2

2009 - 18,000-28,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
				on		on					3
		on		on		on					3
				on	on						1
		on		on	on	on		on	on		1

2009 - 28,000-36,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
				on		on					4
			on			on	on	on	on		2
			on	on	on	on	on	on		on	1
		on				on					1
		on	on	on		on					1

2009 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on	on	on		20

			on	on	on	on			on		16
		on		on	on	on			on		7
on				on	on	on		on			5
		on		on	on	on				on	3
				on		on					1
				on	on		on		on		1
			on			on	on	on			1
			on	on	on	on		on			1
		on		on		on					1

2009 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on	on	on		10
			on	on	on	on	on	on		on	9
		on		on	on	on		on	on		8
	on			on	on		on	on	on	on	6
on				on	on	on		on	on		6
			on	on	on	on		on	on		4
			on	on	on	on		on			1

2009 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
		on	on	on	on	on	on	on	on	on	16
		on	on			on	on	on	on	on	10
on		on	on			on	on	on	on	on	2
			on	on	on	on			on		1
		on		on	on	on			on		1
		on		on	on	on		on	on		1
		on	on	on		on	on				1
on	on	on	on	on	on	on	on	on	on	on	1

2009 - 66,000-80,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
on	on	on	on	on	on	on	on	on	on	on	70
on	on		on	on	on	on	on	on	on	on	3
			on	on	on	on			on		1
		on		on	on	on		on			1
on	on	on	on	on	on	on	on				1

2010 - 7,500-18,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on			on							26
				on		on					10
		on		on							4
				on	on						2
			on	on	on	on					1
	on			on	on	on					1

2010 - 18,000-28,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on			on		on					7
	on			on	on	on					6
			on	on	on	on					5
	on			on	on						3
	on			on							2
				on		on					1
				on	on						1
	on			on	on	on	on	on			1
	on	on	on	on	on	on	on				1

2010 - 28,000-36,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on			on	on	on	on	on			15
			on	on	on	on	on	on			9
	on			on							4
	on		on	on	on	on	on				3
			on	on	on	on					1
			on	on	on	on	on				1
	on			on	on						1
on	on	on	on	on	on	on	on	on	on	on	1

2010 - 36,000-45,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
			on	on	on	on	on	on			6
	on			on	on	on	on	on			6
	on			on							2
				on		on					1
on	on	on	on	on	on	on	on	on	on	on	1

2010 - 45,000-55,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on	on	on	on	on	on	on				18
			on	on	on	on	on	on		on	2
		on		on							1
	on			on	on	on					1
	on		on	on	on	on	on	on	on	on	1
	on	on	on	on	on	on	on	on			1
on	on	on	on	on	on	on	on	on		on	1

2010 - 55,000-66,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
on	on	on	on	on	on	on	on	on		on	12
	on	on	on	on	on	on	on	on		on	9
	on	on	on	on	on	on	on	on	on	on	4
	on			on	on	on	on	on			2
on	on	on	on	on	on	on	on	on	on		2
			on	on	on	on	on	on		on	1
	on			on		on					1

2010 - 66,000-80,000cfs

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	N
	on	on	on	on	on	on	on	on	on	on	28
on	on	on	on	on	on	on	on	on	on	on	17
on	on	on	on	on	on	on	on	on		on	8
	on			on	on	on	on	on			2
	on	on	on	on	on	on	on				2
	on	on	on	on	on	on	on	on		on	2
on	on	on	on	on	on	on	on	on	on		2
			on	on	on	on	on				1

CONOWINGO EAST FISH LIFT ATTRACTION FLOWS
RSP 3.6

CONOWINGO HYDROELECTRIC PROJECT

FERC PROJECT NUMBER 405

Prepared for:

Exelon.

Prepared by:

Normandeau Associates, Inc.

Gomez and Sullivan Engineers, P.C.

February 2011

EXECUTIVE SUMMARY

Exelon Generation Company, LLC (Exelon) has initiated with the Federal Energy Regulatory Commission (FERC) the process of relicensing the 573-megawatt Conowingo Hydroelectric Project (Conowingo Project). The current license for the Conowingo Project was issued on August 14, 1980 and expires on September 1, 2014. FERC issued the final study plan determination for the Conowingo Project on February 4, 2010, approving the revised study plan with certain modifications.

The final study plan determination required Exelon to conduct a Conowingo East Fish Lift (EFL) Attraction Flow Study, which is the subject of this report. The objectives of this study are to: 1) review and analyze applicable data from 2000 through 2009 under the designation of historical data, (if available), as it relates to Conowingo turbine and EFL operation data; 2) analyze and report turbine on/off times, duration of turbine operation, and water temperature, in conjunction with attraction flow velocity data and hourly fish passage data, (American and gizzard shad), for 2010; and 3) analyze and report 2010 Conowingo station operation and fish passage data in conjunction with the passage of radio-telemetered American shad from Conowingo RSP 3.5-Upstream Fish Passage Effectiveness Study.

Hourly American shad passage, in conjunction with station generation scenarios for the 2001 through 2010 American shad spring migration seasons, was analyzed using a standard T-test. A total of 292 different combinations of turbine operation occurred during EFL operations during this 10-year period. Several of these turbine combinations occurred infrequently and were not analyzed due to insufficient data. Seven specific turbine generation scenarios account for 43.1% of operation during EFL operations.

Turbine generation scenarios during EFL operations (2001 through 2010) varied from the operation of two Francis and zero Kaplan turbines to all seven Francis and all four Kaplan turbines generating. The most common generation scheme used was all 11 units operating and accounted for nearly 23% of the total operating time. Three various combinations of two Francis turbines and zero Kaplan turbines accounted for a combined total of 10.5% of total operating time. The three remaining most common generation schemes, (four Francis and four Kaplan turbines, four Francis and zero Kaplan turbines, and six Francis and four Kaplan turbines), occurred 2.7% to 3.7% of the total operating time. Remaining turbine generation schemes each accounted for 1% or less of total operating time. Although some generation schemes scored higher or lower values in relation to hourly American shad passage, the significance of the results may be misleading. Since one generation scheme, (seven Francis, four Kaplan), occurred during nearly 23% of the total time of EFL operation, the data points are not evenly distributed among those generation schemes analyzed. Thus, the data are heavily weighted toward the seven Francis

and four Kaplan scenario since the majority of the other generation schemes occurred less than 1% of the time during the 10-year study period.

Turbine generation schemes, EFL equipment settings, water temperature, and tailrace water levels were compared to hourly American and gizzard shad passage values by Pearson Correlation analysis. Only small significant correlations were observed with values generally less than 2.0 for hourly fish passage. The analysis did not point to one specific generation scheme or a combination of settings and conditions that consistently provided high fish passage values. Four generation conditions related to lower passage rates for American shad involve the use of one or two Kaplan turbines, (usually #8 and/or #9), in conjunction with various Francis turbines. Personnel operating the EFL noted that a large eddy forms during the operation of turbines 8 and/or 9. The eddy pushes the attraction flow water from entrance gate C eastward into the spillway area, possibly impeding or diminishing the ability to attract fish into the EFL through gate C. However, analysis of the radio-tagged American shad that were detected in the EFL during operations in 2010 did not show that fish attraction to the EFL was diminished when Kaplan turbines 8 and/or 9 were operating. A total of six radio-tagged shad passed into Conowingo Pond while 14 other tagged shad made forays into the EFL during operation of turbines 8 and/or 9. Entrance gate C, which discharges attraction water downstream and adjacent to the wing wall, is generally operated whenever any of the Kaplan turbines are in use since discharges from these turbines nullify attraction flows from entrance gates A and B.

In 2010, two distinct 7-day periods during EFL operations accounted for the passage of 26,381 American shad, 70% of the total shad passed during the entire season. During these 14 days, the EFL was operated nearly 146 hours and encountered fourteen different turbine generation scenarios. No relationship between turbine generation/Project flow and passage of American shad was evident. Although minimum flow generation resulted in the passage of 66% of the total shad passed during the 14-day period, the calculated weighted mean for shad passage during minimum flow generation (259 shad/hr) was lower than the weighted mean observed during the operation of 6 or 7 Francis turbines and 3 Kaplan turbines (314 shad/hr). The remaining generation scenarios occurred 8.8% or less during the 14-day period ranging from 1.9 hours to 12.8 hours of operation. Attraction flow water velocities were measured daily during EFL operations from April 9 through June 6, 2010. Fish passage did not appear to be highly correlated to attraction water velocities as fish passage occurred over a range of water velocities and other operating conditions.

A total of 89 radio-tagged American shad were monitored for presence in and passage through the EFL facility. Sixty-five (65) of these 89 tagged shad were detected within the EFL (73% fishway attraction

effectiveness). Forty (40) of the 65 tagged shad detected in the EFL successfully passed upstream into Conowingo Pond. The remaining 25 radio-tagged American shad made forays into sections of the EFL but did not pass upstream. The overall passage efficiency of radio-tagged shad (40 shad of 89 shad detected in tailrace) was 44.9%. Successful passage of radio-tagged American shad occurred on 16 separate days from April 30 to May 24, 2010. Passage days did not appear to be strongly oriented towards weekday or weekend operation scenarios.

Historic data (2001 – 2009) and data from 2010 provide a wealth of information relative to the performance of the EFL. These data show that the EFL is effective at attracting 73% of the American shad in the tailrace although not all of these fish successfully pass upstream to Conowingo Pond. Analyses of ten years of data do not show a relationship between turbine generation schemes, EFL equipment settings, water temperature and tailrace levels and effectiveness of the EFL. Data from shad radio-tagged in 2010 provided showed that 73% of the shad in the tailrace were attracted to and entered the EFL during various turbine generation scenarios, attraction flow velocities, and EFL equipment settings. EFL operators have observed that operation of two Kaplan units creates a large eddy that appears to affect the flow of attraction flow from entrance gate C although the operation of these units in 2010 did not appear to affect the attraction of radio-tagged shad to the EFL.

Although there does not appear to be any opertional variables that will consistently provide the best fish passage conditions or guarantee higher rates of successful upstream passage, there appear to be conditions within the EFL that may be affecting successful upstream passage. The fishway attraction effectiveness value (73%) clearly shows that American shad are successfully entering the EFL, but the overall rate of successful passage upstream to Cononwingo Pond (44.9%) indicates that not all are passing through the crowder and being lifted up to the trough.

It appears that the attempts to improve the upstream passage of American shad should focus on the EFL rather than instituting specific flow regimes or operational schemes. Improving conditions within the EFL to ensure that a greater percentage of shad that enter the lift will successfully pass upstream would be more beneficial that any limited "improvements" to attraction effectiveness that may be related to station generation. Furthermore, the ability to implement changes to station operation cannot be assured as it will depend on conducive natural river flows. Addressing the issue of American shad that enter the EFL but fail to pass upstream may yield far better passage results and is not dependant upon natural conditions (e.g. river flows or water temperatures) that are beyond the project's control.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

cfs	cubic feet per second
EFL	East Fish Lift
Exelon	Exelon Generation Company, LLC
FERC	Federal Energy Regulatory Commission
fps	feet per second
ft	foot/feet
ILP	Integrated Licensing Process
MW	megawatt
NOI	Notice of Intent
PAD	Pre-Application Document
PSP	Proposed Study Plan
RSP	Revised Study Plan
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION

Exelon Generation Company, LLC (Exelon) has initiated with the Federal Energy Regulatory Commission (FERC) the process of relicensing the 573-megawatt (MW) Conowingo Hydroelectric Project (Project). Exelon is applying for a new license using the FERC's Integrated Licensing Process (ILP). The current license for the Conowingo Project was issued on August 14, 1980 and expires on September 1, 2014.

Exelon filed its Pre-Application Document (PAD) and Notice of Intent (NOI) with FERC on March 12, 2009. On June 11 and 12, 2009, a site visit and two scoping meetings were held at the Project for resource agencies and interested members of the public. Following these meetings, formal study requests were filed with FERC by several resource agencies. Many of these study requests were included in Exelon's Proposed Study Plan (PSP), which was filed on August 24, 2009. On September 22 and 23, 2009, Exelon held a meeting with resource agencies and interested members of the public to discuss the PSP.

Formal comments on the PSP were filed with FERC on November 22, 2009 by Commission staff and several resource agencies. Exelon filed a Revised Study Plan (RSP) for the Project on December 22, 2009. FERC issued the final study plan determination for the Project on February 4, 2010, approving the RSP with certain modifications.

The final study plan determination required Exelon to conduct a Conowingo East Fish Lift Attraction Flow Study, which is the subject of this report. The objectives of this study are to: 1) review and analyze applicable data from 2000 through 2009 under the designation of historical data (if available) as it relates to Conowingo turbine and East Fish Lift (EFL) operation data; 2) analyze and report turbine on/off times, duration of turbine operation, spill data, if applicable, and water temperature, in conjunction with attraction flow velocity data and hourly fish passage data, (American shad, *Alosa sapidissima;* alewife, *Alosa pseudoharengus,* blueback herring, *Alosa aestivalis;* and gizzard shad, *Dorosoma cepedianum*), for 2010; and 3) analyze and report 2010 Conowingo station operation and fish passage data in conjunction with the passage of radio-telemetered American shad from Conowingo RSP 3.5-Upstream Fish Passage Effectiveness Study.

2.0 DESCRIPTION OF EXISTING CONOWINGO EAST FISH LIFT FACILITY

Construction of the EFL commenced in April 1990 and the lift was operational by spring of 1991. The EFL was designed according to United States Fish and Wildlife Service (USFWS) guidelines and specifications and resulted from extensive study, design review, hydraulic modeling, and discussion with resource agencies. The Conowingo East Fish Passage Facility Fact Sheet and schematic can be found in Appendix A.

2.1 Current Operation of Conowingo East Fish Lift Facility

The EFL is located to the east of the four large Kaplan units and adjacent to the deflection wall, which separates the tailrace from the spillway (Figure 2.1-1)**.** Source water for the EFL is provided through the use of two spillway attraction flow gates. The EFL consists of three entrance gates, (upstream weir gates A and B, and downstream weir gate C) which are 14 ft high by 10 ft wide, and two diffusers (A and B), that supply additional attraction water to the entrance gates. Each entrance gate was designed to discharge 300 cfs of attraction flow water, (900 cfs total if all entrances are open), creating velocities ranging from two to six fps. The A and C entrance gates border the powerhouse and deflection wall respectively, with B gate (no longer used due to ineffectiveness) located directly downstream of the crowder. The specific entrance gate used to attract shad is dictated by which turbines are operating. When only the small Francis turbines (units 1 through 7) are operating, A gate is fished; when any Kaplan turbine (units 8 through 11) is operating, C gate is fished. The entrance gate is adjusted according to tailrace water level. Normally, the entrance gate is positioned to provide a slope of water (not a waterfall) for fish to swim up and through when entering the EFL. Positioning the gate in this manner appears to add some velocity to the attraction water as it flows from the EFL and slightly increases the water level inside the facility compared to the tailrace level.

The EFL merges into a single crowder channel upstream of the entrance gates. Entering the crowder channel, the fish pass through the crowder. The crowder gates are slightly opened in a v-shape, allowing fish to enter, but making it difficult to leave. Once a number of fish have passed through the crowder gates, the gates are closed. The crowder screen upstream of the crowder is raised allowing the fish to swim over the submerged hopper at the upstream end of the crowder channel. The crowder is moved forward, concentrating the fish into the area immediately over the hopper. The crowder screen is lowered into position, trapping the fish. The fish-filled hopper is then raised to the exit trough. As the 3,500 gallon hopper is raised to the trough, the crowder is returned downstream to its fishing position. When the hopper reaches the trough, the hopper door is opened and the fish and water released. The fish trough is

14 ft wide x 12 ft high x 190 ft long. On their own volition, the fish swim past a viewing window situated in a constricted area of the trough before heading upstream into Conowingo Pond.

Fishing time and/or lift frequency is determined by fish abundance, but the hopper is cycled at least once per hour during EFL daily operations. The time between lifts and number of lifts conducted each day is influenced by fish abundance. When large numbers of fish are in the crowder channel, the crowder screen is raised and lowered without moving the crowder to trap fish over the hopper. This mode of operation, called "fast fish", involves leaving the crowder in the fishing position and raising the hopper frequently to remove fish in the crowder channel. When fished normally, a single lift cycle takes approximately 15 minutes to complete. When "fast fished", the lift cycle time is reduced and takes about twelve minutes.

The operational guidelines for EFL operation were based on the hydraulic model developed by Stone & Webster Engineering Corporation and on comments and operational criteria set by the USFWS. The operational matrix charts developed for lift operations use the relationship between Conowingo Pond elevation, tailrace elevation, and attraction flow. During start-up testing in 1991, the charts were revised to reflect actual operating conditions. It was discovered that the discharge boils from operating Units 10 and 11 masked the attraction water flowing out of upstream weir gates A and B. To address this effect, new matrix charts were developed based on pond and tailrace elevation and turbine unit operation; these charts listed the various gate settings for lift operation. Settings are changed throughout the day to correspond to changes in hydraulic conditions and fish passage conditions.

The Conowingo Project uses limited active storage within Conowingo Pond for generation purposes. Maximum hydraulic capacity of the Conowingo powerhouse is 86,000 cfs. The current minimum flow regime below Conowingo Dam was formally established with the signing of a settlement agreement in 1989 between the Project owners and several federal and state resource agencies (46 FERC ¶61,063) (FERC 1989). The established minimum flow regime below Conowingo Dam during fish lift operations is the following:

- April 1 – April 30 : 10,000 cfs or natural river flow, whichever is less
- May 1 – May 31 : 7,500 cfs or natural river flow, whichever is less
- June 1 – September 14 : 5,000 cfs or natural river flow, whichever is less

Annually, EFL operations are scheduled to start on or about April 1 (if water temperature is 50° F or higher and no spillage). EFL operations end in early to mid-June (with agency concurrence, based on water temperature and shad spawning condition). The EFL is operated from approximately 0730 hrs to 1900 hrs daily (based on hourly shad passage).

3.0 METHODS

The following methods were used to meet the study objectives:

- Collection of attraction water velocity data during 2010.
- Historical Data Analysis (2001-2009): Station generation, EFL settings, and hourly passage of American and gizzard shad.
- 2010 EFL and Conowingo station operation vs. hourly passage of American and gizzard shad.
- 2010 American shad passage in comparison to passage of radio-telemetered American shad.

Data used for this study included EFL equipment settings for operating weir gate(s), crowder-area gate, diffuser gates, and attraction flow gates; turbine on/off data for each year analyzed; hourly passage of American shad and gizzard shad for each year analyzed; attraction flow water velocity measurements (fps) collected in 2010; and water temperature. EFL equipment settings were gleaned from annual EFL operator's logs and formatted into an Excel spreadsheet, turbine on/off data were supplied by Exelon, hourly American shad passage data were obtained from annual Conowingo EFL reports provided to the Susquehanna River Anadromous Fish Restoration Committee (Normandeau Associates 2001-2010), and the attraction flow water velocity measurements were collected using two Marsh McBirney Flo-Mate 2000 portable flow meters (factory calibrated prior to use). Velocity measurements were collected just upstream of the operating weir gate (A or C) in use. Measurements were collected hourly unless station generation or lift settings changed. Factory calibration sheets for the velocity meters and data collection photos are shown in Appendix A. Data of radio-telemetered American shad that entered or passed the EFL in 2010 are from Conowingo RSP 3.5-Upstream Fish Passage Effectiveness Study and are presented in Appendix D, Tables 1, 2, and 3.

The intent of the historical data analysis (2001 – 2009) and analysis of the 2010 data was to compare Conowingo Station generation data and EFL operational data to the hourly fish passage data for the purpose of identifying specific conditions or trends that may promote or enhance fish passage. The historical data trends were compared to those observed/recorded during EFL operations in 2010 (including passage of radio-tagged American shad) to determine if data from 2010 were similar to historic trends. Specific conditions that consistently relate to above average fish passage rates may be useful in formulating a revised EFL operating protocol, if necessary.

A comparison of hourly fish passage to spill operations was not performed since the EFL is seldom operated during spill events. River flows greater than station capacity (86,000 cfs) occurred approximately 25%, 7%, and 4% in April, May, and June, respectively per USGS Conowingo gage # 01578310 for years 1968 through 2009 (Figures 3.0-1, 3.0-2, and 3.0-3) When river flows increase to above station capacity and spill gates are opened to release additional water, the tailrace level rises to a point that reduces the effectiveness of the EFL's attraction water. Depending on the number of spill gates that are open, the tailrace may rise to a level slightly higher than the entrance gates that are in the closed position resulting in disruption of water flow inside the EFL.

A separate analysis of river herring (alewife and blueback herring) passage to EFL settings and turbine generation schemes was not performed because relatively few herring have been present in the EFL during the historic period. Since 2002, river herring catches at the Conowingo Dam fish lifts have been consistently low (SRAFRC 2010), and the low catches in the EFL is concurrent with a coastwide decline in river herring populations (ASMFC 2007). Herring passage generally coincides with EFL operation during the adult shad upstream migration season, therefore they are exposed to the same EFL operating conditions and turbine generation schemes as American shad. The ability of blueback herring to ascend denil and Alaska steeppass fishways is similar to that of American shad (Haro *et al*. 1999), and river herring do enter and pass through the EFL. EFL settings are not intended to target a single species but rather to provide attraction velocities conducive to the passage of multiple species (anadromous and resident) simultaneously. The highest recorded volitional passage numbers of alewife and blueback herring at the EFL occurred in 2001, which was also the highest year of American shad passage. Given the similar behavior of clupeids (American shad, gizzard shad, and river herrings), it is likely that analyses and conclusions relative to shad will also be relevant to river herring.

4.0 RESULTS

4.1 Historical Analysis (Years 2001 through 2010)

Hourly American shad passage in conjunction with station generation scenarios for the 2001 through 2010 American shad spring migration seasons were analyzed using a standard T-test, (Appendix B). Figure 4.1-1 depicts the number, type, approximate hydraulic capacity, and location of the seven Francis and four Kaplan turbines in relation to the EFL. A total of 292 different combinations of turbine operation occurred during EFL operations during this 10-year period. Several of these turbine combinations occurred infrequently during EFL operations and were not analyzed due to insufficient data. Station generation scenarios varied from the operation of two Francis and zero Kaplan turbines to all seven Francis and all four Kaplan turbines generating. The seven most frequently used turbine generation

schemes during this 10-year period of EFL operations are shown in Table 4.1-1; these scenarios account for 43.1% of operation during EFL operation. The most common generation scheme utilized was all 11 units operating and accounted for nearly 23% of the total operating time. Three various combinations of two Francis turbines and zero Kaplan turbines, (Francis turbine combinations 5 and 7, 3 and 7, or 2 and 7), accounted for a combined total of 10.5% of total operating time. The three remaining common generation schemes, (four Francis and four Kaplan turbines, four Francis and zero Kaplan turbines, and six Francis and four Kaplan turbines), occurred 2.7% to 3.7% of the total operating time. Remaining turbine generation schemes each accounted for 1% or less of total operating time.

A comparison of turbine generation schemes relative to hourly American shad passage is shown in Table 4.1-2. Although some generation schemes have lower or slightly higher hourly shad passage values associated with them, the significance of the T-test results may be misleading. The T-test analysis compared a turbine generation scheme and its corresponding mean hourly American shad passage value to other turbine generation schemes. Since one generation scheme, (seven Francis, four Kaplan), occurred during nearly 23% of the total time of EFL operation, the data points are not evenly distributed among the generation schemes. Thus, the data are heavily weighted toward the seven Francis and four Kaplan scenario since the majority of the other generation schemes occurred less than 1% of the time during the 10-year study period. Despite the uneven distribution, Table 4.1-2 provides some information that may be useful. Several of the conditions listed under the category of "lower passage" involve the use of one or two Kaplan turbines, (usually #8 and/or #9), in conjunction with various Francis turbines. Personnel operating the EFL have noted that a large eddy forms during the operation of turbines 8 or 9. The eddy pushes the attraction flow water from entrance gate C eastward into the spillway area, possibly impeding or diminishing the ability to attract fish into the EFL through gate C. However, analysis of radio-tagged American shad that were detected in the EFL during operations in 2010 did not show diminished fish attraction to the EFL when Kaplan turbines 8 and/or 9 were operating (Table 4.1-3). A total of six radio-tagged shad passed into Conowingo Pond while 14 other tagged shad made forays into the EFL during operation of turbines 8 and/or 9. Entrance gate C, which discharges attraction water downstream and adjacent to the wing wall, is generally operated whenever any of the Kaplan turbines are in use since attraction water from entrance gates A and B is nullified by Kaplan turbine discharges.

Turbine generation schemes, EFL equipment settings, water temperature, and tailrace water levels were compared to hourly American and gizzard shad passage values by Pearson Correlation analysis and are presented in Appendix B. Only small significant correlations were observed with lower passage rates (generally less than 2.0 per hour). The analysis did not identify any specific generation scheme or a combination of settings and conditions that consistently provided high passage values.

The total passage by year for American and gizzard shad compared to the total passage of all fish combined is presented in Table 4.1-4. For years 2000 through 2005 when the American shad passage total comprises 15% or more of the total passage, the ratio of American shad to gizzard shad ranges from about 1/ 2.1 to 1/ 5.5. The period of 2006 through 2010 shows that American shad passage decreased and gizzard shad passage increased; the ratios increased dramatically ranging from 1/11.5 to 1/46.1. Although gizzard shad passage has increased, the total passage for all species combined has generally not increased beyond total passage values observed during the 10-year period of study. A yearly comparison of American shad and gizzard shad total passage numbers at the EFL for years 2000 – 2010 is shown in Figure 4.1-2. Generally, for years 2000 through 2007, gizzard shad numbers ranged between 300,000 and 650,000 fish passed per season. During the past 3 years, (2008-2010), gizzard shad passage has increased, ranging between 810,000 to 915,000 fish per season and coinciding with the lowest American shad passage numbers observed since volitional passage commenced in 1997. The increase of adult gizzard shad in the Chesapeake Bay area may be linked to increased reproductive success resulting from fish passage into ideal habitat upstream of lower Susquehanna River dams and a recent trend of warmer winters resulting in reduced winter kill (SRAFRC 2010). The decline of adult American shad stocks has been observed coastwide and ocean harvest may be the most important factor driving the decline (ASMFC 2007).

For years 2001 through 2010, the number of American shad passed during the daily high hour of American shad passage was plotted along with the corresponding number of gizzard shad passed during the same hour, (Figures 4.1-3 through 4.1-12). During the years 2001 through 2005, it was not uncommon to observe that these American shad hourly passage numbers were greater than or similar to gizzard shad passage values. For the same 5-year period, gizzard shad hourly passage numbers did not exceed 4,000 fish during the daily high passage hour for American shad.

The plots for years 2006 through 2010 show a marked increase in gizzard shad passage during the daily high hour of American shad passage. Hourly gizzard shad passage during the daily high passage hour of American shad regularly exceeded 3,000 fish per hour at times, and values exceeding 5,000 gizzard shad per hour have been recorded since 2006. These values for hourly gizzard shad passage coincide with the overall decrease of American shad passage observed since 2005. The number of hours in which American shad passage exceeded 1000 to 4000 fish per hour (2001 through 2010) is shown in Table 4.1-5. The number of American shad passage hours that exceeded 1,000 fish per hour has dropped from 28 hours (observed in 2001) to 0 hours (observed in 2007, 2008, and 2010).

4.2 Analysis of 2010 Conowingo EFL Operations

During EFL operations in 2010, a total of 16 different turbine generation scenarios was encountered, (Table 4.2-1). Minimum flow generation of two Francis and zero Kaplan turbines occurred nearly 32% of the time with a turbine generation scenario of four Francis and two Kaplan turbines occurring nearly 16% of the time during lift operations. The remaining scenarios occurred from less than 1% to 7.7% of the total operating time.

Two 7-day periods (April 19-25 and May 7-13, 2010) during EFL operations in 2010 accounted for the passage of 26,381 American shad or 70% of the shad passed during the entire season. American shad passage numbers and concurrent turbine generation schemes that occurred during these peak passage periods are shown in Table 4.2-2. During these two, 7-day periods, the EFL was operated nearly 146 hours and encountered fourteen different turbine generation scenarios (Table 4.2-2). Minimum flow generation occurred nearly 47% of the time (67.8 hours) and accounted for the passage of 17,565 American shad. Near maximum generation (nine and ten units) occurred 7.3% of the time (10.6 hours) and accounted for the passage of 6331 shad. The remaining turbine generation scenarios each occurred 8.8% or less of the time ranging from 1.9 hours to 12.8 hours. Turbine generation is influenced by natural river flow and, during 2010, river flows moderated shortly after the start of EFL operations on April 5, 2010. No drastic or abrupt increases in river flow due to snow melt or spring rains occurred and may have contributed to the first peak shad passage period in late April as well as creating a situation for the hydrostation to operate at minimum flow generation for longer periods of time during the American shad migration season.

No relationship between turbine generation/Project flow and passage of American shad was evident. Although minimum flow generation resulted in the passage of 66% of the total shad passed during the 14-day period, the calculated weighted mean for shad passage during minimum flow generation (259 shad/hr) was lower than the weighted mean observed during the operation of 6 or 7 Francis turbines and 3 Kaplan turbines (314 shad/hr).

Attraction flow water velocities were measured daily during EFL operations from April 9 through June 6, 2010 and are shown in Appendix C. Figure 2.1-1 indicates the location where the water velocity measurements were collected. Entrance gate A operated solely on four days with measured velocities ranging from 3.3 fps to 5.0 fps. Entrance gate C operated solely on 14 days with measured velocities ranging from 2.9 fps to 4.5 fps. Both entrance gates A and C were utilized on the same day (not in unison) due to generation changes on 39 days and measured velocities ranged from 1.9 fps to 5.8 fps. These

velocity values are similar to the range of values measured during "debugging" operations in 1991 (3.5 fps to 5.8 fps for entrance gates A and C, (RMC 1992). On 21 of the 39 days when both entrance gates were utilized, one of the two entrance gates was only used for two hours or less.

4.3 Passage of Radio-Telemetered American shad at the Conowingo East Fish Lift (2010)

During fish passage operations in 2010, American shad were radio-tagged, released, and monitored for presence in and passage through the EFL facility. This report focuses only on those radio-tagged American shad that were successfully passed into Conowingo Pond or were detected within a section of the fish lift but ultimately did not pass into Conowingo Pond. Appendix D, (Tables 1, 2, and 3), presents data of radio-tagged American shad detected in the EFL along with corresponding turbine operation, attraction flow velocity, and EFL operational data. Refer to Conowingo Study 3.5-Upstream Fish Passage Effectiveness Study for additional information.

A total of 65 out of 89 radio-tagged American shad (73%) monitored in the Conowingo tailrace were detected within the EFL (Appendix D, Tables 1 and 2). Forty (40) of these 65 tagged shad (61.5%) detected in the EFL successfully passed upstream into Conowingo Pond. The remaining 25 radio-tagged American shad made forays into sections of the EFL but did not pass upstream (Appendix D, Table 2). Eleven of the 40 radio-tagged shad that successfully passed upstream made forays prior to successful passage (Appendix D, Table 3). Four of these 11 American shad made multiple forays into the EFL prior to successful passage. Seven of the 25 American shad that were detected but did not successfully pass upstream made multiple forays into the EFL. One radio-tagged American shad (fish # 54-208) successfully passed through the EFL twice within a 24-hour period indicating that, after initial passage, the fish passed downstream through one of the operating turbines, re-entered the EFL, and successfully passed upstream into Conowingo Pond a second time.

Successful passage of the 40 radio-tagged American shad occurred during various turbine generation scenarios, attraction flow water velocities, and EFL equipment settings. Successful passage occurred during 11 different turbine generation schemes (number of Francis and Kaplan turbines in operation) ranging from two Francis and zero Kaplan turbines to all seven Francis and all four Kaplan turbines operating in unison, (Table 4.3-1). A total of 23 (57%) American shad entered through entrance gate A and successfully passed while 17 (43%) American shad entered through entrance gate C and successfully passed. The 25 radio-tagged American shad that entered the EFL but failed to pass made a total of 42 forays, of which 22 entered through entrance gate A (52.4%) and 20 entered through entrance gate C (47.6%). During the 2010 season, entrance gate A was used approximately 43% of the total operating time as compared to gate C, which was utilized about 57% of the time.

Attraction flow water velocities in relation to times of successful radio-tagged American shad passage ranged from 3.3 fps to 5.6 fps. A total of 16 American shad (40%) passed at attraction flow velocities ranging from 3.3 fps to 4.0 fps, 21 shad (52.5%) passed at velocities ranging from 4.1 fps to 4.9 fps, and the final 3 radio-tagged shad (7.5%) passed at a recorded velocity of 5.6 fps.

Eleven radio-tagged American shad made forays into the EFL prior to successful passage. During these unsuccessful forays, attraction water flow velocities ranged from 3.5 fps to 5.7 fps. The 25 radio-tagged American shad that made forays into the EFL and never successfully passed upstream also experienced attraction water flow velocities ranging from 3.5 fps to 5.7 fps.

The entry of radio-tagged American shad into the EFL did not appear to be highly correlated to specific attraction water velocities as fish detection occurred over a range of water velocities previously observed, turbine generation scenarios, and EFL equipment settings.

Successful passage of radio-tagged American shad occurred on 16 separate days from April 30 to May 24, 2010. Passage days did not appear to be strongly oriented towards weekday or weekend operation scenarios as successful radio-tagged shad passage was recorded three times each on a Monday, Friday, and Saturday; two times each on a Sunday, Wednesday, and Thursday; and one time on a Tuesday.

A total of 102 forays (unsuccessful and successful) made by 65 radio-tagged American shad were recorded during EFL operations in 2010. Entrance gate A was used during 52 of the forays, and the remaining 50 forays utilized gate C. Radio-tagged shad utilizing gate A encountered crowder area gate settings ranging from 20% to 30% open, while those shad utilizing gate C encountered crowder area gate settings between 20% and 40% open. Foray times coincided with tailrace water levels (measured by staff gauge located on East wall of entrance gate C) that ranged between 18 and 23.5 ft and turbine generation schemes of two Francis and zero Kaplan turbines operating (minimum flow) up to seven Francis turbines and four Kaplan turbines operating (all units operating).

Nearly 70% of the total untagged American shad passage at the Conowingo EFL occurred during two 7-day periods (April 19 through 25 (15,004 shad) and May 7 through 13 (11,377 shad)). No radio-tagged American shad passed during the April 19 through 25 period; the first two radio-tagged groups of shad were released on April 20 and 22, 2010, respectively. Successful passage of the 40 radio-tagged American shad in relation to turbine generation, entrance gate, and date is presented in Table 4.3-1. Twenty-two of the 40 radio-tagged American shad that successfully passed the EFL, passed during May 7 to 13. Fish number 54-208 passed twice during this period. Passage of radio-tagged shad during this second “peak”

period occurred under various turbine operation schemes. Daily water temperatures recorded at the EFL ranged from about 70° F on May 7, 2010 to 66° F on May 12, 2010.

The remaining 18 radio-tagged American shad that successfully passed upstream did so under nine different turbine operation schemes, (Table 4.3-1). Six of the 18 radio-tagged American shad passed prior to the second peak passage period of May 7 to May 13, 2010, with the remaining 12 radio-tagged American shad passing after this peak period.

4.4 Discussion of Radio-tagged American Shad Passage Results

A total of 89 radio-tagged American shad were detected in the Conowingo Dam tailrace during EFL operations in 2010 (refer to Conowingo RSP 3.5-Upstream Fish Passage Effectiveness Study). Of these 89 radio-tagged shad, 65 were detected within the Conowingo EFL (73% fishway attraction effectiveness) with a total of 40 radio-tagged shad successfully passing upstream (61.5% of radio-tagged shad detected within the EFL passed successfully). The overall passage efficiency of radio-tagged shad (40 shad of 89 shad detected in tailrace) was 44.9%.

5.0 CONCLUSIONS

Historic data (2001 – 2009) and data from 2010 provide a wealth of information relative to the performance of the EFL. These data show that the EFL is effective at attracting 73% of the American shad in the tailrace although not all of these fish successfully pass upstream to Conowingo Pond. These data also provide a comprehensive assessment of turbine generation schemes, EFL operation parameters, water temperature, and tailrace water levels as they relate to the effectiveness of shad passage at the EFL. As discussed at the end of this section, opportunities may exist to improve the number of shad that pass upstream at the EFL.

Analyses of ten years of data did not show a relationship between turbine generation/Project operation and effectiveness of the EFL. The Pearson Correlation analyses of turbine generation schemes, EFL equipment settings, water temperature and tailrace levels did not identify any specific generation scheme or combination of settings and conditions that consistently provided high passage values for American shad. Data from shad radio-tagged in 2010 provided showed that 73% of the shad in the tailrace were attracted to and entered the EFL during various turbine generation scenarios, attraction flow velocities, and EFL equipment settings. Data from the radio-tagged shad demonstrated large numbers of shad entering the EFL with minimum station flow (259 shad/hr) and with most units (nine and ten units of eleven units) operating (314 shad/hr).

Comparison of generation schemes and hourly shad passage with T-tests showed a only a few generation schemes with lower or slightly higher passage rates, but the significant tests did not show a consistent pattern relative to station opertion. Lower passage rates include generation scenarios with few (two) units in operation, all eleven units in operation, and intermediate generation schemes ranging from five to nine units operating. The one significantly higher passage rate was found with ten units in operation. These inconsistent results may reflect data heavily weighted to a few specific operating scenarios that occurred frequently. Some of the tests showing lower passage rates involved the use of two specific Kaplan turbines (units 8 and 9). EFL operators have observed that operation of these two units creates a large eddy that appears to affect the flow of attraction flow from entrance gate C although the operation of these units in 2010 did not appear to affect the attraction of radio-tagged shad to the EFL.

Although there does not appear to be any opertional variables that will consistently provide the best fish passage conditions or guarantee higher rates of successful upstream passag, there appear to be conditions within the EFL that may be affecting successful upstream passage. Table 5.0-1 displays a situation that occurs often. The data in this table present radio-tagged American shad that successfully passed during a "peak" passage period in conjunction with radio-tagged shad that were detected in the EFL on the same

days as those passing successfully, but failed to pass upstream. The fishway attraction effectiveness value (73%) clearly shows that American shad are successfully entering the EFL, but the overall rate of successful passage upstream to Cononwingo Pond (44.9%) indicates that not all are passing through the crowder and being lifted up to the trough.

Based on the analyses of historic and 2010 data, it appears that the attempts to improve the upstream passage of American shad should focus on the EFL rather than instituting specific flow regimes or operational schemes that may affect tailrace conditions near and outside of the EFL. Improving conditions within the EFL to ensure that a greater percentage of shad that enter the lift will successfully pass upstream would be more beneficial than any limited "improvements" to attraction effectiveness that may be related to station generation. Furthermore, the ability to implement changes to station operation cannot be assured as it will depend on conducive natural river flows. Years of higher flows or conditions that result in higher flows during migration peaks may well preclude various operational scenarios. Addressing the issue of American shad that enter the EFL but fail to pass upstream may yield far better passage results and is not dependant upon natural conditions (e.g. river flows or water temperatures) that are beyond the Project's control.

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TABLE 4.1-1: COMMON TURBINE GENERATION SCENARIOS USED DURING CONOWINGO EAST FISH LIFT OPERATIONS, 2001-2010.

Rank	Generation Scenario: No. Francis Turbines	Generation Scenario: No. Kaplan Turbines	Specific Turbines Operating	% Operation Time
1	7	4	1 through 11	22.7
2	2	0	5,7	4.9
3	6	4	2 through 11	3.7
4	4	0	4,5,6,7	3.5
5	2	0	3,7	3.3
6	4	4	4-7; 8-11	2.7
7	2	0	2,7	2.3
Total				**43.1**

TABLE 4.1-2: COMPARISON OF TURBINE GENERATION SCHEMES AS THEY RELATE TO HOURLY AMERICAN SHAD PASSAGE BY STANDARD T-TEST.

Turbine Generation Schemes with hourly Am. Shad passage lower than other scenarios	
No. Francis turbines	**No. Kaplan turbines**
2	0
4	1
4	2
4	3
6	1
6	2
6	3
7	4
Turbine Generation Schemes with hourly Am. Shad passage higher than other scenarios	
No. Francis turbines	**No. Kaplan turbines**
6	4

TABLE 4.1-3 RADIO-TAGGED AMERICAN SHAD PASSED BY OR DETECTED IN THE CONOWINGO EFL DURING THE OPERATION OF KAPLAN TURBINES 8 AND/OR 9.

Radio-Tagged American Shad Successfully Passed Upstream						
Fish No.	**Turbine Generation Scheme**	**Francis Turbines**		**Kaplan Turbines**		**Passage date**
21-135	4,1	2,5,6,7		8		7-May-10
21-127	4,1	2,5,6,7		8		7-May-10
21-123	4,1	2,5,6,7		8		23-May-10
54-169	4,1	2,5,6,7		8		23-May-10
54-138	6,1	2,3,4,5,6,7		8		15-May-10
54-140	6,2	1,2,3,4,5,6		8,9		22-May-10
Radio-Tagged American Shad Detected in EFL but Not Passed						
Fish No.	**Turbine Generation Scheme**	**Francis Turbines**		**Kaplan Turbines**		**Passage date**
54-176	4,1	4,5,6,7		8		14-May-10
54-167*	4,1	2,5,6,7		8		23-May-10
	4,1	2,5,6,7		8		28-May-10
	4,1	2,5,6,7		8		29-May-10
21-159	4,1	2,5,6,7		8		26-May-10
54-149	4,1	2,5,6,7		8		26-May-10
54-156	4,1	2,5,6,7		8		29-May-10
21-109	4,2	2,5,6,7		8,9		8-May-10
21-141	4,2	2,5,6,7		8,9		20-May-10
54-164	4,2	2,5,6,7		8,9		20-May-10
54-137	4,2	2,5,6,7		8,9		21-May-10
54-200-2	4,2	2,5,6,7		8,9		21-May-10
21-129	6,1	2,3,4,5,6,7		8		9-May-10
21-115	6,1	2,3,4,5,6,7		8		15-May-10
54-151	6,1	2,3,4,5,6,7		8		16-May-10
54-142*	6,1	2,3,4,5,6,7		8		16-May-10
		2,3,4,5,6,7		8		17-May-10
54-167*	6,2	2,3,4,5,6,7		8,9		28-May-10

*Denotes multiple forays into the EFL.

TABLE 4.1-4: COMPARISON OF AMERICAN AND GIZZARD SHAD PASSAGE TO PASSAGE OF ALL FISH AT CONOWINGO EAST FISH LIFT, 2000-2010.

Year	American Shad	Gizzard Shad	Total Catch All Species	% American Shad	% Gizzard Shad	American Shad - Gizzard Shad Ratio	
2000	153,546	317,753	493,953	31	64	1	2.069432
2001	193,574	429,461	921,916	20.9	46	1	2.218588
2002	108,001	513,794	656,894	16	78	1	4.757308
2003	125,135	459,634	589,177	21	78	1	3.673105
2004	109,360	602,677	715,664	15	84	1	5.510946
2005	68,926	305,378	377,762	18	80.8	1	4.43052
2006	56,899	655,990	714,918	7.9	91	1	11.52903
2007	25,464	508,627	539,203	4.7	94	1	19.97436
2008	19,914	919,975	943,838	2	97	1	46.1974
2009	29,272	876,412	915,417	3	95	1	29.94028
2010	37,757	813,429	857,263	4	94.8	1	21.54379

TABLE 4.1-5: NUMBER OF HOURS PER YEAR THAT AMERICAN SHAD PASSAGE EXCEEDED 1,000, 2,000, 3,000, AND 4,000 FISH PER HOUR.

Year:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of Hours										
> 1,000 per hour	28	21	17	16	2	3	0	0	2	0
> 2,000 per hour	15	1	5	2	0	0	0	0	0	0
> 3,000 per hour	6	0	0	3	0	0	0	0	0	0
> 4,000 per hour	4	0	0	0	0	0	0	0	0	0

TABLE 4.2-1: TURBINE GENERATION SCHEMES AND PERCENT OCCURRENCE DURING CONOWINGO EAST FISH LIFT OPERATIONS IN 2010.

No. Francis Turbines	No. Kaplan Turbines	% Occurrence During Lift Operations
2	0	31.9%
3	0	3.6%
3	1	2.1%
4	0	7.4%
4	1	7.7%
4	2	15.9%
4	3	1.7%
5	0	0.1%
5	1	0.2%
5	4	0.6%
6	1	5.0%
6	2	2.1%
6	3	5.6%
6	4	4.3%
7	3	7.1%
7	4	4.7%

TABLE 4.2-2: 2010 PEAK AMERICAN SHAD PASSAGE PERIODS AND CONCURRENT TURBINE GENERATION SCHEMES (PEAK PERIODS: APRIL 19 TO 25, 2010 AND MAY 7 TO 13, 2010).

Turbine Generation Scheme	Francis[1] Turbines	Kaplan[2] Turbines	Hours of Operation	% of Peak Period Operation	No. American Shad Passed	Am. Shad Per Hour	Weighted Mean
2,0	2,5	0	29	20.0	6,393	220	**259**
	2,7	0	4.8	3.3	2,321	484	
	5,7	0	34	23.3	8,851	260	
3,0	2,5,7	0	8	5.5	1,872	234	
4,0	2,5,6,7	0	3	2.0	97	32	
	4,5,6,7	0	12.8	8.8	1,289	101	
4,1	2,5,6,7	8	12.3	8.4	917	75	
	4,5,6,7	8	5.7	3.9	600	105	
4,2	2,5,6,7	8,9	9.7	6.6	301	31	
	4,5,6,7	8,9	7.3	5.0	63	9	
6,1	2,3,4,5,6,7	8	8.3	5.7	346	42	
6,3	1,3,4,5,6,7	8,9,11	1.9	1.3	563	296	**352**
	2,3,4,5,6,7	8,9,11	6.8	4.7	2,501	368	
7,3	1,2,3,4,5,6,7	8,9,11	1.9	1.3	267	141	**314***
Totals			**145.5 hours**		**26,381**		

*Weighted Mean Value is comprised of the Turbine Generation Schemes 6,3 and 7,3.

TABLE 4.3-1: SUCCESSFUL PASSAGE OF THE 40 RADIO-TAGGED AMERICAN SHAD IN RELATION TO TURBINE GENERATION, ENTRANCE GATE, AND DATE.

Turbine Generation Scheme Francis/Kaplan	Specific Turbines "ON"	Entrance Gate Used	No. of RT Shad Passed	Dates of Passage	
2,0	2,5	A	14*	May 3 = 2 May 6 =1 May 8 = 5	May 11 = 2 May 22 = 1 May 24 = 3
3,0	2,5,6	A	1	May 20, 2010	
3,0	2,5,7	A	9*	May 12, 2010	
4,1	2,5,6,7,8	C	4	May 7, 2010 (2) May 23, 2010 (2)	
4,3	4,5,6,7,8,9,11	C	1	April 30, 2010	
6,1	2,3,4,5,6,7,8	C	1	May 15, 2010	
6,2	1,2,3,4,5,6,8,9	C	1	May 22, 2010	
6,3	2,3,4,5,6,7,8,9,11	C	5	May 7, 2010	
6,4	2,3,4,5,6,7,8,9,10,11	C	2	May 2, 2010 (1) May 17, 2010 (1)	
7,3	1-7,8,9,11	C	1	May 5, 2010	
7,4	1-11 (all units on)	C	2	May 21, 2010	

*Fish No. 54-208 passed twice - First on May 11 at Turbine Scenario 2,0 and again on May 12 during 3,0 generation.

TABLE 5.0-1: COMPARISON OF SUCCESSFUL AND UNSUCCESSFUL RADIO-TAGGED AMERICAN SHAD PASSAGE DURING THE 7-DAY PERIOD, 7 TO 13 MAY, 2010.

Date	No. Radio-Tagged American Shad Passed Upstream	No. Radio-Tagged American Shad Detected But Not Passed	Fish #	No. Unsuccessful Forays
5/7/2010	7	1	21-116	1
5/8/2010	5	2	21-109	1
			54-178	1
5/11/2010	2	1	21-156	1
5/12/2010	9	3	21-144	2
			21-116	1
			21-143	1

FIGURE 2.1-1: BASIC SCHEMATIC OF THE CONOWINGO EAST FISH LIFT.

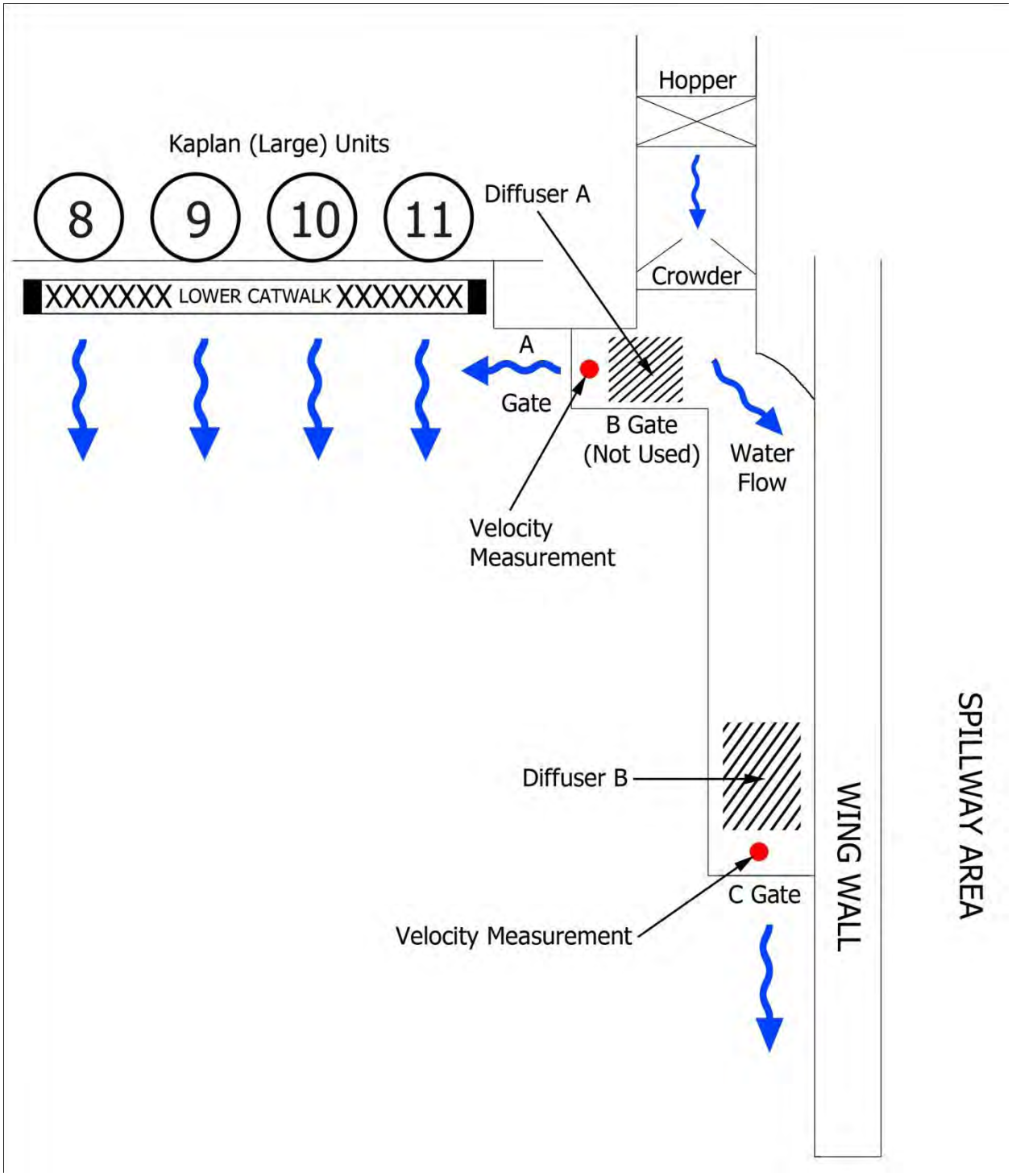


FIGURE 3.0-1: FLOW DURATION CURVE DERIVED FROM USGS CONOWINGO GAGE NUMBER 01578310 FOR APRIL (1968-2009).

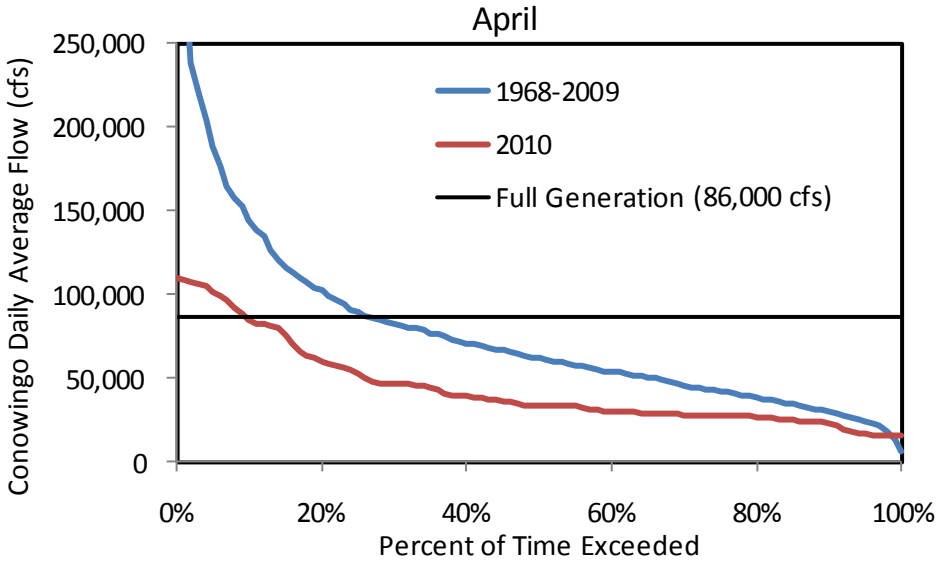


FIGURE 3.0-2: FLOW DURATION CURVE DERIVED FROM USGS CONOWINGO GAGE NUMBER 01578310 FOR MAY (1968-2009).

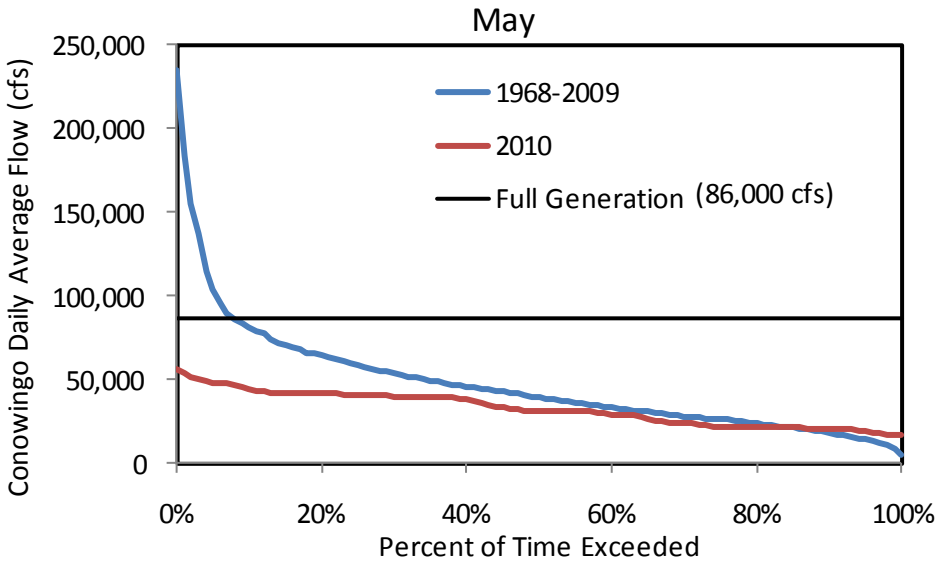


FIGURE 3.0-3: FLOW DURATION CURVE DERIVED FROM USGS CONOWINGO GAGE NUMBER 01578310 FOR JUNE (1968-2009).

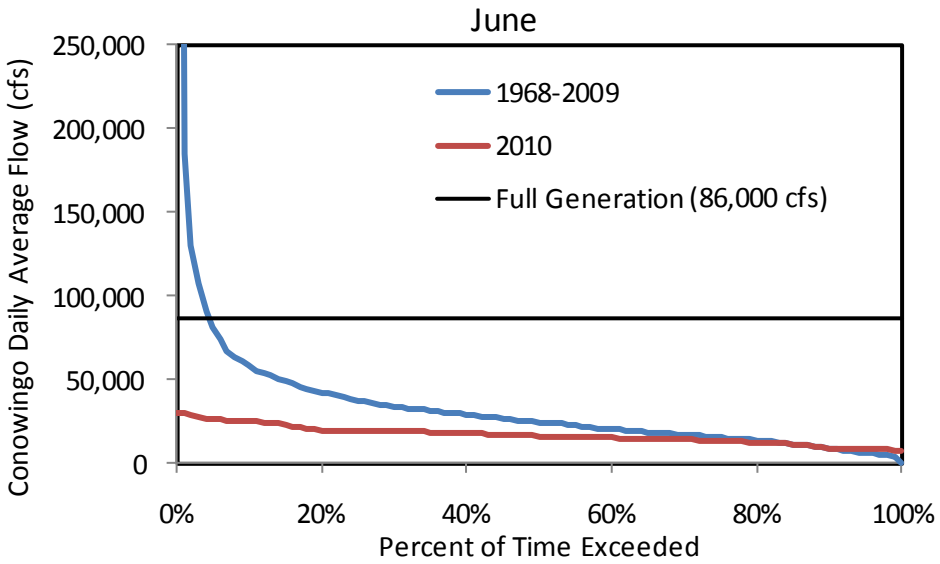


FIGURE 4.1-1: SCHEMATIC OF CONOWINGO POWERHOUSE INCLUDING TURBINE TYPES, CAPACITY, AND LOCATION IN RELATION TO THE EAST FISH LIFT.

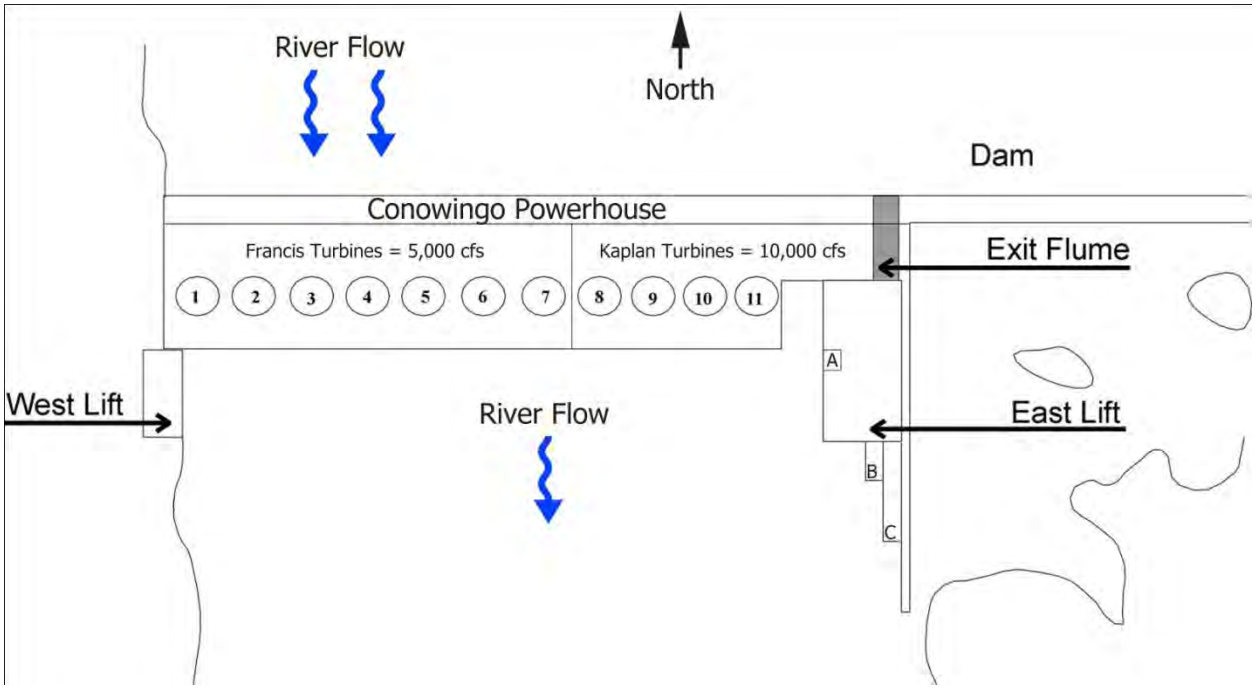


FIGURE 4.1-2: YEARLY COMPARISON OF AMERICAN SHAD AND GIZZARD SHAD PASSAGE TOTALS FOR YEARS 2000-2010.

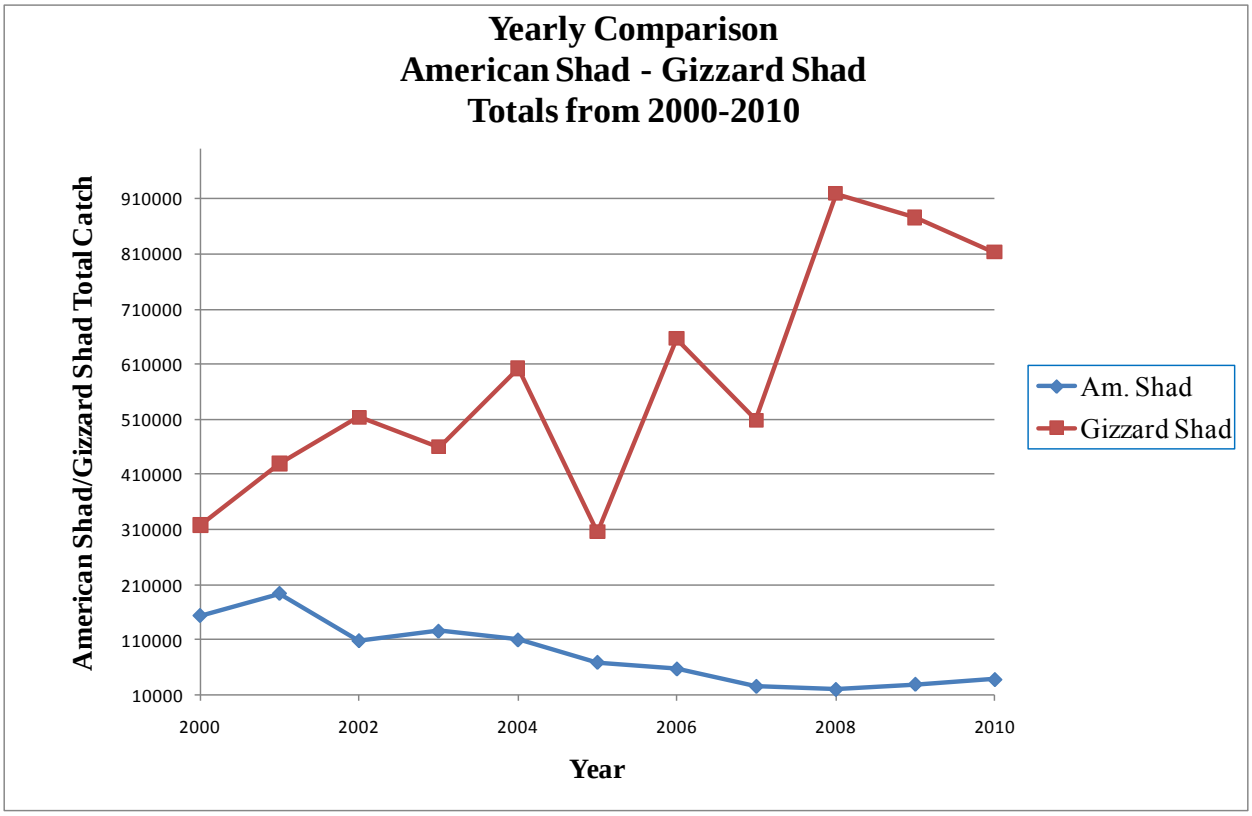


FIGURE 4.1-3: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2001.

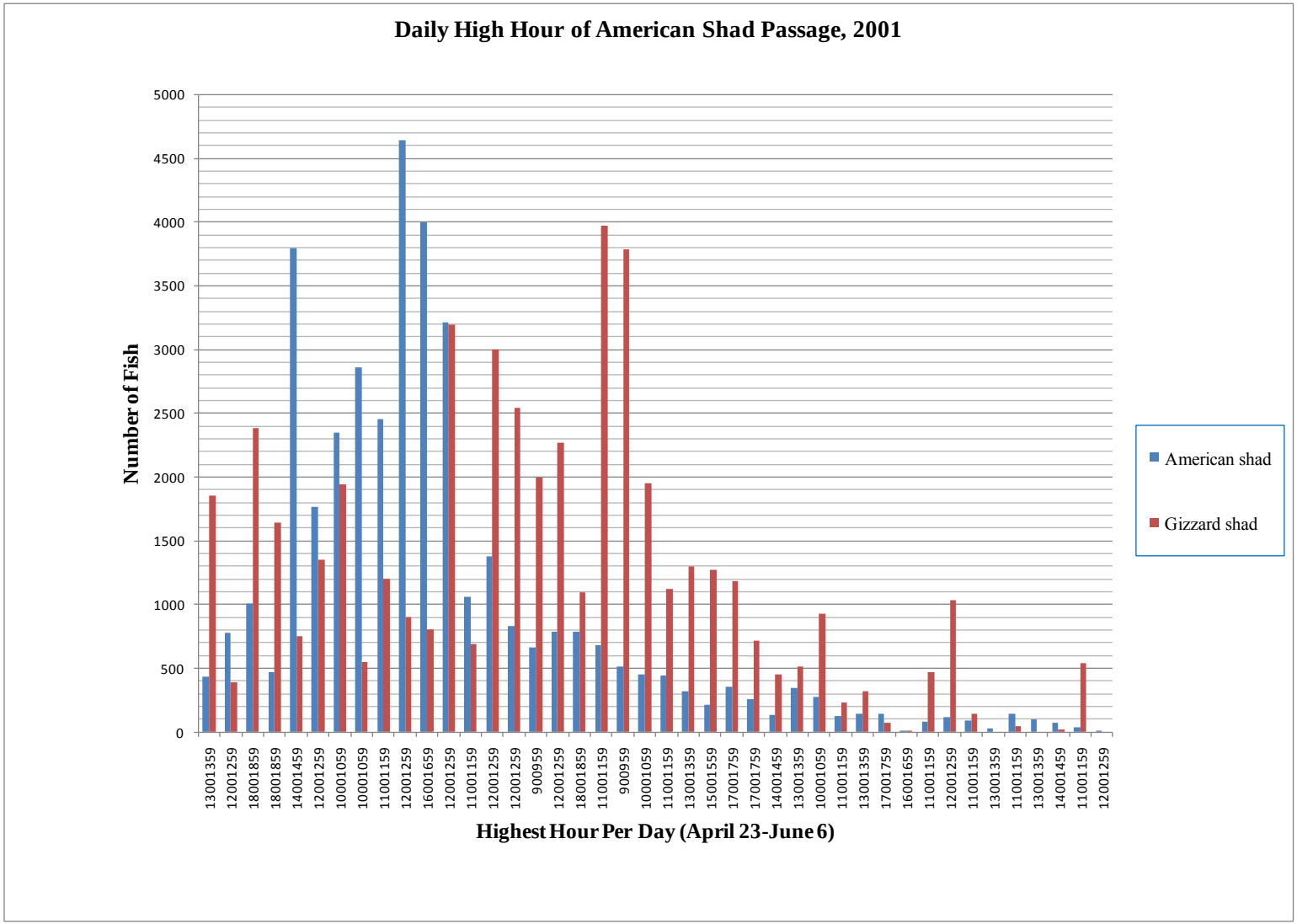


FIGURE 4.1-4: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2002.

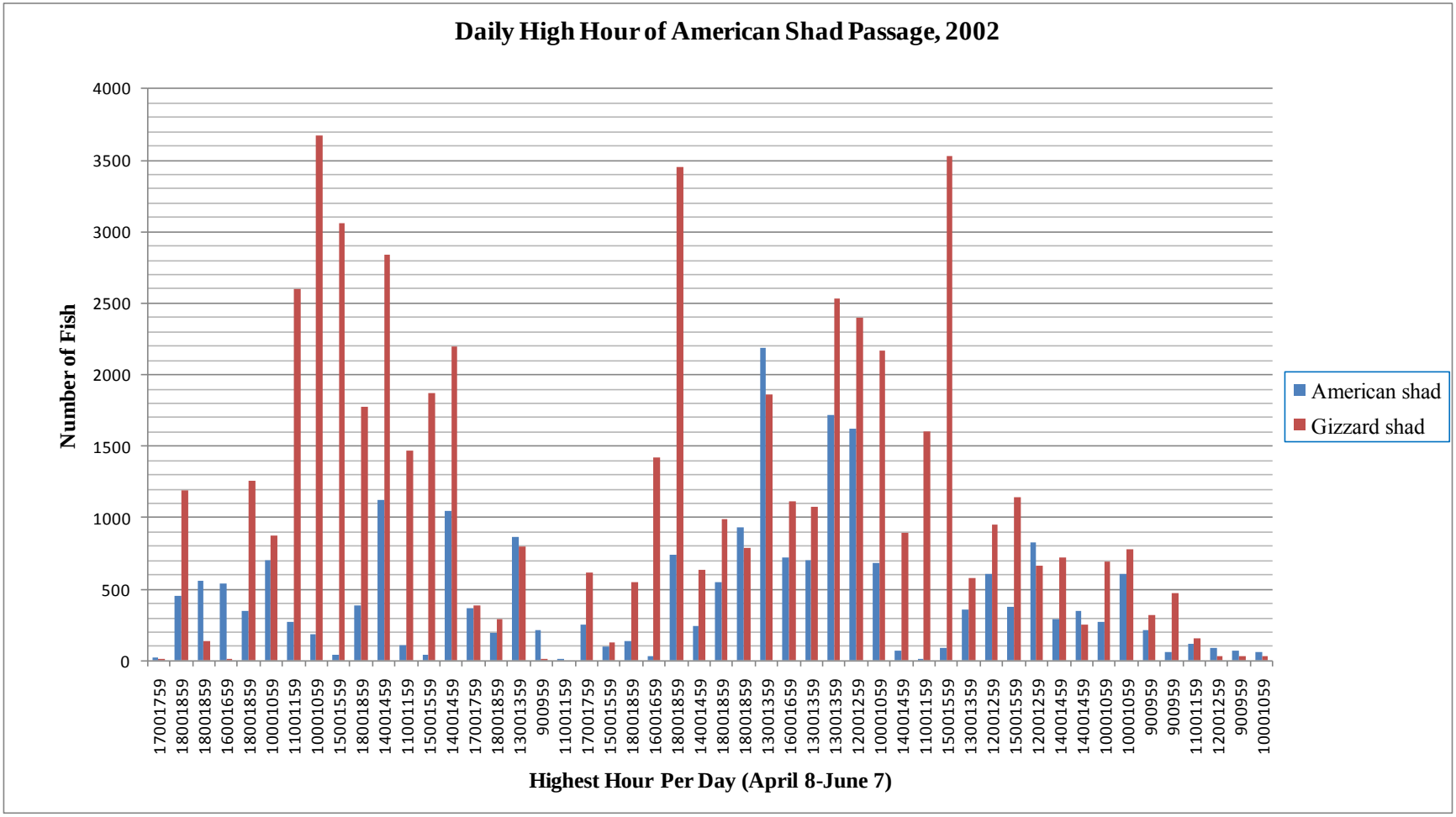


FIGURE 4.1-5: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2003.

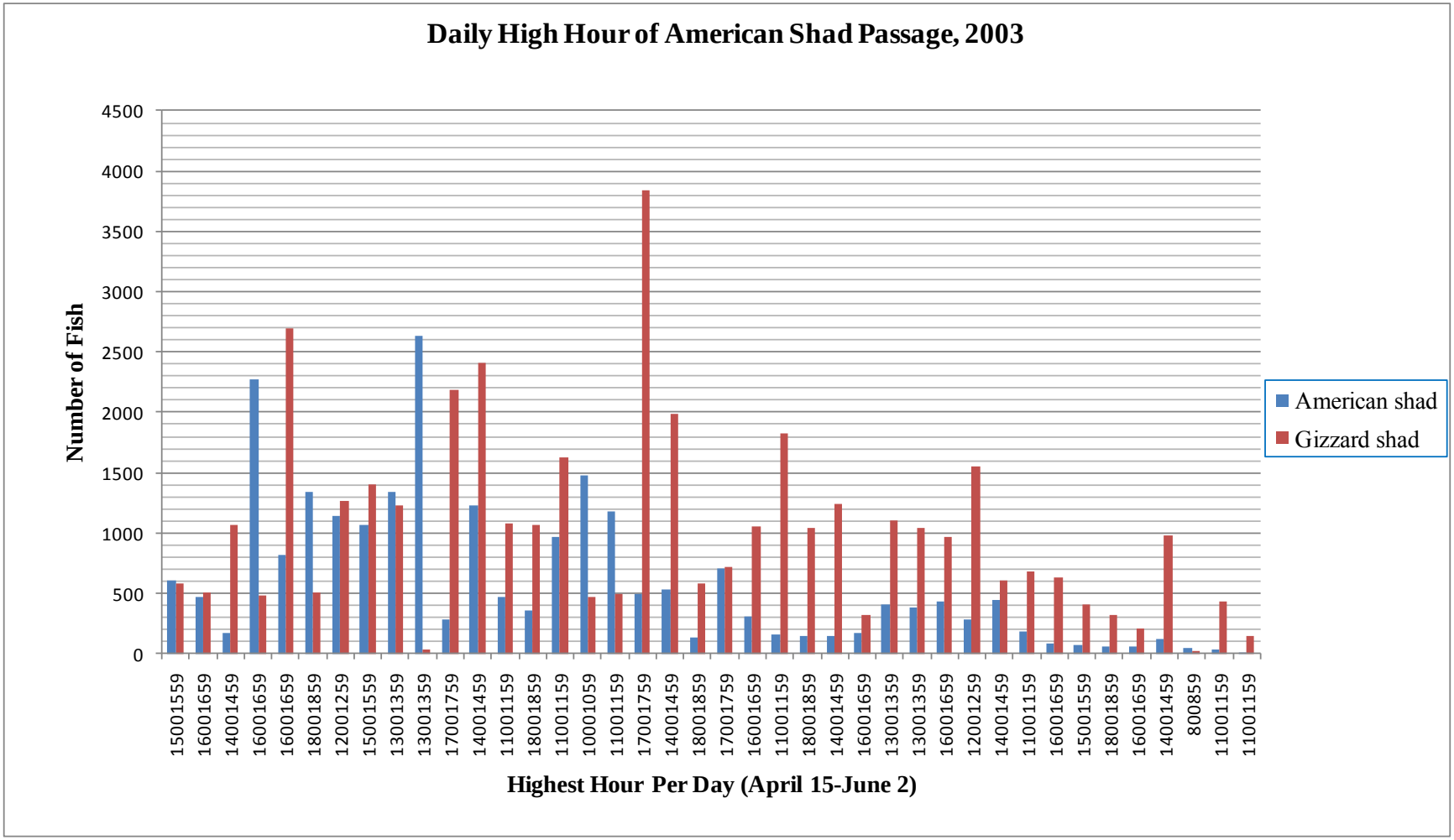


FIGURE 4.1-6: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2004.

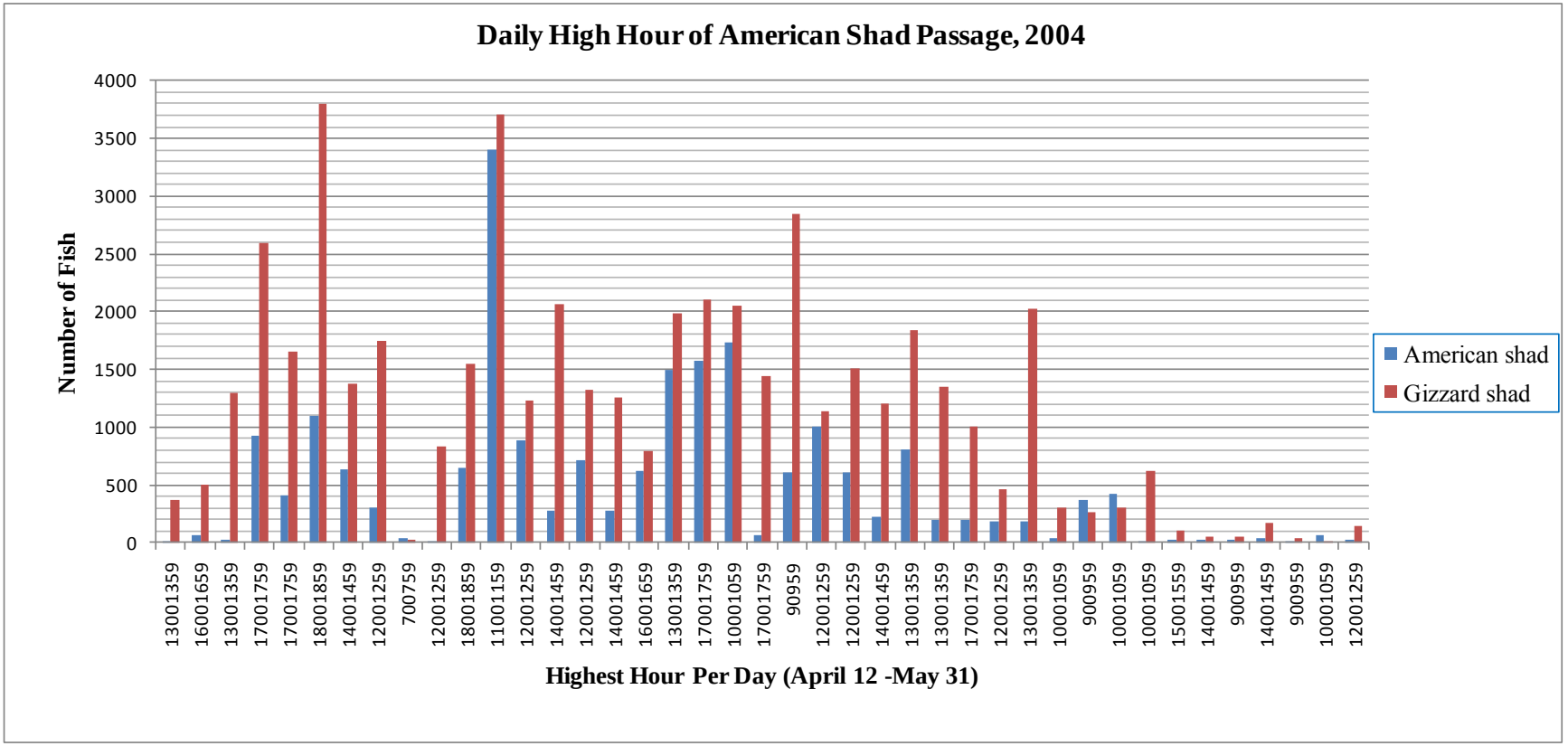


FIGURE 4.1-7: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2005.

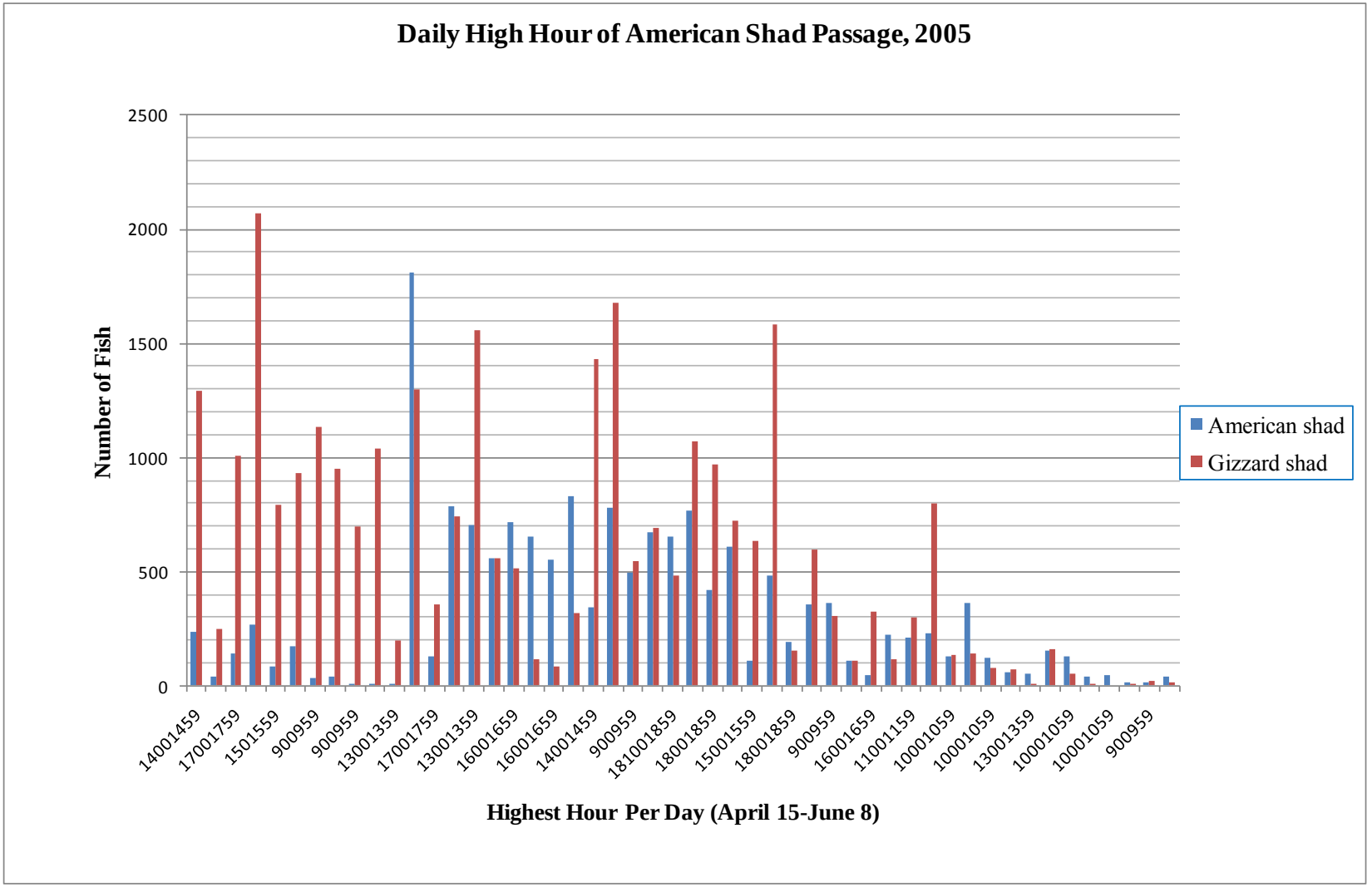


FIGURE 4.1-8: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2006.

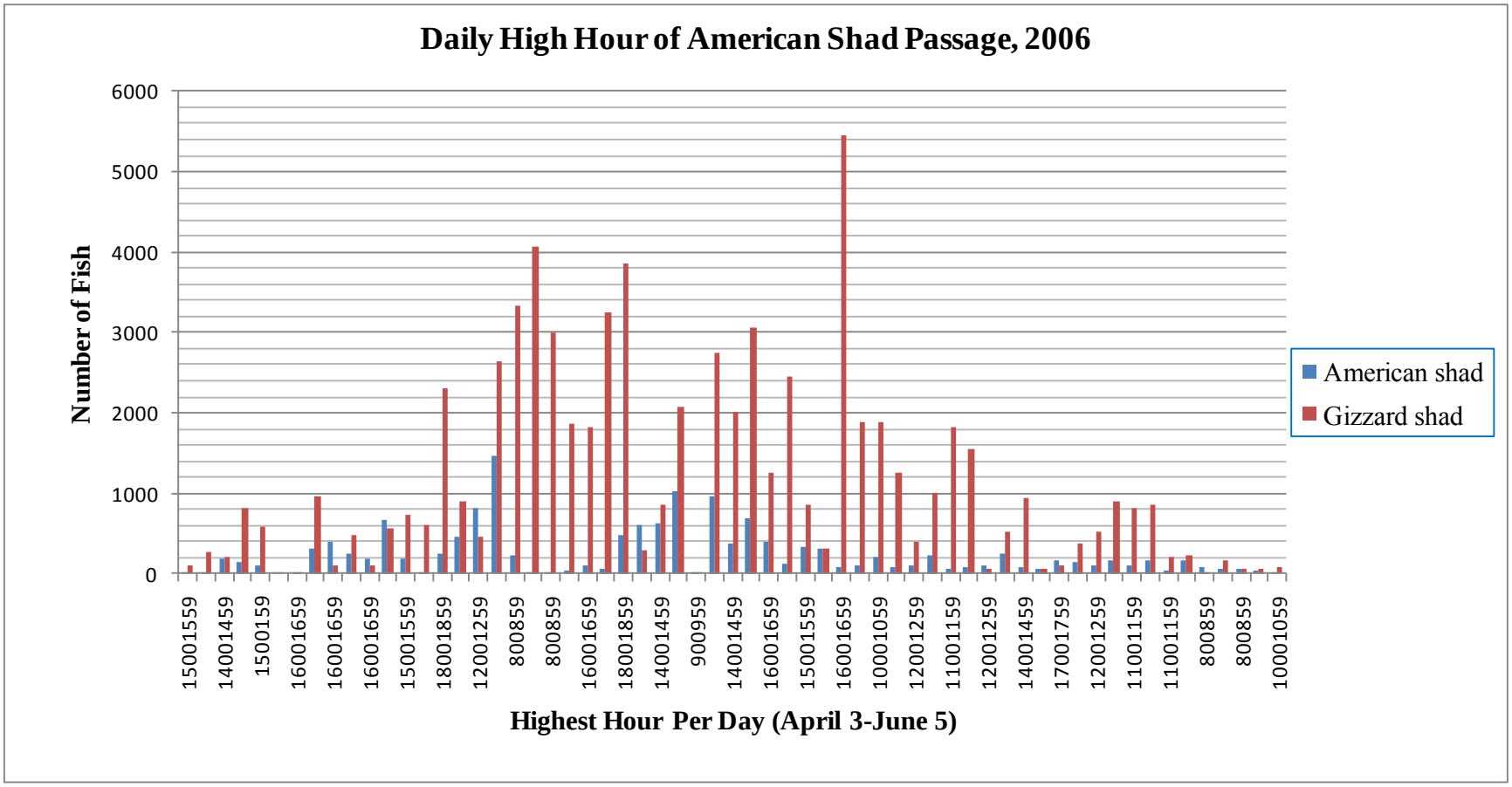


FIGURE 4.1-9: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2007.

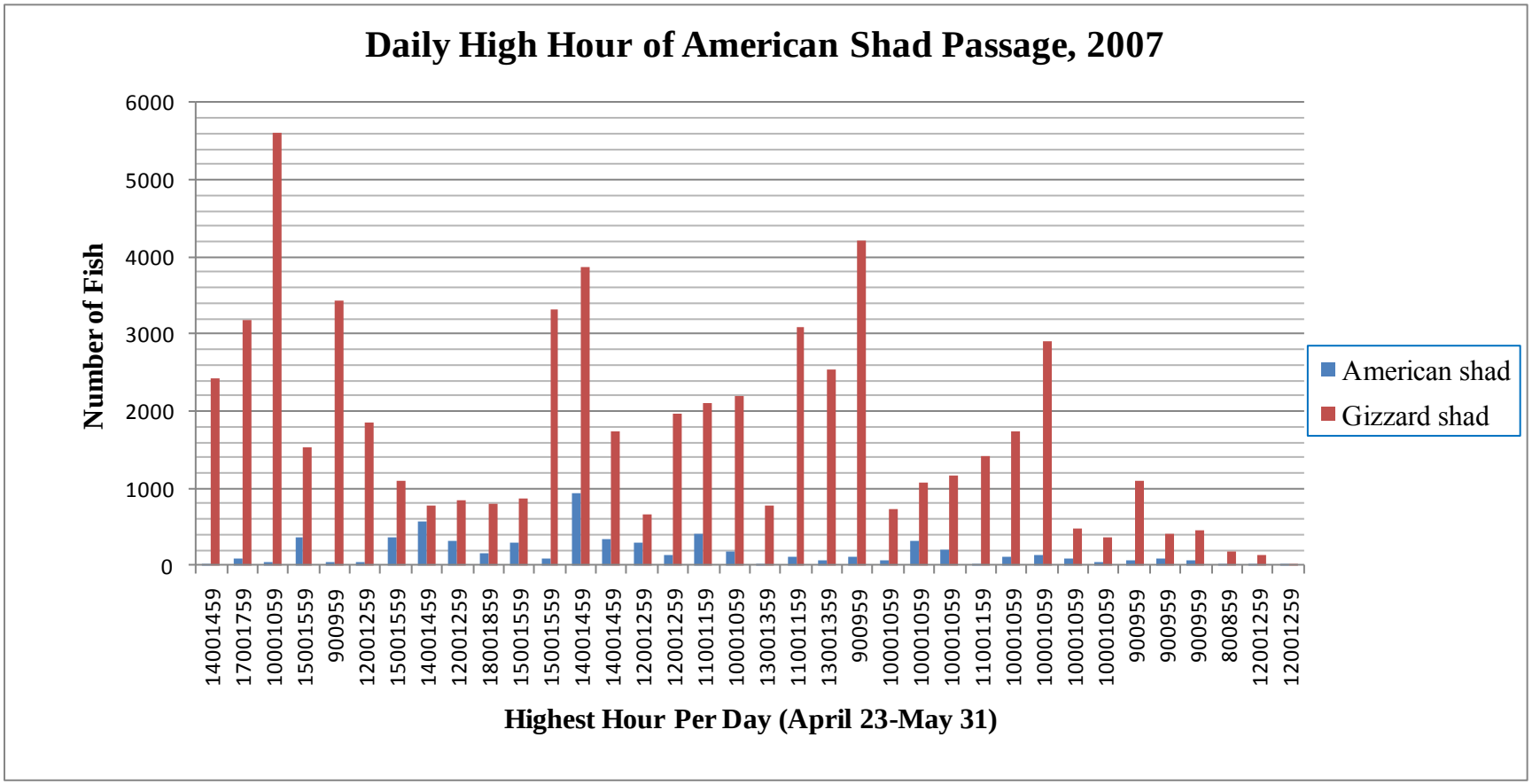


FIGURE 4.1-10: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2008.

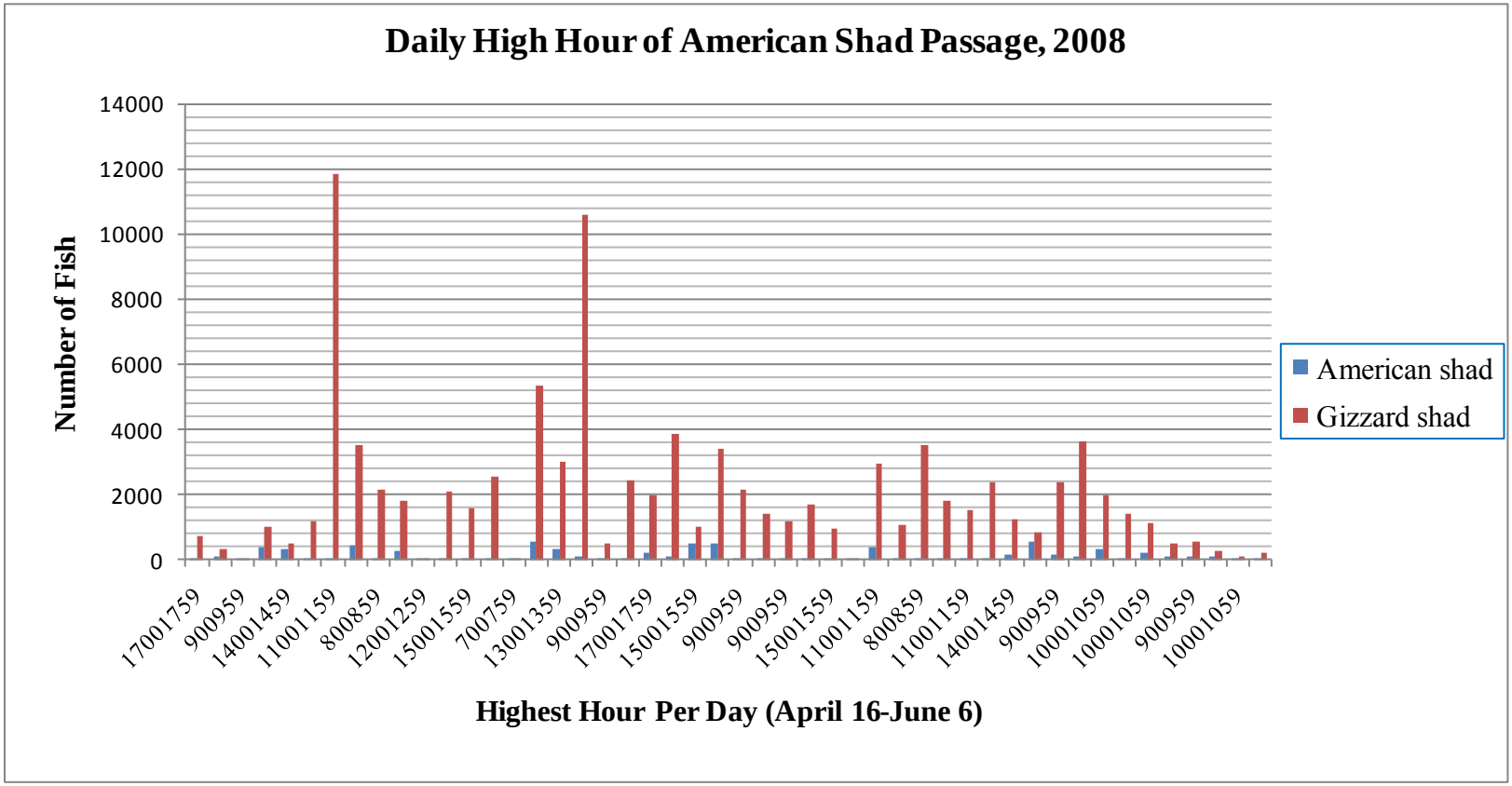


FIGURE 4.1-11: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2009.

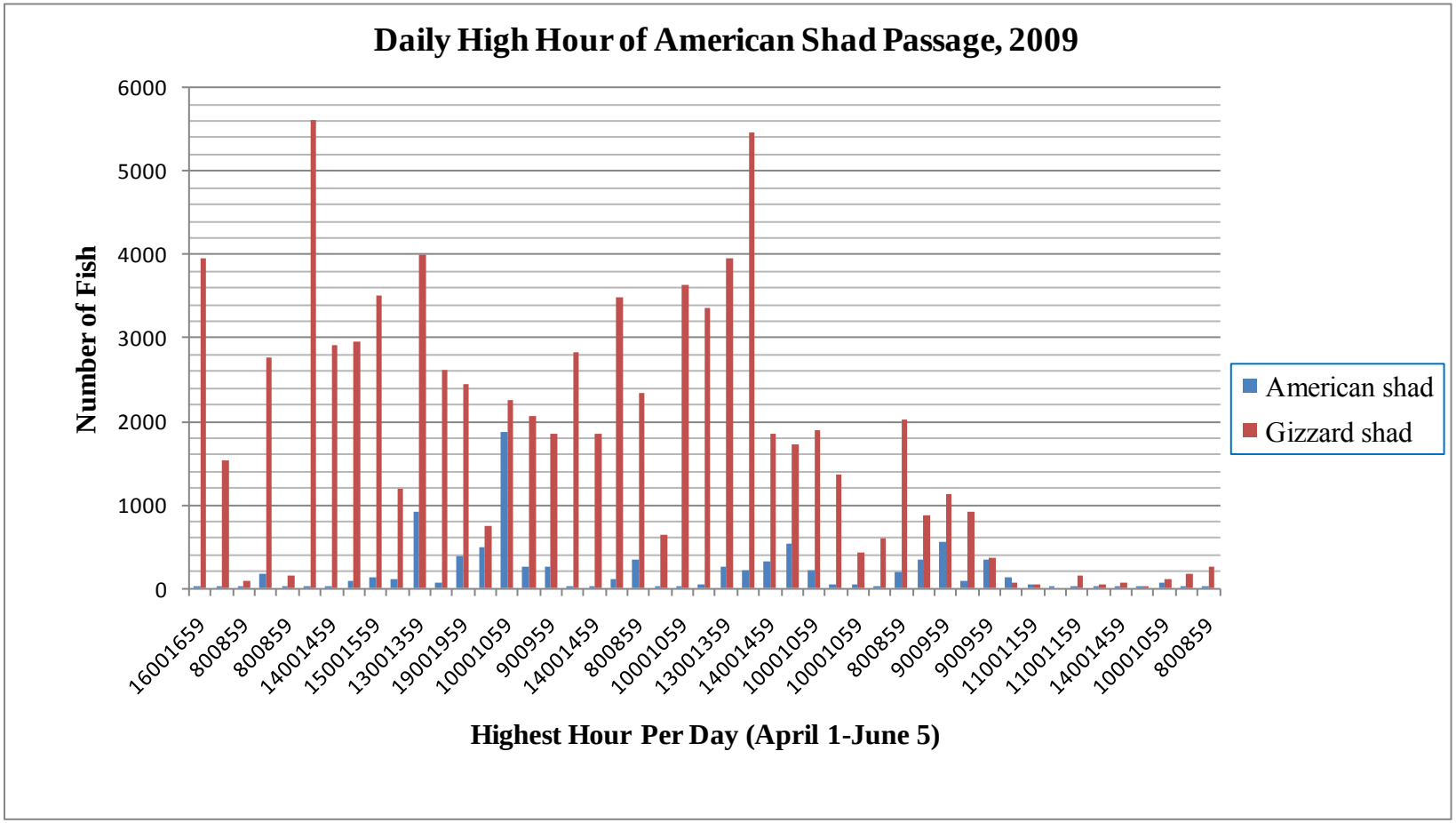
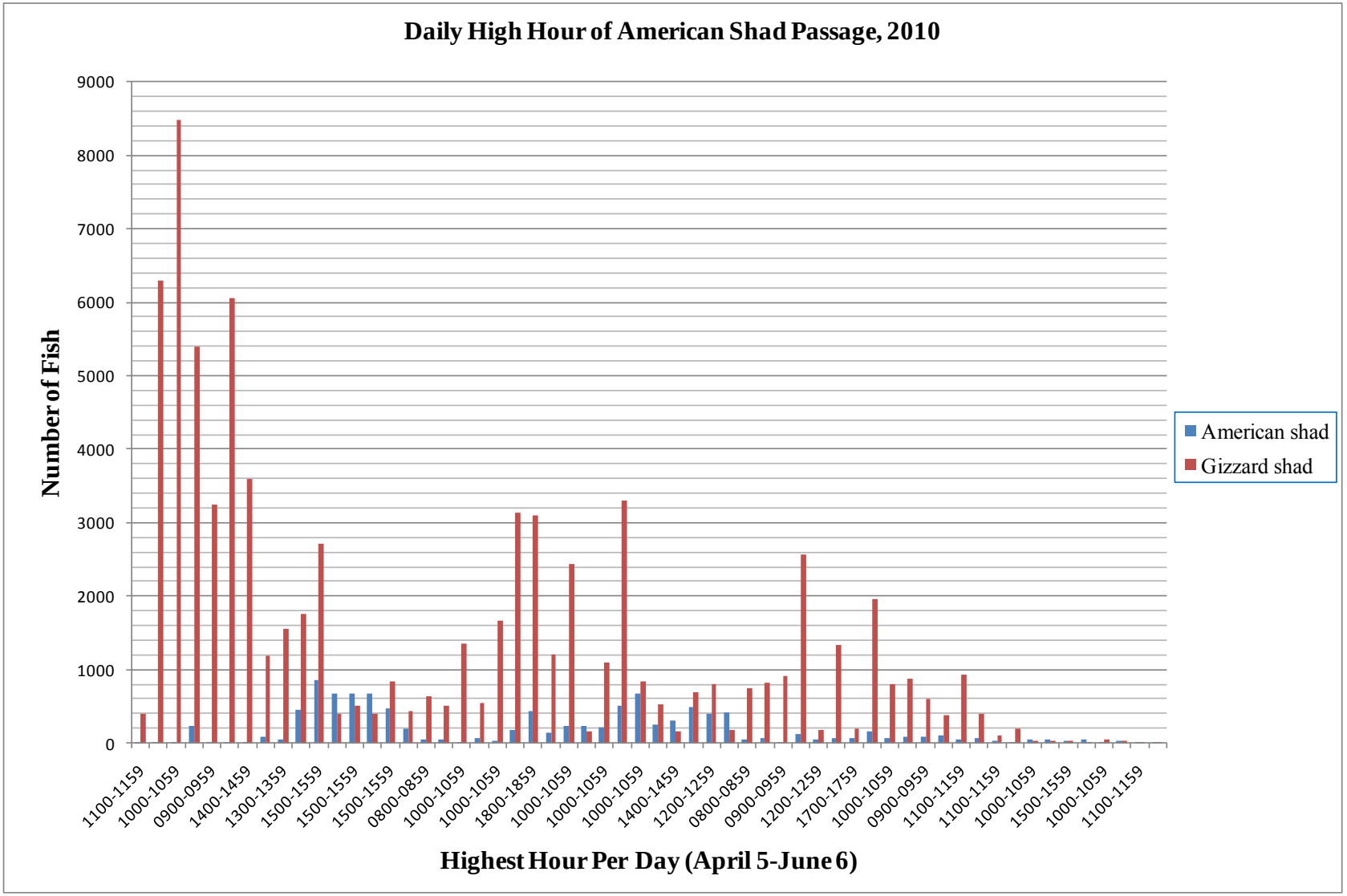


FIGURE 4.1-12: DAILY HIGH HOUR OF AMERICAN SHAD PASSAGE, 2010.



APPENDIX A: GENERAL INFORMATION

A-1: CONOWINGO EAST FISH PASSAGE FACILITY FACT SHEET

CONOWINGO HYDROELECTRIC STATION

Conowingo East Fish Passage Facility Fact Sheet

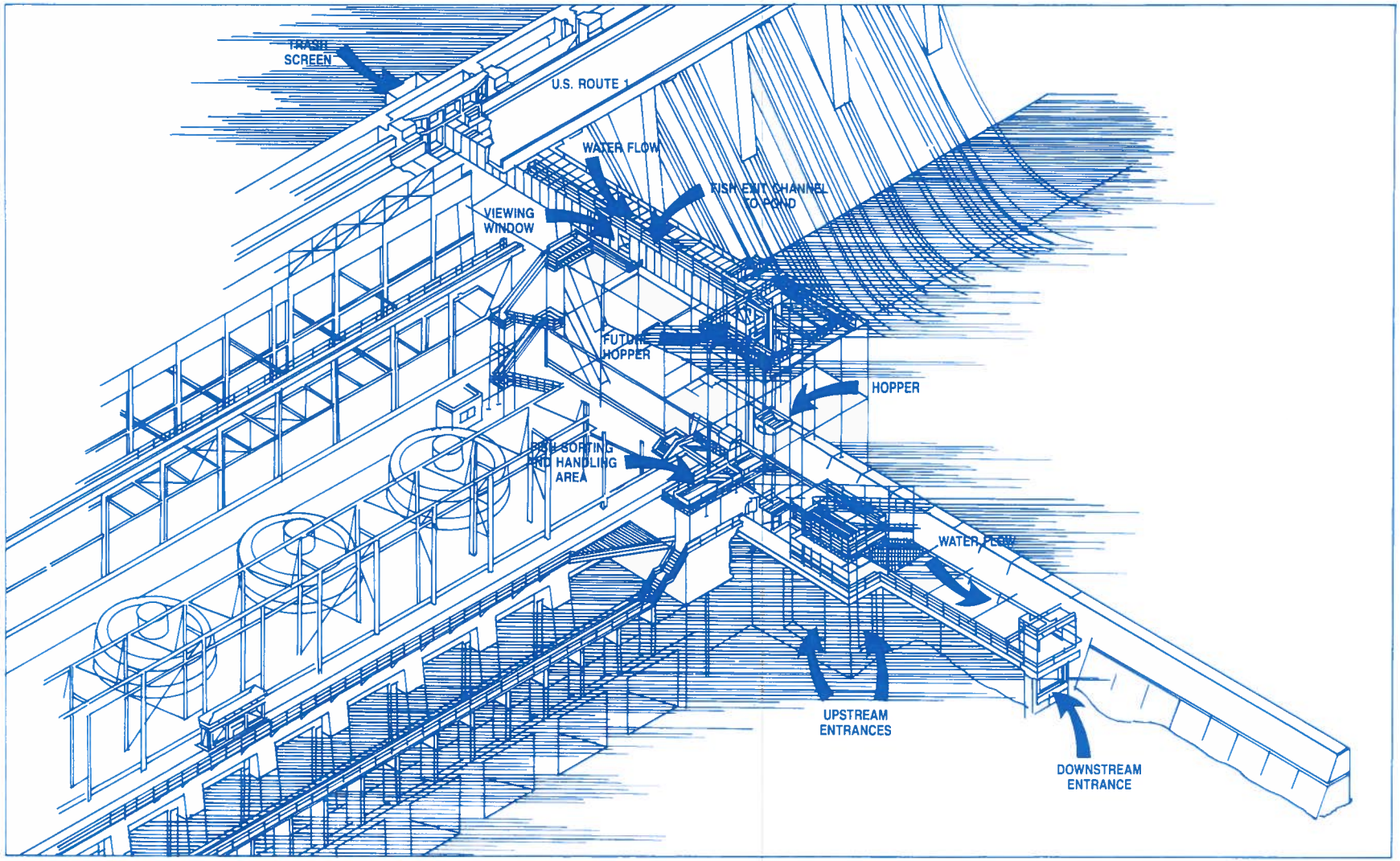
Design Engineers	Stone & Webster Engineering Cherry Hill, N.J.

The lift was designed following U.S. Fish and Wildlife Service guidelines and in cooperation with other state and federal agencies.

Construction Contractor	Kiewit Eastern Co. Baltimore, MD
Construction Start	April 1, 1990
Construction Completion	April 1, 1991
Dedication	May 9, 1991
Cost	$12 million
Excavation	2,300 cubic yards
Structural Concrete	2,100 cubic yards
Structural Steel	500 tons
Stones used to construct temporary mid-river work island and access road	30,000 tons
Approximate Operation Schedule	April through Mid-June
Fish Lift Design Capacity	750,000 American shad 5 million herring
Capacity after expansion	1.5 million American shad 10 million herring
Number of entrances	3 14′ high x 10′ wide each
Water volume release to attract fish	300-900 cubic feet/sec.
Velocity of attraction flow	4 to 5 feet/sec.
Disposition of Catch	Discharge into Conowingo Pond via exit flume, or loaded into tanks and transported upriver by truck.
Cycle Time (hopper raised, unloaded, and returned)	15 minutes to flume 10 minutes sorting tank
Hopper Capacity	3,500 gallons
Dimensions of exit flume	14′ wide x 12′ high x 190′ long; 230,000 gallon max. capacity
Hopper Hoist Capacity	22 tons

A-2: SCHEMATIC OF CONOWINGO EAST FISH LIFT

NEW LIFT DESIGN AND CONSTRUCTION



A-3: MARSH-MCBIRNEY FLO-MATE 2000 FACTORY CALIBRATION SHEETS

EQUIPTRACK

Home Shipping Receiving Billing Inventory Maintenance Catalog Administration Reports

Current User
Donald R Pride

Assigned Store
West Chester

This site best viewed in
Internet Explorer 7.0
1024 x 768 resolution

Maintenance Session

Maint. Id	42053	Catalog Id	FLOMET40
Proj Id	90161	Item	Flow Meter, Flo-Mate 2000
Maint. Begin	4/1/2010	Barcode	RFW08403
Maint. End		Updated By	DOMRFW\PRIDED on 4/1/2010 11:29 AM
Maint. Technician	Pride, Donald R		

Calibrations

Calibration: Performed Using: Liquid flow (f/s)

Type	Concentration	Reading	Variance
Calibration	0.00	0.00	0.00%

Print

EQUIPTRACK

Home | Shipping | Receiving | Billing | Inventory | Maintenance | Catalog | Administration | Reports

Current User
Donald R Pride

Assigned Store
West Chester

This site best viewed in
Internet Explorer 7.0
1024 x 768 resolution

Maintenance Session

Maint. Id	42054	Catalog Id	FLOMET40
Proj Id	90161	Item	Flow Meter, Flo-Mate 2000
Maint. Begin	4/1/2010	Barcode	RFW20771
Maint. End		Updated By	DOMRFW\PRIDED on 4/1/2010 11:29 AM
Maint. Technician	Pride, Donald R		

Calibrations

Calibration: Performed Using: Liquid flow (f/s)

Type	Concentration	Reading	Variance
Calibration	0.00	0.00	0.00%

Print

A-4: VELELOCITY DATA COLLECTION PHOTOS

APPENDIX B: T-TEST AND PEARSON CORRELATION STATISTICAL ANALYSIS

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Min	Max
Amshad	4 Small Units, units 10,11	29	84.788	178.59	272.38	195.69	246.59	333.5	45.791	0	681
Amshad	All other conditions	4635	155.85	165.83	175.82	339.79	346.71	353.92	5.0926	0	4640
Amshad	Diff (1-2)		-113.7	12.752	139.18	339.31	346.19	353.37	64.487		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	0.20	0.8433
Amshad	Satterthwaite	Unequal	28.7	0.28	0.7839

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4634	28	1.98	0.0283

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	4 Small Units, units 8,9	149	41.362	57.886	74.41	91.648	102.07	115.19	8.3619	0	586
Amshad	All other conditions	4515	159.24	169.48	179.71	343.68	350.77	358.16	5.2203	0	4640
Amshad	Diff (1-2)		-168	-111.6	-55.17	338.76	345.64	352.8	28.779		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	-3.88	0.0001
Amshad	Satterthwaite	Unequal	284	-11.32	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4514	148	11.81	<.0001

T-test for hourly American shad catches at the East Fish Lift
and the simultaneous conditions of lift operation and 4 Small Units, 2 large Units, 2001 - 2010.

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	4 Small Units, 2 large units	464	138.14	173.73	209.33	366.56	390.15	417.02	18.112	0	4640
Amshad	All other conditions	4200	154.73	165.05	175.36	333.85	340.99	348.44	5.2616	0	4400
Amshad	Diff (1-2)		-24.52	8.6859	41.888	339.3	346.19	353.36	16.936		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	0.51	0.6081
Amshad	Satterthwaite	Unequal	544	0.46	0.6453

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	463	4199	1.31	<.0001

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Min	Maximum
Amshad	4 Small Units, no large	389	154.93	181.35	207.78	247.72	265.13	285.2	13.443	0	1782
Amshad	All other conditions	4275	153.94	164.51	175.08	345.28	352.6	360.24	5.3928	0	4640
Amshad	Diff (1-2)		-19.09	16.847	52.787	339.28	346.16	353.34	18.332		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	0.92	0.3582
Amshad	Satterthwaite	Unequal	522	1.16	0.2453

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4274	388	1.77	<.0001

T-test for hourly American shad catches at the East Fish Lift
and the simultaneous conditions of lift operation and 6 Small Units, 8 and 9, 2001 - 2010.

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	6 Small Units, units 8,9	23	3.046	10.783	18.519	13.837	17.891	25.322	3.7305	0	61
Amshad	All other conditions	4641	156.7	166.68	176.66	339.93	346.84	354.04	5.0912	0	4640
Amshad	Diff (1-2)		-297.7	-155.9	-14.1	339.14	346.02	353.19	72.329		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	-2.16	0.0312
Amshad	Satterthwaite	Unequal	177	-24.70	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4640	22	375.83	<.0001

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	All other condit	3623	172.04	184.21	196.38	365.17	373.58	382.39	6.2066	0	4640
Amshad	Units 1 thru 11	1041	89.196	102.24	115.28	205.59	214.42	224.05	6.6457	0	1730
Amshad	Diff (1-2)		58.222	81.973	105.72	337.66	344.51	351.65	12.115		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	6.77	<.0001
Amshad	Satterthwaite	Unequal	2992	9.01	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	3622	1040	3.04	<.0001

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	All other conditions	4659	156.11	166.06	176.01	339.42	346.32	353.49	5.0737	0	4640
Amshad	Units 1 thru 6 and 8, 9	5	8.1548	29.6	51.045	10.348	17.271	49.63	7.724	12	57
Amshad	Diff (1-2)		-167.2	136.46	440.12	339.28	346.17	353.34	154.89		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	0.88	0.3784
Amshad	Satterthwaite	Unequal	8.2	14.77	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4658	4	402.06	<.0001

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Min	Maximum
Amshad	All other conditions	4627	156.3	166.3	176.31	340.26	347.19	354.42	5.1041	0	4640
Amshad	Units 1 thru 9 and 11	37	60.83	117.14	173.44	137.33	168.87	219.36	27.763	0	676
Amshad	Diff (1-2)		-62.85	49.168	161.18	339.28	346.17	353.34	57.137		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	0.86	0.3895
Amshad	Satterthwaite	Unequal	38.5	1.74	0.0895

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4626	36	4.23	<.0001

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	All other conditions	4643	156.51	166.49	176.47	339.9	346.82	354.02	5.0898	0	4640
Amshad	Units 2, 5, 6, 7, 8 only	21	14.259	38.81	63.36	41.263	53.934	77.884	11.769	0	231
Amshad	Diff (1-2)		-20.72	127.68	276.07	339.21	346.09	353.26	75.694		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	1.69	0.0917
Amshad	Satterthwaite	Unequal	28.2	9.96	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4642	20	41.35	<.0001

T-test for hourly American shad catches at the East Fish Lift and the simultaneous conditions of lift operation and Units 2, 5 and 6 or 7 only, 2001 - 2010.

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	All other conditions	4655	155.88	165.84	175.8	339.55	346.45	353.64	5.0779	0	4640
Amshad	Units 2, 5, and 6 or 7 only	9	109.32	203.78	298.24	83.003	122.88	235.42	40.962	34	400
Amshad	Diff (1-2)		-264.4	-37.94	188.51	339.31	346.19	353.37	115.51		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	-0.33	0.7426
Amshad	Satterthwaite	Unequal	8.25	-0.92	0.3841

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4654	8	7.95	0.0036

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	All other condi	4573	157.4	167.52	177.64	341.98	348.99	356.29	5.1607	0	4640
Amshad	Units 2, 5 only	91	60.036	85.099	110.16	105.04	120.35	140.91	12.616	0	677
Amshad	Diff (1-2)		10.609	82.422	154.24	339.13	346.01	353.18	36.631		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	2.25	0.0245
Amshad	Satterthwaite	Unequal	123	6.05	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4572	90	8.41	<.0001

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	All other condit	4493	148.85	158.55	168.25	324.93	331.65	338.65	4.9477	0	4640
Amshad	Units 2 thru 11	171	271.2	359.4	447.6	528.21	584.27	653.74	44.68	0	4050
Amshad	Diff (1-2)		-253.4	-200.9	-148.3	337.29	344.13	351.26	26.812		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	-7.49	<.0001
Amshad	Satterthwaite	Unequal	174	-4.47	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	170	4492	3.10	<.0001

and the simultaneous conditions of lift operation and Units 2 thru 8, 2001 - 2010.

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	All other condi	4638	156.67	166.66	176.65	340.05	346.97	354.17	5.0947	0	4640
Amshad	Units 2 thru 8	26	13.109	33.038	52.968	38.697	49.342	68.112	9.6767	2	249
Amshad	Diff (1-2)		0.1967	133.62	267.04	339.17	346.05	353.22	68.056		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	1.96	0.0497
Amshad	Satterthwaite	Unequal	40.8	12.22	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4637	25	49.45	<.0001

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	All other conditions	4621	156.83	166.85	176.88	340.56	347.5	354.74	5.112	0	4640
Amshad	Units 1 thru 6 and 8, 9	43	34.97	64.814	94.658	79.959	96.974	123.25	14.788	0	421
Amshad	Diff (1-2)		-1.901	102.04	205.98	339.18	346.06	353.23	53.018		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	1.92	0.0543
Amshad	Satterthwaite	Unequal	52.6	6.52	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4620	42	12.84	<.0001

The TTEST Procedure

Statistics

Variable	group	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Amshad	All other conditions	4621	157.32	167.34	177.36	340.51	347.45	354.68	5.1112	0	4640
Amshad	Units 4 thru 9 and 11	43	8.7165	12.837	16.958	11.04	13.39	17.018	2.0419	0	48
Amshad	Diff (1-2)		50.613	154.5	258.39	339	345.88	353.05	52.991		

T-Tests

Variable	Method	Variances	DF	t Value	Pr > |t|
Amshad	Pooled	Equal	4662	2.92	0.0036
Amshad	Satterthwaite	Unequal	1634	28.07	<.0001

Equality of Variances

Variable	Method	Num DF	Den DF	F Value	Pr > F
Amshad	Folded F	4620	42	673.35	<.0001

Correlations between hourly American shad and Gizzard shad catches at the East Fish Lift
and simultaneous conditions of lift operation and station operation, 2001 - 2010.

The CORR Procedure

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
GateSetting	4470	60.55123	20.38919	270664	25.00000	100.00000	GateSetting
DiffuserA	1645	14.92280	10.51778	24548	1.00000	65.00000	DiffuserA
DiffuserB	3249	51.83657	12.29500	168417	18.00000	100.00000	DiffuserB
SpillwayA	4138	13.15708	0.62304	54444	9.00000	20.00000	SpillwayA
SpillwayB	4138	13.16361	0.61765	54471	9.00000	20.00000	SpillwayB
Crowder_	4437	25.82240	13.38797	114574	1.00000	80.00000	Crowder
Tailrace_	4524	20.86847	2.12717	94409	14.50000	24.00000	Tailrace
Watertemp	3136	64.91138	6.09450	203562	48.70000	83.30000	Watertemp
Unit_1	4945	0.69323	0.46120	3428	0	1.00000	
Unit_2	4945	0.22123	0.41512	1094	0	1.00000	
Unit_3	4945	0.25945	0.43838	1283	0	1.00000	
Unit_4	4945	0.31790	0.46571	1572	0	1.00000	
Unit_5	4945	0.36380	0.48114	1799	0	1.00000	
Unit_6	4945	0.32012	0.46657	1583	0	1.00000	
Unit_7	4945	0.40506	0.49095	2003	0	1.00000	
Unit_8	4945	0.27159	0.44482	1343	0	1.00000	
Unit_9	4945	0.29525	0.45620	1460	0	1.00000	
Unit_10	4945	0.25278	0.43465	1250	0	1.00000	
Unit_11	4945	0.25622	0.43659	1267	0	1.00000	
largeunits	4945	1.07583	1.62446	5320	0	4.00000	
smallunits	4945	2.58079	2.11435	12762	0	7.00000	
Amshad	5024	184.24443	380.35448	925644	0	4640	Amshad
Gizz	4643	1312	1453	6090966	0	15964	Gizz

The CORR Procedure

Pearson Correlation Coefficients
Prob > |r| under H0: Rho=0
Number of Observations

	Amshad	Gizz
GateSetting	0.04693	-0.19425
GateSetting	0.0017	<.0001
	4463	4450
DiffuserA	0.29315	-0.19133
DiffuserA	<.0001	<.0001
	1640	1634
DiffuserB	0.14031	-0.00779
DiffuserB	<.0001	0.6575
	3246	3239
SpillwayA	-0.05829	-0.06475
SpillwayA	0.0002	<.0001
	4131	4119
SpillwayB	-0.06308	-0.06358
SpillwayB	<.0001	<.0001
	4131	4119
Crowder_	-0.16527	0.12359
Crowder	<.0001	<.0001
	4430	4417
Tailrace_	-0.08607	0.22277
Tailrace	<.0001	<.0001
	4517	4504
Watertemp	-0.01272	-0.19247
Watertemp	0.4768	<.0001
	3132	3124

The CORR Procedure

Pearson Correlation Coefficients
Prob > |r| under H0: Rho=0
Number of Observations

	Amshad	Gizz
Unit_1	-0.23912	0.01838
	<.0001	0.2141
	4938	4570
Unit_2	0.05492	-0.06587
	0.0001	<.0001
	4938	4570
Unit_3	0.12990	-0.04430
	<.0001	0.0027
	4938	4570
Unit_4	0.07083	-0.02467
	<.0001	0.0953
	4938	4570
Unit_5	0.11759	-0.00589
	<.0001	0.6906
	4938	4570
Unit_6	0.08827	-0.00306
	<.0001	0.8363
	4938	4570
Unit_7	0.20601	-0.01936
	<.0001	0.1907
	4938	4570
Unit_8	0.06946	0.00642
	<.0001	0.6642
	4938	4570
Unit_9	0.05578	-0.01209
	<.0001	0.4140
	4938	4570
Unit_10	0.00999	0.00963
	0.4830	0.5150
	4938	4570

The CORR Procedure

Pearson Correlation Coefficients
Prob > |r| under H0: Rho=0
Number of Observations

	Amshad	Gizz
Unit_11	0.09681	-0.03081
	<.0001	0.0373
	4938	4570
largeunits	0.06338	-0.00720
	<.0001	0.6265
	4938	4570
smallunits	0.09523	-0.02981
	<.0001	0.0439
	4938	4570

APPENDIX C: ATTRACTION FLOW WATER VELOCITY DATA.

Conowingo East Lift Attraction Flow Study: 2010

			Small Units						Large Units					Weir Gates						**Velocity**	Crowder Area Gate	Pond Level	Tailrace Level	Comments
Date	Time	1	2	3	4	5	6	7	8	9	10	11	A	% Open	B	% Open	C	% Open	**(ft/s)**	% Open	ft	ft	
4/9/2010	1300	1	1	1	1	1	1	1	1	1	1	0					1	40%	**3.00**	30%	107.0	23.0	
	1410	1	1	1	1	1	1	1	1	1	1	0					1	40%	**3.00**	30%	106.9	23.0	
	1445	1	1	1	1	1	1	1	1	1	1	0					1	40%	**2.95**	30%	106.8	23.0	
4/11/2010	950	0	0	0	0	1	0	1	0	0	0	0	1	92%					**4.10**	20%	106.9	18.0	
	1025	0	0	0	1	1	1	1	0	0	0	0	1	82%					**4.00**	20%	106.9	19.5	
	1115	0	0	0	1	1	1	1	0	0	0	0	1	82%					**3.90**	20%	107.4	19.5	
	1330	0	0	0	1	1	1	1	0	0	0	0	1	77%					**3.65**	25%	108.0	19.5	
	1355	0	0	0	1	1	1	1	0	0	0	0	1	77%					**3.60**	25%	108.0	19.5	
	1435	0	0	0	1	1	1	1	1	0	0	0					1	70%	**3.70**	25%	108.3	21.0	
	1500	0	0	0	1	1	1	1	1	0	0	0					1	70%	**3.90**	25%	108.4	21.0	
	1550	0	0	0	1	1	1	1	1	0	0	0					1	70%	**4.20**	25%	108.4	21.0	
4/13/2010	1115	0	1	1	1	1	1	1	1	1	0	1					1	40%	**3.20**	25%	107.1	23.0	Unit 11: running at 70%
	1355	0	0	0	0	1	1	1	0	0	0	1					1	65%	**3.00**	31%	107.4	20.5	
	1430	0	0	0	1	1	1	1	1	0	0	1					1	65%	**3.10**	31%	107.8	21.5	
	1530	0	0	0	1	1	1	1	1	0	0	1					1	63%	**3.40**	31%	107.8	22.0	
	1630	0	0	0	1	1	1	1	1	0	0	1					1	60%	**3.10**	31%	107.7	22.0	
4/14/2010	1045	0	0	1	1	0	1	1	1	1	0	0					1	55%	**3.80**	31%	107.2	22.0	
	1235	0	0	1	1	0	1	1	1	1	0	0					1	65%	**3.70**	29%	107.4	22.0	
	1330	0	0	1	1	0	1	1	1	1	0	0					1	65%	**3.90**	31%	107.7	21.8	
	1440	0	0	0	1	1	1	1	1	1	0	0					1	65%	**3.80**	31%	107.3	21.8	
	1520	0	0	0	1	1	1	1	1	1	0	0					1	65%	**4.00**	31%	107.7	21.8	
	1625	0	0	0	1	1	1	1	1	1	0	0					1	65%	**3.90**	31%	107.5	21.8	
4/15/2010	953	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.10**	30%	107.2	21.0	
	1055	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.40**	30%	107.1	21.0	
	1155	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.10**	30%	107.0	21.5	
	1300	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.40**	30%	107.1	21.5	
	1400	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.10**	30%	107.0	21.5	
	1500	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.40**	30%	106.8	21.5	
	1600	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.40**	30%	106.7	21.5	
4/16/2010	955	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.70**	30%	107.0	21.0	
	1100	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.70**	30%	107.0	21.0	
	1155	0	0	0	1	1	1	1	1	1	0	0					1	56%	**3.80**	30%	107.0	21.0	
	1250	0	0	0	1	1	1	1	1	1	0	0					1	56%	**3.80**	30%	107.0	21.0	
	1350	0	0	0	1	1	1	1	1	1	0	0					1	56%	**3.70**	30%	107.0	21.0	
	1450	0	0	0	1	1	1	1	1	1	0	0					1	56%	**3.80**	30%	107.0	21.0	
	1550	0	0	0	1	1	1	1	1	1	0	0					1	56%	**4.00**	29%	107.0	21.0	
4/17/2010	840	0	0	0	0	1	1	1	0	0	0	0	1	84%					**3.00**	25%	107.2	18.5	Debris limits flow
	940	0	0	0	0	1	1	1	0	0	0	0	1	82%					**3.20**	30%	107.2	18.5	through gates
	1038	0	0	0	0	1	1	1	0	0	0	0	1	80%					**2.90**	40%	107.2	18.5	
	1139	0	0	0	0	1	1	1	0	0	0	0	1	84%					**3.00**	30%	107.2	18.5	
	1236	0	0	0	0	1	1	1	0	0	0	0	1	84%					**3.30**	30%	107.2	18.5	
	1350	0	0	0	0	1	1	1	0	0	0	0	1	84%					**3.00**	30%	107.2	18.5	
	1450	0	0	0	0	1	1	1	0	0	0	0	1	84%					**2.00**	30%	107.2	18.5	
	1548	0	0	0	0	1	1	1	0	0	0	0	1	84%					**1.90**	30%	107.2	18.5	
	1620	0	0	1	1	1	1	1	0	0	0	0					1	74%	**3.90**	35%	107.2	18.5	
4/18/2010	1400	0	0	0	1	1	1	0	1	0	0	0					1	78%	**4.20**	25%	108.2	19.5	
	1500	0	0	0	1	1	1	0	1	0	0	0					1	78%	**4.10**	25%	108.3	19.5	
	1600	0	0	0	1	1	1	0	1	0	0	0					1	78%	**4.10**	25%	108.3	19.5	
	1700	0	0	0	1	1	1	0	1	0	0	0					1	78%	**3.70**	25%	108.4	19.5	
4/19/2010	830	0	0	0	1	1	1	1	0	0	0	0	1	82%					**3.30**	25%	107.28	19.8	
	930	0	0	0	1	1	1	1	0	0	0	0	1	82%					**3.50**	25%	107.6	19.8	
	1030	0	0	0	1	1	1	1	0	0	0	0	1	83%					**3.50**	25%	107.6	19.8	
	1130	0	0	0	1	1	1	1	0	0	0	0	1	83%					**3.50**	25%	107.9	19.8	
	1230	0	0	0	1	1	1	1	0	0	0	0	1	83%					**3.50**	25%	108.1	19.7	
	1330	0	0	0	1	1	1	1	0	0	0	0	1	78%					**3.80**	30%	108.3	20	
	1430	0	0	0	1	1	1	1	0	0	0	0	1	78%					**4.20**	30%	108.7	20	
	1530	0	0	0	1	1	1	1	0	0	0	0	1	78%					**4.30**	30%	108.3	20	
	1630	0	0	0	1	1	1	1	0	0	0	0	1	78%					**3.80**	30%	108.3	20	
	1730	1	0	1	1	1	1	1	1	1	0	1					1	50%	**2.90**	30%	108.1	22.5	
	1730	1	0	1	1	1	1	1	1	1	0	1					1	50%	**2.90**	30%	108.1	22.5	
4/20/2010	830	0	0	0	1	1	1	1	1	0	0	0					1	71%	**3.72**	30%	106.5	22	
	930	0	0	0	1	1	1	1	1	0	0	0					1	66%	**3.73**	30%	106.4	20.5	
	1030	0	0	0	1	1	1	1	1	0	0	0					1	66%	**3.70**	30%	106.5	20.75	
	1130	0	0	0	1	1	1	1	1	0	0	0					1	66%	**3.70**	30%	106.7	20.75	
	1245	0	0	0	0	1	0	1	0	0	0	0	1	85%					**4.08**	30%	106.9	20.75	
	1330	0	0	0	0	1	0	1	0	0	0	0	1	85%					**4.30**	30%	107.1	19.5	
	1430	0	0	0	0	1	0	1	0	0	0	0	1	88%					**4.30**	30%	107.6	19	
	1530	0	0	0	0	1	0	1	0	0	0	0	1	88%					**4.51**	30%	107.9	19	
	1630	0	0	0	0	1	0	1	0	0	0	0	1	88%					**4.30**	30%	107.9	19	
	1730	0	0	0	1	1	1	1	1	0	0	0					1	71%	**3.80**	30%	107.9	20.5	
	1830	0	0	0	1	1	1	1	1	0	0	0					1	71%	**3.80**	30%	108	20.5	
4/21/2010	1100	0	1	0	0	1	1	1	1	0	0	0					1	70%	**3.60**	30%	106.8	20.5	
	1300	0	1	0	0	0	0	1	0	0	0	0	1	94%					**4.75**	30%	107.2	18.5	
	1400	0	1	0	0	0	0	1	0	0	0	0	1	94%					**4.80**	30%	107.7	18.5	
	1500	0	1	0	0	0	0	1	0	0	0	0	1	94%					**4.95**	30%	107.9	18.5	
	1600	0	1	0	0	0	0	1	0	0	0	0	1	90%					**4.85**	30%	108.4	18.5	
	1700	0	1	0	0	0	0	1	0	0	0	0	1	94%					**5.00**	30%	108.7	18.5	
	1800	1	1	1	1	1	1	1	1	1	0	1					1	46%	**3.70**	40%	108.7	23	
	1845	1	1	1	1	1	1	1	1	1	0	1					1	46%	**3.65**	40%	108.7	23	
4/22/2010	900	0	0	0	1	1	1	1	0	0	0	0	1	78%					**3.70**	28%	106.5	19.8	
	945	0	0	0	1	1	1	1	0	0	0	0	1	78%					**3.65**	30%	106.9	19.9	
	1040	0	0	0	1	1	1	1	1	1	0	0					1	52%	**3.90**	30%	107	22	
	1140	0	0	0	1	1	1	1	1	1	0	0					1	52%	**3.75**	30%	107.1	22	
	1245	0	0	0	0	1	0	1	0	0	0	0	1	90%					**4.65**	30%	107.4	19	
	1330	0	0	0	0	1	0	1	0	0	0	0	1	90%					**4.70**	30%	107.5	19	
	1435	0	0	0	0	1	0	1	0	0	0	0	1	90%					**4.85**	30%	107.8	19	
	1545	0	0	0	0	1	0	1	0	0	0	0	1	90%					**4.75**	30%	108.2	19	
	1635	0	0	0	0	1	0	1	0	0	0	0	1	90%					**4.85**	30%	108	19	
	1745	0	1	1	1	1	1	1	1	1	0	1					1	43%	**3.40**	30%	108.3	19	
4/23/2010	840	0	0	0	1	1	1	1	1	1	0	0					1	52%	**3.20**	30%	106.2	21	
	1000	0	0	0	1	1	1	1	1	1	0	0					1	52%	**3.20**	30%	106.2	21	
	1145	0	0	0	1	1	1	1	1	1	0	0					1	52%	**3.30**	30%	106.5	21	
	1250	0	0	0	1	1	1	1	1	1	0	0					1	52%	**3.40**	30%	106.5	21	
	1355	0	0	0	0	1	0	1	0	0	0	0	1	88%					**4.35**	30%	106.5	19	
	1445	0	0	0	0	1	0	1	0	0	0	0	1	88%					**4.60**	30%	107.0	19	
	1550	0	0	0	0	1	0	1	0	0	0	0	1	88%					**4.40**	30%	107.4	19	
	1645	0	0	0	0	1	0	1	0	0	0	0	1	88%					**4.50**	30%	107.4	19	
	1735	0	0	0	1	1	1	1	1	1	0	0					1	52%	**3.30**	30%	107.4	21	
4/24/2010	900	0	0	0	0	1	0	1	0	0	0	0	1	86%					**3.60**	20%	106.0	18	
	945	0	0	0	0	1	0	1	0	0	0	0	1	86%					**3.80**	30%	106.0	19	
	1030	0	0	0	0	1	0	1	0	0	0	0	1	86%					**3.70**	30%	106.0	18.5	

Conowingo East Lift Attraction Flow Study: 2010

		Small Units							Large Units				Weir Gates						Velocity	Crowder Area Gate	Pond Level	Tailrace Level	Comments
Date	Time	1	2	3	4	5	6	7	8	9	10	11	A	% Open	B	% Open	C	% Open	(ft/s)	% Open	ft	ft	
	1115	0	0	0	0	1	0	1	0	0	0	0	1	80%					**3.70**	30%	106.3	18.6	
	1200	0	0	0	0	1	0	1	0	0	0	0	1	80%					**3.70**	30%	106.3	18.8	
	1245	0	0	0	0	1	0	1	0	0	0	0	1	85%					**3.90**	30%	106.3	18.9	
	1330	0	0	0	0	1	0	1	0	0	0	0	1	85%					**3.90**	30%	106.5	18.9	
	1415	0	0	0	0	1	0	1	0	0	0	0	1	85%					**4.00**	30%	106.6	18.9	
	1500	0	0	0	0	1	0	1	0	0	0	0	1	85%					**3.90**	30%	106.7	19	
	1545	0	0	0	0	1	0	1	0	0	0	0	1	85%					**4.10**	30%	106.7	19	
	1630	0	0	0	0	1	0	1	0	0	0	0	1	85%					**4.10**	30%	106.9	19	
	1715	0	0	0	0	1	0	1	0	0	0	0	1	85%					**4.00**	30%	106.9	19.1	
	1800	0	0	0	0	1	0	1	0	0	0	0	1	85%					**4.10**	30%	107.0	19.1	
	1845	0	0	0	0	1	0	1	0	0	0	0	1	85%					**4.10**	30%	107.0	19.1	
4/25/2010	900	0	0	0	0	1	0	1	0	0	0	0	1	94%					**3.40**	30%	105.7	18	
	1000	0	0	0	0	1	0	1	0	0	0	0	1	94%					**3.50**	30%	105.8	18	
	1100	0	0	0	0	1	0	1	0	0	0	0	1	88%					**3.70**	25%	106.0	18	
	1200	0	0	0	0	1	0	1	0	0	0	0	1	88%					**3.90**	25%	106.2	18	
	1300	0	0	0	0	1	0	1	0	0	0	0	1	85%					**3.70**	30%	106.3	18.2	
	1400	0	0	0	0	1	0	1	0	0	0	0	1	85%					**3.80**	30%	106.3	18.3	
	1500	0	0	0	0	1	0	1	0	0	0	0	1	85%					**3.70**	30%	106.5	18.3	
	1600	0	0	0	0	1	0	1	0	0	0	0	1	90%					**3.80**	30%	106.6	18.4	
	1700	0	0	0	1	1	1	1	0	0	0	0	1	80%					**3.30**	30%	106.7	19.5	
	1800	0	0	0	1	1	1	1	0	0	0	0	1	80%					**3.30**	30%	106.8	19.5	
4/26/2010	850	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.10**	30%	107.0	21.5	
	948	0	0	0	1	1	1	1	1	1	0	0					1	50%	**3.40**	30%	106.8	21.5	
	1047	0	0	0	1	1	1	1	1	1	0	0					1	50%	**3.60**	30%	107.0	22.1	
	1148	0	0	0	1	1	1	1	1	1	0	0					1	57%	**3.60**	30%	107.0	21.6	
	1245	0	0	0	1	1	1	1	1	1	0	0					1	57%	**3.90**	30%	107.0	21.6	
	1348	0	0	0	1	1	1	1	1	1	0	0					1	57%	**3.60**	30%	107.1	21.6	
	1445	0	0	0	1	1	1	1	1	1	0	0					1	57%	**3.60**	30%	107.0	21.7	
	1547	0	0	0	1	1	1	1	1	1	0	0					1	57%	**3.50**	30%	106.9	21.8	
4/27/2010	930	0	0	0	1	1	1	1	0	0	0	0	1	83%					**3.60**	30%	106.5	19	
	95	0	0	0	1	1	1	1	0	0	0	0	1	83%					**3.80**	30%	106.6	19.5	
	1055	0	0	0	1	1	1	1	0	0	0	0	1	76%					**3.90**	30%	106.7	19.8	
	1150	0	0	0	1	1	1	1	0	0	0	0	1	76%					**4.20**	30%	106.8	19.8	
	1250	0	0	0	1	1	1	1	0	0	0	0	1	76%					**3.90**	30%	106.9	19.8	
	1350	0	0	0	0	1	1	0	0	0	0	0	1	86%					**4.30**	30%	106.8	19	
	1450	0	0	0	0	1	1	0	0	0	0	0	1	87%					**4.50**	30%	106.8	19	
	1550	0	0	0	0	1	1	0	0	0	0	0	1	87%					**4.40**	30%	106.8	19	
	1650	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.40**	30%	106.9	22.5	
4/28/2010	850	0	0	0	1	1	0	0	0	0	0	0	1	81%					**3.40**	30%	105.8	18.5	
	950	0	0	0	1	1	1	1	0	0	0	0					1	74%	**3.50**	30%	106.6	21	
	1050	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.50**	30%	107.0	21	
	1150	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.50**	30%	107.0	21.5	
	1250	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.60**	30%	107.0	21.5	
	1350	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.50**	30%	107.1	21.5	
	1450	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.40**	30%	106.9	21.5	
	1550	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.50**	30%	106.9	21.5	
	1630	0	0	0	1	1	1	1	1	1	0	0					1	55%	**3.50**	30%	106.9	21.5	
4/29/2010	835	0	0	0	0	1	0	1	0	0	0	0	1	90%					**4.30**	30%	107.0	18.5	
	940	0	0	0	0	1	0	1	0	0	0	0	1	85%					**4.70**	30%	107.1	19	
	1042	0	0	0	0	1	0	1	0	0	0	0	1	94%					**4.40**	30%	107.3	19	
	1138	0	0	0	0	1	0	1	0	0	0	0	1	94%					**4.50**	30%	107.7	19	
	1240	0	0	0	0	1	0	1	0	0	0	0	1	94%					**4.60**	30%	107.9	18.5	
	1340	1	1	1	1	1	1	1	1	1	1	0					1	44%	**3.60**	35%	107.7	23	
	1438	1	1	1	1	1	1	1	1	1	1	0					1	44%	**3.50**	40%	108.0	23	
	1555	1	1	1	1	1	1	1	1	1	1	0					1	44%	**3.50**	40%	107.6	23	
	1625	1	1	1	1	1	1	1	1	1	1	0					1	44%	**3.40**	40%	107.6	23	
4/30/2010	815	0	0	0	0	0	0	0	1	1	0	1					1	45%	**3.50**	26%	106.2	22.5	
	900	0	0	0	0	0	0	0	1	1	0	1					1	45%	**3.60**	26%	106.2	22.5	
	955	0	0	0	0	0	0	0	1	1	0	1					1	45%	**3.60**	26%	106.2	22.5	
	1055	0	0	0	0	0	0	0	1	1	0	1					1	45%	**3.60**	26%	106.2	22.5	
	1155	0	0	0	0	0	0	0	1	1	0	1					1	45%	**3.70**	26%	106.4	23	
	1255	1	1	1	1	1	1	1	1	1	0	0					1	45%	**3.40**	26%	106.3	23	
	1355	1	1	1	1	1	1	1	1	1	0	0					1	45%	**3.30**	26%	106.3	23	
	1455	1	1	1	1	1	1	1	1	1	0	0					1	45%	**3.40**	26%	106.2	23	
	1555	1	1	1	1	1	1	1	1	1	0	0					1	45%	**3.40**	26%	106.2	23	
5/1/2010	1000	0	1	0	0	1	1	1	1	1	0	0					1	56%	**3.80**	30%	106.3	22.0	
	1100	0	1	0	0	1	1	1	1	1	0	0					1	56%	**3.90**	30%	106.6	21.0	
	1200	0	1	0	0	1	1	1	1	1	0	0					1	56%	**3.80**	30%	107.1	21.5	
	1300	0	1	0	0	1	1	1	1	1	0	0					1	56%	**3.80**	30%	107.1	21.5	
	1400	0	1	1	1	1	1	1	1	1	1	1					1	40%	**3.50**	30%	106.9	23.1	
	1500	0	1	1	1	1	1	1	1	1	1	1					1	40%	**3.40**	30%	107.0	23.5	
	1600	0	1	1	1	1	1	1	1	1	1	1					1	40%	**3.50**	30%	107.0	23.4	
	1700	0	1	1	1	1	1	1	1	1	1	1					1	40%	**3.50**	30%	107.0	23.4	
	1800	0	1	1	1	1	1	1	1	1	1	1					1	40%	**3.40**	30%	107.0	23.5	
5/2/2010	900	0	1	0	0	1	0	0	0	0	0	0	1	95%					**4.90**	20%	107.0	18.0	
	1000	0	1	0	0	1	0	0	0	0	0	0	1	95%					**4.90**	20%	107.3	18.0	
	1100	0	1	0	0	1	1	1	1	1	0	0					1	58%	**3.90**	30%	107.3	22.0	
	1200	0	1	0	0	1	1	1	1	1	0	0					1	58%	**4.10**	30%	107.5	22.0	
	1300	0	1	0	0	1	1	1	1	1	0	0					1	58%	**4.00**	30%	107.6	22.0	
	1400	0	1	1	1	1	1	1	1	1	1	1					1	47%	**3.70**	35%	107.7	23.0	
	1500	0	1	1	1	1	1	1	1	1	1	1					1	47%	**3.60**	35%	107.8	23.0	
	1600	0	1	1	1	1	1	1	1	1	1	1					1	47%	**3.60**	35%	107.5	23.0	
	1700	0	1	1	1	1	1	1	1	1	1	1					1	47%	**3.60**	35%	107.5	23.0	
	1800	0	1	1	1	1	1	1	1	1	1	1					1	47%	**3.50**	35%	107.4	23.0	
5/3/2010	840	0	1	0	0	1	0	0	0	0	0	0	1	97%					**4.70**	30%	107.2	18.5	
	950	0	1	0	0	1	0	0	0	0	0	0	1	97%					**4.75**	30%	107.2	18.5	
	1040	0	1	0	0	1	0	0	0	0	0	0	1	97%					**4.70**	30%	107.2	18.5	
	1140	0	1	0	0	1	0	0	0	0	0	0	1	97%					**4.75**	30%	107.5	18.5	
	1235	1	1	1	1	1	1	1	1	1	0	1					1	48%	**3.70**	30%	108.0	23.0	
	1340	1	1	1	1	1	1	1	1	1	0	1					1	48%	**3.70**	30%	108.0	23.0	
	1435	1	1	1	1	1	1	1	1	1	0	1					1	45%	**3.65**	30%	108.0	22.9	
	1540	1	1	1	1	1	1	1	1	1	0	1					1	45%	**3.65**	30%	108.2	22.9	
	1640	1	1	1	1	1	1	1	1	1	0	1					1	43%	**3.75**	30%	108.2	23.0	
	1740	1	1	1	1	1	1	1	1	1	0	1					1	43%	**3.85**	30%	108.2	23.0	
	1820	1	1	1	1	1	1	1	1	1	0	1					1	43%	**3.85**	30%	108.5	23.0	
5/4/2010	810	0	1	0	0	1	0	0	0	0	0	0	1	97%					**4.40**	30%	107.1	20.0	
	855	0	1	0	0	1	1	1	0	0	0	0	1	26%					**3.80**	30%	107.3	20.0	
	950	0	1	0	0	1	1	1	0	0	0	0	1	26%					**4.40**	30%	107.4	20.0	
	1050	0	1	0	0	1	1	1	0	0	0	0	1	26%					**4.00**	30%	107.8	20.2	
	1150	0	1	0	0	1	1	1	0	0	0	0	1	26%					**4.00**	30%	108.1	20.4	
	1250	0	1	1	1	1	1	1	1	1	1	1					1	38%	**3.50**	25%	108.2	23.5	

Conowingo East Lift Attraction Flow Study: 2010

			Small Units						Large Units					Weir Gates						Velocity	Crowder Area Gate	Pond Level	Tailrace Level	Comments
Date	Time	1	2	3	4	5	6	7	8	9	10	11	A	% Open	B	% Open	C	% Open	(ft/s)	% Open	ft	ft	
	1350	0	1	1	1	1	1	1	1	1	1	1					1	38%	**4.00**	25%	108.2	23.5	
	1450	0	1	1	1	1	1	1	1	1	1	1					1	38%	**3.70**	30%	108.1	23.5	
	1550	0	1	1	1	1	1	1	1	1	1	1					1	38%	**3.70**	30%	108.0	23.5	
	1650	0	1	1	1	1	1	1	1	1	1	1					1	38%	**3.70**	30%	108.1	23.5	
5/5/2010	840	0	1	1	0	0	0	1	1	0	0	0	1	85%					**4.60**	30%	107.2	19.0	
	942	0	1	1	0	0	0	1	1	0	0	0	1	85%					**4.70**	30%	107.3	19.0	
	1042	0	1	1	0	0	0	1	1	0	0	0	1	85%					**4.50**	30%	107.8	19.0	
	1146	1	1	1	1	1	1	1	1	1	0	1					1	40%	**3.30**	30%	107.9	21.0	
	1300	1	1	1	1	1	1	1	1	1	0	1					1	48%	**3.40**	35%	107.8	23.0	
	1357	1	1	1	1	1	1	1	1	1	0	1					1	48%	**3.50**	35%	108.0	22.8	
	1445	1	1	1	1	1	1	1	1	1	0	1					1	48%	**3.40**	35%	107.8	23.0	
	1547	1	1	1	1	1	1	1	1	1	0	1					1	48%	**3.30**	35%	107.8	23.0	
5/6/2010	830	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.10**	30%	105.9	18.0	
	923	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.00**	30%	106.7	18.5	
	1028	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.30**	30%	107.0	19.0	
	1131	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.50**	30%	107.2	19.0	
	1229	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.30**	30%	107.6	19.0	
	1332	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.60**	30%	108.0	19.0	
	1435	1	1	1	1	1	1	1	1	1	0	1					1	38%	**3.70**	30%	108.0	23.0	
	1532	1	1	1	1	1	1	1	1	1	0	1					1	38%	**3.50**	30%	109.0	23.0	
	1630	1	1	1	1	1	1	1	1	1	1	1					1	38%	**3.70**	30%	109.0	23.0	
5/7/2010	1000	0	1	0	0	1	1	1	1	0	0	0					1	65%	**4.30**	30%	106.5	21.0	
	1100	0	1	0	0	1	1	1	1	0	0	0					1	65%	**4.50**	30%	107.2	21.0	
	1200	0	1	0	0	1	1	1	1	0	0	0					1	65%	**4.30**	35%	107.5	21.0	
	1300	0	1	0	0	1	1	1	1	0	0	0					1	65%	**4.40**	30%	107.7	21.0	
	1400	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.80**	40%	107.7	23.0	
	1500	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.80**	40%	107.7	23.0	
	1700	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.80**	40%	107.7	23.0	
	1800	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.60**	40%	107.5	23.0	
5/8/2010	815	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.10**	30%	106.6	19.0	
	920	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.40**	30%	106.9	19.0	
	1015	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.70**	30%	107.0	19.0	
	1055	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.50**	30%	107.5	19.0	
	1130	0	1	0	0	1	1	1	1	1	0	0					1	50%	**4.00**	30%	107.0	22.0	
	1230	0	1	0	0	1	1	1	1	1	0	0					1	50%	**4.20**	30%	107.0	22.0	
	1315	0	1	0	0	1	1	1	1	1	0	0					1	50%	**4.00**	30%	108.0	22.0	
	1400	0	1	0	0	1	1	1	1	1	0	0					1	50%	**4.10**	30%	108.0	22.0	
	1445	0	1	0	0	1	1	1	1	1	0	0					1	50%	**4.00**	30%	107.9	22.0	
	1530	0	1	0	0	1	1	1	1	1	0	0					1	50%	**4.00**	30%	107.9	22.0	
	1630	0	1	0	0	1	1	1	1	1	0	0					1	50%	**4.00**	30%	107.9	22.0	
5/9/2010	845	0	1	0	0	1	0	0	0	0	0	0	1	95%					**5.30**	25%	107.0	18.0	
	940	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	25%	107.2	18.0	
	1050	0	1	0	0	1	0	0	0	0	0	0	1	95%					**5.30**	25%	107.7	18.0	
	1145	0	1	1	1	1	1	1	1	0	0	0					1	60%	**3.80**	35%	107.5	21.5	
	1250	0	1	1	1	1	1	1	1	0	0	0					1	60%	**4.30**	35%	107.1	21.5	
	1410	0	1	1	1	1	1	1	1	0	0	0					1	60%	**3.90**	40%	107.3	21.5	
	1505	0	1	1	1	1	1	1	1	0	0	0					1	60%	**3.40**	40%	107.6	21.5	
	1600	0	1	1	1	1	1	1	1	0	0	0					1	60%	**3.70**	40%	106.7	21.5	
5/10/2010	945	0	1	0	0	1	1	1	1	0	0	0					1	65%	**4.00**	30%	106.4	20.5	
	1100	0	1	0	0	1	1	1	0	0	0	0	1	79%					**3.90**	30%	106.3	20.0	
	1155	0	1	0	0	1	1	1	0	0	0	0	1	74%					**3.60**	30%	106.4	20.0	
	1255	0	1	0	0	1	1	1	0	0	0	0	1	74%					**3.90**	30%	106.5	20.0	
	1405	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.30**	30%	106.5	19.0	
	1510	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.40**	30%	106.8	19.0	
	1608	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.30**	30%	107.1	19.0	
	1650	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.60**	30%	107.6	19.0	
5/11/2010	855	0	1	0	0	1	1	1	1	1	0	0					1	50%	**3.20**	30%	106.5	22.0	
	955	0	1	0	0	1	1	1	1	1	0	0					1	50%	**3.50**	30%	106.8	22.0	
	1100	0	1	0	0	1	0	0	0	0	0	0	1	82%					**4.70**	30%	106.5	19.0	
	1155	0	1	0	0	1	0	0	0	0	0	0	1	82%					**4.40**	30%	107.0	19.0	
	1255	0	1	0	0	1	0	0	0	0	0	0	1	82%					**4.40**	30%	107.4	19.0	
	1355	0	1	0	0	1	0	0	0	0	0	0	1	82%					**4.40**	30%	107.4	19.0	
	1453	0	1	0	0	1	0	0	0	0	0	0	1	82%					**4.50**	30%	107.8	19.0	
	1600	0	1	0	0	1	0	0	0	0	0	0	1	82%					**4.30**	30%	108.0	19.0	
	1655	0	1	0	0	1	0	0	0	0	0	0	1	88%					**4.50**	30%	108.4	19.0	
5/12/2010	910	0	1	1	1	1	1	1	1	0	0	0					1	55%	**3.80**	30%	106.6	21.5	
	1010	0	1	0	0	1	0	1	0	0	0	0	1	80%					**4.00**	30%	106.4	19.5	
	1105	0	1	0	0	1	0	1	0	0	0	0	1	80%					**4.00**	30%	106.6	19.5	
	1210	0	1	0	0	1	0	1	0	0	0	0	1	80%					**4.50**	30%	106.7	19.4	
	1310	0	1	0	0	1	0	1	0	0	0	0	1	80%					**4.30**	30%	106.8	19.4	
	1410	0	1	0	0	1	0	1	0	0	0	0	1	80%					**4.50**	30%	107.3	19.3	
	1510	0	1	0	0	1	0	1	0	0	0	0	1	80%					**4.40**	30%	107.7	19.3	
	1610	0	1	0	0	1	0	1	0	0	0	0	1	87%					**5.00**	30%	107.9	19.3	
	1710	0	1	0	0	1	0	1	0	0	0	0	1	87%					**4.90**	30%	108.3	19.3	
5/13/2010	820	0	1	0	0	1	0	0	0	0	0	0	1	85%					**3.70**	30%	105.7	18.5	1400: Expected generation
	923	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.50**	30%	105.9	19.0	change. Moved to C gate
	1016	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.50**	30%	106.3	19.0	Generation did not change
	1119	0	1	0	0	1	0	0	0	0	0	0	1	90%					**4.70**	30%	106.5	19.0	Moved back to A gate
	1220	0	1	0	0	1	0	0	0	0	0	0	1	90%					**4.80**	30%	107	19.0	
	1317	0	1	0	0	1	0	0	0	0	0	0	1	94%					**4.90**	30%	107.5	19.0	
	1500	0	1	0	0	1	0	0	0	0	0	0	1	94%					**4.90**	30%	107.8	19.0	
	1620	0	1	0	0	1	0	0	0	0	0	0	1	96%					**5.00**	30%	107.8	19.0	
5/14/2010	830	1	1	1	1	1	1	1	1	1	1	1					1	32%	**3.00**	30%	105.8	23.5	
	925	1	1	1	1	1	1	1	1	1	1	1					1	32%	**3.10**	30%	105.6	23.5	
	1030	1	1	1	1	1	1	1	1	1	1	1					1	32%	**2.90**	30%	105.4	23.5	
	1125	0	0	0	1	1	1	1	1	0	0	0					1	73%	**3.80**	30%	105.7	20.6	
	1235	0	0	0	1	1	1	1	1	0	0	0					1	74%	**4.00**	30%	105.8	20.6	
	1325	1	1	1	1	1	1	1	1	1	1	1					1	37%	**3.20**	30%	106.1	23.3	
	1435	1	1	1	1	1	1	1	1	1	1	1					1	34%	**3.20**	30%	105.7	23.4	
	1525	1	1	1	1	1	1	1	1	1	1	1					1	34%	**3.10**	30%	105.7	23.4	
	1615	1	1	1	1	1	1	1	1	1	1	1					1	34%	**3.20**	30%	105.8	23.4	
5/15/2010	820	0	1	1	1	1	1	1	1	0	0	0					1	60%	**3.70**	25%	107.5	21.5	
	910	0	1	1	1	1	1	1	1	0	0	0					1	60%	**4.00**	25%	107.3	21.5	
	1000	0	1	1	1	1	1	1	1	0	0	0					1	60%	**3.90**	25%	107.4	21.5	
	1050	0	1	1	1	1	1	1	1	0	0	0					1	55%	**4.00**	20%	107.5	22.0	
	1130	0	1	1	1	1	1	1	1	0	0	0					1	55%	**4.00**	20%	107.4	22.0	
	1220	0	1	1	1	1	1	1	1	0	0	0					1	55%	**3.80**	20%	107.3	22.0	
	1310	0	1	1	1	1	1	1	1	0	0	0					1	55%	**4.20**	20%	107.6	24.0	
	1400	0	1	1	1	1	1	1	1	0	0	0					1	28%	**3.50**	27%	107.6	24.0	
	1500	1	1	1	1	1	1	1	1	1	1	1					1	28%	**3.80**	27%	107.4	24.0	
	1550	1	1	1	1	1	1	1	1	1	1	1					1	28%	**3.50**	27%	107.5	24.0	

Conowingo East Lift Attraction Flow Study: 2010

			Small Units						Large Units					Weir Gates						**Velocity**	Crowder Area Gate	Pond Level	Tailrace Level	Comments
Date	Time	1	2	3	4	5	6	7	8	9	10	11	A	% Open	B	% Open	C	% Open	**(ft/s)**	% Open	ft	ft	
5/16/2010	915	0	1	1	1	1	1	1	1	0	0	0					1	60%	**3.60**	30%	106.6	21.5	
	1000	0	1	1	1	1	1	1	1	0	0	0					1	60%	**4.10**	30%	106.5	21.5	
	1100	0	1	1	1	1	1	1	1	0	0	0					1	60%	**3.90**	30%	106.5	21.5	
	1215	0	1	1	1	1	1	1	1	0	0	0					1	65%	**4.00**	30%	106.6	21.5	
	1315	0	1	1	1	1	1	1	1	0	0	0					1	65%	**4.20**	40%	106.7	21.5	
	1415	0	1	1	1	1	1	1	1	0	0	0					1	65%	**3.90**	40%	106.7	21.3	
	1515	0	1	1	1	1	1	1	1	0	0	0					1	65%	**3.90**	40%	106.9	21.4	
	1615	0	1	1	1	1	1	1	1	0	0	0					1	65%	**4.00**	40%	107.2	21.4	
5/17/2010	910	0	1	1	1	1	1	1	1	0	0	0					1	56%	**3.70**	30%	106.8	22.0	
	1005	0	1	1	1	1	1	1	1	0	0	0					1	57%	**4.20**	30%	107.0	22.0	
	1130	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.50**	25%	107.1	23.0	
	1225	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.50**	25%	107.2	23.0	
	1325	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.50**	25%	107.0	23.5	
	1405	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.60**	25%	106.9	23.5	
	1035	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.50**	25%	106.9	23.5	
	1530	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.50**	25%	106.7	23.5	
	1610	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.50**	25%	106.5	23.5	
	1740	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.40**	25%	106.5	23.5	
5/18/2010	830	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.30**	30%	106.0	19.0	
	930	0	1	0	0	1	0	0	0	0	0	0	1	80%					**4.10**	30%	106.1	19.0	
	1030	0	1	0	0	1	0	0	0	0	0	0	1	88%					**4.10**	30%	106.7	19.0	
	1130	0	1	0	0	1	0	0	0	0	0	0	1	95%					**4.60**	30%	107.0	19.0	
	1230	0	1	0	0	1	0	0	0	0	0	0	1	95%					**4.70**	30%	107.8	19.5	
	1330	1	1	1	1	1	1	1	1	1	1	1					1	39%	**3.60**	30%	107.8	23.0	
	1430	1	1	1	1	1	1	1	1	1	1	1					1	39%	**3.50**	30%	107.6	23.4	
	1520	1	1	1	1	1	1	1	1	1	1	1					1	39%	**3.60**	30%	107.1	23.5	
	1520	1	1	1	1	1	1	1	1	1	1	1					1	39%	**3.60**	30%	107.1	23.5	
5/19/2010	925	0	1	0	0	1	1	1	0	0	0	0	1	78%					**3.55**	30%	106.0	18.5	
	1030	0	1	0	0	1	1	1	0	0	0	0	1	78%					**4.00**	30%	105.9	19.5	
	1130	0	1	0	0	1	1	1	0	0	0	0	1	78%					**4.00**	30%	106.3	19.8	
	1230	0	1	0	0	1	1	1	0	0	0	0	1	83%					**4.40**	30%	106.4	19.6	
	1330	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.80**	30%	106.8	22.8	
	1430	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.80**	30%	106.8	22.8	
	1530	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.80**	30%	106.5	22.8	
	1630	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.80**	30%	106.5	22.8	
5/20/2010	900	0	1	0	0	1	1	1	1	1	0	0					1	55%	**4.00**	26%	107.2	22.0	
	1005	0	1	0	0	1	1	1	1	1	0	0					1	55%	**3.80**	26%	107.2	22.0	
	1100	0	1	0	0	1	1	1	1	1	0	0					1	55%	**3.70**	26%	107.2	22.0	
	1155	0	1	0	0	1	1	1	1	1	0	0					1	55%	**3.80**	26%	107.1	22.0	
	1300	0	1	1	1	1	1	1	1	1	0	1					1	48%	**3.90**	30%	107.1	23.0	
	1400	1	1	1	1	1	1	1	1	1	0	1					1	38%	**3.80**	30%	107.0	23.0	
	1500	1	1	1	1	1	1	1	1	1	0	1					1	38%	**3.80**	30%	106.5	22.5	
	1600	1	1	1	1	1	1	1	1	0	0	1					1	50%	**3.70**	30%	107.1	19.5	
	1630	0	1	0	0	1	1	0	0	0	0	0	1	91%					**4.30**	30%	107.1	19.5	
	1730	0	1	0	0	1	1	0	0	0	0	0	1	91%					**4.50**	30%	107.3	19.0	
	1800	0	1	0	0	1	1	0	0	0	0	0	1	91%					**4.50**	30%	107.3	19.0	
5/21/2010	848	0	1	0	0	1	0	0	0	0	0	0	1	92%					**4.90**	25%	108.0	19.0	
	955	0	1	0	0	1	1	1	1	1	0	0					1	60%	**4.30**	30%	108.2	22.0	
	1055	0	1	0	0	1	1	1	1	1	0	0					1	60%	**4.50**	30%	108.0	22.0	
	1155	0	1	0	0	1	1	1	1	1	0	0					1	60%	**4.60**	30%	108.3	22.0	
	1313	0	1	0	0	1	1	1	1	1	0	0					1	60%	**4.50**	30%	108.4	22.0	
	1415	1	1	1	1	1	1	1	1	1	1	1					1	38%	**3.30**	35%	108.5	23.5	
	1520	1	1	1	1	1	1	1	1	1	1	1					1	38%	**3.40**	35%	108.4	23.5	
	1610	1	1	1	1	1	1	1	1	1	1	1					1	38%	**3.40**	35%	108.0	23.5	
5/22/2010	900	0	1	0	0	1	0	0	0	0	0	0	1	92%					**4.80**	24%	106.6	21.0	
	1000	0	1	0	0	1	0	0	0	0	0	0	1	92%					**4.70**	24%	107.0	19.0	
	1100	0	1	0	0	1	0	0	0	0	0	0	1	92%					**4.90**	24%	107.1	21.0	
	1200	0	1	0	0	1	0	0	0	0	0	0	1	92%					**5.00**	24%	107.3	22.5	
	1300	1	1	1	1	1	1	0	1	1	0	0					1	55%	**4.30**	35%	106.5	22.5	
	1400	1	1	1	1	1	1	0	1	1	0	0					1	55%	**4.40**	35%	107.5	22.5	
	1500	1	1	1	1	1	1	0	1	1	0	0					1	55%	**4.30**	35%	107.4	22.5	
5/23/2010	845	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.70**	20%	107.3	18.3	
	945	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.60**	20%	107.4	18.5	
	1045	0	1	0	0	1	1	1	1	1	0	0					1	65%	**4.20**	35%	107.4	21.7	
	1145	0	1	0	0	1	1	1	1	1	0	0					1	60%	**4.40**	35%	107.6	21.7	
	1245	0	1	0	0	1	1	1	1	1	0	0					1	60%	**4.70**	35%	107.4	22.0	
	1345	0	1	0	0	1	1	1	1	1	0	0					1	60%	**4.10**	30%	107.3	21.8	
	1445	0	1	0	0	1	1	1	1	0	0	0					1	70%	**4.40**	35%	107.4	21.1	
	1545	0	1	0	0	1	1	1	1	0	0	0					1	70%	**4.50**	35%	107.3	21.2	
	1645	0	1	0	0	1	1	1	1	0	0	0					1	70%	**4.40**	35%	107.3	21.2	
5/24/2010	835	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.50**	20%	108.0	18.5	
	935	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.60**	20%	108.0	18.5	
	1035	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.50**	20%	108.2	18.5	
	1150	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.40**	20%	108.8	18.5	
	1235	0	1	1	1	1	1	1	1	1	0	1					1	48%	**4.40**	40%	108.8	23.1	
	1335	0	1	1	1	1	1	1	1	1	0	1					1	48%	**4.60**	40%	108.9	23.1	
	1430	0	1	1	1	1	1	1	1	1	0	1					1	55%	**4.60**	40%	108.6	23.0	
	1535	0	1	1	1	1	1	1	1	1	0	1					1	55%	**4.50**	40%	108.4	23.0	
5/25/2010	855	0	1	0	0	1	1	1	0	0	0	0	1	100%					**5.40**	20%	108.2	19.5	
	955	0	1	0	0	1	1	1	0	0	0	0	1	100%					**5.40**	20%	108.4	19.5	
	1055	0	1	0	0	1	1	1	0	0	0	0	1	100%					**5.20**	20%	108.7	19.5	
	1155	0	1	0	0	1	1	1	0	0	0	0	1	100%					**5.00**	20%	108.7	19.5	
	1255	0	1	1	1	1	1	1	1	1	0	1					1	48%	**4.00**	30%	109.1	23.1	
	1355	0	1	1	1	1	1	1	1	1	0	1					1	55%	**4.40**	35%	108.8	22.9	
	1455	0	1	1	1	1	1	1	1	1	0	1					1	55%	**4.50**	35%	108.7	23.0	
	1555	0	1	1	1	1	1	1	1	1	0	1					1	55%	**4.80**	35%	108.7	23.0	
5/26/2010	826	0	1	0	0	1	0	0	0	0	0	0	1	86%					**4.60**	29%	107.6	19.0	
	955	0	1	0	0	1	1	1	1	0	0	0					1	70%	**4.40**	30%	107.9	19.0	
	1105	0	1	0	0	1	1	1	1	0	0	0					1	65%	**4.50**	30%	107.9	19.0	
	1202	0	1	0	0	1	1	1	1	0	0	0					1	65%	**4.60**	32%	107.6	21.0	
	1310	0	1	1	1	1	1	1	1	0	0	1					1	55%	**4.00**	32%	107.2	22.0	
	1418	0	1	1	1	1	1	1	1	1	0	1					1	55%	**4.00**	36%	107.2	22.5	
	1513	0	1	1	1	1	1	1	1	1	0	1					1	55%	**4.30**	36%	107.1	22.9	
	1607	1	1	1	1	1	1	1	1	1	1	1					1	41%	**3.70**	36%	106.8	23.5	
5/27/2010	830	0	1	0	0	1	0	0	0	0	0	0	1	100%					**3.90**	30%	106.8	18.0	
	930	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.50**	30%	106.7	18.2	
	1030	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.60**	30%	106.5	18.5	
	1130	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.80**	30%	107.3	18.5	
	1230	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.30**	30%	107.6	18.5	
	1330	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.90**	30%	108.3	18.5	
	1430	0	1	1	1	1	1	1	1	1	1	1					1	42%	**4.10**	30%	108.4	23.2	

Conowingo East Lift Attraction Flow Study: 2010

			Small Units						Large Units					Weir Gates						**Velocity**	Crowder Area Gate	Pond Level	Tailrace Level	Comments
Date	Time	1	2	3	4	5	6	7	8	9	10	11	A	% Open	B	% Open	C	% Open	**(ft/s)**	% Open	ft	ft	
	1530	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.90**	30%	108.6	23.5	
	1630	0	1	1	1	1	1	1	1	1	1	1					1	42%	**3.50**	30%	108.4	23.5	
5/28/2010	910	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.40**	20%	107.5	18.6	
	1010	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	20%	107.9	18.6	
	1150	0	1	0	0	1	1	1	1	0	0	0					1	74%	**5.40**	30%	108.0	21.1	
	1250	0	1	0	0	1	1	1	1	0	0	0					1	74%	**5.00**	30%	108.0	21.1	
	1350	0	1	0	0	1	1	1	1	0	0	0					1	80%	**5.10**	30%	108.0	20.8	
	1455	0	1	0	0	1	1	1	1	0	0	0					1	80%	**5.00**	30%	108.2	20.8	
	1555	0	1	1	1	1	1	1	1	1	0	0					1	60%	**4.60**	30%	108.1	22.5	
5/29/2010	900	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	31%	108.1	19.0	
	1000	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.60**	30%	108.3	19.0	
	1100	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.60**	31%	108.3	19.0	
	1200	0	1	0	0	1	0	0	0	0	0	0	1	85%					**4.60**	30%	108.6	19.0	
	1300	0	1	0	0	1	1	1	1	0	0	0					1	80%	**4.10**	30%	108.8	19.0	
	1400	0	1	0	0	1	1	1	1	0	0	0					1	80%	**4.10**	30%	108.8	20.5	
	1500	0	1	0	0	1	1	1	1	0	0	0					1	80%	**4.10**	30%	108.8	20.5	
	1600	0	1	0	0	1	1	1	1	1	0	0					1	70%	**4.30**	30%	108.8	21.5	
5/30/2010	900	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.40**	20%	107.5	18.3	
	1000	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	20%	107.7	18.3	
	1100	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	20%	108.0	18.3	
	1200	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	20%	108.0	18.3	
	1300	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	20%	108.3	18.3	
	1400	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	20%	108.7	18.3	
	1500	0	1	0	0	1	1	1	1	1	0	1					1	60%	**4.30**	30%	108.6	22.5	
	1600	0	1	0	0	1	1	1	1	1	0	1					1	60%	**4.30**	30%	108.6	22.5	
5/31/2010	830	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	20%	107.4	17.8	
	930	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.00**	20%	107.4	17.8	
	1030	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.10**	20%	107.5	17.8	
	1130	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.10**	20%	107.7	17.8	
	1230	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.20**	20%	107.8	17.8	
	1330	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.10**	20%	108.0	17.8	
	1430	0	1	0	0	1	1	1	1	0	0	0					1	75%	**4.10**	20%	108.3	20.6	
	1530	0	1	0	0	1	1	1	1	0	0	0					1	75%	**4.40**	20%	108.5	20.6	
6/1/2010	930	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.80**	20%	107.3	17.8	
	1030	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.90**	20%	107.5	17.8	
	1130	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.90**	20%	107.8	17.8	
	1230	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.80**	20%	108.0	17.8	
	1330	0	1	1	0	1	1	1	1	1	0	1					1	45%	**4.00**	33%	108.0	22.7	
	1430	1	1	1	1	1	1	1	1	1	0	1					1	45%	**3.40**	33%	108.0	23.0	
	1545	1	1	1	1	1	1	1	1	1	0	1					1	45%	**3.90**	33%	107.6	23.0	
6/2/2010	840	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.60**	20%	106.8	18.5	
	940	0	1	0	0	1	0	0	0	0	0	0	1	100%					**3.90**	20%	106.8	18.5	
	1040	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.60**	20%	107.0	18.0	
	1140	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.55**	20%	107.5	18.0	
	1240	0	1	0	0	1	1	1	1	1	0	0					1	60%	**4.25**	19%	107.5	19.0	
	1340	0	1	0	0	1	1	1	1	1	0	0					1	60%	**4.30**	20%	108.0	22.5	
	1440	1	1	1	1	1	1	1	1	1	0	1					1	45%	**3.90**	30%	107.6	23.0	
	1540	1	1	1	1	1	1	1	1	1	0	1					1	45%	**3.85**	30%	107.6	23.0	
6/3/2010	835	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.20**	19%	106.4	18.0	
	935	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.60**	20%	107.6	18.0	
	1035	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.60**	20%	106.6	18.0	
	1135	0	1	0	0	1	0	0	0	0	0	0	1	100%					**4.60**	20%	106.8	18.0	
	1235	0	0	0	1	1	1	1	1	1	0	1					1	55%	**4.25**	30%	106.8	22.5	
	1335	0	0	0	1	1	1	1	1	1	0	1					1	55%	**4.35**	30%	107.3	22.5	
	1440	0	0	0	1	1	1	1	1	1	0	1					1	55%	**4.30**	30%	107.3	22.5	
	1535	0	0	0	1	1	1	1	1	1	0	1					1	55%	**4.30**	30%	107.3	22.5	
6/4/2010	830	0	0	0	0	1	1	0	0	0	0	0	1	100%					**4.20**	25%	106.7	17.5	
	930	0	0	0	0	1	1	0	0	0	0	0	1	100%					**4.30**	25%	106.6	17.5	
	1030	0	0	0	0	1	1	0	0	0	0	0	1	100%					**4.50**	25%	107.1	17.5	
	1130	0	0	0	0	1	1	0	0	0	0	0	1	100%					**4.10**	25%	107.0	17.5	
	1230	0	0	0	0	1	1	0	0	0	0	0	1	100%					**4.90**	25%	107.2	17.8	
	1330	0	0	0	0	1	1	0	0	0	0	0	1	100%					**5.00**	25%	107.6	17.9	
6/5/2010	830	0	0	0	0	1	1	0	0	0	0	0	1	100%					**5.20**	25%	107.1	18.0	
	930	0	0	0	0	1	1	0	0	0	0	0	1	100%					**5.00**	25%	107.2	18.0	
	1030	0	0	0	0	1	1	0	0	0	0	0	1	100%					**5.20**	25%	107.3	18.5	
	1130	0	0	0	0	1	1	0	0	0	0	0	1	100%					**5.10**	25%	108.0	18.5	
	1230	0	0	0	0	1	1	0	0	0	0	0	1	100%					**5.40**	25%	108.3	18.5	
	1330	1	0	1	0	1	1	0	1	0	0	0					1	80%	**4.60**	25%	108.3	21.0	
	1430	1	0	1	0	1	1	0	1	0	0	0					1	60%	**4.40**	30%	108.2	22.0	
	1530	1	0	1	0	1	1	0	1	0	0	0					1	55%	**4.20**	30%	108.3	22.5	
6/6/2010	930	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.10**	20%	107.1	17.2	
	1030	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.10**	20%	107.1	17.2	
	1130	0	1	0	0	1	0	0	0	0	0	0	1	100%					**5.10**	15%	107.5	17.2	
	1230	0	1	0	0	1	1	1	1	0	0	0					1	70%	**4.60**	30%	107.6	20.9	
	1330	0	1	0	0	1	1	1	1	0	0	0					1	70%	**4.60**	30%	107.0	21.0	

APPENDIX D: STATUS OF RATIO-TAGGED AMERICAN SHAD IN RELATION TO PASSAGE AT EFL

Fish	Successful Forays that Lead to Passage Only	Pass DateTime	Foray Duration hh:mm:ss	Day of Week	Water Temp.	Hourly Shad Count	Generational Conditions													Fishlift Operational Conditions						Diffuser Setting		Spillway Attraction Flow Setting	
							Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Weir Gate	Weir % Open	Flow Velocity	Crowder Area Gate %	Pond Level ft.	Tailrace Level ft.	Comments	A	B	A	B
54-201	Initial Fishlift Detection	04/30/10 09:14:05					0	0	0	1	1	1	1	1	1	0	1	**C**	45%	3.60	26%	106.2	22.5		10	50	14	14
1	Last Lower Fishlift Det.	04/30/10 09:52:19	00:38:14				0	0	0	1	1	1	1	1	1	0	1	**C**	45%	3.60	26%	106.2	22.5		10	50	14	14
	Exit Trough	04/30/10 10:12:00		Friday	60.8	38																							
54-204	Initial Fishlift Detection	05/03/10 08:21:30					0	1	0	0	1	0	0	0	0	0	0	**A**	97%	4.70	30%	107.2	18.5		10		14	14
2	Last Lower Fishlift Det.	05/03/10 08:40:12	00:18:42				0	1	0	0	1	0	0	0	0	0	0	**A**	97%	4.70	30%	107.2	18.5		10		14	14
	Exit Trough	05/03/10 10:13:20		Monday	63.5	148																							
54-197	Initial Fishlift Detection	05/03/10 08:11:13					0	1	0	0	1	0	0	0	0	0	0	**A**	97%	4.70	30%	107.2	18.5		10		14	14
3	Last Lower Fishlift Det.	05/03/10 08:43:46	00:32:33				0	1	0	0	1	0	0	0	0	0	0	**A**	97%	4.70	30%	107.2	18.5		10		14	14
	Exit Trough	05/03/10 10:20:17		Monday	63.5	148																							
54-194	Initial Fishlift Detection	05/02/10 18:18:34					0	1	1	1	1	1	1	1	1	1	1	**C**	47%	3.50	35%	107.4	23.0		10	50	14	14
4	Last Lower Fishlift Det.	05/02/10 18:25:37	00:07:03				0	1	1	1	1	1	1	1	1	1	1	**C**	47%	3.50	35%	107.4	23.0		10	50	14	14
	Exit Trough	05/03/10 16:13:01		Monday	63.5	69																							
54-202	Initial Fishlift Detection	05/05/10 14:12:25					1	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.50	35%	108.0	22.8		10	50	14	14
5	Last Lower Fishlift Det.	05/05/10 14:14:03	00:01:38				1	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.50	35%	108.0	22.8		10	50	14	14
	Exit Trough	05/05/10 15:30:06		Wednesday	66.3	39																							
54-203	Initial Fishlift Detection	05/06/10 09:27:31					0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.00	30%	106.7	18.5		10		14	14
6	Last Lower Fishlift Det.	05/06/10 10:08:11	00:40:40				0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.00	30%	106.7	18.5		10		14	14
	Exit Trough	05/06/10 11:33:42		Thursday	66.5	131																							
21-135	Initial Fishlift Detection	05/07/10 12:05:39					0	1	0	0	1	1	1	1	0	0	0	**C**	65%	4.30	35%	107.5	21.0		10	50	14	14
7	Last Lower Fishlift Det.	05/07/10 12:14:30	00:08:51				0	1	0	0	1	1	1	1	0	0	0	**C**	65%	4.30	35%	107.5	21.0		10	50	14	14
	Exit Trough	05/07/10 12:46:56		Friday	70.0	79																							
21-127	Initial Fishlift Detection	05/07/10 11:57:50					0	1	0	0	1	1	1	1	0	0	0	**C**	65%	4.50	30%	107.2	21.0		10	50	14	14
8	Last Lower Fishlift Det.	05/07/10 12:00:51	00:03:01				0	1	0	0	1	1	1	1	0	0	0	**C**	65%	4.30	35%	107.5	21.0		10	50	14	14
	Exit Trough	05/07/10 14:20:56		Friday	70.0	144																							
54-198	Initial Fishlift Detection	05/07/10 15:46:21					0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.80	40%	107.7	23.0		10	50	14	14
9	Last Lower Fishlift Det.	05/07/10 15:53:45	00:07:24				0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.80	40%	107.7	23.0		10	50	14	14
	Exit Trough	05/07/10 16:39:46		Friday	70.0	368																							
54-207	Initial Fishlift Detection	05/07/10 16:42:31					0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.80	40%	107.7	23.0		10	50	14	14
10	Last Lower Fishlift Det.	05/07/10 16:52:57	00:10:26				0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.80	40%	107.7	23.0		10	50	14	14
	Exit Trough	05/07/10 17:58:54		Friday	70.0	500																							
21-119	Initial Fishlift Detection	05/07/10 16:15:34					0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.80	40%	107.7	23.0		10	50	14	14
11	Last Lower Fishlift Det.	05/07/10 17:04:30	00:48:56				0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.80	40%	107.7	23.0		10	50	14	14
	Exit Trough	05/07/10 18:13:15		Friday	70.0	459																							
21-121	Initial Fishlift Detection	05/07/10 17:34:15					0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.80	40%	107.7	23.0		10	50	14	14
12	Last Lower Fishlift Det.	05/07/10 17:38:18	00:04:03				0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.80	40%	107.7	23.0		10	50	14	14
	Exit Trough	05/07/10 18:38:16		Friday	70.0	459																							
54-199	Initial Fishlift Detection	05/07/10 18:10:22					0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.60	40%	107.5	23.0		10	50	14	14
13	Last Lower Fishlift Det.	05/07/10 18:10:51	00:00:29				0	1	1	1	1	1	1	1	1	0	1	**C**	48%	3.60	40%	107.5	23.0		10	50	14	14
	Exit Trough	05/07/10 18:46:28		Friday	70.0	459																							
21-112	Initial Fishlift Detection	05/08/10 08:31:22					0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.10	30%	106.6	19.0		10		14	14
14	Last Lower Fishlift Det.	05/08/10 08:37:50	00:06:28				0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.10	30%	106.6	19.0		10		14	14
	Exit Trough	05/08/10 08:54:43		Saturday	70.7	233																							
21-132	Initial Fishlift Detection	05/08/10 09:28:41					0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.40	30%	106.9	19.0		10		14	14
15	Last Lower Fishlift Det.	05/08/10 10:09:40	00:40:59				0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.40	30%	106.9	19.0		10		14	14
	Exit Trough	05/08/10 10:46:00		Saturday	70.7	677																							
21-114	Initial Fishlift Detection	05/08/10 10:30:03					0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.70	30%	107.0	19.0		10		14	14
16	Last Lower Fishlift Det.	05/08/10 10:53:15	00:23:12				0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.70	30%	107.0	19.0		10		14	14
	Exit Trough	05/08/10 11:29:21		Saturday	70.7	586																							
21-122	Initial Fishlift Detection	05/08/10 10:46:35					0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.70	30%	107.0	19.0		10		14	14
17	Last Lower Fishlift Det.	05/08/10 10:56:55	00:10:20				0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.50	30%	107.5	19.0		10		14	14
	Exit Trough	05/08/10 11:30:20		Saturday	70.7	586																							
21-124	Initial Fishlift Detection	05/08/10 10:45:22					0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.70	30%	107.0	19.0		10		14	14
18	Last Lower Fishlift Det.	05/08/10 11:12:17	00:26:55				0	1	0	0	1	0	0	0	0	0	0	**A**	86%	4.50	30%	107.5	19.0		10	50	14	14
	Exit Trough	05/08/10 12:48:36		Saturday	70.7	134																							
54-208	Initial Fishlift Detection	05/11/10 13:52:40					0	1	0	0	1	0	0	0	0	0	0	**A**	82%	4.40	30%	107.4	19.0		10		14	14
19	Last Lower Fishlift Det.	05/11/10 14:42:55	00:50:15				0	1	0	0	1	0	0	0	0	0	0	**A**	82%	4.40	30%	107.4	19.0		10		14	14
	Exit Trough	05/11/10 15:25:25		Tuesday	67.1	97																							
54-191	Initial Fishlift Detection	05/11/10 16:12:34					0	1	0	0	1	0	0	0	0	0	0	**A**	82%	4.30	30%	108.0	19.0		10		14	14
20	Last Lower Fishlift Det.	05/11/10 17:49:25	01:36:51				0	1	0	0	1	0	0	0	0	0	0	**A**	88%	4.50	30%	108.4	19.0		10		14	14
	Exit Trough	05/11/10 18:08:09		Tuesday	67.1	61																							
21-154	Initial Fishlift Detection	05/12/10 10:55:18					0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.00	30%	106.4	19.5		10		14	14
21	Last Lower Fishlift Det.	05/12/10 11:46:18	00:51:00				0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.00	30%	106.6	19.5		10		14	14
	Exit Trough	05/12/10 12:31:41		Wednesday	65.7	400																							
54-158	Initial Fishlift Detection	05/12/10 10:13:46					0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.00	30%	106.4	19.5		10		14	14
22	Last Lower Fishlift Det.	05/12/10 10:26:10	00:12:24				0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.00	30%	106.4	19.5		10		14	14
	Exit Trough	05/12/10 12:35:47		Wednesday	65.7	400																							
54-168	Initial Fishlift Detection	05/12/10 10:39:03					0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.00	30%	106.4	19.5		10		14	14
23	Last Lower Fishlift Det.	05/12/10 12:11:00	01:31:57				0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.00	30%	106.6	19.5		10		14	14
	Exit Trough	05/12/10 12:42:20		Wednesday	65.7	400																							
21-113	Initial Fishlift Detection	05/12/10 13:08:06					0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.50	30%	106.7	19.4		10		14	14
24	Last Lower Fishlift Det.	05/12/10 13:18:32	00:10:26				0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.30	30%	106.8	19.4		10		14	14
	Exit Trough	05/12/10 14:09:31		Wednesday	65.7	203																							
21-174	Initial Fishlift Detection	05/12/10 13:57:50					0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.30	30%	106.8	19.4		10		14	14
25	Last Lower Fishlift Det.	05/12/10 14:08:15	00:10:25				0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.30	30%	106.8	19.4		10		14	14
	Exit Trough	05/12/10 15:06:18		Wednesday	65.7	256																							
21-146	Initial Fishlift Detection	05/12/10 15:16:18					0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.40	30%	107.7	19.3		10		14	14
26	Last Lower Fishlift Det.	05/12/10 15:40:13	00:23:55				0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.40	30%	107.7	19.3		10		14	14
	Exit Trough	05/12/10 16:31:10		Wednesday	65.7	217																							
54-210	Initial Fishlift Detection	05/12/10 15:41:01					0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.40	30%	107.7	19.3		10		14	14
27	Last Lower Fishlift Det.	05/12/10 15:48:47	00:07:46				0	1	0	0	1	0	1	0	0	0	0	**A**	80%	4.40	30%	107.7	19.3		10		14	14
	Exit Trough	05/12/10 17:25:44		Wednesday	65.7	312																							
21-170	Initial Fishlift Detection	05/12/10 17:11:00					0	1	0	0	1	0	1	0	0	0	0	**A**	87%	4.90	30%	108.3	19.3		10		14	14
28	Last Lower Fishlift Det.	05/12/10 17:17:23	00:06:23				0	1	0	0	1	0	1	0	0	0	0	**A**	87%	4.90	30%	108.3	19.3		10		14	14
	Exit Trough	05/12/10 17:51:05		Wednesday	65.7	312																							
54-208	Initial Fishlift Detection **	05/12/10 15:17:10					0	1	0	0	1	0	1	0	0	0	0	**A**	87%	5.00	30%	107.9	19.3		10		14	14
1	Last Lower Fishlift Det.**	05/12/10 17:13:49	01:56:39				0	1	0	0	1	0	1	0	0	0	0	**A**	87%	4.90	30%	108.3	19.3		10		14	14
****	Exit Trough **	05/12/10 18:12:07		Wednesday	65.7	182																							
54-138	Initial Fishlift Detection	05/15/10 11:29:20					0	1	1	1	1	1	1	1	0	0	0	**C**	55%	4.00	20%	107.5	22.0		10	50	14	14
29	Last Lower Fishlift Det.	05/15/10 12:10:07	00:40:47				0	1	1	1	1	1	1	1	0	0	0	**C**	55%	4.00	20%	107.4	22.0		10	50	14	14
	Exit Trough	05/15/10 12:22:22		Saturday	64.4	64																							
21-149	Initial Fishlift Detection	05/17/10 12:39:00					0	1	1	1	1	1	1	1	1	1	1	**C**	42%	3.50	25%	107.2	23.0		10	50	14	14
30	Last Lower Fishlift Det.	05/17/10 12:45:41	00:06:41				0	1	1	1	1	1	1	1	1	1	1	**C**	42%	3.50	25%	107.2	23.0		10	50	14	14

	Exit Trough	05/17/10 13:40:11		Monday	63.5	121																					
54-160	Initial Fishlift Detection	05/20/10 16:54:03					0	1	0	0	1	1	0	0	0	0	0	**A**	91%	4.30	30%	107.1	19.5		10		14	14
31	Last Lower Fishlift Det.	05/20/10 17:10:53	00:16:50				0	1	0	0	1	1	0	0	0	0	0	**A**	91%	4.30	30%	107.1	19.5		10		14	14
	Exit Trough	05/20/10 17:36:33		Thursday	65.7	74																					
54-164	Initial Fishlift Detection	05/21/10 14:46:09					1	1	1	1	1	1	1	1	1	1	1	**C**	38%	3.30	35%	108.5	23.5		10		14	14
32	Last Lower Fishlift Det.	05/21/10 14:59:22	00:13:13				1	1	1	1	1	1	1	1	1	1	1	**C**	38%	3.30	35%	108.5	23.5		10		14	14
	Exit Trough	05/21/10 15:45:33		Friday	66.8	48																					
21-158	Initial Fishlift Detection	05/21/10 16:45:50					1	1	1	1	1	1	1	1	1	1	1	**C**	38%	3.40	35%	108.0	23.5		10		14	14
33	Last Lower Fishlift Det.	05/21/10 16:55:24	00:09:34				1	1	1	1	1	1	1	1	1	1	1	**C**	38%	3.40	35%	108.0	23.5		10		14	14
	Exit Trough	05/22/10 08:22:53		Saturday	67.1	22																					
21-169	Initial Fishlift Detection	05/22/10 08:54:27					0	1	0	0	1	0	0	0	0	0	0	**A**	92%	4.80	24%	106.6	21.0		10	50	14	14
34	Last Lower Fishlift Det.	05/22/10 09:03:46	00:09:19				0	1	0	0	1	0	0	0	0	0	0	**A**	92%	4.70	24%	107.0	19.0		10	50	14	14
	Exit Trough	05/22/10 09:25:15		Saturday	67.1	32																					
54-140	Initial Fishlift Detection	05/22/10 14:27:46					1	1	1	1	1	1	0	1	1	0	0	**C**	55%	4.40	35%	107.5	22.5		10	92	14	14
35	Last Lower Fishlift Det.	05/22/10 14:58:03	00:30:17				1	1	1	1	1	1	0	1	1	0	0	**C**	55%	4.40	35%	107.5	22.5		10	92	14	14
	Exit Trough	05/22/10 16:00:39		Saturday	67.1	12																					
21-123	Initial Fishlift Detection	05/23/10 14:53:40					0	1	0	0	1	1	1	1	0	0	0	**C**	70%	4.40	35%	107.4	21.1		10		14	14
36	Last Lower Fishlift Det.	05/23/10 14:55:42	00:02:02				0	1	0	0	1	1	1	1	0	0	0	**C**	70%	4.40	35%	107.4	21.1		10		14	14
	Exit Trough	05/23/10 15:10:14		Sunday	67.5	37																					
54-169	Initial Fishlift Detection	05/23/10 14:36:53					0	1	0	0	1	1	1	1	0	0	0	**C**	70%	4.40	35%	107.4	21.1		10		14	14
37	Last Lower Fishlift Det.	05/23/10 14:59:07	00:22:14				0	1	0	0	1	1	1	1	0	0	0	**C**	70%	4.40	35%	107.4	21.1		10		14	14
	Exit Trough	05/23/10 16:07:50		Sunday	67.5	57																					
54-159	Initial Fishlift Detection	05/24/10 09:35:33					0	1	0	0	1	0	0	0	0	0	0	**A**	100%	5.60	20%	108.0	18.5		10		18	18
38	Last Lower Fishlift Det.	05/24/10 09:44:37	00:09:04				0	1	0	0	1	0	0	0	0	0	0	**A**	100%	5.60	20%	108.0	18.5		10		18	18
	Exit Trough	05/24/10 10:29:00		Monday	68.0	76																					
54-142	Initial Fishlift Detection	05/24/10 09:30:53					0	1	0	0	1	0	0	0	0	0	0	**A**	100%	5.50	20%	108.0	18.5		10		18	18
39	Last Lower Fishlift Det.	05/24/10 09:35:38	00:04:45				0	1	0	0	1	0	0	0	0	0	0	**A**	100%	5.60	20%	108.0	18.5		10		18	18
	Exit Trough	05/24/10 10:35:58		Monday	68.0	76																					
21-171	Initial Fishlift Detection	05/24/10 09:38:18					0	1	0	0	1	0	0	0	0	0	0	**A**	100%	5.60	20%	108.0	18.5		10		18	18
40	Last Lower Fishlift Det.	05/24/10 10:55:53	01:17:35				0	1	0	0	1	0	0	0	0	0	0	**A**	100%	5.50	20%	108.2	18.5		10		18	18
	Exit Trough	05/24/10 11:55:31		Monday	68.0	49																					

Fish	Number of Unsuccessful Forays	Unsuccessful Forays	Foray DateTime	Foray Duration hh:mm:ss	Generational Conditions												Fishlift Operational Conditions						Diffuser Setting		Spillway Attraction FlowSetting	
					Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Weir Gate	Weir % Open	Flow Velocity	Crowder Area Gate %	Pond Level ft.	Tailrace Level ft.	Comments	A	B	A	B
21-100	**1**	Foray 1 Initial Lift Detection	05/04/10 11:43:47		0	1	0	0	1	1	1	0	0	0	0	**A**	**26%**	**4.00**	30%	107.8	20.2		10		14	14
1		Foray 1 Last Lift Detection	05/04/10 13:19:06	01:35:19	0	1	1	1	1	1	1	1	1	1	1	**C**	**38%**	**3.50**	25%	108.2	23.5		10	50	14	14
21-104	**1**	Foray 1 Initial Lift Detection	04/24/10 15:19:21		0	0	0	0	1	0	1	0	0	0	0	**A**	**85%**	**3.90**	30%	106.7	19.0		10		14	14
2		Foray 1 Last Lift Detection	04/24/10 15:19:42	00:00:21	0	0	0	0	1	0	1	0	0	0	0	**A**	**85%**	**3.90**	30%	106.7	19.0		10		14	14
54-200-1	**1**	Foray 1 Initial Lift Detection	05/02/10 17:16:53		0	1	1	1	1	1	1	1	1	1	1	**C**	**47%**	**3.50**	35%	107.4	23.0		10	50	14	14
3	**Lift Mortality**	Foray 1 Last Lift Detection	05/02/10 17:29:23	00:12:30	0	1	1	1	1	1	1	1	1	1	1	**C**	**47%**	**3.50**	35%	107.4	23.0		10	50	14	14
21-109	**1**	Foray 1 Initial Lift Detection	05/08/10 15:25:06		0	1	0	0	1	1	1	1	1	0	0	**C**	**50%**	**4.00**	30%	107.9	22.0		10	50	14	14
4		Foray 1 Last Lift Detection	05/08/10 15:40:31	00:15:25	0	1	0	0	1	1	1	1	1	0	0	**C**	**50%**	**4.00**	30%	107.9	22.0		10	50	14	14
21-115	**1**	Foray 1 Initial Lift Detection	05/15/10 08:42:00		0	1	1	1	1	1	1	1	0	0	0	**C**	**60%**	**4.00**	25%	107.3	21.5		10	50	14	14
5		Foray 1 Last Lift Detection	05/15/10 13:03:43	04:21:43	0	1	1	1	1	1	1	1	0	0	0	**C**	**55%**	**3.80**	20%	107.3	22.0		10	50	14	14
21-116	**3**	Foray 1 Initial Lift Detection	05/07/10 13:58:43		0	1	0	0	1	1	1	1	0	0	0	**C**	**65%**	**4.40**	30%	107.7	21.0		10	50	14	14
6		Foray 1 Last Lift Detection	05/07/10 14:19:54	00:21:11	0	1	1	1	1	1	1	1	1	0	1	**C**	**48%**	**3.80**	40%	107.7	23.0		10	50	14	14
21-116	**3**	Foray 2 Initial Lift Detection	05/10/10 13:11:09		0	1	0	0	1	1	1	0	0	0	0	**A**	**74%**	**3.90**	30%	106.5	20.0		10		14	14
		Foray 2 Last Lift Detection	05/10/10 13:13:21	00:02:12	0	1	0	0	1	1	1	0	0	0	0	**A**	**74%**	**3.90**	30%	106.5	20.0		10		14	14
21-116	**3**	Foray 3 Initial Lift Detection	05/12/10 10:31:37		0	1	0	0	1	0	1	0	0	0	0	**A**	**80%**	**4.00**	30%	106.4	19.5		10		14	14
		Foray 3 Last Lift Detection	05/12/10 10:35:47	00:04:10	0	1	0	0	1	0	1	0	0	0	0	**A**	**80%**	**4.00**	30%	106.4	19.5		10		14	14
21-120	**1**	Foray 1 Initial Lift Detection	05/05/10 15:34:06		1	1	1	1	1	1	1	1	1	0	1	**C**	**48%**	**3.40**	35%	107.8	23.0		10	50	14	14
7		Foray 1 Last Lift Detection	05/05/10 15:36:32	00:02:26	1	1	1	1	1	1	1	1	1	0	1	**C**	**48%**	**3.40**	35%	107.8	23.0		10	50	14	14
21-129	**1**	Foray 1 Initial Lift Detection	05/09/10 12:04:17		0	1	1	1	1	1	1	1	0	0	0	**C**	**60%**	**3.80**	35%	107.5	21.5		10	50	15	15
8		Foray 1 Last Lift Detection	05/09/10 13:32:03	01:27:46	0	1	1	1	1	1	1	1	0	0	0	**C**	**60%**	**4.30**	35%	107.1	21.5		10	50	15	15
21-141	**2**	Foray 1 Initial Lift Detection	05/20/10 11:49:03		0	1	0	0	1	1	1	1	1	0	0	**C**	**55%**	**3.70**	26%	107.2	22.0		10	50	14	14
9		Foray 1 Last Lift Detection	05/20/10 12:23:50	00:34:47	0	1	0	0	1	1	1	1	1	0	0	**C**	**55%**	**3.80**	26%	107.1	22.0		10	50	14	14
21-141	**2**	Foray 2 Initial Lift Detection	05/23/10 08:26:46		0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.70**	20%	107.3	18.3		10		14	14
		Foray 2 Last Lift Detection	05/23/10 08:27:15	00:00:29	0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.70**	20%	107.3	18.3		10		14	14
21-142	**3**	Foray 1 Initial Lift Detection	05/13/10 12:06:37		0	1	0	0	1	0	0	0	0	0	0	**A**	**90%**	**4.70**	30%	106.5	19.0		10		14	14
10		Foray 1 Last Lift Detection	05/13/10 12:28:06	00:21:29	0	1	0	0	1	0	0	0	0	0	0	**A**	**90%**	**4.80**	30%	107.0	19.0		10		14	14
21-142	**3**	Foray 2 Initial Lift Detection	05/25/10 15:59:33		0	1	1	1	1	1	1	1	1	0	1	**C**	**55%**	**4.80**	35%	108.7	23.0		10	50	14	14
		Foray 2 Last Lift Detection	05/25/10 16:11:55	00:12:22	0	1	1	1	1	1	1	1	1	0	1	**C**	**55%**	**4.80**	35%	108.7	23.0		10	50	14	14
21-142	**3**	Foray 3 Initial Lift Detection	05/31/10 12:20:22		0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.10**	20%	107.7	17.8		10		14	14
		Foray 3 Last Lift Detection	05/31/10 12:32:55	00:12:33	0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.20**	20%	107.8	17.8		10		14	14
21-143	**2**	Foray 1 Initial Lift Detection	05/12/10 11:14:04		0	1	0	0	1	0	1	0	0	0	0	**A**	**80%**	**4.00**	30%	106.6	19.5		10		14	14
11		Foray 1 Last Lift Detection	05/12/10 11:23:17	00:09:13	0	1	0	0	1	0	1	0	0	0	0	**A**	**80%**	**4.00**	30%	106.6	19.5		10		14	14
21-143	**2**	Foray 2 Initial Lift Detection	05/19/10 12:40:00		0	1	0	0	1	1	1	0	0	0	0	**A**	**83%**	**4.40**	30%	106.4	19.6		10		14	14
		Foray 2 Last Lift Detection	05/19/10 12:40:27	00:00:27	0	1	0	0	1	1	1	0	0	0	0	**A**	**83%**	**4.40**	30%	106.4	19.6		10		14	14
21-144	**3**	Foray 1 Initial Lift Detection	05/12/10 14:24:15		0	1	0	0	1	0	1	0	0	0	0	**A**	**80%**	**4.50**	30%	107.3	19.3		10		14	14
12		Foray 1 Last Lift Detection	05/12/10 14:52:22	00:28:07	0	1	0	0	1	0	1	0	0	0	0	**A**	**80%**	**4.50**	30%	107.3	19.3		10		14	14
21-144	**3**	Foray 2 Initial Lift Detection	05/12/10 16:38:08		0	1	0	0	1	0	1	0	0	0	0	**A**	**87%**	**5.00**	30%	107.9	19.3		10		14	14
		Foray 2 Last Lift Detection	05/12/10 16:54:42	00:16:34	0	1	0	0	1	0	1	0	0	0	0	**A**	**87%**	**5.00**	30%	107.9	19.3		10		14	14
21-144	**3**	Foray 3 Initial Lift Detection	05/18/10 10:14:15		0	1	0	0	1	0	0	0	0	0	0	**A**	**80%**	**4.10**	30%	106.1	19.0		10		14	14
		Foray 3 Last Lift Detection	05/18/10 10:57:43	00:43:28	0	1	0	0	1	0	0	0	0	0	0	**A**	**88%**	**4.10**	30%	106.7	19.0		10		14	14
21-156	**1**	Foray 1 Initial Lift Detection	05/11/10 12:20:06		0	1	0	0	1	0	0	0	0	0	0	**A**	**82%**	**4.40**	30%	107.0	19.0		10		14	14
13		Foray 1 Last Lift Detection	05/11/10 12:29:03	00:08:57	0	1	0	0	1	0	0	0	0	0	0	**A**	**82%**	**4.40**	30%	107.0	19.0		10		14	14
21-159	**1**	Foray 1 Initial Lift Detection	05/26/10 11:41:02		0	1	0	0	1	1	1	1	0	0	0	**C**	**65%**	**4.50**	30%	107.9	19.0		10	50	14	14
14		Foray 1 Last Lift Detection	05/26/10 12:00:54	00:19:52	0	1	0	0	1	1	1	1	0	0	0	**C**	**65%**	**4.50**	30%	107.9	19.0		10	50	14	14
54-137	**1**	Foray 1 Initial Lift Detection	05/21/10 09:10:50		0	1	0	0	1	0	0	0	0	0	0	**A**	**92%**	**4.90**	25%	108.0	19.0		10	50	14	14
15		Foray 1 Last Lift Detection	05/21/10 12:00:40	02:49:50	0	1	0	0	1	1	1	1	1	0	0	**C**	**60%**	**4.60**	30%	108.3	22.0		10	50	14	14
54-149	**1**	Foray 1 Initial Lift Detection	05/26/10 12:10:53		0	1	0	0	1	1	1	1	0	0	0	**C**	**65%**	**4.60**	32%	107.6	21.0		10	50	14	14
16		Foray 1 Last Lift Detection	05/26/10 14:24:11	02:13:18	0	1	1	1	1	1	1	1	1	0	1	**C**	**55%**	**4.00**	36%	107.2	22.5		10	50	14	14
54-151	**1**	Foray 1 Initial Lift Detection	05/16/10 15:46:54		0	1	1	1	1	1	1	1	0	0	0	**C**	**65%**	**3.90**	40%	106.9	21.4		10	50	14	14
17		Foray 1 Last Lift Detection	05/16/10 16:14:09	00:27:15	0	1	1	1	1	1	1	1	0	0	0	**C**	**65%**	**3.90**	40%	106.9	21.4		10	50	14	14
54-156	**1**	Foray 1 Initial Lift Detection	05/29/10 14:34:23		0	1	0	0	1	1	1	1	0	0	0	**C**	**80%**	**4.10**	30%	108.8	20.5		10		14	14
18		Foray 1 Last Lift Detection	05/29/10 15:18:26	00:44:03	0	1	0	0	1	1	1	1	0	0	0	**C**	**80%**	**4.10**	30%	108.8	20.5		10		14	14
54-167	**9**	Foray 1 Initial Lift Detection	05/23/10 07:22:37		0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.70**	20%	107.3	18.3		10		14	14
19		Foray 1 Last Lift Detection	05/23/10 08:09:13	00:46:36	0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.70**	20%	107.3	18.3		10		14	14
54-167	**9**	Foray 2 Initial Lift Detection	05/23/10 15:21:25		0	1	0	0	1	1	1	1	0	0	0	**C**	**70%**	**4.40**	35%	107.4	21.1		10		14	14
		Foray 2 Last Lift Detection	05/23/10 15:41:31	00:20:06	0	1	0	0	1	1	1	1	0	0	0	**C**	**70%**	**4.40**	35%	107.4	21.1		10		14	14
54-167	**9**	Foray 3 Initial Lift Detection	05/25/10 14:35:28		0	1	1	1	1	1	1	1	1	0	1	**C**	**55%**	**4.40**	35%	108.8	22.9		10	50	14	14
		Foray 3 Last Lift Detection	05/25/10 14:46:53	00:11:25	0	1	1	1	1	1	1	1	1	0	1	**C**	**55%**	**4.50**	35%	108.7	23.0		10	50	14	14
54-167	**9**	Foray 4 Initial Lift Detection	05/28/10 14:05:46		0	1	0	0	1	1	1	1	0	0	0	**C**	**80%**	**5.10**	30%	108.0	20.8		10	50	18	18
		Foray 4 Last Lift Detection	05/28/10 14:14:09	00:08:23	0	1	0	0	1	1	1	1	0	0	0	**C**	**80%**	**5.10**	30%	108.0	20.8		10	50	18	18
54-167	**9**	Foray 5 Initial Lift Detection	05/28/10 15:47:39		0	1	0	0	1	1	1	1	0	0	0	**C**	**80%**	**5.00**	30%	108.2	20.8		10	50	18	18
		Foray 5 Last Lift Detection	05/28/10 16:15:37	00:27:58	0	1	1	1	1	1	1	1	1	0	0	**C**	**60%**	**4.60**	30%	108.1	22.5		10	50	18	18
54-167	**9**	Foray 6 Initial Lift Detection	05/29/10 13:47:42		0	1	0	0	1	1	1	1	0	0	0	**C**	**80%**	**4.10**	30%	108.8	19.0		10		14	14
		Foray 6 Last Lift Detection	05/29/10 14:03:48	00:16:06	0	1	0	0	1	1	1	1	0	0	0	**C**	**80%**	**4.10**	30%	108.8	20.5		10		14	14
54-167	**9**	Foray 7 Initial Lift Detection	05/31/10 08:05:56		0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.20**	20%	107.4	17.8		10		14	14
		Foray 7 Last Lift Detection	05/31/10 08:09:06	00:03:10	0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.20**	20%	107.4	17.8		10		14	14
54-167	**9**	Foray 8 Initial Lift Detection	06/01/10 11:32:26		0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**4.90**	20%	107.8	17.8		10		14	14
		Foray 8 Last Lift Detection	06/01/10 11:35:12	00:02:46	0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**4.90**	20%	107.8	17.8		10		14	14
54-167	**9**	Foray 9 Initial Lift Detection	06/01/10 14:15:39		1	1	1	1	1	1	1	1	1	0	1	**C**	**45%**	**4.00**	33%	108.0	22.7		10	50	14	14
		Foray 9 Last Lift Detection	06/01/10 14:18:53	00:03:14	1	1	1	1	1	1	1	1	1	0	1	**C**	**45%**	**4.00**	33%	108.0	22.7		10	50	14	14
54-176	**2**	Foray 1 Initial Lift Detection	05/04/10 10:02:40		0	1	0	0	1	1	1	0	0	0	0	**A**	**26%**	**4.40**	30%	107.4	20.0		10		14	14
20		Foray 1 Last Lift Detection	05/04/10 10:22:15	00:19:35	0	1	0	0	1	1	1	0	0	0	0	**A**	**26%**	**4.40**	30%	107.4	20.0		10		14	14
54-176	**2**	Foray 2 Initial Lift Detection	05/14/10 11:16:33		0	0	0	1	1	1	1	1	0	0	0	**C**	**32%**	**2.90**	30%	105.4	23.5		10	50	14	14
		Foray 2 Last Lift Detection	05/14/10 11:30:32	00:13:59	0	0	0	1	1	1	1	1	0	0	0	**C**	**73%**	**3.80**	30%	105.7	20.6		10	50	14	14
54-178	**1**	Foray 1 Initial Lift Detection	05/08/10 09:21:56		0	1	0	0	1	0	0	0	0	0	0	**A**	**86%**	**4.40**	30%	106.9	19.0		10		14	14
21		Foray 1 Last Lift Detection	05/08/10 09:41:58	00:20:02	0	1	0	0	1	0	0	0	0	0	0	**A**	**86%**	**4.40**	30%	106.9	19.0		10		14	14
54-186	**1**	Foray 1 Initial Lift Detection	05/24/10 10:34:45		0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.60**	20%	108.0	18.5		10		18	18
22		Foray 1 Last Lift Detection	05/24/10 11:00:45	00:26:00	0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.60**	20%	108.0	18.5		10		18	18
54-200-2	**1**	Foray 1 Initial Lift Detection	05/21/10 11:27:50		0	1	0	0	1	1	1	1	1	0	0	**C**	**60%**	**4.50**	30%	108.0	22.0		10	50	14	14
23		Foray 1 Last Lift Detection	05/21/10 11:36:00	00:08:10	0	1	0	0	1	1	1	1	1	0	0	**C**	**60%**	**4.50**	30%	108.0	22.0		10	50	14	14
54-209	**1**	Foray 1 Initial Lift Detection	05/13/10 15:42:00		0	1	0	0	1	0	0	0	0	0	0	**A**	**94%**	**4.90**	30%	107.8	19.0		10		14	14
24	Entrance Only	Foray 1 Last Lift Detection	05/13/10 15:42:05	00:00:05	0	1	0	0	1	0	0	0	0	0	0	**A**	**94%**	**4.90**	30%	107.8	19.0		10		14	14
54-211	**1**	Foray 1 Initial Lift Detection	05/22/10 08:25:37		0	1	0	0	1	0	0	0	0	0	0	**A**	**92%**	**4.80**	24%	106.6	21.0		10	50	14	14
25	Entrance Only	Foray 1 Last Lift Detection	05/22/10 08:25:42	00:00:05	0	1	0	0	1	0	0	0	0	0	0	**A**	**92%**	**4.80**	24%	106.6	21.0		10	50	14	14

Fish	Number of Unsuccessful Forays	Unsuccessful Forays	Foray DateTime	Foray Duration hh:mm:ss	Generational Conditions												Fishlift Operational Conditions							Diffuser Setting		Spillway Attraction FlowSetting	
					Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Weir Gate	Weir % Open	Flow Velocity	Crowder Area Gate %	Pond Level ft.	Tailrace Level ft.	Comments		A	B	A	B
54-197	**1**	Foray 1 Initial Lift Detection	05/01/10 17:21:34		0	1	1	1	1	1	1	1	1	1	1	**C**	40%	3.50	30%	107.0	23.4		10	50	14	14
1		Foray 1 Last Lift Detection	05/01/10 17:59:21	00:37:47	0	1	1	1	1	1	1	1	1	1	1	**C**	40%	3.50	30%	107.0	23.4		10	50	14	14
54-202	**1**	Foray 1 Initial Lift Detection	05/02/10 18:20:00		0	1	1	1	1	1	1	1	1	1	1	**C**	47%	3.50	35%	107.4	23.0		10	50	14	14
2		Foray 1 Last Lift Detection	05/02/10 19:24:28	01:04:28	0	1	1	1	1	1	1	1	1	1	1											
21-135	**1**	Foray 1 Initial Lift Detection	05/02/10 18:14:09		0	1	1	1	1	1	1	1	1	1	1	**C**	47%	3.50	35%	107.4	23.0		10	50	14	14
3		Foray 1 Last Lift Detection	05/02/10 18:33:43	00:19:34	0	1	1	1	1	1	1	1	1	1	1	--	--	--	--	--	--		--	--	--	--
21-121	**1**	Foray 1 Initial Lift Detection	05/04/10 08:03:25		0	1	0	0	1	0	0	0	0	0	0	**A**	**97%**	**4.40**	30%	107.1	20.0		10		14	14
4		Foray 1 Last Lift Detection	05/04/10 09:13:10	01:09:45	0	1	0	0	1	1	1	0	0	0	0	**A**	**26%**	**3.80**	30%	107.3	20.0		10		14	14
21-113	**1**	Foray 1 Initial Lift Detection	05/09/10 08:26:12		0	1	0	0	1	0	0	0	0	0	0	**A**	**95%**	**5.30**	25%	107.0	18.0		10		15	15
5		Foray 1 Last Lift Detection	05/09/10 08:34:31	00:08:19	0	1	0	0	1	0	0	0	0	0	0	**A**	**95%**	**5.30**	25%	107.0	18.0		10		15	15
54-208	**0**	NA	NA																							
6	previous 1 successful	See "Successes"	See "Successes"																							
54-164	**3**	Foray 1 Initial Lift Detection	05/17/10 15:12:38		0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	106.9	23.5		10	50	14	14
7		Foray 1 Last Lift Detection	05/17/10 15:14:21	00:01:43	0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	106.9	23.5		10	50	14	14
54-164	**3**	Foray 2 Initial Lift Detection	05/18/10 15:00:06		1	1	1	1	1	1	1	1	1	1	1	**C**	**39%**	**3.60**	30%	107.1	23.5		10	50	14	14
		Foray 2 Last Lift Detection	05/18/10 15:27:06	00:27:00	1	1	1	1	1	1	1	1	1	1	1	**C**	**39%**	**3.60**	30%	107.1	23.5		10	50	14	14
54-164	**3**	Foray 3 Initial Lift Detection	05/20/10 10:39:21		0	1	0	0	1	1	1	1	1	0	0	**C**	**55%**	**3.80**	26%	107.2	22.0		10	50	14	14
		Foray 3 Last Lift Detection	05/20/10 11:00:56	00:21:35	0	1	0	0	1	1	1	1	1	0	0	**C**	**55%**	**3.70**	26%	107.2	22.0		10	50	14	14
21-123	**2**	Foray 1 Initial Lift Detection	05/15/10 11:21:56		0	1	1	1	1	1	1	1	0	0	0	**C**	**55%**	**4.00**	20%	107.5	22.0		10	50	14	14
8		Foray 1 Last Lift Detection	05/15/10 12:56:57	01:35:01	0	1	1	1	1	1	1	1	0	0	0	**C**	**55%**	**3.80**	20%	107.3	22.0		10	50	14	14
21-123	**2**	Foray 2 Initial Lift Detection	05/20/10 17:46:06		0	1	0	0	1	1	0	0	0	0	0	**A**	**91%**	**4.50**	30%	107.3	19.0		10		14	14
		Foray 2 Last Lift Detection	05/20/10 18:04:36	00:18:30	0	1	0	0	1	1	0	0	0	0	0	**A**	**91%**	**4.50**	30%	107.3	19.0					
54-169	**3**	Foray 1 Initial Lift Detection	05/17/10 13:17:31		0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	107.2	23.0		10	50	14	14
9		Foray 1 Last Lift Detection	05/17/10 13:32:21	00:14:50	0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	107.0	23.5		10	50	14	14
54-169	**3**	Foray 2 Initial Lift Detection	05/17/10 15:42:06		0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	106.7	23.5		10	50	14	14
		Foray 2 Last Lift Detection	05/17/10 15:55:18	00:13:12	0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	106.7	23.5		10	50	14	14
54-169	**3**	Foray 3 Initial Lift Detection	05/21/10 08:57:34		0	1	0	0	1	0	0	0	0	0	0	**A**	**92%**	**4.90**	25%	108.0	19.0		10		14	14
		Foray 3 Last Lift Detection	05/21/10 11:12:03	02:14:29	0	1	0	0	1	1	1	1	1	0	0	**C**	**60%**	**4.50**	30%	108.0	22.0		10	50	14	14
54-159	**1**	Foray 1 Initial Lift Detection	05/23/10 07:59:50		0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.70**	20%	107.3	18.3		10		14	14
10		Foray 1 Last Lift Detection	05/23/10 08:07:49	00:07:59	0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.70**	20%	107.3	18.3		10		14	14
54-142	**4**	Foray 1 Initial Lift Detection	05/16/10 15:33:05		0	1	1	1	1	1	1	1	0	0	0	**C**	**65%**	**3.90**	40%	106.9	21.4		10	50	14	14
11		Foray 1 Last Lift Detection	05/16/10 15:49:17	00:16:12	0	1	1	1	1	1	1	1	0	0	0	**C**	**65%**	**3.90**	40%	106.9	21.4		10	50	14	14
54-142	**4**	Foray 2 Initial Lift Detection	05/17/10 09:54:21		0	1	1	1	1	1	1	1	0	0	0	**C**	**56%**	**3.70**	30%	106.8	22.0		10	50	14	14
		Foray 2 Last Lift Detection	05/17/10 10:32:21	00:38:00	0	1	1	1	1	1	1	1	0	0	0	**C**	**57%**	**4.20**	30%	107.0	22.0		10	50	14	14
54-142	**4**	Foray 3 Initial Lift Detection	05/17/10 12:58:15		0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	107.2	23.0		10	50	14	14
		Foray 3 Last Lift Detection	05/17/10 13:28:12	00:29:57	0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	107.0	23.5		10	50	14	14
54-142	**4**	Foray 4 Initial Lift Detection	05/17/10 16:40:18		0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	106.5	23.5		10	50	14	14
		Foray 4 Last Lift Detection	05/17/10 16:41:45	00:01:27	0	1	1	1	1	1	1	1	1	1	1	**C**	**42%**	**3.50**	25%	106.5	23.5		10	50	14	14
21-171	**1**	Foray 1 Initial Lift Detection	05/24/10 08:01:09		0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.50**	20%	108.0	18.5		10		18	18
12		Foray 1 Last Lift Detection	05/24/10 08:06:35	00:05:26	0	1	0	0	1	0	0	0	0	0	0	**A**	**100%**	**5.50**	20%	108.0	18.5		10		18	18

APPENDIX E: SUPPLEMENTAL DATA

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
4/1/2009	1000-1105	6 & 2		X	X	X	X	X	X	X	X					X	55		50	13	13	25	105.5	21.7	48.7	
	1105-1445	2 & 0		X					X					X			92	10		13	13	30	105.5-106.0	17.5-18.0		
4/2/2009	1000-1100	6 & 2		X	X	X	X	X	X	X	X					X	55	3	50	13	13	25	105.7	21.5	50.9	
	1100-1600	2 & 0		X					X					X			95	10		13	13	25	106.1-107.4	17.5-18.0		
4/3/2009	1015-1105	7 & 2	X	X	X	X	X	X	X		X	X				X	45		50	13	13	25	105.6	22	51.8	
	1105-1205	4 & 0		X			X	X	X					X			77	6		13	13	25	105.7	22		
	1205-1620	2 & 0		X					X					X			97	5		13	13	20	105.7-107.1	17.5		
4/6/2009	900-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	13	13	15	106.3-107.0	23.5	55.9	
4/8/2009	800-900	6 & 3	X	X	X	X		X	X	X	X		X			X	50		50	13	13	25	104.8	22.8	52.7	
	900-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35-50		50	13	13	25	104.8-105.3	23.0-23.5		
4/10/2009	810-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	45		50/70	13	13	35/15	107.9-108.3	23.0-23.4	50.9	Crowder screen hoist upper limit failed
4/13/2009	900-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		50	13	13	25	106.7-107.1	23.5	50.0	Crowder screen hoist lower limit failed.
4/15/2009	830-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		70	13	13	25	106.2-106.5	23.5	50.0	
	1115-1215	4 & 0	X				X	X	X					X			80	5		13	13	25	106.3-106.4	19.5		
	1215-1615	2 & 0					X		X					X			98	3		13	13	15	106.6-107.5	17.5		
	1615-1700	4 & 0			X	X	X		X					X			85	3		13	13	20	108.0-108.2	19		
4/17/2009	900-1200	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	13	13	35	106.6-106.8	23	50.9	
	1200-1710	4 & 0	X	X				X	X					X			82	10		13	13	25	107.0-108.3	19		
4/19/2009	830-1610	2 & 0					X		X					X			92	10		13	13	20	106.7-108.6	18	53.3	
	1610-1700	7 & 0	X	X	X	X	X	X	X					X			65	10		13	13	25	108.4	20.5		
4/20/2009	830-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	25	106.4-106.8	23.5	54.5	
	1100-1715	6 & 0	X		X	X	X	X	X					X			70	10		13	13	25	106.8-107.9	20		
4/21/2009	800-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		35	13	13	25	105.6-106.4	23.5	55.0	
	1100-1200	7 & 0	X	X	X	X	X	X	X					X			60	15		13	13	25	106.0-106.9	19.3		
	1200-1730	3 & 0	X				X		X					X			80	10		13	13	25	107.3-108.0	18.5-18.8		
4/22/2009	830-1215	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		52	13	13	25	106.5-106.9	23.5	56.0	
	1215-1700	4 & 1				X	X	X	X	X						X	70		52	13	13	25	106.6-108.1	20.9-21.0		
4/23/2009	800-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		62	13	13	25	106.5-106.8	23.5	55.8	
	1100-1200	4 & 2				X	X	X	X	X	X			X			55	15		13	13	36	106.3	20.1		
	1200-1600	3 & 0					X	X	X					X			80	8		13	13	25	107.1-107.8	19		
	1600-1700	4 & 2				X	X	X	X	X	X			X			55	15		13	13	36	107.5	23.5		
	1700-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		62	13	13	25	107.7	23		
4/24/2009	800-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		62	13	13	25	105.4-106.0	23.5	57.2	
	1100-1700	4 & 0	X				X	X	X					X			75	8		13	13	30	105.8-107.6	19.5-19.9		
4/25/2009	830-1300	2 & 0					X		X					X			95	7		13	13	18	106.4-108.5	18	59.2	
	1300-1400	7 & 1	X	X	X	X	X	X	X	X				X									108.5	21		
	1400-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		57	13	13	31	107.6-108.4	23.5		
4/26/2009	815-1330	2 & 0					X		X					X			92/100	5		13	13	20	106.8-108.1	18	58.1	
	1330-1410	4 & 1			X	X	X		X	X						X	74		50	13	13	25	108	20		
	1410-1650	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		65	13	13	45	107.6-108.1	23		
4/27/2009	830-1115	2 & 0					X		X					X			90	8		13	13	20	107.3-107.8	18.2	60.8	
	1115-1225	4 & 1			X		X	X	X				X				75	3	60	13	13	25	108.1-108.2	20.8		
	1225-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		60	13	13	25	107.1-108.0	23.5		
4/28/2009	0815-1430	4 & 1				X	X	X	X			X				X	65/70		50	13	13	35	107.2-107.8	20.5	62.6	
	1430-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		65	13	13	50	107.3-107.7	23		
4/29/2009	0830-1210	2 & 0					X	X						X			86	15		13	13	25	107.3-108.6	18	64.4	
	1210-1420	2 & 2					X	X		X		X				X	70		40	13	13	30	108.7	21		
	1420-1900	3 & 4		X			X	X		X	X	X	X			X	50	5	52	13	13	30	107.5-108.6	23		
4/30/2009	800-1130	2 & 3				X			X	X	X	X				X	54		53	13	13	32	106.3-106.6	21.5	62.6	
	1130-1730	2 & 0				X			X					X			85	8		13	13	30	106.8-108.0	18		
	1730-1800	2 & 2				X			X	X	X			X			70	15		13	13	30	108.2	19.5		
	1800-1900	4 & 4	X		X	X			X	X	X	X	X			X	50		41	13	13	40	108.3	23		
5/1/2009	900-925	2 & 0				X			X					X			92	5		13	13	15	107.5	17	64.4	
	925-1030	2 & 2				X			X	X	X					X	78		50	13	13	25	107.6	19.5		
	1030-1900	3 & 4			X	X			X	X	X	X	X			X	52		50	13	13	40	106.8-107.9	22		
5/2/2009	730-1315	2 & 0			X				X					X			88	5		13	13	20	107.0-107.7	17	66.2	
	1315-1900	4 & 1			X		X	X	X			X				X	66	3	30	13	13	35	107.0-107.4	20.5		
5/3/2009	730-1700	2 & 0					X		X					X			92	10		13	13	20	106.7-108.6	17.0-17.5	68.0	
	1700-1800	4 & 1				X	X	X	X			X				X	72		50	13	13	35	108.9	21.5		
	1800-1900	4 & 3				X	X	X	X	X	X	X				X	50		50	13	13	35	108.7	21.5		
5/4/2009	800-1115	2 & 0					X		X					X			90	10		13	13	20	106.4-107.3	20	67.7	
	1115-1810	4 & 2			X		X	X	X		X	X				X	55		50	13	13	30	107.6-107.8	21.3-22.0		
	1810-1915	2 & 0					X		X					X			90	10		13	13	20	108.1	17.3		
5/5/2009	800-1000	2 & 0					X		X					X			91	10		13	13	20	108.0-108.2	18	66.2	
	1000-1100	4 & 1			X		X	X	X			X				X	75		44	13	13	35	108.7	18.5		
	1100-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		43	13	13	35	107.1-108.7	23.5		
5/6/2009	700-915	2 & 0					X		X					X			92	5		13	13	20	107.0-107.3	17	64.4	
	915-1015	4 & 1				X	X	X	X			X				X	66	3	30	13	13	35	107.3	20.5		
	1015-1730	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	45	105.7-107.2	23		
5/7/2009	700-800	2 & 0					X		X					X			92	10		13	13	20	107	16	64.4	
	800-900	4 & 1			X		X	X	X	X				X			75	15		13	13	30	107.1	20		
	900-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33	1	71	13	13	35	107.5-107.9	23.5-24.0		Maintenance came out to fix viewing room gate
5/8/2009	700-815	4 & 1				X	X	X	X			X				X	72		50	13	13	35	107.2	21	64.1	
	815-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	13	13	35	106.8-107.1	24.2-23.5		
5/9/2009	715-800	2 & 0					X		X					X			90	10		13	13	20	106.8	17	64.3	
	800-1630	4 & 1				X	X	X	X			X				X	68	1	75	13	13	35	106.9-108.8	21		
5/10/2009	700-845	2 & 0					X		X					X			92	5		13	13	20	108.2	17	64.4	
	845-1130	4 & 1				X	X	X	X			X				X	66	3	30	13	13	35	108.5-108.9	20.5		
	1130-1715	4 & 3				X	X	X	X	X	X	X				X	50		45	13	13	45	108.6-109.1	22		
5/11/2009	730-1615	4 & 4				X	X	X	X	X	X	X	X			X	50		30	13	13	30	107.6-108.5	23.0-23.2	63.5	
5/12/2009	730-800	5 & 1			X	X	X	X	X			X				X	68		50	13	13	35	108.7	22.5	63.5	
	800-1645	5 & 4			X	X	X	X	X	X	X	X	X			X	45		75	13	13	35	107.8-108.7	23		
5/13/2009	730-800	4 & 1				X	X	X	X		X					X	72		50	13	13	35	108.3	21	65.3	

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
	800-1730	4 & 3				X	X	X	X	X	X		X			X	50		45	13	13	45	107.6-108.4	22.5-22.6		
5/14/2009	730-810	4 & 1				X	X	X	X			X				X	68		75	13	13	35	108.5	21	64.4	
	810-1900	4 & 3				X	X	X	X	X	X	X				X	50		50	13	13	35	108.2-108.6	22.4-22.5		
5/15/2009	730-815	4 & 1				X	X	X	X			X				X	68	2	45	13	13	40	109.1	22	65.2	
	815-1700	4 & 3				X	X	X	X	X	X	X				X	55	5	70	13	13	40	108.4-108.9	23		
5/16/2009	700-730	2 & 0	X				X							X			92	10		13	13	20	109	17	66.2	
	730-1330	4 & 1	X				X	X	X		X					X	68/70	2	75	13	13	30	108.8-109.0	20.8		
	1330-1830	4 & 2	X				X	X	X		X	X				X	58	5	75	13	13	30	109.0-109.1	21.8		
5/17/2009	700-1300	3 & 0			X		X		X					X			84	10		13	13	25	108.3-108.9	18.9-19.5	66.4	
	1300-1620	4 & 2				X	X	X	X		X	X				X	65		50	13	13	35	108.6-109.0	21.5-22.0		
	1620-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		75	13	13	35	107.6-108.3	23.5		
5/18/2009	730-900	4 & 0				X	X	X	X					X			90	10		13	13	20	107.9	18	66.2	Hopper door will not open fully
	900-1000	4 & 1				X	X	X	X		X			X			75	15		13	13	20	108.2-108.6	18		
	1000-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	3	45	13	13	30	107.7-108.4	23.5		
	1515-1700	4 & 1			X		X	X	X				X			X	45	3	45	13	13	30	107.9	22.4		
5/19/2009	730-815	2 & 0					X		X					X			90	12		13	13	20	107.7	17	66.2	
	815-1015	4 & 1				X	X	X	X		X					X	70	3	45	13	13	30	108.3-108.4	18		
	1015-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	45	3	45	13	13	30	107.5-108.4	23.4-23.5		
5/20/2009	800-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		75	13	13	40	106.5-106.8	23.5-23.8	66.2	
5/21/2009	730-	2 & 0					X		X					X			92	10		13	13	20	106.6	22	66.2	Tried to flush trash with maintenance, but filled the hopper (1/2) with debris.
	1300-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		75	13	13	40	107.5-107.6	23.5		
5/22/2009	700-800	2 & 0					X		X					X			92	10		13	13	20	107.6	17	68.0	
	800-900	4 & 1				X	X	X	X	X				X			75	15		13	13	30	107.6	21.5		
	900-1605	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	5	75	13	13	30	107.3	22		
	1605-1630	6 & 0		X	X	X	X	X	X							X	65		70	13	13	25	106.3-107.3	23.0-23.5		
5/23/2009	700-1100	2 & 0					X		X					X			92	10		13	13	20	108.5-108.7	17.5-17.7	68.0	
	1100-1600	7 & 1	X	X	X	X	X	X	X	X						X	58	5	75	13	13	35	108.5-109.2	21.8-22.0		
5/24/2009	730-1100	2 & 0					X		X					X			92	10		13	13	20	107.6-108.4	18	69.9	
	1100-1600	5 & 2			X	X	X	X	X	X	X					X	60	1	60	13	13	40	108.2-108.4	22		
5/25/2009	730-1205	2 & 0					X		X					X			92	10		13	13	20	107.6-108.4	17.5	71.6	
	1205-1600	4 & 2				X	X	X	X		X	X				X	55		50	13	13	30	108.4-108.5	22		
5/26/2009	730-1000	2 & 0					X		X					X			92	10		13	13	20	107.5-108.2	17	73.4	
	1000-1600	4 & 2				X	X	X	X		X	X				X	55		50	13	13	30	108.0-108.4	22		
5/27/2009	715-1005	2 & 0				X			X					X			92	10		13	13	20	107.7	17.8	72.5	
	1005-1600	4 & 1				X	X	X	X		X					X	72	1	60	13	13	40	107.5-107.8	20.8		
5/28/2009	700-1000	2 & 0				X			X					X			92	10		13	13	20	107.9-108.2	17.7-17.9	72.5	
	1000-1615	4 & 2				X	X	X	X		X	X				X	53	1	60	13	13	35	108.1-108.6	22.0-22.5		
5/29/2009	730-1000	2 & 0				X			X					X			85	10		13	13	25	107.5-107.6	18.0-18.1	68.6	Downstream "C" gate tripped while bring up.
	1000-1120	4 & 0				X	X	X	X					X			85	10		13	13	25	107.9	18		Maintance came out to fix but could not pin point problem. "see report"
	1120-1600	5 & 4				X	X	X	X	X	X	X	X			X	38		60	13	13	35	107.4-107.8	23.2-23.5		
5/30/2009	730-910	4 & 1				X	X	X	X		X					X	68		50	13	13	35	108.1-108.3	20.5	73.4	Flushed trash, now debris under hopper, hopper dividing screen off bottom but cables slack.
	910-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	45	107.5-108.3	23		
5/31/2009	645-830	2 & 0					X		X					X			95	5		13	13	20	107.8-108.3	18	73.6	
	830-1005	4 & 0				X	X	X	X					X			85	10		13	13	30	108.7	18.5		
	1005-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		60	13	13	45	107.8-108.8	23		
6/1/2009	715-1015	4 & 0				X	X	X	X					X			92	10		13	13	20	107.6	17	68.2	"C" gate tripped while raising, Ops assisted. "see report"
	1015-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	7	35	13	13	35	106.5-107.3	23.5		
6/2/2009	715-1005	3 & 0			X	X	X							X			91	10		13	13	20	107.3-107.9	17	70.9	
	1005-1130	4 & 1			X	X	X		X	X						X	30	7	43	13	13	33	108.1	23		
	1130-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30	7	43	13	13	33	107.5-107.8	23.5		Hopper will not rise, replaced upper limit switch.
6/3/2009	800-1000	1 & 0		X										X			96	6		13	13	20	106.3	16.5	69.9	
	1000-1100	4 & 1		X	X	X			X	X						X	65	6	50	13	13	40	106.7	21.5		While lowering "C" gate, guage moving, wheels turning, but gate not. Bent west stem.
	1100-1600	7 & 2	X	X	X	X	X	X	X	X	X					X	38	6	50	13	13	42	107.1	23		Out of service. "see report". Tripped "A" gate.
6/4/2009	730-905	1 & 0		X										X			98	8		13	13	20	108.0-108.2	16.5	70.2	
	905-930	4 & 1		X	X	X			X	X				X			70	15		13	13	30	108.2-108.4	20.5		
	930-1115	4 & 1		X	X	X			X	X						X	#70		60	13	13	30	108.2	20.5		
	1115-1600	6 & 3	X	X	X	X	X		X	X	X	X				X	#70	20	100	13	13	55	107.7-108.2	22		
6/5/2009	730-1110	1 & 0		X										X			96	8		13	13	20	106.8-107.4	17.5	68.9	
	1110-1500	6 & 2		X	X	X	X	X	X	X	X					X	#70	10	50	13	13	30	107.3-108.0	20.5		
#70 is where the downstream "C" gate is sitting after the west stem bent. Was not able to move it after 6/3/2009, when it was taken out of service.																										
4/16/2008	1000-1130	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		60	13	13	46	106.9-107.5	23	57.8	
	1130-1315	4 & 0				X	X	X	X							X	75		40	13	13	46	108.1-108.2	21		
	1315-1715	4 & 0				X	X	X	X					X			80	15		13	13	40	108.2-108.8	21		
4/17/2008	930-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33		50	13	13	45	106.8-107.2	23	57.6	
	1100-1530	4 & 0				X	X	X	X					X			75	15		13	13	45	107.2-108.1	21		
	1530-1720	4 & 0			X	X	X	X						X			75	15		13	13	45	108.3-108.5	21		
4/18/2008	915-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		60	13	13	50	105.6-105.8	23	60.0	Proxprobe failed at high point near trough, hopper will not rise.
	1100-1715	4 & 0			X	X	X	X						X			75	20		13	13	45	105.7-107.2	20.5-21.0		
4/19/2008	900-1115	4 & 3			X	X	X	X		X	X	X				X	45		50	13	13	45	105.8-106.1	22	59.4	
	1115-1210	4 & 0			X	X	X	X						X			75	15		13	13	45	106	20		
	1210-1810	2 & 0					X	X						X			82	15		13	13	45	106.4-107.8	19		
4/20/2008	730-1415	2 & 0					X	X						X			88	15		13	13	45	108.2-109.0	19	60	
	1415-1650	4 & 1			X	X	X	X			X					X	70		45	13	13	40	108.5-108.7	21		
4/21/2008	800-1500	4 & 3			X	X	X	X		X	X	X				X	54		50	13	13	38	106.8-107.1	22.4-23.0	62.6	During 2nd lift, hopper brakes slipped causing hopper to free fall
	1500-1615	2 & 0					X	X						X			88	16		13	13	43	106.9	19.3		Crowder stuck in forward position, day done.
4/22/2008	1025-1645	4 & 3			X	X	X	X		X	X	X				X				13	13		108.0-108.5	22.1-22.5	62.6	Telemetry study done.
4/23/2008	745-1545	4 & 3			X	X	X	X		X	X	X				X	54		84	13	13	40	107.1-108.0	22.4-22.9	64.3	Crowder screen hoist limit switch failed.
4/24/2008	735-1000	4 & 3			X	X	X	X			X	X	X			X	40		91	13	13	45	105.8-106.0	22.9	65.3	
	1000-1115	4 & 0			X	X	X	X						X			75	15		13	13	45	105.5-105.7	19.4-19.9		
	1115-1300	2 & 0					X	X						X			88	15		13	13	45	106.3	18.1		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
	1300-1405	4 & 0			X	X	X	X						X			75	15		13	13	45	106.6	19.5		
	1405-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	26		91	13	13	45	106.3-106.9	23.6		Telemetry study.
4/25/2008	715-1130	4 & 0			X	X	X	X						X			75	15		13	13	45	107.8-108.0	19.5-19.8	65.3	
	1130-1155	4 & 0			X	X	X	X								X	75		70	13	13	45	108.2	20		
	1155-1405	4 & 3			X	X	X	X			X	X	X			X	45		55	13	13	45	108.2-108.4	23		
	1405-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		55	13	13	45	108.3	23.5		
4/26/2008	750-1105	4 & 1			X	X	X	X			X					X	62		50	13	13	45	106.6-107.6	21	66.2	
	1105-1530	2 & 0					X	X						X			84	15		13	13	45	107.3-108.7	18.5		
	1530-1610	4 & 1			X	X	X	X			X					X	62		50	13	13	45	109.1	21		Slack in hopper cable and air leaking.
4/27/2008	NO FISHING WAS DONE TODAY BECAUSE OF AIR LINE LEAK AND STEEL PLATE FOR AIR LINE SHIEVE CHANNEL BEING REPLACED BY DIVERS.																								65.3	
4/28/2008	NO FISHING WAS DONE TODAY BECAUSE OF AIR LINE LEAK AND STEEL PLATE FOR AIR LINE SHIEVE CHANNEL BEING REPLACED BY DIVERS.																								66.6	
	SHIEVE BLOCK FOR AIR LINE REBUILT AND NEW AIR HOSES TO HOPPER DOOR.																									
4/29/2008	745-1155	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X				13	13		104.9-105.6	22.5-22.6	64.4	
	1155-1400	6 & 4	X	X	X	X	X	X		X	X	X	X			X				13	13		104.9	23		
	AT 1210 SHIEVE BLOCK FOR AIR LINE IS ALL BALLED UP AND HAD TO STOP HOPPER MANUALLY. MAINTANCE HAD TO LOWER HOPPER MANUALLY. HOPPER BRAKES STILL AN ISSUE.																									
4/30/2008	830-1600	6 & 4	X	X	X	X	X	X		X	X	X	X			X	35		70	13	13	38	106.1-107.0	23.0-23.6	62.6	
5/1/2008	0730-1130	6 & 4	X	X	X	X	X	X		X	X	X	X			X	33		50	13	13	35	106.4-106.5	23.3-23.5	62.5	
	1130-1530	6 & 4	X	X	X	X	X	X		X	X	X	X			X	42		50	13	13	40	106.7-106.8	23.1-23.3		
5/2/2008	730-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	40	106.3-106.8	23.3-23.5	60	
	1115-1415	4 & 1				X	X	X	X				X			X	70		50	13	13	40	106.5-107.2	20.9-21.0		
	1415-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	40	107.7	21		
5/3/2008	730-1000	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		40	13	13	40	105.0-105.9	23.2-23.3	60.7	
	1000-1115	4 & 1				X	X	X	X		X					X	68		40	13	13	40	105.2	18.7-20.4		
	1115-1630	2 & 0					X		X					X			88	10		13	13	38	105.6-107.5	17.0-17.6		
	1630-1705	4 & 1				X	X	X	X	X				X						13	13	38	107.4	23.5		
5/4/2008	835-1210	2 & 0					X		X					X			90	4		13	13	25	108.0-108.7	17	61.7	Telemetry study.
	1210-1610	4 & 2				X	X	X	X		X	X				X	55		50	13	13	40	108.9-109.1	22		
5/5/2008	830-1615	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		52	13	13	38	107.3-107.5	23.4-23.6	60.8	Telemetry study.
5/6/2008	730-1545	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		50	13	13	38	106.3-106.9	23.0-23.2	61.7	Crowder starting to stick on return trip
5/7/2008	730-810	4 & 1				X	X	X	X			X				X	68		45	13	13	38	107.1	23	62.6	
	810-1550	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	38	105.7-106.7	23.4-23.6		Crowder roller wheels are coming loose.
5/8/2008	700-810	4 & 0				X	X	X	X					X			68	5		13	13	38	107	19.6	66.2	
	810-1020	4 & 4				X	X	X	X	X	X	X	X			X	43		50	13	13	38	106.8-106.9	22.9-23.0		
	1020-1720	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	38	105.5-106.7	23.5-23.6		Telemetry study.
	1720-1905	4 & 3				X	X	X	X	X	X	X				X	48		50	13	13	38	105.5	22.4		
5/9/2008	805-1100	4 & 2			X	X	X	X			X	X				X	51		50	13	13	40	106.9-107.0	21.5	66.4	Telemetry study.
	1100-1630	4 & 4			X	X	X	X		X	X	X	X			X	42		45	13	13	35	107.2-107.4	22.6-23.0		
5/10/2008	800-820	4 & 1				X	X	X	X			X				X	45		40	13	13	38	106.1	22.4	64.4	"C" gate breaker tripped
	820-1325	4 & 3				X	X	X	X	X	X	X				X	38		40	13	13	38	105.8-106.0	22.6-23.0		Diffuser "A" boil is really boiling
	1325-1810	4 & 0				X	X	X	X					X			76	4		13	13	32	106.0-107.0	19.8		
5/11/2008	700-1310	2 & 0					X		X					X			90	4		13	13	20	107.1-109.0	17.5	64.3	
	1310-1555	4 & 1				X	X	X	X		X					X	71		50	13	13	40	109.0-109.1	21		
	1555-1620	4 & 2				X	X	X	X		X	X				X	50		50	13	13	40	109.3	22		
5/12/2008	730-1507	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37		50	13	13	40	106.5-106.7	23.5	64.4	
	1507-1540	4 & 4				X	X	X	X	X	X	X	X			X	42		50	13	13	40	106.5	22.5		
5/13/2008	745-1523	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33		50	13	13	35	106.9-107.5	23.5-23.6	62.6	
5/14/2008	730-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	35	105.8-106.1	23.4-23.6	60.8	
5/15/2008	730-1525	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33		40	13	13	40	106.7-107.0	23.5-23.7	60.7	
5/16/2008	800-1325	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	50	106.3-106.5	23.4-23.5	61.7	
	1325-1430	4 & 1				X	X	X	X	X				X		X	50-62	10	20	17	17	40	106.8	20.5		Tried to fish both gates.
	1430-1530	4 & 1				X	X	X	X	X				X			70	10	40	16	16	40	106.9	20.5		
5/17/2008	750-835	4 & 1				X	X	X	X	X						X	68		48	13	13	40	108.5	20.6	62.3	
	835-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37		54	13	13	45	107.1-108.0	23.4-23.6		
5/18/2008	645-1000	2 & 0					X		X					X			90	10		13	13	38	106.7-108.1	17	62.8	
	1000-1100	2 & 0					X		X					X			92	12		13	13	26	108.3	22.9		
	1100-1545	4 & 4				X	X	X	X	X	X	X	X			X	44		50	13	13	38	108.6-108.8	23		
5/19/2008	730-1035	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	45		45	13	13	38	106.8-107.0	23.4	61	
	1035-1200	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	38	106.9-107.4	23.3-23.4		
	1200-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	48		45	13	13	38	107.3-107.9	23.2		
5/20/2008	735-1555	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	34		50	13	13	50	105.5-106.5	23	59.3	Media day, Channel 11 news
5/21/2008	740-1150	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	50	107.3-107.8	23.6	59.4	
	1150-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36	5	50	13	13	50	108.1-108.5	23.6		
5/22/2008	740-1200	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		50	13	13	40	106.5-107.0	23.8	59	
	1200-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		50	13	13	40	106.8-107.6	23.9		Air line to hopper door came detached , maintenance fix problem
5/23/2008	730-1110	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		50	13	13	55	106.0-106.3	23.5	57.2	
	1110-1530	4 & 3				X	X	X	X	X		X	X			X	52		50	13	13	55	106.6-107.6	22		
5/24/2008	745-830	4 & 3				X	X	X	X	X	X	X				X	53		50	13	13	45	107	22.4	59	
	830-945	4 & 2				X	X	X	X	X	X					X	59		50	13	13	45	106.7	21.8		
	945-1145	4 & 1				X	X	X	X		X					X	63		50	13	13	45	107.1-107.5	21.3		
	1145-1245	4 & 1				X	X	X	X		X					X	70		50	13	13	45	107.9	20.9		
	1245-1440	4 & 1				X	X	X	X		X					X	74		50	13	13	45	108.3-108.6	20.8		
	1440-1530	4 & 3				X	X	X	X	X	X	X				X	59		50	13	13	45	108.6	22.5		
5/25/2008	700-1025	2 & 0					X		X					X			92	15		13	13	25	107.6-108.0	17	60	
	1025-1310	4 & 1				X	X	X	X	X						X	75		50	13	13	45	108.4-108.7	20.5		
	1310-1700	4 & 4				X	X	X	X	X	X	X	X			X	47		50	13	13	50	108.5-108.7	22.5		
5/26/2008	700-1615	4 & 0				X	X	X	X					X			78	15		13	13	40	107.4-108.7	19	62.6	Telemetry study.
5/27/2008	800-900	2 & 0					X		X					X			88	12		13	13	40	108	20	65.3	Telemetry study.
	900-1120	4 & 1														X	72		50	13	13	50	108.4	20.5		
	1120-1520	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	50	108.3-108.5	23.0-23.6		
5/28/2008	730-915	0 & 1									X					X	94		50	13	13	38	107.4-107.6	19.4-19.6	64.4	
	915-1015	2 & 1			X				X		X					X	85		50	13	13	38	107.6	19.4		
	1015-1345	6 & 2		X	X	X	X	X	X		X	X				X	57		50	13	13	38	107.7-107.8	22.8		
	1345-1430	6 & 2		X	X	X	X	X	X		X	X				X	57		40	13	13	38	107.8	22.8		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
	1430-1600	5 & 2			X	X	X	X	X		X	X				X	57		40	13	13	38	107.7	22.8		
5/29/2008	730-1005	0 & 1									X					X	94		40	13	13	35	106.9-107.4	17	68	
	1005-1120	3 & 1					X	X	X		X					X	85		40	13	13	40	107.8-108.1	18		Maintenance came out to fix broken cable on air line schieve block.
	1120-1415	5 & 3	X			X	X	X	X		X	X	X			X	40		40	13	13	50	107.9-108.3	23		
	1415-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		35	13	13	30	107.9	23.5		
5/30/2008	800-930	0 & 1								X						X	95		40	13	13	20	108.3-108.5	17	68.9	Maintenance came out to replace guide cable to air line schieve block.
	930-1210	4 & 3				X	X	X	X	X	X	X				X	50		45	13	13	45	107.5-108.0	22		
	1210-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		50	13	13	45	106.2-107.0	23		Telemetry study.
5/31/2008	715-1050	2 & 0					X		X					X			92	15		13	13	25	107.8-108.3	16.9	70.4	
	1050-1205	4 & 1				X	X	X	X	X				X			74	15		13	13	25	108.5-108.8	20.0-20.6		
	1205-1300	4 & 2				X	X	X	X	X		X				X	55		43	13	13	38	109	21.9		
	1300-1600	4 & 4				X	X	X	X	X	X	X	X			X	42		43	13	13	38	108.4	23		
6/1/2008	730-1230	1 & 0					X							X			99	10		13	13	20	107.8-108.1	16.5	71.6	
	1230-1430	1 & 0					X							X			99	10		13	13	30	108.3-108.4	16.5		
	1430-1500	1 & 0					X							X			95	10		13	13	30	108.4	16.5		
	1500-1600	4 & 1				X	X	X	X	X				X			70	10		13	13	30	108.6	20.2		
6/2/2008	745-1015	1 & 0					X							X			99	10		13	13	25	108.5-108.6	16.5	73.4	
	1015-1135	4 & 1				X	X	X	X	X				X			70	10		13	13	35	108.7-108.9	20.5-21.0		
	1135-1600	4 & 4				X	X	X	X	X	X	X	X			X	46		45	13	13	45	108.1-108.6	23		
6/3/2008	730-1115	1 & 0					X							X			99	8		13	13	20	106.8-107.5	16.5	74.8	
	1115-1255	3 & 0				X	X	X						X			88	8		13	13	30	107.5	16.9		
	1255-1400	4 & 0			X	X	X	X						X			82	8		13	13	30	107.8	17		
	1400-1530	4 & 4			X	X	X	X		X	X	X	X			X	45		45	13	13	45	108.2	23		
6/4/2008	745-1110	1 & 0					X							X			98	10		13	13	20	107.4-108.0	16.5	75.4	Tripped "A" diffuser breaker
	1110-1200	3 & 0					X	X	X					X			83	10		13	13	25	108.1	16.5		
	1200-1315	4 & 0				X	X	X	X					X			80	10		13	13	30	108.1	19		
	1315-1530	4 & 4				X	X	X	X	X	X	X	X			X	45	8	40	13	13	40	108.1	23		
6/5/2008	730-1110	1 & 0					X							X			98	8		13	13	20	108.0-108.5	16.5	76.1	
	1110-1230	4 & 1		X		X	X	X		X				X			73	8		13	13	40	108.6	20.5		
	1230-1530	4 & 4		X		X	X	X		X	X	X	X			X	45	8	40	13	13	40	108.5	22.7-23.0		Debris under crowder screen hoist, cable went slack.
6/6/2008	730-1055	1 & 0					X							X			98	8		13	13	20	107.8	16.5	76	
	Flush trash through crowder area, after that hopper would not fully lower. No lifts done today and season is over.																									
4/23/2007	1100-1500	7 & 4*	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	30	108.2	23.5-24.3	53.6	2 Spillgates open
4/24/2007	1000-1250	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		45	13	13	35	108.2-108.6	23.25	57	
	1250-1530	7 & 4*	X	X	X	X	X	X	X	X	X	X	X			X	38		45	13	13	35	108.5-108.6	23.5-23.7		1 Spillgate open
4/25/2007	1000-1530	6 & 4		X	X	X	X	X	X	X	X	X	X			X	40		45	13	13	40	105.8-106.0	22.5	56	
4/26/2007	1000-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	45	107.2	23	58.1	Oil leaking from crowder screen hoist
4/27/2007	1100-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	45	108.5-108.7	23	58	
4/28/2007	945-1140	6 & 3	X		X	X	X	X	X	X	X	X				X	44		45	13	13	45	106.8	22	59	
	1140-1300	7 & 3	X	X	X	X	X	X	X	X	X	X				X	40		45	13	13	45	107	22.5		
	1300-1530	7 & 3	X	X	X	X	X	X	X	X	X	X				X	38		45	13	13	45	107	22.5		
4/29/2007	930-1200	6 & 2	X		X	X	X	X	X	X	X					X	55		45	13	13	40	106.6-107.1	21	58.1	
	1200-1330	6 & 0	X		X	X	X	X	X							X	75		45	13	13	40	107.1-107.2	20.0-21.0		Hopper dropped when it was at the dump position, had to slow rise, this time it stayed
	1330-1725	6 & 0	X		X	X	X	X	X					X			68	15		13	13	40	107.6-108.2	20		Crowder screen hoist would not stop when it was being lowered. (debris under gate).
4/30/2007	715-1610	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	41	106.3-107.2	23.0-23.4	59	
5/1/2007	730-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	107.3-107.4	23.3-23.4	60	
	1100-1410	4 & 2				X	X	X	X	X		X				X	55		45	13	13	40	107.7-108.7	21.9-22.2		
	1410-1525	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	40	109	23.5		
	1525-1720	7 & 4*	X	X	X	X	X	X	X	X	X	X	X			X	25		45	13	13	40	109	23.0-24.5		1 Spillgate open
5/2/2007	750-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	40	106.1-106.5	22.5	60.5	
	1115-1620	4 & 2		X		X	X	X		X		X				X	55		45	13	13	40	106.2-108.0	21		
	1620-1815	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		45	13	13	40	108.2-108.3	22.5		
5/3/2007	740-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	106.0-106.5	23	62.6	
	1100-1605	4 & 0		X		X	X	X						X			70	15		13	13	40	106.0-107.5	20		
	1605-1815	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	107.8-108.0	23.0-23.6		
5/4/2007	735-955	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	106.1	23	63	
	955-1315	4 & 0				X	X	X	X					X			70	15		13	13	40	106.3-107.2	20		
	1315-1400	4 & 1				X	X	X	X	X						X	75		45	13	13	40	108.1	20.5		
	1400-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	108.3-108.5	23.0-23.6		
	1600-1700	7 & 3	X	X	X	X	X	X	X	X		X	X			X	40		45	13	13	40	108.7	23		
	1700-1715	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	108.7	23		Hopper wouldn't stop when returning to position. It is not on bottom and the cables are slack.
5/5/2007	1130-1200	4 & 4				X	X	X	X	X	X	X	X			X	40		45	13	13	40	107.1	22.5	64.4	Repairs to hopper and cables being made in morning.
	1200-1545	4 & 2				X	X	X	X	X		X				X	58		45	13	13	40	107.1-107.5	22		
	1545-1830	4 & 4				X	X	X	X	X	X	X	X			X	38		45	13	13	40	107.5-107.6	23		
5/6/2007	720-1045	4 & 3				X	X	X	X		X	X	X			X	47		45	13	13	40	107.2-107.3	22	63.5	
	1045-1245	4 & 3				X	X	X	X		X	X	X			X	44		45	13	13	40	107.3-107.4	22		
	1245-1635	4 & 1				X	X	X	X				X			X	68		20	13	13	50	107.5-108.1	20.5		
	1635-1815	4 & 4				X	X	X	X	X	X	X	X			X	40		35	13	13	50	107.9-108.1	22.5		
5/7/2007	0745-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		45	13	13	40	106.5-106.8	23.0-23.3	64.4	
	1115-1620	4 & 1			X		X	X	X				X			X	68		24	13	13	40	106.5-108.6	21.5		
	1620-1830	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	30	108.2-108.6	23.3-23.6		
5/8/2007	730-800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		35	13	13	40	107.1	23	65	
	800-1100	4 & 3	X				X	X	X		X	X	X			X	45		35	13	13	40	106.6-106.8	22		
	1100-1715	4 & 0	X				X	X	X					X			88	18		13	13	40	106.9-107.5	19.2-19.5		
	1715-1800	4 & 3	X				X	X	X		X	X	X			X	35		35	13	13	40	107.5	19.2		
5/9/2007	730-1110	6 & 4		X	X	X	X	X	X	X	X	X	X			X	36		46	13	13	40	106.5-107.3	23	66.2	
	1110-1625	4 & 0				X	X	X	X					X			67	17		13	13	42	106.5-108.4	20		
	1625-1820	6 & 4		X	X	X	X	X	X	X	X	X	X			X	38		36	13	13	45	108.3	23		
5/10/2007	730-800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37		45	13	13	40	107.2	23	68	
	800-1100	4 & 3		X			X	X	X		X	X	X			X	47		40	13	13	40	106.6-106.8	22.5		
	1100-1605	4 & 0				X	X	X	X					X			77	15		13	13	45	106.4-107.7	19.5-20.0		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
	1605-1830	4 & 3				X	X	X	X		X	X	X			X	52		35	13	13	40	108	22.5		
5/11/2007	730-1105	4 & 3				X	X	X	X	X	X	X				X	48		35	13	13	40	107.1-107.4	22.4-22.6	68	
	1105-1625	4 & 0				X	X	X	X					X			75	15		13	13	40	106.9-108.5	19.6-20.0		Air Leak coming from crowder doors
	1625-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		40	13	13	40	108.5	23.6		
5/12/2007	730-1300	4 & 1				X	X	X	X				X			X	68		35	13	13	55	107.0-107.7	21	69.9	
	1300-1720	4 & 1				X	X	X	X				X			X	68		20	13	13	60	107.9-108.7	21		
5/13/2007	710-1615	2 & 0					X		X					X			90	15		13	13	40	107.0-108.1	17	70	
	1615-1720	3 & 2				X	X		X			X	X			X	66		45	13	13	35	108.1	21		
	1720-1800	4 & 3				X	X	X	X		X	X	X			X	50		45	13	13	35	108.1	22.5		Cleaned trash racks and gate behind them at end of the day.
5/14/2007	700-1200	4 & 3				X	X	X	X		X	X	X			X	45		50	13	13	40	106.7-107.4	22.5-22.8	71	
	1200-1305	4 & 3				X	X	X	X		X	X	X			X	35		61	13	13	30	106.7	22.8		
	1305-1600	5 & 4			X	X	X	X	X	X	X	X	X			X	40		35	13	13	35	106.4-106.6	22.5-23.0		
5/15/2007	730-1420	4 & 2	X				X	X	X			X	X			X	58		43	13	13	50	106.8-107.2	22	71.1	Hopper cables have a lot of slack.
	1420-1500	7 & 3	X	X	X	X	X	X	X	X		X	X			X	38		43	13	13	50	107.2	23		
	1500-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		52	13	13	46	106.8-107.0	23.4-23.5		
5/16/2007	730-1145	4 & 2				X	X	X	X		X		X			X	62	3	40	13	13	40	107.3-107.7	21.6-21.9	73.4	Air line for crowder doors being fixed
	1145-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		40	13	13	50	107.0-107.3	23.0-23.6		
5/17/2007	730-1315	4 & 1				X	X	X	X				X			X	70	5	40	13	13	40	107.6-108.0	21	74.3	
	1315-1450	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40	5	40	13	13	40	108	23.3-23.5		
	1450-1615	7 & 3	X	X	X	X	X	X	X	X		X	X			X	40	5	40	13	13	40	107.8	23.1		
	1615-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40	5	40	13	13	40	107.5	23.4		
5/18/2007	730-1205	4 & 1				X	X	X	X				X			X	68		38	13	13	55	107.0-107.3	21	71.6	Needed to decrease crowder area gate to set hopper in pit, cables going very slack.
	1205-1710	4 & 3				X	X	X	X	X	X		X			X	53		42	13	13	48	107.3-107.4	22.4		
5/19/2007	740-1350	2 & 0					X		X					X			95	12		13	13	40	107.4-108.3	17.7-17.8	70.7	
	1350-1700	1 & 1				X				X				X			90	12		13	13	40	108.6-108.8	18.2-18.3		Capacity test on unit #8.
5/20/2007	800-1620	2 & 0					X		X					X			92	14		13	13	45-55	107.2-108.2	18	69.9	Had problem setting hopper in pit, cable are going slack when hopper is about 6 feet from bottom.
5/21/2007	730-930	4 & 0				X	X	X	X							X	89		35	13	13	48	108.7	22.5	70	Downstream weir gate got stuck at 89 %.
	930-1315	4 & 0				X	X	X	X					X			85	15		13	13	48	108.7-108.8	20.4-20.5		
	1315-1600	4 & 3				X	X	X	X	X	X	X				X	43		34	13	13	34	108.7	22.5		
5/22/2007	730-1300	4 & 0				X	X	X	X					X			83	12		13	13	40	108.0-108.4	19.4-19.5	71.6	
	1300-1600	4 & 3				X	X	X	X	X	X		X			X	57	15		13	13	39	108.4-108.5	22.3-22.5		
5/23/2007	730-1225	2 & 0					X		X					X			92	14		13	13	48	107.5-108.6	18	71.6	
	1225-1300	4 & 0				X	X	X	X							X	80		35	13	13	45	108.7	19.6		
	1300-1600	4 & 3				X	X	X	X	X	X		X			X	54		38	13	13	48	108.5	22.4-22.9		
5/24/2007	730-1310	2 & 0					X		X					X			92-95	15		13	13	60	106.8-107.5	17	71.6	
	1310-1420	4 & 0			X		X	X	X					X			82	15		13	13	60	108.2	19		
	1420-1600	4 & 3			X		X	X	X	X	X		X			X	55		35	13	13	60	108.0-108.2	22		Cleaned trash racks and gate behind them at end of the day.
5/25/2007	730-1330	2 & 0					X		X					X			92	14		13	13	50	107.2-108.5	18	72.5	Had problem setting hopper in the pit.
	1330-1425	4 & 1														X	68		39	13	13	50	108.6	21		
	1425-1600	4 & 3														X	53		39	13	13	50	108.6-108.7	22.6		
5/26/2007	730-1325	2 & 0					X		X					X			96	15		13	13	60	107.0-108.2	17	75.5	
	1325-1600	4 & 0				X	X	X	X					X			85	15		13	13	60	108.2-108.4	18.5		
5/27/2007	720-1305	2 & 0					X		X					X			97	15		13	13	60	107.0-108.3	17	77	
	1305-1600	4 & 1				X	X	X	X				X			X	72		30	13	13	60	108.5-108.6	20.5		
5/28/2007	730-1330	2 & 0					X		X					X			96	12		13	13	43	107.5-108.0	18.4-18.5	75.2	
	1330-1600	4 & 2			X	X	X		X			X	X			X	66	5	20	13	13	56	107.8-108.0	21.5		
5/29/2007	700-1025	2 & 0					X		X					X			96	12		13	13	39	107.0-107.3	18.5	77.9	
	1025-1300	0 & 1								X				X			96	12		13	13	39	107.4-108.0	18.5		
	1300-1500	0 & 4								X	X	X	X			X	75		23	13	13	35	108.1	21.9		
5/30/2007	745-1400	2 & 0					X		X					X			92	15		13	13	58	106.5-107.2	18	79.7	
	1400-1500	7 & 0	X	X	X	X	X	X	X					X			72	13		13	13	48	106.9	20		
5/31/2007	745-1330	2 & 0					X		X					X			94	14		13	13	50	105.7-106.2	17.8	80.1	Crowder shaking when coming forward. Season is over
4/3/2006	1130-1600	2 & 0					X	X								X	84		39	13	13	24	107.3-107.7	18.0-18.5	52.7	
4/5/2006	1115-1145	4 & 1														X							107.9	20.5	48.6	
	1145-1600	2 & 0																					107.9-108.1	18.5		
4/7/2006	1030-1210	4 & 2														X	60		50	13	13	25	107	22	55	Diffuser A and B are not working properly.
	1210-1700	2 & 0				X	X							X			78			13	13	20	106.9-107.3	18		
4/8/2006	940-1205	4 & 1				X	X	X	X	X						X	68		40	13	13	25	107.1-107.4	20	54.5	
	1205-1610	2 & 0					X	X						X			78			13	13	20	107.6-108.3	18		
4/9/2006	1030-1300	4 & 1				X	X	X	X		X			X			62	20		13	13	24	108.2-108.3	20.5-21.0	53.6	
	1300-1710	2 & 0					X	X						X			78	20		13	13	24	108.4-108.6	18.5		Hopper is not lined up correctly with trough.
4/10/2006	1100-1110	4 & 0												X						13	13	28	107.5	20.5	55.1	
	1110-1530	2 & 0					X	X						X			78	45		13	13	28	107.7-108.4	19.0-19.5		Limit switch failed during last lift. Hopper a had to be manually stop at trough.
4/11/2006	1030-1210	4 & 0												X			72	45		13	13	20	107.6	19.5	55.4	
	1210-1630	2 & 0												X			78	45		13	13	25	107.7-108.8	19		
4/13/2006	1000-1110	4 & 3														X	50		53	13	13	25	106.7	22	57	
	1110-1210	4 & 0														X	65		53	13	13	25	106.8	20.5		
	1210-1700	2 & 0												X			82	25		13	13	25	106.8-108.1	18.5		
	1700-1745	3 & 0												X			76	25		13	13	25	108.2	19		
4/14/2006	1030-1415	4 & 1														X	70		18	13	13	25	108.2-108.5	20.0-21.0	57.2	
	1415-1745	2 & 0												X			78	20		13	13	25	108.5-108.8	19		Limit switch at trough failed.
4/15/2006	1000-1200	4 & 1														X	65-68		51	13	13	25	107.6-107.7	21.0-21.5	59	
	1200-1700	2 & 0												X			80	20		13	13	25-30	107.8-108.6	19		
4/16/2006	1000-1700	2 & 0												X			80	25		13	13	25	107.8-108.6	18.5	59.4	Maintenance here in morning to fix limit switch,
4/17/2006	1100-1735	4 & 0												X			72	45		13	13	20-25	107.3-108.8	19.5		Limit switch at trough failed again.
4/18/2006	1000-1335	4 & 0				X	X	X	X					X			72	40		13	13	25	107.3-107.8	19.5	60	
	1335-1605	2 & 0					X	X						X			80	45		13	13	30	108.1-108.8	19		
	1605-1720	4 & 1				X	X	X	X	X				X			62	35		13	13	40	108.9	20.5		
4/19/2006	950-1210	4 & 2			X	X		X	X			X	X			X	55		50	13	13	25	107.2-107.4	21.5	60.8	Maintenance made repairs to viewing room gate.
	1210-1720	4 & 0			X	X		X	X							X	70		55	13	13	25	107.5-108.3	20.5		Upstream "A" gate tripped mid-day.
4/20/2006	930-1230	4 & 0			X	X		X	X					X			72	50		13	13	25	107.5-107.7	19.5	61.4	

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
	1230-1815	4 & 4			X	X		X	X	X	X	X	X			X	45		52	13	13	25	107.0-108.0	22.5		Had to shut down spills to switch gates.
4/21/2006	900-1400	4 & 1														X	60		52	13	13	26	106.6-106.9	20.5-21.0	62.6	
	1400-1800	3 & 0												X			75	15		13	13	26	107.3-107.7	19.5		
	1800-1845	4 & 1								X				X									107.7	20		
4/22/2006	800-1100	4 & 0			X	X		X	X					X			70	15		13	13	30	106.1-106.3	19.5	62.6	
	1100-1300	2 & 0						X	X					X			78	15		13	13	35	106.5-107.0	18.5		
	1300-1730	2 & 0						X	X					X			80	15		13	13	25	107.0-107.9	18.5		
4/23/2006	750-1655	4 & 0			X	X		X	X					X			70	15		13	13	30	108.0-109.0	20	61.7	Thin cable for schieve block for air line was wrapped around hoses. Removed.
	1655-1800	4 & 3			X	X		X	X	X	X	X				X	50		45	13	13	35	108.7	21		
4/24/2006	800-1135	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	24	106.3-107.0	23	61.7	
	1135-1500	4 & 2			X	X		X	X			X	X			X	48		45	13	13	24	106.3-107.3	22		Maintenance replace guide cable for schieve block.
	1500-1745	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	24	107.6-107.7	23		
4/25/2006	800-1445	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	27		50	13	13	30	107..3-107.6	23	61.7	
4/26/2006	800-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	25		50	13	13	30	106.7-107.0	23.0-23.5	59	
4/27/2006	800-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	28		50	13	13	30	107.8-108.4	23.5	59	
4/28/2006	800-1655	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	40	107.2-107.5	23.5	59	
4/29/2006	800-1730	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	40	106.7-108.1	23.5	59	
4/30/2006	700-1120	2 & 0					X	X						X			78	15		13	13	35	107.9-108.7	18.5	59	
	1120-1150	4 & 0				X	X	X	X					X			72	15		13	13	35	108.7	19		
	1150-1215	4 & 2				X	X	X	X			X	X			X	52		45	13	13	35	108.8	20		
	1215-1815	4 & 3				X	X	X	X	X		X	X			X	52		45	13	13	35	108.7-108.8	22		
5/1/2006	800-1215	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		50	13	13	35	107.3-108.3	23	59	
	1215-1700	4 & 0				X	X	X	X					X			71	20		13	13	35	107.5-108.6	19.5-20.0		
5/2/2006	800-1055	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		52	13	13	35	107.1-108.0	23.5	60.8	
	1055-1700	4 & 0				X	X	X	X					X			70	20		13	13	35	106.9-107.7	20		
5/3/2006	800-1210	4 & 3			X	X		X	X	X	X		X			X	45		55	13	13	30	107.6-108.0	22.5	62.3	
	1210-1650	4 & 0			X	X		X	X							X	75		40	13	13	30	107.9-108.8	20		
	1650-1730	4 & 3			X	X		X	X	X	X		X			X	45		40	13	13	45	109	22.5		
	1730-1800	4 & 4			X	X		X	X	X	X	X	X			X	37		40	13	13	45	108.8	23		Hopper cable wrapped around cage on last lift.
5/4/2006	DID NOT OPERATE TODAY DUE TO HOPPER CABLE WRAPPED AROUND CAGE. Tested at 1945.																									
5/5/2006	900-1700	4 & 2				X	X	X	X		X	X				X	52		51	13	13	35	108.0-108.7	22	64.4	
	1700-1845	4 & 3				X	X	X	X	X	X	X				X	46		45	13	13	30	108.7-108.9	22.5		
5/6/2006	800-1300	4 & 0				X	X	X	X					X			70	20		13	13	35	107.3-108.1	20.0-19.5	64.8	
	1300-1400	2 & 0					X		X					X			79	10		13	13	41	108.5	19		
	1400-1800	4 & 1				X	X	X	X	X						X	70		45	13	13	25	108.5-108.6	20.5-21.0		
5/7/2006	830-1800	2 & 0					X		X					X			82	15		13	13	30	107.0-108.3	18	65.3	Flushed debris and had maintenance come out to fully lower dividing screen hoist.
5/8/2006	800-1200	4 & 1														X	65		54	13	13	25	106.7-106.8	20.0-21.0	64.8	
	1200-1700	2 & 0												X			82	15		13	13	30	106.8-107.9	19.5-20.0		Downstream "C" gate tripped while switching over.
	1700-1800	4 & 2														X	52		25	13	13	35	108	21.5		Maintenance saw bottom section of crowder screen hoist missing.
5/9/2006	830-1200	4 & 1														X	65		55	13	13	35	107.6-107.8	21	66.2	
	1200-1730	4 & 1														X	60		55	13	13	30	108.1-108.8	21		Had problem with crowder screen hoist not fully lowering.
5/10/2006	845-1030	4 & 1				X	X	X	X			X				X	63		55	13	13	30	106.4-106.7	20.5	67	
	1030-1330	3 & 0					X	X	X					X			77	25		13	13	30	106.5-106.8	19.5-20.5		
	1330-1610	3 & 0					X	X	X					X			77	10		13	13	20	107.3-107.6	19.5		
	1610-1700	3 & 0					X	X	X					X			77	8		13	13	45	107.8	19.5		
	1700-1730	4 & 1				X	X	X	X				X			X	63		42	13	13	35	108.2	19.5		
5/11/2006	745-1000	4 & 2				X	X	X	X		X		X			X	53		40	13	13	30-35	106.1-106.3	21	66.6	
	1000-1400	3 & 0				X	X	X						X			77	25		13	13	30	106.2-107.1	19		
	1400-1655	3 & 0				X	X	X						X			77	10		13	13	20	107.3-107.8	19		
5/12/2006	800-1100	4 & 0												X			70	20		13	13	35	107.3-107.5	19.5	67.8	
	1100-1600	4 & 1										X				X	63		55	13	13	32	107.7-108.6	21.5		
	1600-1720	4 & 3									X	X	X			X	52		45	13	13	30	108.5	22		
5/13/2006	800-1730	4 & 0												X			69	25		13	13	30	106.0-106.9	19.5	68.2	
5/14/2006	745-1600	2 & 0						X	X					X			90	15		13	13	20	107.4-108.6	18	67.1	
	1600-1730	4 & 2		X			X	X	X		X		X			X	58		45	13	13	35	108.6	21.5		
5/15/2006	830-1305	4 & 2		X			X	X	X		X		X			X	55		45	13	13	30	107.7-108.1	21.5	67.1	
	1305-1700	4 & 1		X			X	X	X		X					X	62		45	13	13	30	108.1-108.5	21		
5/16/2006	800-1105	4 & 3														X	47		40	13	13	30	106.7-106.8	22	66.2	
	1105-1700	4 & 0												X			77	15		13	13	30	107.0-107.9	19.5		
5/17/2006	745-1100	4 & 3			X	X	X	X		X		X	X			X	50		45	13	13	30	107.1-107.4	22	66.6	
	1100-1700	4 & 1			X	X	X	X		X						X	69		45	13	13	30	107.3-108.1	20.5		
5/18/2006	800-1245	4 & 3				X	X	X	X	X		X	X			X	50		45	13	13	25-30	107.0-107.4	22	66.2	
	1245-1710	4 & 1				X	X	X	X			X				X	67		40	13	13	25-30	107.5-108.1	20.5		
	1710-1745	4 & 3				X	X	X	X	X		X	X			X	50		30	13	13	20	108	22		
5/19/2006	800-1300	4 & 3														X	50		36	13	13	40	107.9-108.1	22	66.2	
	1300-1700	4 & 1				X	X	X	X	X						X	69-72		25-35	13	13	25-30	108.1-108.6	20.5		
5/20/2006	800-1130	4 & 0	X		X		X	X						X			78	15		13	13	35	107.0-107.3	19	64.4	
	1130-1210	4 & 0	X				X	X	X					X			84	15		13	13	30	107.6	19		
	1210-1710	4 & 0				X	X	X	X					X			84	15		13	13	25	107.9-108.4	19		
5/21/2006	745-810	2 & 0					X	X						X			82	15		13	13	35	107.7	18	64	
	810-1650	4 & 0				X	X	X	X					X			82	10		13	13	20-30	107.7-108.1	19		
5/22/2006	800-1145	4 & 2				X	X	X	X			X		X		X	60		40	13	13	35	107.3-107.7	21	63	
	1145-1500	4 & 1				X	X	X	X			X				X	70		35	13	13	30	107.4-107.5	20.5		
	1500-1700	4 & 1				X	X	X	X			X				X	70		30	13	13	20	107.6-107.8	20.5		
5/23/2006	800-1225	4 & 2				X	X	X	X			X		X		X	60		40	13	13	35	107.3-107.6	21	62.6	
	1225-1315	4 & 0				X	X	X	X							X	72		20	13	13	35	107.5	20		
	1315-1500	4 & 0				X	X	X	X					X			80	15		13	13	35	107.8-107.9	19		
	1500-1655	4 & 0				X	X	X	X					X			80	10		13	13	17	108.2	19		
5/24/2006	800-1225	4 & 2				X	X	X	X	X	X					X	60		30	13	13	35	107.1-107.4	21	62.2	
	1225-1445	4 & 0				X	X	X	X					X			80	15		13	13	30	107.4-107.5	19.5		
	1445-1715	4 & 0				X	X	X	X					X			80	10		13	13	20	107.8-108.3	19.5		
	1715-1800	4 & 1				X	X	X	X	X				X			67	15		13	13	30	108.3	20.5		
5/25/2006	800-820	2 & 0					X	X						X			80	15		13	13	30	108	18.5	64.4	When lowering "A" gate, heard loud bang.

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
	820-1220	4 & 0			X	X	X	X						X			80	15		13	13	30	108.2-108.6	19.5		
	1220-1400	4 & 4			X	X	X	X		X	X	X	X			X	50		40	13	13	35	108.3-108.4	22.5		
	1400-1700	4 & 4			X	X	X	X		X	X	X	X			X	45		40	13	13	35	107.9-108.1	22.5		
5/26/2006	730-800	2 & 0												X			90	15		13	13	35	107.5	18.5	65.3	
	800-1200	4 & 0												X			84	15		13	13	35	108.1-108.4	19.5		
	1200-1730	4 & 2														X	63		30	13	13	30	108.4-108.6	21.5		
5/27/2006	700-1200	2 & 0					X		X					X			90	15		13	13	30	107.6-108.5	18.5	64.4	
	1200-1430	4 & 1				X	X	X	X	X				X			69	15		13	13	30	108.5-108.8	20.5		
	1430-1700	4 & 1				X	X	X	X	X						X	73		30	13	13	30	108.6	20.0-20.5		
5/28/2006	745-1410	2 & 0					X		X					X			90	10		13	13	20	107.8-108.7	17	66.2	Air leaking from one of the crowder doors. Hole in the line.
	1410-1700	4 & 1			X		X	X	X			X				X	70		45	13	13	30	108.4-108.7	20		
5/29/2006	700-1425	2 & 0					X		X					X			90	15		13	13	30	107.5-108.2	18.5	68	
	1425-1500	4 & 1			X		X	X	X		X					X	73		20	13	13	30	108.1	20		
5/30/2006	645-1005	2 & 0					X		X					X			90	15		13	13	30	108.2-108.5	18	70	
	1005-1115	4 & 1				X	X	X	X			X				X	72		40	13	13	30	108.8	20		
	1115-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	35	107.7-108.6	23		
5/31/2006	730-1225	2 & 0					X		X					X			90	15		13	13	30	106.2-107.5	17.5	71.3	
	1225-1500	4 & 3				X	X	X	X	X	X	X				X	48		40	13	13	30	107.4-107.6	22		
6/1/2006	700-1200	1 & 0					X							X			93	15		13	13	25	106.6-107.1	17.5	73.6	
	1200-1500	4 & 2			X	X	X		X		X	X				X	64		30	13	13	30	107.1-107.5	22		
6/2/2006	700-1300	1 & 0					X							X			95	15		13	13	25-30	107.3-108.5	17.5	77	
	1300-1500	4 & 4				X	X	X	X	X	X	X	X			X	50		30	13	13	30	108.7-109.0	22.5		
6/3/2006	700-1210	1 & 0					X							X			94	15		13	13	25	108.0-108.9	17	77	
	1210-1400	4 & 3	X		X		X	X			X	X	X			X	55		40	13	13	30	109.1	22		
6/4/2006	730-830	1 & 0					X							X			90	15		13	13	30	107.9	17	75.6	
	830-1030	4 & 0				X	X	X	X					X			80	15		13	13	30	107.9-108.1	19.5		
	1030-1115	1 & 0					X							X			90	15		13	13	30	108	17		
	1115-1400	4 & 1														X	70		30	13	13	30	108.0-108.1	20.5		
6/5/2006	730-1115	4 & 1			X	X	X	X					X			X	58		30	13	13	30	108.0-108.5	21	75.6	
4/23/2001	1130-1200	6 & 4								X	X	X	X			X	80		50			10	106.8	21.5	52.7	
	1200-1715	6 & 4								X	X	X	X			X	39		47			18	106.5	23		
4/25/2001	945-1545	6 & 4								X	X	X	X			X	39		47			18	107.1-107.5	23	55.4	
	1545-1830	6 & 4								X	X	X	X			X	58		55			30	107.5-107.7	23		
4/26/2001	930-1150	6 & 4								X	X	X	X			X	39		47			18	107.4	23	59	
	1150-1815	6 & 4								X	X	X	X			X	58		55			30	107.6-108.4	23		
4/27/2001	945-1830	6 & 4								X	X	X	X			X	48	25	52			23	107.8-108.0	23	59	
4/28/2001	800-845	4 & 0														X	84		70			10	108.2	17.5	59	
	845-955	4 & 2														X	70		70			10	108.4	21		
	955-1015	6 & 4								X	X	X	X			X	50		70			7	108.3	22		
	1015-1600	6 & 4								X	X	X	X			X	48	25	53			23	107.0-108.1	22.5-23.0		
	1600-1715	4 & 3														X							107	22.5		
	1715-1745	6 & 4								X	X	X	X			X	48	25	53			23	106.8-107.0	22.5-23.0		
4/29/2001	730-1100	2 & 2									X		X			X	80		70			10	108	17.5	60	Two Large turbine stuck in spin mode.
	1100-1300	2 & 2									X		X			X	78	25	52			15	108	17.5		
	1300-1535	4 & 1														X	76		55			28	108	20.5		
	1535-1835	6 & 4								X	X	X	X			X	39		47			12	108	23		
4/30/2001	750-1000	2 & 2									X		X			X	90		55			30	108	17.5	62.6	
	1000-1200	4 & 2									X		X			X	80		55			30	108	19.5-20.0		
	1200-1840	6 & 4								X	X	X	X			X	49		47			12	107.4-108.0	23		
5/1/2001	750-1230	2 & 1			X				X							X	80		70			10	107.5-107.9	17.5	62..6	
	Had maintenance come out to switch around plates, fish dumped into sorting tank and 41 tagged for telemetry study.																									
5/2/2001	800-900	2 & 1			X				X							X						20	107.8	18	66.2	
	900-1050	2 & 1			X				X							X	95		70			10	108.1-108.4	19		
	1050-1215	4 & 2														X	86		47			7	108.6-108.8	21.0-22.0		
	1215-1350	6 & 4								X	X	X	X			X	40		60			30	108.7	23		
	1350-1815	6 & 4								X	X	X	X			X	28		70			30	107.5-108.4	23		
5/3/2001	830-1010	2 & 0			X				X				X			X						10	107.9-108.0	18.5	67.1	Unit 11 stuck on slow spin -45%
	1010-1245	4 & 2														X	50		70			7	108.3-108.4	22		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged 41Shad for telemetry study.																									
5/4/2001	820-1200	1 & 3														X	80		70			10	107.0-107.2	17.5	69.9	
	1200-1815	3 & 4														X	39		47			12	107.0-108.0	22.0-23.0		
5/5/2001	800-1100	1 & 3									X	X	X			X	80		70			10	107	18	68.9	Large units stuck in slow spin.
	1100-1800	3 & 3														X	68		71			44	108	21		
5/6/2001	730-1830	2 & 3														X	80		70			11	107	18	69.9	Large units stuck in slow spin.
5/7/2001	830-1230	1 & 1														X	79		35			4	107.7-108.7	18.5	69.9	
	1230-1350	4 & 2														X	64		70			70	108.6-108.7	18.5		
	1350-1430	4 & 2														X	50		70			7	108.6	21		Problems with the crowder, maintance came out and fixed
	1430-1630	6 & 2														X	40		60			30	108.7	22		
	1630-1815	6 & 4								X	X	X	X			X	39		47			12	108.2-108.7	23		
5/8/2001	830-1245	2 & 1		X					X			X	X			X	84		70			6	106.7-107.3	18.5	68.9	Large Units stuck on slow spin
	1245-1400	2 & 1		X					X			X	X			X	79		70			4	107.3-107.8	18.5		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged Shad for telemetry study.																									
5/9/2001	800-1130	2 & 1			X		X					X	X	X			X	84		70			6	107.0-107.3	18.5	71.6	Large units stuck on slow spin. Both doors on hopper open, maintenance came out to fix.
	1130-1530	3 & 1			X		X		X			X	X	X			X	79		70			4	107.6-108.3	18.5		
	1530-1800	4 & 2															X	86		47			7	108.6	21		
5/10/2001	800-850	2 & 1			X				X			X	X	X			X						4	106.2	16.5	74.3	
	850-1100	2 & 1			X				X			X	X	X			X	84		70			6	106.6-106.9	18.5		
	1100-1335	2 & 3															X	75		35			15	107.0-107.3	18.5		
	1335-1430	2 & 3															X	95		70			10	107.8	19		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged 40 Shad for telemetry study.																									
	1515-1730	2 & 3															X	95		70			10	108.1-108.5	19		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
	1730-1830	4 & 1														X	70		70			10	108.6	21		
5/11/2001	830-1300	2 & 3														X	80		70			10	107.3-108.6	18	74.3	
	1300-1320	2 & 3														X	70		70			10	108.4-108.8	23		Broke cables on crowder, limit switch failed.
5/12/2001	800-1400	1 & 3														X	72		55			7	105.6-107.2	18.5	74.3	
	1400-1830	2 & 3														X							107.2-108.0	18.5		
5/13/2001	800-1630	2 & 3														X							106.4-106.7	17.5-18.0	73.4	
5/14/2001	800-830	2 & 0														X	92		35			10	106.4	16.5	72.5	
	830-1500	2 & 0														X	80		55			30	106.7-107.4	18		
	1500-1750	2 & 0														X	79		35			45	107.6-108.1	18		
5/15/2001	800-1050	2 & 0														X	80		55			30	107.4	18	71.6	
	1050-1240	2 & 0														X	79		35			45	107.7-108.1	18		
	1240-1315	2 & 2														X	84		70			10	108.3	20		
	1315-1400	2 & 2														X	70		70			10	108.3	21		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged Shad for telemetry study.																									
	1500-1750	2 & 2														X	70		70			10	108.3-108.5	21		
5/16/2001	800-1240	2 & 0					X		X		X	X	X			X	80		55			30	106.2-107.2	18	69.8	Large units stuck on slow spin.
	1240-1530	2 & 0					X		X		X	X	X			X	79		35			45	107.6-107.9	18		
	1530-1800	4 & 1														X	64		70			7	107.9-108.3	21		
5/17/2001	830-930	2 & 0			X	X										X	90		51			20	105.6-105.7	18	68.9	
	930-1020	2 & 0			X	X										X	74		30			10	105.8	18		
	1020-1400	2 & 0						X	X							X	79		35			4	106.1-106.3	18.0-18.5		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged Shad for telemetry study.																									
	1515-1645	2 & 0						X	X							X	80		55			30	106.6-107.2	18.5		
	1645-1800	2 & 0						X	X							X	79		35			45	107.5-107.7	18.5		
5/18/2001	800-1715	2 & 2														X	83		30			2	106.3-107.8	18.5	70.7	
5/19/2001	800-1715	2 & 2														X	83		30			2	106.4-108.2	18.0-18.5	70.7	
	1715-1745	4 & 2		X	X	X			X		X	X				X							108.2	21.5		
5/20/2001	800-1730	2 & 3									X	X	X			X	96		70			5	104.9-105.4	18	70.7	Large units stuck on slow spin
5/21/2001	830-1320	2 & 0														X	74		30			10	104.6-105.4	18	68.9	
	1320-1530	2 & 0														X	74		30			10	105.8-106.1	18		
	1530-1720	2 & 0														X	70		55			30	106.6-107.0	18		
5/22/2001	800-1050	2 & 0														X	74		30			10	106.0-106.2	18	69.5	
	1050-1345	2 & 0														X	80		55			30	106.6-107.3	18		
	1345-1530	2 & 0														X	79		35			45	107.6-108.0	18		
	1530-1540	4 & 2														X	70		70			10	108	18		
	1540-1750	4 & 2														X	50		70			7	108.2	21		
5/23/2001	800-1025	2 & 0			X				X		X	X	X			X	79		35			4	106.3-106.4	18.5	71.6	Large Units stuck on slow spin
	1025-1300	2 & 0			X				X		X	X	X			X	79		35			4	106.7-107.3	18.5		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged 50 Shad for telemetry study.																									
	1415-1450	2 & 0			X				X		X	X	X			X	79		35			4	107.4	18.5		
	1450-1745	2 & 0			X				X		X	X	X			X	73		35			20	107.7-108.0	19		
5/24/2001	800-920	2 & 0														X	74		30			10	105.4-105.5	18	70.2	
	920-1240	2 & 0														X	74		30			10	105.7-106.3	18		
	1240-1535	2 & 0														X	80		55			30	106.7-107.3	18		
	1535-1730	2 & 0														X	79		35			45	107.7-108.1	18		
5/25/2001	800-1000	2 & 0														X	74		30			10	106.9-107.0	18.0-18.5	70	
	1000-1400	2 & 3														X	95		70			10	107.3-107.8	18.5		
	1400-1700	2 & 2									X	X				X	83		30			2	108.0-108.6	20.0-21.0		
5/26/2001	1000-1700	1 & 3														X	74		30			10	106.2-107.0	18.5	70.7	
5/27/2001	1500-1640	2 & 3														X	95		70			10	108.2	18.5	71.6	Cyclinder to hopper door was bent, maintenance came out and swapped out cylinders.
5/28/2001	1045-1240	3 & 0														X	79		35			4	108	18.5	71.6	Downstream weir gate tripped
	1240-1730	4 & 1														X	58		55			30	108.0-108.2	21		
5/29/2001	1000-1140	4 & 1														X	70		70			10	108.4	21	71.4	
	1140-1340	4 & 1														X	86		47			7	108.5	21		
	1340-1730	4 & 3														X	50		70			7	108.1-108.5	22		
5/30/2001	1030-1240	2 & 0														X	79		35			10	108.0-108.4	18	71.4	
	1240-1315	4 & 1														X	86		47			7	108.6	21		
	1315-1340	4 & 3														X	50		70			7	108.6	21		
	1340-1700	4 & 3														X	40		60			30	108.5-108.6	22		
5/31/2001	1000-1220	None														X	79		35			10	107.2-107.8	18	69.8	"NO UNITS ON"
	1220-1615	4 & 1														X	70		70			10	108.0-108.5	21		
6/1/2001	1000-1300	1 & 3														X	79		35			10	107.5-107.8	18.0-18.5	69.9	
	1300-1700	4 & 1														X	70		70			10	108.1-108.2	21.5		
6/2/2001	1000-1500	1 & 3														X	79		35			10	107.6-108.6	18.5	69.6	
	1500-1700	3 & 1														X	70		70			10	108.9	21		
6/3/2001	1000-1700	1 & 3														X	79		35			10	106.9-108.0	17.5	72.5	Trash rack "A" tripped
6/4/2001	1030-1125	1 & 0														X	75		35			20	107.3-107.6	18	70.7	
	1125-1500	4 & 1														X	84		70			10	107.9-108.2	20		
6/6/2001	1030-1210	4 & 0														X	84		70			10	107.8-108.2	20	70	
	1210-1345	4 & 2														X	70		70			10	108.2-108.4	21		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

			Small Units							Large Units				Weir Gate				Diffuser Setting		Spillway Setting					
Date	Time	Generation (small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Gate Setting	A	B	A	B	Crowder Area Gate	Forebay Elevation	Tailrace Elevation	Water Temp F	
4/5/2010	1100-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	N/A		50	9	9	30	106.8-107.1	23.0-24.0	58.1	Hopper would not rise on last lift and DWG is not working correctly.
4/7/2010	945-1310	5 & 4	X	X		X		X	X	X	X	X	X			X	44		60	13	12	31	107.1-107.3	22.5-23.0	59.4	Crowder doors closed by themselves. Hoppr stopped 60% of the way up. Upper limit switch.
	1310-1635	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		60	13	13	30	107.0-107.2	22.5-23.5		
4/9/2010	700-800	3 & 0					X	X	X					X			82	10		14	14	25	106.8	18.5	61.7	Large amount of debris on screens
	800-1010	6 & 3		X	X	X	X	X	X	X	X	X				X	45		50	14	14	30	106.9-107.0	22		Crowder doors are opening and closing on themselves
	1010-1615	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	14	14	30	106.7-107.0	23		
4/11/2010	730-1000	2 & 0					X		X					X			92	6		14	14	20	106.2-106.9	18	64.4	Problem with opening Diff. A
	1000-1155	4 & 0				X	X	X	X					X			82	6		12	12	20	107.4-107.8	19.5		
	1155-1355	4 & 0				X	X	X	X					X			77	6		12	12	25	108.0-108.3	19.5-20.0		
	1355-1655	4 & 1				X	X	X	X	X						X	70		50	12	12	25	108.4-108.5	21		
4/13/2010	830-1200	6 & 3		X	X	X	X	X	X	X	X		X			X	40		40	13	14	25	107.1-107.2	22.8-23.0	62.6	Tripped DWG breaker
	1200-1400	3 & 1					X	X	X				X			X							107.1-107.8	20.3-20.5		
	1400-1650	4 & 2				X	X	X	X	X			X			X							107.7-107.8	21.5-22.0		
4/14/2010	800-1415	4 & 2			X	X		X	X	X	X					X	50		40	14	14	31	106.8-107.7	22	61.5	
	1415-1640	4 & 2				X	X	X	X	X	X					X	65		40	14	14	31	107.3-107.7	22		
4/15/2010	800-1630	4 & 2				X	X	X	X	X	X					X	55		50	14	14	30	106.7-107.1	21.5	62.7	
4/16/2010	0815-0905	2 & 0					X		X							X	90		50	14	14	30	106.6	18	63	
	905-1640	4 & 2				X	X	X	X	X	X					X	55		60	14	14	30	107.0-108.0	21		
4/17/2010	800-1615	3 & 0					X	X	X					X			80	5		11	14	30	107.1-108.5	17.0-18.5	64.4	Largeamount of debris on screens
	1615-1630	5 & 0				X	X	X	X							X	65		25	11	3	25	108.4	17		
4/18/2010	1300-1700	3 & 1				X	X	X		X						X	78		40	12	12	25	108.2-108.4	19.5	60.8	Large amount of debris on screens and in hopper. Late staart
4/19/2010	800-1235	4 & 0				X	X	X	X					X			82	5		14	14	25	107.3-108.1	19.8	60.4	
	1235-1650	4 & 0				X	X	X	X					X			78	10		14	14	30	108.0-108.3	19.7-20.0		Maint came out and raised Diff A to 10%...to be left here for the year.
	1650-1830	6 & 3	X			X	X	X	X	X	X		X			X	50	10	50	14	14	30	108.0-108.3	22.5		
4/20/2010	800-1205	4 & 1				X	X	X	X	X						X	71	10	50	14	14	30	106.4-106.7	20.5-20.8	61.7	
	1205-1700	2 & 0					X		X					X			88	10		14	14	30	106.9-107.9	19		
	1700-1815	4 & 1				X	X	X	X	X						X	71	10	50	14	14	30	107.9-108.0	20.5		UWG stopped at 14 on the way closed. Maint. Said it was a thermal breaker.
4/21/2010	830-1215	4 & 1		X			X	X	X	X						X	70	10	40	14	14	30	106.3-106.7	20.5	61	
	1215-1705	2 & 0		X					X					X			94	10		16	16	30	107.2-108.4	18.5		
	1705-1845	7 & 3	X	X	X	X	X	X	X	X	X		X			X	46	10	50	14	14	40	108.7	23		
4/22/2010	815-1015	4 & 0				X	X	X	X					X			78	10		14	14	30	106.5-106.9	19.8	62.6	
	1015-1215	4 & 2				X	X	X	X	X	X					X	52	10	50	14	14	30	107.0-107.1	21		
	1215-1710	2 & 0					X		X					X			90	10		16	16	30	107.4-108.3	19		
	1710-1840	6 & 3		X	X	X	X	X	X	X	X		X			X	43	10	50	14	14	30	108.1-108.3	23		
4/23/2010	800-1320	4 & 2				X	X	X	X	X	X					X	52	10	50	14	14	30	106.2-107.0	21	62.1	1030-1105 Maint. Fixed window gate
	1320-1700	2 & 0					X		X					X			88	10		14	14	30	107.0-107.4	19		
	1700-1745	4 & 2				X	X	X	X	X	X					X	52	10	50	14	14	30	107.4	21		Trash Rack A would not lower correctly at end of night
4/24/2010	800-1830	2 & 0					X		X					X			86	10		14	14	30	105.9-107.0	18.5-19.0	61.7	Gate A tripped breaker
4/25/2010	800-1020	2 & 0					X		X					X			94	2		14	14	30	105.5-105.8	18	61.7	Diffuser A mystically closed
	1020-1505	2 & 0					X		X					X			88	2		14	14	30	106.0-106.5	18		
	1505-1700	2 & 0					X		X					X			90	2		14	14	30	106.5-106.7	18		
	1700-1835	4 & 0				X	X	X	X					X			80	2		14	14	30	106.7-106.8	19.5		
4/26/2010	800-1630	4 & 2				X	X	X	X	X	X					X	55	10	50	14	14	30	106.8-107.1	21.5-22.1	60.5	Maint. fixed Trash Rack A first thing this morning
4/27/2010	800-900	2 & 0					X		X					X			82	10		14	14	30	106.1	19	62.2	
	900-1300	4 & 0				X	X	X	X					X			76	10		14	14	30	106.5-106.8	19.5-19.8		
	1300-1620	2 & 0					X	X						X			87	10		14	14	30	106.8-106.9	19		
	1620-1820	6 & 3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	30	106.7-106.9	22.5		
4/28/2010	800-915	2 & 0				X	X							X			88	10	46	14	14	30	105.8	18.5	61.7	
	915-1000	4 & 0				X	X	X	X					X			72	10	46	14	14	30	106.2	21		
	1000-1630	4 & 2				X	X	X	X	X	X					X	55	10	50	14	14	30	106.9-107.2	21.5		
4/29/2010	800-1300	2 & 0					X		X					X			90	10		14	14	30	107.0-107.9	18.5-19.0	61.7	
	1300-1630	7 & 3	X	X	X	X	X	X	X	X	X	X				X	42	10	50	14	14	35	107.6-108.0	23		UWG A tripped while closing
4/30/2010	800-1200	5 & 3			X	X	X	X	X	X	X		X			X	45	10	50	14	14	26	106.2	22.5-23.0	60.8	
	1200-1640	7 & 3	X	X	X	X	X	X	X	X	X		X			X	40	10	50	14	14	26	106.2-106.4	23		
5/1/2010	800-1300	4 & 2		X			X	X	X	X	X					X	55	10	50	14	14	30	106.1-106.7	21.0-22.0	61.7	
	1300-1800	6 & 4		X	X	X	X	X	X	X	X	X	X			X	40	10	50	14	14	30	106.9-107.1	23.1-23.5		
5/2/2010	730-1015	2 & 0		X			X							X			95	10		14	14	20	106.5-107.3	18	61.9	
	1015-1410	4 & 2		X			X	X	X	X	X					X	58	10	50	14	14	30	107.5-107.7	22		
	1410-1840	6 & 4		X	X	X	X	X	X	X	X	X	X			X	47	10	50	14	14	35	107.4-107.8	23		
5/3/2010	800-1200	2 & 0		X			X							X			97	10		14	14	30	107.2-107.8	18.5	63.5	
	1200-1215	7 & 0	X	X	X	X	X	X	X							X	48	10	50	14	14	30	107.8	23		
	1215-1830	7 & 3	X	X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	30	108.0-108.5	23		
5/4/2010	800-1200	4 & 0		X			X	X	X					X			78	10		14	14	30	107.1-108.1	20.0-20.4	65.7	
	1200-1700	6 & 4		X	X	X	X	X	X	X	X	X	X			X	38	10	50	14	14	30	108.0-108.2	23.5		
5/5/2010	800-1100	4 & 0		X	X			X	X					X			85	10		14	14	30	107.2-107.9	19	66.3	
	1100-1630	7 & 3	X	X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	35	107.6-108.0	22.8-23.0		
5/6/2010	800-1400	2 & 0		X			X							X			85	10		14	14	30	105.9-108.0	18.0-19.0	66.5	
	1400-1600	7 & 3	X	X	X	X	X	X	X			X	X	X		X	38	10	50	14	14	30	108.0-109.0	23		
	1600-1635	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	10	50	14	14	30	109	23.5		
5/7/2010	815-1130	4 & 1		X			X	X	X	X						X	65	10	50	14	14	30	106.5-107.2	21	70	
	1130-1410	4 & 1		X			X	X	X	X						X	65	10	50	14	14	35	107.2-107.7	21		
	1410-1850	6 & 3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	40	107.5-107.7	23		
5/8/2010	800-1100	2 & 0		X			X							X			85	10		14	14	30	106.6-107.0	19	70.7	
	1100-1630	4 & 2		X			X	X	X	X	X					X	50	10	50	14	14	30	107.0-108.0	22.0-22.5		
5/9/2010	710-855	2 & 0		X			X							X			95	10		15	15	25	106.9	18	68.2	
	855-945	2 & 0		X			X							X			100	10		15	15	25	107.2	18		
	945-1115	2 & 0		X			X							X			95	10		15	15	25	107.2-107.7	18		
	1115-1640	6 & 1		X	X	X	X	X	X	X						X	60	10	50	15	15	35	106.7-107.6	21.5		
5/10/2010	800-1000	4 & 1		X			X	X	X	X						X	65	10	50	14	14	30	106.4	19.5-20.0	67.1	
	1000-1145	4 & 0		X			X	X	X					X			78	10		14	14	30	106.3-106.4	20.0-20.5		
	1145-1305	4 & 0		X			X	X	X					X			74	10		14	14	35	106.4-106.5	19.5-20.1		
	1305-1800	2 & 0		X			X							X			85	10		14	14	30	106.5-107.7	19		
	1800-1830	4 & 2		X			X	X	X	X	X					X	55	10	50	14	14	30	107.7	22		
5/11/2010	745-1000	4 & 2		X			X	X	X	X	X					X	55	10	50	14	14	30	106.5-106.8	22	67.1	
	1000-1545	2 & 0		X			X							X			82	10		14	14	30	107.0-107.8	19		
	1545-1800	2 & 0		X			X							X			88	10		14	14	30	108.0-108.4	19		
5/12/2010	750-1005	6 & 1		X	X	X	X	X	X	X						X	55	10	50	14	14	30	106.4-106.6	21.5	65.7	
	1005-1515	3 & 0		X			X		X					X			80	10		14	14	30	106.4-107.7	19.3-19.5		
	1515-1800	3 & 0		X			X		X					X			87	10		14	14	30	107.9-108.6	19.3-19.4		
5/13/2010	800-945	2 & 0		X			X							X			85	10		14	14	30	105.3-105.9	18.5-19.0	65.3	
	945-1115	2 & 0		X			X							X			88	10		14	14	30	106.3-106.5	19		
	1115-1245	2 & 0		X			X							X			90	10		14	14	30	106.8	19		
	1245-1515	2 & 0		X			X							X			94	10		14	14	30	107.3-107.8	19		
	1515-1700	2 & 0		X			X							X			96	10		14	14	30	107.8	19		
5/14/2010	800-1030	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32	10	50	14	14	30	105.5-106.0	23.5	67.1	
	1030-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37	10	50	14	14	30	105.4	23.5		
	1100-1300	4 & 1				X	X	X	X	X						X	73	10	50	14	14	30	105.8-106.1	20.6		
	1300-1620	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	34	10	50	14	14	30	105.7-105.8	23.4-23.5		
5/15/2010	800-1140	6 & 1		X	X	X	X	X	X	X						X	60	10	50	14	14	25	107.3-107.5	21.5-22.0	64.4	
	1140-1400	6 & 1		X	X	X	X	X	X	X						X	55	10	50	14	14	30	107.3-107.4	22		
	1400-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30	10	50	14	14	30	107.4-107.5	23.5-24.0		
5/16/2010	745-1255	6 & 1		X	X	X	X	X	X	X						X	60	10	50	14	14	30	106.5-106.7	21.5	62.6	
	1255-1630	6 & 1		X	X	X	X	X	X	X						X	65	10	50	14	14	40	106.7-107.2	21.5		
5/17/2010	800-1145	6 & 1		X	X	X	X	X	X	X						X	57	10	50	14	14	30	106.8-107.1	21.5-22.0	63.5	
	1145-1300	6 & 4		X	X	X	X	X	X	X	X	X	X			X	45	10	50	14	14	25	107.0-107.2	23		
	1300-1800	6 & 4		X	X	X	X	X	X	X	X	X	X			X	42	10	50	14	14	25	106.2-107.0	22.5-23.5		
5/18/2010	800-1130	2 & 0		X			X							X			82	10		14	14	30	106.0-107.0	18.5-19.3	63.3	
	1130-1300	2 & 0		X			X							X			95	10		14	14	30	107.0-107.8	19.3-19.5		
	1300-1315	4 & 2		X			X	X	X	X	X					X	60	10	50	14	14	30	107.8	22		
	1315-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	39	10	50	14	14	30	107.1-107.6	23.4-23.5		
5/19/2010	800-1135	4 & 0		X			X	X	X					X			96	10		14	14	30	105.9-106.3	18.5-19.8	64.3	
	1135-1300	4 & 0		X			X	X	X					X			83	10		14	14	30	106.4-106.8	19.5-19.6		
	1300-1640	6 & 3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	30	106.5-106.8	22.8		
5/20/2010	800-945	4 & 2		X			X	X	X	X	X					X	62	10	50	14	14	25	107.0-107.2	22	65.7	
	945-1300	4 & 2		X			X	X	X	X	X					X	55	10	50	14	14	25	107.0-107.2	22		
	1300-1320	6 & 3		X	X	X	X	X	X	X	X		X			X	42	10	50	14	14	30	107	23		
	1320-1510	7 & 3	X	X	X	X	X	X	X	X	X	X	X			X	42	10	50	14	14	30	106.5	22.0-22.5		
	1510-1600	4 & 2		X			X	X	X	X			X			X	50	10	50	14	14	30	106.5-107.1	19.5		
	1600-1800	3 & 0		X			X	X						X			90	10		14	14	30	107.1-107.3	19.0-19.5		
5/21/2010	0745-0900	2&0		X			X							X			92	10		14	14	25	108.0-108.2	19	66.8	
	0900-1400	4&2						X	X	X	X					X	60	10	50	14	14	30	108.2-108.5	19.0-22.0		
	1400-1720	7&4	X		X	X						X	X			X	38	10		14	14	35	108.1-108.5	22.0-23.5		
5/22/2010	0800-1200	2&0		X			X							X			85	10	50	14	14	30	106.1-107.3	19.0-22.5	67.1	

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

			Small Units							Large Units				Weir Gate				Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	Generation (small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Gate Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
	1200-1630	6&2	X	X	X	X	X	X		X	X					X	55	10	92	14	14	35	106.5-107.5	22.5		
5/23/2010	0645-1000	2&0		X			X							X			100	10		14	14	20	107.1-107.4	18.25-18.50	67.5	
	1000-1400	4&2						X	X	X	X					X	65	10	50	14	14	35	107.3-107.6	18.5-22.0		
	1400-1700	4&1						X	X	X						X	70	10		14	14	35	107.3-107.4	21.0-21.8		
5/24/2010	0730-1200	2&0		X			X							X			100	10		18	18	20	108.0-108.8	18.5	68	
	1200-1630	6&3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	40	108.4-108.9	18.5-23.3		
5/25/2010	0800-1200	4&0		X			X	X	X					X			100	10		18	18	20	108.0-108.7	19.4-23.0	70.3	
	1200-1600	6&3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	30	108.7-109.1	22.9-23.1		
5/26/2010	0800-0930	2&0		X			X							X			86	10		14	14	30	107.6-107.9	19	73	
	0930-1300	6&2		X	X	X	X	X	X	X			X			X	70	10	50	14	14	30	107.2-107.6	19.0-22.5		
	1530-1620	7&4	X	X	X	X	X	X	X	X	X	X	X			X	40	10	50	14	14	35	106.8-107.1	23.5		
5/27/2010	0800-1400	2&0		X			X							X			100	10	50	20	20	30	106.5-108.3	18.5-23.2	73.4	
	1400-1600	6&4		X	X	X	X	X	X	X	X	X	X			X	42	10	50	14	14	30	108.4-108.6	23.2-23.5		
5/28/2010	0730-1100	2&0		X			X							X			100	10		18	18	20	107.6-108.1	18.5-21.0	73.1	
	1100-1515	4&1						X	X	X						X	74	10	50	18	18	30	108.0-108.2	21.0-21.2		
	1515-1630	6&2			X	X					X					X	60	10	50	18	18	30	108.1	21.0-22.5		
5/29/2010	0800-1300	2&0		X			X							X			100	10	50	14	14	30	107.0-108.8	18.5-20.5	75.2	
	1300-1545	4&1		X			X	X	X	X	X					X	80	10		14	14	30	108.8	20.5		
5/30/2010	0715-1435	2&0		X			X							X			100	10		16	16	20	107.5-108.7	18.3	75.5	
	1435-1510	4&1						X	X	X						X	75	10	50	15	15	30	108.6-108.7	18.3		
	1510-1612	6&3			X	X										X	60	10	50	15	15	30	108.5-108.6	21.0-22.5		
5/31/2010	0730-1415	2&0		X			X							X			30	10		14	14	20	107.4-108.3	17.8	78.8	
	1415-1600	4&1		X			X	X	X	X						X	75	10	50	14	14	20	108.3-108.6	17.8-20.6		
6/1/2010	0800-1230	2&0		X			X							X			100	10		14	14	20	107.3-108.0	17.8	79.3	
	1230-1400	6&3		X	X	X	X	X	X	X	X		X			X	45	10	50	14	14	30	107.6-108.0	17.8-23.0		
6/2/2010	0800-1215	2&0		X			X							X			100	10		14	14	20	106.8-107.5	18.0-19.0	80.6	
	1215-1410	4&2		X			X	X	X	X	X					X	60	10	50	14	14	20	107.5-108.0	19.0-23.0		
	1410-1615	7&3	X	X	X	X	X	X	X	X	X		X			X	45	10	50	14	14	30	107.6	23		
6/3/2010	0800-1200	2&0		X			X							X			100	10		14	14	20	106.4-106.8	18.0-22.5	80.6	
	1200-1600	4&3				X	X	X	X	X	X		X			X	55	10	45	14	14	30	106.8-107.3	22.5		
6/4/2010	0800-1420	2&0					X	X						X			100	10		17	17	25	106.6-108.1	17.5-18.0	81.5	
	1420-1600	4&2				X			X	X	X					X	65	10	25	17	17	30	107.9-108.1	18.0-22.0		
6/5/2010	0800-1300	2&0					X	X						X			100	10	50	14	14	25	107.1-108.3	18.5-20.5	83.3	
	1300-1400	5&1	X		X		X	X	X	X	X					X	75	10	50	14	14	30	108.2-108.3	20.5-22.0		
	1400-1600	6&2	X		X	X	X	X	X	X	X					X	60	10	50	14	14	30	108.0-108.3	22.0-23.5		
6/6/2010	0730-1200	2&0		X			X							X			100	10		14	14	20	107.0-107.6	17.2	83.3	
	1200-1500	4&1						X	X	X						X	70	10	50	14	14	30	107.6-107.8	17.2-20.9		
																		10								
4/1/2009	1000-1105	6 & 2		X	X	X	X	X	X	X	X					X	55		50	13	13	25	105.5	21.7	48.7	
	1105-1445	2 & 0		X				X						X			92	10		13	13	30	105.5-106.0	17.5-18.0		
4/2/2009	1000-1100	6 & 2		X	X	X	X	X	X	X	X					X	55	3	50	13	13	25	105.7	21.5	50.9	
	1100-1600	2 & 0		X				X						X			95	10		13	13	25	106.1-107.4	17.5-18.0		
4/3/2009	1015-1105	7 & 2	X	X	X	X	X	X	X		X	X				X	45		50	13	13	25	105.6	22	51.8	
	1105-1205	4 & 0		X			X	X	X					X			77	6		13	13	25	105.7	22		
	1205-1620	2 & 0		X					X					X			97	5		13	13	20	105.7-107.1	17.5		
4/6/2009	900-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	13	13	15	106.3-107.0	23.5	55.9	
4/8/2009	800-900	6 & 3	X	X	X	X		X	X	X	X		X			X	50		50	13	13	25	104.8	22.8	52.7	
	900-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35-50		50	13	13	25	104.8-105.3	23.0-23.5		
4/10/2009	810-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	45		50/70	13	13	35/15	107.9-108.3	23.0-23.4	50.9	Crowder screen hoist upper limit failed
4/13/2009	900-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		50	13	13	25	106.7-107.1	23.5	50.0	Crowder screen hoist lower limit failed.
4/15/2009	830-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		70	13	13	25	106.2-106.5	23.5	50.0	
	1115-1215	4 & 0	X				X	X	X					X			80	5		13	13	25	106.3-106.4	19.5		
	1215-1615	2 & 0					X		X					X			98	3		13	13	15	106.6-107.5	17.5		
	1615-1700	4 & 0			X	X	X		X					X			85	3		13	13	20	108.0-108.2	19		
4/17/2009	900-1200	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	13	13	35	106.6-106.8	23	50.9	
	1200-1710	4 & 0	X	X				X	X					X			82	10		13	13	25	107.0-108.3	19		
4/19/2009	830-1610	2 & 0					X		X					X			92	10		13	13	20	106.7-108.6	18	53.3	
	1610-1700	7 & 0	X	X	X	X	X	X	X					X			65	10		13	13	25	108.4	20.5		
4/20/2009	830-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	25	106.4-106.8	23.5	54.5	
	1100-1715	6 & 0	X		X	X	X	X	X					X			70	10		13	13	25	106.8-107.9	20		
4/21/2009	800-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		35	13	13	25	105.6-106.4	23.5	55.0	
	1100-1200	7 & 0	X	X	X	X	X	X	X					X			60	15		13	13	25	106.0-106.9	19.3		
	1200-1730	3 & 0	X				X		X					X			80	10		13	13	25	107.3-108.0	18.5-18.8		
4/22/2009	830-1215	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		52	13	13	25	106.5-106.9	23.5	56.0	
	1215-1700	4 & 1				X	X	X	X	X						X	70		52	13	13	25	106.6-108.1	20.9-21.0		
4/23/2009	800-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		62	13	13	25	106.5-106.8	23.5	55.8	
	1100-1200	4 & 2				X	X	X	X	X	X			X			55	15		13	13	36	106.3	20.1		
	1200-1600	3 & 0					X	X	X					X			80	8		13	13	25	107.1-107.8	19		
	1600-1700	4 & 2				X	X	X	X	X	X			X			55	15		13	13	36	107.5	23.5		
	1700-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		62	13	13	25	107.7	23		
4/24/2009	800-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		62	13	13	25	105.4-106.0	23.5	57.2	
	1100-1700	4 & 0	X				X	X	X					X			75	8		13	13	30	105.8-107.6	19.5-19.9		
4/25/2009	830-1300	2 & 0					X		X					X			95	7		13	13	18	106.4-108.5	18	59.2	
	1300-1400	7 & 1	X	X	X	X	X	X	X	X				X									108.5	21		
	1400-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		57	13	13	31	107.6-108.4	23.5		
4/26/2009	815-1330	2 & 0					X		X					X			92/100	5		13	13	20	106.8-108.1	18	58.1	
	1330-1410	4 & 1				X	X		X	X						X	74		50	13	13	25	108	20		
	1410-1650	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		65	13	13	45	107.6-108.1	23		
4/27/2009	830-1115	2 & 0					X		X					X			90	8		13	13	20	107.3-107.8	18.2	60.8	
	1115-1225	4 & 1				X		X	X	X						X	75	3	60	13	13	25	108.1-108.2	20.8		
	1225-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		60	13	13	25	107.1-108.0	23.5		
4/28/2009	0815-1430	4 & 1				X	X	X	X			X				X	65/70		50	13	13	35	107.2-107.8	20.5	62.6	
	1430-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		65	13	13	50	107.3-107.7	23		
4/29/2009	0830-1210	2 & 0					X	X						X			86	15		13	13	25	107.3-108.6	18	64.4	
	1210-1420	2 & 2					X	X		X		X				X	70		40	13	13	30	108.7	21		
	1420-1900	3 & 4		X			X	X		X	X	X	X			X	50	5	52	13	13	30	107.5-108.6	23		
4/30/2009	800-1130	2 & 3				X			X	X	X	X				X	54		53	13	13	32	106.3-106.6	21.5	62.6	
	1130-1730	2 & 0				X			X					X			85	8		13	13	30	106.8-108.0	18		
	1730-1800	2 & 2				X			X	X	X			X			70	15		13	13	30	108.2	19.5		
	1800-1900	4 & 4	X		X	X			X	X	X	X	X			X	50		41	13	13	40	108.3	23		
5/1/2009	900-925	2 & 0				X			X					X			92	5		13	13	15	107.5	17	64.4	
	925-1030	2 & 2				X			X	X	X					X	78		50	13	13	25	107.6	19.5		
	1030-1900	3 & 4			X	X			X	X	X	X	X			X	52		50	13	13	40	106.8-107.9	22		
5/2/2009	730-1315	2 & 0			X				X					X			88	5		13	13	20	107.0-107.7	17	66.2	
	1315-1900	4 & 1			X		X	X	X			X				X	66	3	30	13	13	35	107.0-107.4	20.5		
5/3/2009	730-1700	2 & 0					X		X					X			92	10		13	13	20	106.7-108.6	17.0-17.5	68.0	
	1700-1800	4 & 1				X	X	X	X			X				X	72		50	13	13	35	108.9	21.5		
	1800-1900	4 & 3				X	X	X	X	X	X	X				X	50		50	13	13	35	108.7	21.5		
5/4/2009	800-1115	2 & 0					X		X					X			90	10		13	13	20	106.4-107.3	20	67.7	
	1115-1810	4 & 2			X		X	X	X		X	X				X	55		50	13	13	30	107.6-107.8	21.3-22.0		
	1810-1915	2 & 0					X		X					X			90	10		13	13	20	108.1	17.3		
5/5/2009	800-1000	2 & 0					X		X					X			91	10		13	13	20	108.0-108.2	18	66.2	
	1000-1100	4 & 1			X		X	X	X			X				X	75		44	13	13	35	108.7	18.5		
	1100-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		43	13	13	35	107.1-108.7	23.5		
5/6/2009	700-915	2 & 0					X		X					X			92	5		13	13	20	107.0-107.3	17	64.4	
	915-1015	4 & 1				X	X	X	X			X				X	66	3	30	13	13	35	107.3	20.5		
	1015-1730	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	45	105.7-107.2	23		
5/7/2009	700-800	2 & 0					X		X					X			92	10		13	13	20	107	16	64.4	
	800-900	4 & 1			X		X	X	X	X						X	75	15		13	13	30	107.1	20		
	900-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33	1	71	13	13	35	107.5-107.9	23.5-24.0		Maintenance came out to fix viewing room gate
5/8/2009	700-815	4 & 1				X	X	X	X			X				X	72		50	13	13	35	107.2	21	64.1	
	815-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	13	13	35	106.8-107.1	24.2-23.5		
5/9/2009	715-800	2 & 0					X		X					X			90	10		13	13	20	106.8	17	64.3	
	800-1630	4 & 1				X	X	X	X			X				X	68	1	75	13	13	35	106.9-108.8	21		
5/10/2009	700-845	2 & 0					X		X					X			92	5		13	13	20	108.2	17	64.4	
	845-1130	4 & 1				X	X	X	X			X				X	66	3	30	13	13	35	108.5-108.9	20.5		
	1130-1715	4 & 3				X	X	X	X	X	X	X				X	50		45	13	13	45	108.6-109.1	22		
5/11/2009	730-1615	4 & 4				X	X	X	X	X	X	X	X			X	50		30	13	13	30	107.6-108.5	23.0-23.2	63.5	
5/12/2009	730-800	5 & 1			X	X	X	X	X			X				X	68		50	13	13	35	108.7	22.5	63.5	
	800-1645	5 & 4			X	X	X	X	X	X	X	X	X			X	45		75	13	13	35	107.8-108.7	23		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

			Small Units							Large Units				Weir Gate				Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	Generation (small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Gate Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
5/13/2009	730-800	4 & 1				X	X	X	X		X					X	72		50	13	13	35	108.3	21	65.3	
	800-1730	4 & 3				X	X	X	X	X	X		X			X	50		45	13	13	45	107.6-108.4	22.5-22.6		
5/14/2009	730-810	4 & 1				X	X	X	X			X				X	68		75	13	13	35	108.5	21	64.4	
	810-1900	4 & 3				X	X	X	X	X	X	X				X	50		50	13	13	35	108.2-108.6	22.4-22.5		
5/15/2009	730-815	4 & 1				X	X	X	X			X				X	68	2	45	13	13	40	109.1	22	65.2	
	815-1700	4 & 3				X	X	X	X	X	X	X				X	55	5	70	13	13	40	108.4-108.9	23		
5/16/2009	700-730	2 & 0	X				X							X			92	10		13	13	20	109	17	66.2	
	730-1330	4 & 1	X				X	X	X		X					X	68/70	2	75	13	13	30	108.8-109.0	20.8		
	1330-1830	4 & 2	X				X	X	X		X	X				X	58	5	75	13	13	30	109.0-109.1	21.8		
5/17/2009	700-1300	3 & 0			X		X		X					X			84	10		13	13	25	108.3-108.9	18.9-19.5	66.4	
	1300-1620	4 & 2				X	X	X	X			X	X			X	65		50	13	13	35	108.6-109.0	21.5-22.0		
	1620-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		75	13	13	35	107.6-108.3	23.5		
5/18/2009	730-900	4 & 0				X	X	X	X					X			90	10		13	13	20	107.9	18	66.2	Hopper door will not open fully
	900-1000	4 & 1				X	X	X	X		X			X			75	15		13	13	20	108.2-108.6	18		
	1000-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	3	45	13	13	30	107.7-108.4	23.5		
	1515-1700	4 & 1			X		X	X	X				X			X	45	3	45	13	13	30	107.9	22.4		
5/19/2009	730-815	2 & 0					X		X					X			90	12		13	13	20	107.7	17	66.2	
	815-1015	4 & 1				X	X	X	X		X					X	70	3	45	13	13	30	108.3-108.4	18		
	1015-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	45	3	45	13	13	30	107.5-108.4	23.4-23.5		
5/20/2009	800-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		75	13	13	40	106.5-106.8	23.5-23.8	66.2	
5/21/2009	730-	2 & 0					X		X					X			92	10		13	13	20	106.6	22	66.2	Tried to flush trash with maintenance, but filled the hopper (1/2) with debris.
	1300-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		75	13	13	40	107.5-107.6	23.5		
5/22/2009	700-800	2 & 0					X		X					X			92	10		13	13	20	107.6	17	68.0	
	800-900	4 & 1				X	X	X	X	X				X			75	15		13	13	30	107.6	21.5		
	900-1605	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	5	75	13	13	30	107.3	22		
	1605-1630	6 & 0		X	X	X	X	X	X							X	65		70	13	13	25	106.3-107.3	23.0-23.5		
5/23/2009	700-1100	2 & 0					X		X					X			92	10		13	13	20	108.5-108.7	17.5-17.7	68.0	
	1100-1600	7 & 1	X	X	X	X	X	X	X	X						X	58	5	75	13	13	35	108.5-109.2	21.8-22.0		
5/24/2009	730-1100	2 & 0					X		X					X			92	10		13	13	20	107.6-108.4	18	69.9	
	1100-1600	5 & 2				X	X	X	X	X	X					X	60	1	60	13	13	40	108.2-108.4	22		
5/25/2009	730-1205	2 & 0					X		X					X			92	10		13	13	20	107.6-108.4	17.5	71.6	
	1205-1600	4 & 2				X	X	X	X		X	X				X	55		50	13	13	30	108.4-108.5	22		
5/26/2009	730-1000	2 & 0					X		X					X			92	10		13	13	20	107.5-108.2	17	73.4	
	1000-1600	4 & 2				X	X	X	X		X	X				X	55		50	13	13	30	108.0-108.4	22		
5/27/2009	715-1005	2 & 0				X			X					X			92	10		13	13	20	107.7	17.8	72.5	
	1005-1600	4 & 1				X	X	X	X		X					X	72	1	60	13	13	40	107.5-107.8	20.8		
5/28/2009	700-1000	2 & 0				X		X						X			92	10		13	13	20	107.9-108.2	17.7-17.9	72.5	
	1000-1615	4 & 2				X	X	X	X		X	X				X	53	1	60	13	13	35	108.1-108.6	22.0-22.5		
5/29/2009	730-1000	2 & 0				X			X					X			85	10		13	13	25	107.5-107.6	18.0-18.1	68.6	Downstream "C" gate tripped while bring up.
	1000-1120	4 & 0				X	X	X	X					X			85	10		13	13	25	107.9	18		Maintance came out to fix but could not pin point problem. "see report"
	1120-1600	5 & 4			X	X	X	X	X	X	X	X	X			X	38		60	13	13	35	107.4-107.8	23.2-23.5		
5/30/2009	730-910	4 & 1				X	X	X	X		X					X	68		50	13	13	35	108.1-108.3	20.5	73.4	Flushed trash, now debris under hopper, hopper dividing screen off bottom but cables slack.
	910-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	45	107.5-108.3	23		
5/31/2009	645-830	2 & 0					X		X					X			95	5		13	13	20	107.8-108.3	18	73.6	
	830-1005	4 & 0				X	X	X	X					X			85	10		13	13	30	108.7	18.5		
	1005-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		60	13	13	45	107.8-108.8	23		
6/1/2009	715-1015	4 & 0				X	X	X	X					X			92	10		13	13	20	107.6	17	68.2	"C" gate tripped while raising, Ops assisted. "see report"
	1015-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	7	35	13	13	35	106.5-107.3	23.5		
6/2/2009	715-1005	3 & 0			X	X	X							X			91	10		13	13	20	107.3-107.9	17	70.9	
	1005-1130	4 & 1			X	X	X		X	X						X	30	7	43	13	13	33	108.1	23		
	1130-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30	7	43	13	13	33	107.5-107.8	23.5		Hopper will not rise, replaced upper limit switch.
6/3/2009	800-1000	1 & 0		X										X			96	6		13	13	20	106.3	16.5	69.9	
	1000-1100	4 & 1		X	X	X			X	X						X	65	6	50	13	13	40	106.7	21.5		While lowering "C" gate, guage moving, wheels turning, but gate not. Bent west stem.
	1100-1600	7 & 2	X	X	X	X	X	X	X	X	X					X	38	6	50	13	13	42	107.1	23		Out of service. "see report", Tripped "A" gate.
6/4/2009	730-905	1 & 0		X										X			98	8		13	13	20	108.0-108.2	16.5	70.2	
	905-930	4 & 1		X	X	X			X	X				X			70	15		13	13	30	108.2-108.4	20.5		
	930-1115	4 & 1		X	X	X			X	X						X	#70		60	13	13	30	108.2	20.5		
	1115-1600	6 & 3	X	X	X	X	X		X	X	X	X				X	#70	20	100	13	13	55	107.7-108.2	22		
6/5/2009	730-1110	1 & 0		X										X			96	8		13	13	20	106.8-107.4	17.5	68.9	
	1110-1500	6 & 2		X	X	X	X	X	X	X	X					X	#70	10	50	13	13	30	107.3-108.0	20.5		
#70 is where the downstream "C" gate is sitting after the west stem bent. Was not able to move it after 6/3/2009, when it was taken out of service.																										
4/16/2008	1000-1130	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		60	13	13	46	106.9-107.5	23	57.8	
	1130-1315	4 & 0				X	X	X	X							X	75		40	13	13	46	108.1-108.2	21		
	1315-1715	4 & 0				X	X	X	X					X			80	15		13	13	40	108.2-108.8	21		
4/17/2008	930-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33		50	13	13	45	106.8-107.2	23	57.6	
	1100-1530	4 & 0				X	X	X	X					X			75	15		13	13	45	107.2-108.1	21		
	1530-1720	4 & 0			X	X	X	X						X			75	15		13	13	45	108.3-108.5	21		
4/18/2008	915-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		60	13	13	50	105.6-105.8	23	60.0	Proxprobe failed at high point near trough, hopper will not rise.
	1100-1715	4 & 0			X	X	X	X						X			75	20		13	13	45	105.7-107.2	20.5-21.0		
4/19/2008	900-1115	4 & 3			X	X	X	X		X	X	X				X	45		50	13	13	45	105.8-106.1	22	59.4	
	1115-1210	4 & 0			X	X	X	X						X			75	15		13	13	45	106	20		
	1210-1810	2 & 0					X	X						X			82	15		13	13	45	106.4-107.8	19		
4/20/2008	730-1415	2 & 0					X	X						X			88	15		13	13	45	108.2-109.0	19	60	
	1415-1650	4 & 1			X	X	X	X			X					X	70		45	13	13	40	108.5-108.7	21		
4/21/2008	800-1500	4 & 3			X	X	X	X		X	X	X				X	54		50	13	13	38	106.8-107.1	22.4-23.0	62.6	During 2nd lift, hopper brakes slipped causing hopper to free fall
	1500-1615	2 & 0					X	X						X			88	16		13	13	43	106.9	19.3		Crowder stuck in forward position, day done.
4/22/2008	1025-1645	4 & 3				X	X	X	X		X	X	X			X				13	13		108.0-108.5	22.1-22.5	62.6	Telemetry study done.
4/23/2008	745-1545	4 & 3				X	X	X	X		X	X	X			X	54		84	13	13	40	107.1-108.0	22.4-22.9	64.3	Crowder screen hoist limit switch failed.
4/24/2008	735-1000	4 & 3				X	X	X	X			X	X	X			40		91	13	13	45	105.8-106.0	22.9	65.3	
	1000-1115	4 & 0				X	X	X	X					X			75	15		13	13	45	105.5-105.7	19.4-19.9		
	1115-1300	2 & 0					X	X						X			88	15		13	13	45	106.3	18.1		
	1300-1405	4 & 0				X	X	X	X					X			75	15		13	13	45	106.6	19.5		
	1405-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	26		91	13	13	45	106.3-106.9	23.6		Telemetry study.
4/25/2008	715-1130	4 & 0				X	X	X	X					X			75	15		13	13	45	107.8-108.0	19.5-19.8	65.3	
	1130-1155	4 & 0				X	X	X	X							X	75		70	13	13	45	108.2	20		
	1155-1405	4 & 3				X	X	X	X			X	X	X			45		55	13	13	45	108.2-108.4	23		
	1405-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		55	13	13	45	108.3	23.5		
4/26/2008	750-1105	4 & 1			X	X	X	X			X					X	62		50	13	13	45	106.6-107.6	21	66.2	
	1105-1530	2 & 0					X	X						X			84	15		13	13	45	107.3-108.7	18.5		
	1530-1610	4 & 1				X	X	X	X		X					X	62		50	13	13	45	109.1	21		Slack in hopper cable and air leaking.
4/27/2008	NO FISHING WAS DONE TODAY BECAUSE OF AIR LINE LEAK AND STEEL PLATE FOR AIR LINE SHIEVE CHANNEL BEING REPLACED BY DIVERS.																								65.3	
4/28/2008	NO FISHING WAS DONE TODAY BECAUSE OF AIR LINE LEAK AND STEEL PLATE FOR AIR LINE SHIEVE CHANNEL BEING REPLACED BY DIVERS.																								66.6	
	SHIEVE BLOCK FOR AIR LINE REBUILT AND NEW AIR HOSES TO HOPPER DOOR.																									
4/29/2008	745-1155	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X				13	13		104.9-105.6	22.5-22.6	64.4	
	1155-1400	6 & 4	X	X	X	X	X			X	X	X	X			X				13	13		104.9	23		
	AT 1210 SHIEVE BLOCK FOR AIR LINE IS ALL BALLED UP AND HAD TO STOP HOPPER MANUALLY. MAINTANCE HAD TO LOWER HOPPER MANUALLY. HOPPER BRAKES STILL AN ISSUE.																									
4/30/2008	830-1600	6 & 4	X	X	X	X	X	X		X	X	X	X			X	35		70	13	13	38	106.1-107.0	23.0-23.6	62.6	
5/1/2008	0730-1130	6 & 4	X	X	X	X	X	X		X	X	X	X			X	33		50	13	13	35	106.4-106.5	23.3-23.5	62.5	
	1130-1530	6 & 4	X	X	X	X	X	X		X	X	X	X			X	42		50	13	13	40	106.7-106.8	23.1-23.3		
5/2/2008	730-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	40	106.3-106.8	23.3-23.5	60	
	1115-1415	4 & 1				X	X	X	X				X			X	70		50	13	13	40	106.5-107.2	20.9-21.0		
	1415-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	40	107.7	21		
5/3/2008	730-1000	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		40	13	13	40	105.0-105.9	23.2-23.3	60.7	
	1000-1115	4 & 1				X	X	X	X		X					X	68		40	13	13	40	105.2	18.7-20.4		
	1115-1630	2 & 0					X		X					X			88	10		13	13	38	105.6-107.5	17.0-17.6		
	1630-1705	4 & 1				X	X	X	X	X				X						13	13	38	107.4	23.5		
5/4/2008	835-1210	2 & 0					X		X					X			90	4		13	13	25	108.0-108.7	17	61.7	Telemetry study.
	1210-1610	4 & 2				X	X	X	X		X	X				X	55		50	13	13	40	108.9-109.1	22		
5/5/2008	830-1615	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		52	13	13	38	107.3-107.5	23.4-23.6	60.8	Telemetry study.
5/6/2008	730-1545	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		50	13	13	38	106.3-106.9	23.0-23.2	61.7	Crowder starting to stick on return trip
5/7/2008	730-810	4 & 1				X	X	X	X			X				X	68		45	13	13	38	107.1	23	62.6	
	810-1550	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	38	105.7-106.7	23.4-23.6		Crowder roller wheels are coming loose.
5/8/2008	700-810	4 & 0				X	X	X	X					X			68	5		13	13	38	107	19.6	66.2	
	810-1020	4 & 4				X	X	X	X	X	X	X	X			X	43		50	13	13	38	106.8-106.9	22.9-23.0		
	1020-1720	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	38	105.5-106.7	23.5-23.6		Telemetry study.
	1720-1905	4 & 3				X	X	X	X	X	X	X				X	48		50	13	13	38	105.5	22.4		
5/9/2008	805-1100	4 & 2			X	X	X	X			X	X				X	51		50	13	13	40	106.9-107.0	21.5	66.4	Telemetry study.
	1100-1630	4 & 4			X	X	X	X		X	X	X	X			X	42		45	13	13	35	107.2-107.4	22.6-23.0		
5/10/2008	800-820	4 & 1				X	X	X	X			X				X	45		40	13	13	38	106.1	22.4	64.4	"C" gate breaker tripped
	820-1325	4 & 3				X	X	X	X	X	X	X				X	38		40	13	13	38	105.8-106.0	22.6-23.0		Diffuser "A" boil is really boiling

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

			Small Units							Large Units				Weir Gate				Diffuser Setting		Spillway Setting		Crowder			
Date	Time	Generation (small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Gate Setting	A	B	A	B	Area Gate	Forebay Elevation	Tailrace Elevation	Water Temp F	
	1325-1810	4 & 0				X	X	X	X					X			76	4		13	13	32	106.0-107.0	19.8		
5/11/2008	700-1310	2 & 0				X		X						X			90	4		13	13	20	107.1-109.0	17.5	64.3	
	1310-1555	4 & 1				X	X	X	X		X					X	71		50	13	13	40	109.0-109.1	21		
	1555-1620	4 & 2				X	X	X	X		X	X				X	50		50	13	13	40	109.3	22		
5/12/2008	730-1507	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37		50	13	13	40	106.5-106.7	23.5	64.4	
	1507-1540	4 & 4				X	X	X	X	X	X	X	X			X	42		50	13	13	40	106.5	22.5		
5/13/2008	745-1523	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33		50	13	13	35	106.9-107.5	23.5-23.6	62.6	
5/14/2008	730-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	35	105.8-106.1	23.4-23.6	60.8	
5/15/2008	730-1525	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33		40	13	13	40	106.7-107.0	23.5-23.7	60.7	
5/16/2008	800-1325	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	50	106.3-106.5	23.4-23.5	61.7	
	1325-1430	4 & 1				X	X	X	X	X				X		X	50-62	10	20	17	17	40	106.8	20.5		Tried to fish both gates.
	1430-1530	4 & 1				X	X	X	X	X				X			70	10	40	16	16	40	106.9	20.5		
5/17/2008	750-835	4 & 1				X	X	X	X	X						X	68		48	13	13	40	108.5	20.6	62.3	
	835-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37		54	13	13	45	107.1-108.0	23.4-23.6		
5/18/2008	645-1000	2 & 0				X		X						X			90	10		13	13	38	106.7-108.1	17	62.8	
	1000-1100	2 & 0				X		X						X			92	12		13	13	26	108.3	22.9		
	1100-1545	4 & 4				X	X	X	X	X	X	X	X			X	44		50	13	13	38	108.6-108.8	23		
5/19/2008	730-1035	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	45		45	13	13	38	106.8-107.0	23.4	61	
	1035-1200	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	38	106.9-107.4	23.3-23.4		
	1200-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	48		45	13	13	38	107.3-107.9	23.2		
5/20/2008	735-1555	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	34		50	13	13	50	105.5-106.5	23	59.3	Media day, Channel 11 news
5/21/2008	740-1150	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	50	107.3-107.8	23.6	59.4	
	1150-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36	5	50	13	13	50	108.1-108.5	23.6		
5/22/2008	740-1200	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		50	13	13	40	106.5-107.0	23.8	59	
	1200-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		50	13	13	40	106.8-107.6	23.9		Air line to hopper door came detached , maintenance fix problem
5/23/2008	730-1110	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		50	13	13	55	106.0-106.3	23.5	57.2	
	1110-1530	4 & 3				X	X	X	X	X		X	X			X	52		50	13	13	55	106.6-107.6	22		
5/24/2008	745-830	4 & 3				X	X	X	X	X	X	X				X	53		50	13	13	45	107	22.4	59	
	830-945	4 & 2				X	X	X	X	X	X					X	59		50	13	13	45	106.7	21.8		
	945-1145	4 & 1				X	X	X	X		X					X	63		50	13	13	45	107.1-107.5	21.3		
	1145-1245	4 & 1				X	X	X	X		X					X	70		50	13	13	45	107.9	20.9		
	1245-1440	4 & 1				X	X	X	X		X					X	74		50	13	13	45	108.3-108.6	20.8		
	1440-1530	4 & 3				X	X	X	X	X	X	X				X	59		50	13	13	45	108.6	22.5		
5/25/2008	700-1025	2 & 0					X		X					X			92	15		13	13	25	107.6-108.0	17	60	
	1025-1310	4 & 1				X	X	X	X	X						X	75		50	13	13	45	108.4-108.7	20.5		
	1310-1700	4 & 4				X	X	X	X	X	X	X	X			X	47		50	13	13	50	108.5-108.7	22.5		
5/26/2008	700-1615	4 & 0				X	X	X	X					X			78	15		13	13	40	107.4-108.7	19	62.6	Telemetry study.
5/27/2008	800-900	2 & 0					X		X					X			88	12		13	13	40	108	20	65.3	Telemetry study.
	900-1120	4 & 1														X	72		50	13	13	50	108.4	20.5		
	1120-1520	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	50	108.3-108.5	23.0-23.6		
5/28/2008	730-915	0 & 1									X					X	94		50	13	13	38	107.4-107.6	19.4-19.6	64.4	
	915-1015	2 & 1			X			X			X					X	85		50	13	13	38	107.6	19.4		
	1015-1345	6 & 2		X	X	X	X	X	X		X	X				X	57		50	13	13	38	107.7-107.8	22.8		
	1345-1430	6 & 2		X	X	X	X	X	X		X	X				X	57		40	13	13	38	107.8	22.8		
	1430-1600	5 & 2			X	X	X	X	X		X	X				X	57		40	13	13	38	107.7	22.8		
5/29/2008	730-1005	0 & 1									X					X	94		40	13	13	35	106.9-107.4	17	68	
	1005-1120	3 & 1				X	X	X			X					X	85		40	13	13	40	107.8-108.1	18		Maintenance came out to fix broken cable on air line schieve block.
	1120-1415	5 & 3	X			X	X	X	X		X	X	X			X	40		40	13	13	50	107.9-108.3	23		
	1415-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		35	13	13	30	107.9	23.5		
5/30/2008	800-930	0 & 1								X						X	95		40	13	13	20	108.3-108.5	17	68.9	Maintenance came out to replace guide cable to air line schieve block.
	930-1210	4 & 3				X	X	X	X	X	X	X				X	50		45	13	13	45	107.5-108.0	22		
	1210-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		50	13	13	45	106.2-107.0	23		Telemetry study.
5/31/2008	715-1050	2 & 0				X		X						X			92	15		13	13	25	107.8-108.3	16.9	70.4	
	1050-1205	4 & 1				X	X	X	X	X				X			74	15		13	13	25	108.5-108.8	20.0-20.6		
	1205-1300	4 & 2				X	X	X	X	X		X				X	55		43	13	13	38	109	21.9		
	1300-1600	4 & 4				X	X	X	X	X	X	X	X			X	42		43	13	13	38	108.4	23		
6/1/2008	730-1230	1 & 0					X							X			99	10		13	13	20	107.8-108.1	16.5	71.6	
	1230-1430	1 & 0					X							X			99	10		13	13	30	108.3-108.4	16.5		
	1430-1500	1 & 0					X							X			95	10		13	13	30	108.4	16.5		
	1500-1600	4 & 1				X	X	X	X	X				X			70	10		13	13	30	108.6	20.2		
6/2/2008	745-1015	1 & 0					X							X			99	10		13	13	25	108.5-108.6	16.5	73.4	
	1015-1135	4 & 1				X	X	X	X	X				X			70	10		13	13	35	108.7-108.9	20.5-21.0		
	1135-1600	4 & 4				X	X	X	X	X	X	X	X			X	46		45	13	13	45	108.1-108.6	23		
6/3/2008	730-1115	1 & 0					X							X			99	8		13	13	20	106.8-107.5	16.5	74.8	
	1115-1255	3 & 0				X	X	X						X			88	8		13	13	30	107.5	16.9		
	1255-1400	4 & 0			X	X	X	X						X			82	8		13	13	30	107.8	17		
	1400-1530	4 & 4			X	X	X	X	X	X	X	X	X			X	45		45	13	13	45	108.2	23		
6/4/2008	745-1110	1 & 0					X							X			98	10		13	13	20	107.4-108.0	16.5	75.4	Tripped "A" diffuser breaker
	1110-1200	3 & 0					X	X	X					X			83	10		13	13	25	108.1	16.5		
	1200-1315	4 & 0				X	X	X	X					X			80	10		13	13	30	108.1	19		
	1315-1530	4 & 4				X	X	X	X	X	X	X	X			X	45	8	40	13	13	40	108.1	23		
6/5/2008	730-1110	1 & 0					X							X			98	8		13	13	20	108.0-108.5	16.5	76.1	
	1110-1230	4 & 1		X		X	X	X		X				X			73	8		13	13	40	108.6	20.5		
	1230-1530	4 & 4		X		X	X	X	X	X	X	X	X			X	45	8	40	13	13	40	108.5	22.7-23.0		Debris under crowder screen hoist, cable went slack.
6/6/2008	730-1055	1 & 0					X							X			98	8		13	13	20	107.8	16.5	76	
	Flush trash through crowder area, after that hopper would not fully lower. No lifts done today and season is over.																									
4/23/2007	1100-1500	7 & 4*	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	30	108.2	23.5-24.3	53.6	2 Spillgates open
4/24/2007	1000-1250	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		45	13	13	35	108.2-108.6	23.25	57	
	1250-1530	7 & 4*	X	X	X	X	X	X	X	X	X	X	X			X	38		45	13	13	35	108.5-108.6	23.5-23.7		1 Spillgate open
4/25/2007	1000-1530	6 & 4		X	X	X	X	X	X	X	X	X	X			X	40		45	13	13	40	105.8-106.0	22.5	56	
4/26/2007	1000-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	45	107.2	23	58.1	Oil leaking from crowder screen hoist
4/27/2007	1100-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	45	108.5-108.7	23	58	
4/28/2007	945-1140	6 & 3	X		X	X	X	X	X	X	X	X				X	44		45	13	13	45	106.8	22	59	
	1140-1300	7 & 3	X	X	X	X	X	X	X	X	X	X				X	40		45	13	13	45	107	22.5		
	1300-1530	7 & 3	X	X	X	X	X	X	X	X	X	X				X	38		45	13	13	45	107	22.5		
4/29/2007	930-1200	6 & 2	X		X	X	X	X	X	X	X					X	55		45	13	13	40	106.6-107.1	21	58.1	
	1200-1330	6 & 0	X		X	X	X	X	X							X	75		45	13	13	40	107.1-107.2	20.0-21.0		Hopper dropped when it was at the dump position, had to slow rise, this time it stayed
	1330-1725	6 & 0	X		X	X	X	X	X					X			68	15		13	13	40	107.6-108.2	20		Crowder screen hoist would not stop when it was being lowered. (debris under gate).
4/30/2007	715-1610	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	41	106.3-107.2	23.0-23.4	59	
5/1/2007	730-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	107.3-107.4	23.3-23.4	60	
	1100-1410	4 & 2				X	X	X	X	X		X				X	55		45	13	13	40	107.7-108.7	21.9-22.2		
	1410-1525	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	40	109	23.5		
	1525-1720	7 & 4*	X	X	X	X	X	X	X	X	X	X	X			X	25		45	13	13	40	109	23.0-24.5		1 Spillgate open
5/2/2007	750-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	40	106.1-106.5	22.5	60.5	
	1115-1620	4 & 2		X		X	X	X		X		X				X	55		45	13	13	40	106.2-108.0	21		
	1620-1815	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		45	13	13	40	108.2-108.3	22.5		
5/3/2007	740-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	106.0-106.5	23	62.6	
	1100-1605	4 & 0		X		X	X	X						X			70	15		13	13	40	106.0-107.5	20		
	1605-1815	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	107.8-108.0	23.0-23.6		
5/4/2007	735-955	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	106.1	23	63	
	955-1315	4 & 0				X	X	X						X			70	15		13	13	40	106.3-107.2	20		
	1315-1400	4 & 1				X	X	X	X	X						X	75		45	13	13	40	108.1	20.5		
	1400-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	108.3-108.5	23.0-23.6		
	1600-1700	7 & 3	X	X	X	X	X	X	X	X		X	X			X	40		45	13	13	40	108.7	23		
	1700-1715	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	108.7	23		Hopper wouldn't stop when returning to position. It is not on bottom and the cables are slack.
5/5/2007	1130-1200	4 & 4				X	X	X	X	X	X	X	X			X	40		45	13	13	40	107.1	22.5	64.4	Repairs to hopper and cables being made in morning.
	1200-1545	4 & 2				X	X	X	X	X		X				X	58		45	13	13	40	107.1-107.5	22		
	1545-1830	4 & 4				X	X	X	X	X	X	X	X			X	38		45	13	13	40	107.5-107.6	23		
5/6/2007	720-1045	4 & 3				X	X	X	X		X	X	X			X	47		45	13	13	40	107.2-107.3	22	63.5	
	1045-1245	4 & 3				X	X	X	X		X	X	X			X	44		45	13	13	40	107.3-107.4	22		
	1245-1635	4 & 1				X	X	X	X				X			X	68		20	13	13	50	107.5-108.1	20.5		
	1635-1815	4 & 4				X	X	X	X	X	X	X	X			X	40		35	13	13	50	107.9-108.1	22.5		
5/7/2007	0745-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		45	13	13	40	106.5-106.8	23.0-23.3	64.4	
	1115-1620	4 & 1		X		X	X	X	X				X			X	68		24	13	13	40	106.5-108.6	21.5		
	1620-1830	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	30	108.2-108.6	23.3-23.6		
5/8/2007	730-800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		35	13	13	40	107.1	23	65	
	800-1100	4 & 3	X				X	X	X		X	X	X			X	45		35	13	13	40	106.6-106.8	22		
	1100-1715	4 & 0	X				X	X	X					X			88	18		13	13	40	106.9-107.5	19.2-19.5		
	1715-1800	4 & 3	X				X	X	X		X	X	X			X	35		35	13	13	40	107.5	19.2		
5/9/2007	730-1110	6 & 4		X	X	X	X	X	X	X	X	X	X			X	36		46	13	13	40	106.5-107.3	23	66.2	
	1110-1625	4 & 0				X	X	X	X					X			67	17		13	13	42	106.5-108.4	20		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

			Small Units							Large Units				Weir Gate				Diffuser Setting		Spillway Setting					
Date	Time	Generation (small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Gate Setting	A	B	A	B	Crowder Area Gate	Forebay Elevation	Tailrace Elevation	Water Temp F	
	1625-1820	6 & 4		X	X	X	X	X	X	X	X	X	X			X	38		36	13	13	45	108.3	23		
5/10/2007	730-800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37		45	13	13	40	107.2	23	68	
	800-1100	4 & 3		X			X	X	X		X	X	X			X	47		40	13	13	40	106.6-106.8	22.5		
	1100-1605	4 & 0				X	X	X	X					X			77	15		13	13	45	106.4-107.7	19.5-20.0		
	1605-1830	4 & 3				X	X	X	X		X	X	X			X	52		35	13	13	40	108	22.5		
5/11/2007	730-1105	4 & 3				X	X	X	X	X	X	X				X	48		35	13	13	40	107.1-107.4	22.4-22.6	68	
	1105-1625	4 & 0				X	X	X	X					X			75	15		13	13	40	106.9-108.5	19.6-20.0		Air Leak coming from crowder doors
	1625-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		40	13	13	40	108.5	23.6		
5/12/2007	730-1300	4 & 1				X	X	X	X				X			X	68		35	13	13	55	107.0-107.7	21	69.9	
	1300-1720	4 & 1				X	X	X	X				X			X	68		20	13	13	60	107.9-108.7	21		
5/13/2007	710-1615	2 & 0					X		X					X			90	15		13	13	40	107.0-108.1	17	70	
	1615-1720	3 & 2				X	X		X			X	X			X	66		45	13	13	35	108.1	21		
	1720-1800	4 & 3				X	X	X	X		X	X	X			X	50		45	13	13	35	108.1	22.5		Cleaned trash racks and gate behind them at end of the day.
5/14/2007	700-1200	4 & 3				X	X	X	X		X	X	X			X	45		50	13	13	40	106.7-107.4	22.5-22.8	71	
	1200-1305	4 & 3				X	X	X	X		X	X	X			X	35		61	13	13	30	106.7	22.8		
	1305-1600	5 & 4			X	X	X	X	X	X	X	X	X			X	40		35	13	13	35	106.4-106.6	22.5-23.0		
5/15/2007	730-1420	4 & 2	X				X	X	X			X	X			X	58		43	13	13	50	106.8-107.2	22	71.1	Hopper cables have a lot of slack.
	1420-1500	7 & 3	X	X	X	X	X	X	X	X		X	X			X	38		43	13	13	50	107.2	23		
	1500-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		52	13	13	46	106.8-107.0	23.4-23.5		
5/16/2007	730-1145	4 & 2				X	X	X	X		X		X			X	62	3	40	13	13	40	107.3-107.7	21.6-21.9	73.4	Air line for crowder doors being fixed
	1145-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		40	13	13	50	107.0-107.3	23.0-23.6		
5/17/2007	730-1315	4 & 1				X	X	X	X				X			X	70	5	40	13	13	40	107.6-108.0	21	74.3	
	1315-1450	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40	5	40	13	13	40	108	23.3-23.5		
	1450-1615	7 & 3	X	X	X	X	X	X	X	X		X	X			X	40	5	40	13	13	40	107.8	23.1		
	1615-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40	5	40	13	13	40	107.5	23.4		
5/18/2007	730-1205	4 & 1				X	X	X	X				X			X	68		38	13	13	55	107.0-107.3	21	71.6	Needed to decrease crowder area gate to set hopper in pit, cables going very slack.
	1205-1710	4 & 3				X	X	X	X	X	X		X			X	53		42	13	13	48	107.3-107.4	22.4		
5/19/2007	740-1350	2 & 0					X		X					X			95	12		13	13	40	107.4-108.3	17.7-17.8	70.7	
	1350-1700	1 & 1				X				X				X			90	12		13	13	40	108.6-108.8	18.2-18.3		Capacity test on unit #8.
5/20/2007	800-1620	2 & 0					X		X					X			92	14		13	13	45-55	107.2-108.2	18	69.9	Had problem setting hopper in pit, cable are going slack when hopper is about 6 feet from bottom.
5/21/2007	730-930	4 & 0				X	X	X	X							X	89		35	13	13	48	108.7	22.5	70	Downstream weir gate got stuck at 89 %.
	930-1315	4 & 0				X	X	X	X					X			85	15		13	13	48	108.7-108.8	20.4-20.5		
	1315-1600	4 & 3				X	X	X	X	X	X	X				X	43		34	13	13	34	108.7	22.5		
5/22/2007	730-1300	4 & 0				X	X	X	X					X			83	12		13	13	40	108.0-108.4	19.4-19.5	71.6	
	1300-1600	4 & 3				X	X	X	X	X	X		X			X	57	15		13	13	39	108.4-108.5	22.3-22.5		
5/23/2007	730-1225	2 & 0					X		X					X			92	14		13	13	48	107.5-108.6	18	71.6	
	1225-1300	4 & 0				X	X	X	X							X	80		35	13	13	45	108.7	19.6		
	1300-1600	4 & 3				X	X	X	X	X	X		X			X	54		38	13	13	48	108.5	22.4-22.9		
5/24/2007	730-1310	2 & 0					X		X					X			92-95	15		13	13	60	106.8-107.5	17	71.6	
	1310-1420	4 & 0			X		X	X	X					X			82	15		13	13	60	108.2	19		
	1420-1600	4 & 3			X		X	X	X	X	X		X			X	55		35	13	13	60	108.0-108.2	22		Cleaned trash racks and gate behind them at end of the day.
5/25/2007	730-1330	2 & 0					X		X					X			92	14		13	13	50	107.2-108.5	18	72.5	Had problem setting hopper in the pit.
	1330-1425	4 & 1														X	68		39	13	13	50	108.6	21		
	1425-1600	4 & 3														X	53		39	13	13	50	108.6-108.7	22.6		
5/26/2007	730-1325	2 & 0					X		X					X			96	15		13	13	60	107.0-108.2	17	75.5	
	1325-1600	4 & 0				X	X	X	X					X			85	15		13	13	60	108.2-108.4	18.5		
5/27/2007	720-1305	2 & 0					X		X					X			97	15		13	13	60	107.0-108.3	17	77	
	1305-1600	4 & 1				X	X	X	X				X			X	72		30	13	13	60	108.5-108.6	20.5		
5/28/2007	730-1330	2 & 0					X		X					X			96	12		13	13	43	107.5-108.0	18.4-18.5	75.2	
	1330-1600	4 & 2			X	X	X		X			X	X			X	66	5	20	13	13	56	107.8-108.0	21.5		
5/29/2007	700-1025	2 & 0					X		X					X			96	12		13	13	39	107.0-107.3	18.5	77.9	
	1025-1300	0 & 1								X				X			96	12		13	13	39	107.4-108.0	18.5		
	1300-1500	0 & 4								X	X	X	X			X	75		23	13	13	35	108.1	21.9		
5/30/2007	745-1400	2 & 0					X		X					X			92	15		13	13	58	106.5-107.2	18	79.7	
	1400-1500	7 & 0	X	X	X	X	X	X	X					X			72	13		13	13	48	106.9	20		
5/31/2007	745-1330	2 & 0					X		X					X			94	14		13	13	50	105.7-106.2	17.8	80.1	Crowder shaking when coming forward. Season is over
4/3/2006	1130-1600	2 & 0					X	X								X	84		39	13	13	24	107.3-107.7	18.0-18.5	52.7	
4/5/2006	1115-1145	4 & 1														X							107.9	20.5	48.6	
	1145-1600	2 & 0																					107.9-108.1	18.5		
4/7/2006	1030-1210	4 & 2														X	60		50	13	13	25	107	22	55	Diffuser A and B are not working properly.
	1210-1700	2 & 0					X	X						X			78			13	13	20	106.9-107.3	18		
4/8/2006	940-1205	4 & 1					X	X	X	X	X					X	68		40	13	13	25	107.1-107.4	20	54.5	
	1205-1610	2 & 0						X	X					X			78			13	13	20	107.6-108.3	18		
4/9/2006	1030-1300	4 & 1					X	X	X	X		X					62	20		13	13	24	108.2-108.3	20.5-21.0	53.6	
	1300-1710	2 & 0						X	X					X			78	20		13	13	24	108.4-108.6	18.5		Hopper is not lined up correctly with trough.
4/10/2006	1100-1110	4 & 0												X						13	13	28	107.5	20.5	55.1	
	1110-1530	2 & 0						X	X					X			78	45		13	13	28	107.7-108.4	19.0-19.5		Limit switch failed during last lift. Hopper a had to be manually stop at trough.
4/11/2006	1030-1210	4 & 0												X			72	45		13	13	20	107.6	19.5	55.4	
	1210-1630	2 & 0												X			78	45		13	13	25	107.7-108.8	19		
4/13/2006	1000-1110	4 & 3														X	50		53	13	13	25	106.7	22	57	
	1110-1210	4 & 0														X	65		53	13	13	25	106.8	20.5		
	1210-1700	2 & 0												X			82	25		13	13	25	106.8-108.1	18.5		
	1700-1745	3 & 0												X			76	25		13	13	25	108.2	19		
4/14/2006	1030-1415	4 & 1														X	70		18	13	13	25	108.2-108.5	20.0-21.0	57.2	
	1415-1745	2 & 0												X			78	20		13	13	25	108.5-108.8	19		Limit switch at trough failed.
4/15/2006	1000-1200	4 & 1														X	65-68		51	13	13	25	107.6-107.7	21.0-21.5	59	
	1200-1700	2 & 0												X			80	20		13	13	25-30	107.8-108.6	19		
4/16/2006	1000-1700	2 & 0												X			80	25		13	13	25	107.8-108.6	18.5	59.4	Maintenance here in morning to fix limit switch,
4/17/2006	1100-1735	4 & 0												X			72	45		13	13	20-25	107.3-108.8	19.5		Limit switch at trough failed again.
4/18/2006	1000-1335	4 & 0					X	X	X	X				X			72	40		13	13	25	107.3-107.8	19.5	60	
	1335-1605	2 & 0					X	X						X			80	45		13	13	30	108.1-108.8	19		
	1605-1720	4 & 1					X	X	X	X				X			62	35		13	13	40	108.9	20.5		
4/19/2006	950-1210	4 & 2			X	X		X	X			X	X			X	55		50	13	13	25	107.2-107.4	21.5	60.8	Maintenance made repairs to viewing room gate.
	1210-1720	4 & 0			X	X		X	X							X	70		55	13	13	25	107.5-108.3	20.5		Upstream "A" gate tripped mid-day.
4/20/2006	930-1230	4 & 0			X	X		X	X					X			72	50		13	13	25	107.5-107.7	19.5	61.4	
	1230-1815	4 & 4			X	X		X	X	X	X	X	X			X	45		52	13	13	25	107.0-108.0	22.5		Had to shut down spills to switch gates.
4/21/2006	900-1400	4 & 1														X	60		52	13	13	26	106.6-106.9	20.5-21.0	62.6	
	1400-1800	3 & 0												X			75	15		13	13	26	107.3-107.7	19.5		
	1800-1845	4 & 1								X				X									107.7	20		
4/22/2006	800-1100	4 & 0				X	X		X	X				X			70	15		13	13	30	106.1-106.3	19.5	62.6	
	1100-1300	2 & 0							X	X				X			78	15		13	13	35	106.5-107.0	18.5		
	1300-1730	2 & 0							X	X				X			80	15		13	13	25	107.0-107.9	18.5		
4/23/2006	750-1655	4 & 0				X	X		X	X				X			70	15		13	13	30	108.0-109.0	20	61.7	Thin cable for schieve block for air line was wrapped around hoses. Removed.
	1655-1800	4 & 3				X	X		X	X	X	X	X			X	50		45	13	13	35	108.7	21		
4/24/2006	800-1135	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	24	106.3-107.0	23	61.7	
	1135-1500	4 & 2			X	X		X	X			X	X			X	48		45	13	13	24	106.3-107.3	22		Maintenance replace guide cable for schieve block.
	1500-1745	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	24	107.6-107.7	23		
4/25/2006	800-1445	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	27		50	13	13	30	107..3-107.6	23	61.7	
4/26/2006	800-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	25		50	13	13	30	106.7-107.0	23.0-23.5	59	
4/27/2006	800-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	28		50	13	13	30	107.8-108.4	23.5	59	
4/28/2006	800-1655	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	40	107.2-107.5	23.5	59	
4/29/2006	800-1730	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	40	106.7-108.1	23.5	59	
4/30/2006	700-1120	2 & 0					X	X						X			78	15		13	13	35	107.9-108.7	18.5	59	
	1120-1150	4 & 0				X	X	X	X					X			72	15		13	13	35	108.7	19		
	1150-1215	4 & 2				X	X	X	X			X	X			X	52		45	13	13	35	108.8	20		
	1215-1815	4 & 3				X	X	X	X	X		X	X			X	52		45	13	13	35	108.7-108.8	22		
5/1/2006	800-1215	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		50	13	13	35	107.3-108.3	23	59	
	1215-1700	4 & 0				X	X	X	X					X			71	20		13	13	35	107.5-108.6	19.5-20.0		
5/2/2006	800-1055	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		52	13	13	35	107.1-108.0	23.5	60.8	
	1055-1700	4 & 0				X	X	X	X					X			70	20		13	13	35	106.9-107.7	20		
5/3/2006	800-1210	4 & 3			X	X		X	X	X	X		X			X	45		55	13	13	30	107.6-108.0	22.5	62.3	
	1210-1650	4 & 0			X	X		X	X							X	75		40	13	13	30	107.9-108.8	20		
	1650-1730	4 & 3			X	X		X	X	X	X		X			X	45		40	13	13	45	109	22.5		
	1730-1800	4 & 4			X	X		X	X	X	X	X	X			X	37		40	13	13	45	108.8	23		Hopper cable wrapped around cage on last lift.
5/4/2006	DID NOT OPERATE TODAY DUE TO HOPPER CABLE WRAPPED AROUND CAGE. Tested at 1945.																									
5/5/2006	900-1700	4 & 2				X	X	X	X			X	X			X	52		51	13	13	35	108.0-108.7	22	64.4	
	1700-1845	4 & 3				X	X	X	X	X	X	X				X	46		45	13	13	30	108.7-108.9	22.5		
5/6/2006	800-1300	4 & 0				X	X	X	X					X			70	20		13	13	35	107.3-108.1	20.0-19.5	64.8	
	1300-1400	2 & 0					X		X					X			79	10		13	13	41	108.5	19		
	1400-1800	4 & 1				X	X	X	X	X						X	70		45	13	13	25	108.5-108.6	20.5-21.0		
5/7/2006	830-1800	2 & 0					X		X					X			82	15		13	13	30	107.0-108.3	18	65.3	Flushed debris and had maintenance come out to fully lower dividing screen hoist.

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

			Small Units							Large Units				Weir Gate				Diffuser Setting		Spillway Setting					
Date	Time	Generation (small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Gate Setting	A	B	A	B	Crowder Area Gate	Forebay Elevation	Tailrace Elevation	Water Temp F	
5/8/2006	800-1200	4 & 1														X	65		54	13	13	25	106.7-106.8	20.0-21.0	64.8	
	1200-1700	2 & 0												X			82	15		13	13	30	106.8-107.9	19.5-20.0		Downstream "C" gate tripped while switching over.
	1700-1800	4 & 2														X	52		25	13	13	35	108	21.5		Maintenance saw bottom section of crowder screen hoist missing.
5/9/2006	830-1200	4 & 1														X	65		55	13	13	35	107.6-107.8	21	66.2	
	1200-1730	4 & 1														X	60		55	13	13	30	108.1-108.8	21		Had problem with crowder screen hoist not fully lowering.
5/10/2006	845-1030	4 & 1				X	X	X	X		X					X	63		55	13	13	30	106.4-106.7	20.5	67	
	1030-1330	3 & 0					X	X	X					X			77	25		13	13	30	106.5-106.8	19.5-20.5		
	1330-1610	3 & 0					X	X	X					X			77	10		13	13	20	107.3-107.6	19.5		
	1610-1700	3 & 0					X	X	X					X			77	8		13	13	45	107.8	19.5		
	1700-1730	4 & 1				X	X	X	X				X			X	63		42	13	13	35	108.2	19.5		
5/11/2006	745-1000	4 & 2				X	X	X	X		X		X			X	53		40	13	13	30-35	106.1-106.3	21	66.6	
	1000-1400	3 & 0				X	X	X						X			77	25		13	13	30	106.2-107.1	19		
	1400-1655	3 & 0				X	X	X						X			77	10		13	13	20	107.3-107.8	19		
5/12/2006	800-1100	4 & 0												X			70	20		13	13	35	107.3-107.5	19.5	67.8	
	1100-1600	4 & 1										X				X	63		55	13	13	32	107.7-108.6	21.5		
	1600-1720	4 & 3									X	X	X			X	52		45	13	13	30	108.5	22		
5/13/2006	800-1730	4 & 0												X			69	25		13	13	30	106.0-106.9	19.5	68.2	
5/14/2006	745-1600	2 & 0						X	X					X			90	15		13	13	20	107.4-108.6	18	67.1	
	1600-1730	4 & 2		X			X	X	X		X		X			X	58		45	13	13	35	108.6	21.5		
5/15/2006	830-1305	4 & 2		X			X	X	X		X		X			X	55		45	13	13	30	107.7-108.1	21.5	67.1	
	1305-1700	4 & 1		X			X	X	X		X					X	62		45	13	13	30	108.1-108.5	21		
5/16/2006	800-1105	4 & 3														X	47		40	13	13	30	106.7-106.8	22	66.2	
	1105-1700	4 & 0												X			77	15		13	13	30	107.0-107.9	19.5		
5/17/2006	745-1100	4 & 3			X	X	X	X		X		X	X			X	50		45	13	13	30	107.1-107.4	22	66.6	
	1100-1700	4 & 1			X	X	X	X		X						X	69		45	13	13	30	107.3-108.1	20.5		
5/18/2006	800-1245	4 & 3				X	X	X	X	X		X	X			X	50		45	13	13	25-30	107.0-107.4	22	66.2	
	1245-1710	4 & 1				X	X	X	X			X				X	67		40	13	13	25-30	107.5-108.1	20.5		
	1710-1745	4 & 3				X	X	X	X	X		X	X			X	50		30	13	13	20	108	22		
5/19/2006	800-1300	4 & 3														X	50		36	13	13	40	107.9-108.1	22	66.2	
	1300-1700	4 & 1				X	X	X	X	X						X	69-72		25-35	13	13	25-30	108.1-108.6	20.5		
5/20/2006	800-1130	4 & 0	X		X		X	X						X			78	15		13	13	35	107.0-107.3	19	64.4	
	1130-1210	4 & 0	X				X	X	X					X			84	15		13	13	30	107.6	19		
	1210-1710	4 & 0				X	X	X	X					X			84	15		13	13	25	107.9-108.4	19		
5/21/2006	745-810	2 & 0					X	X						X			82	15		13	13	35	107.7	18	64	
	810-1650	4 & 0				X	X	X	X					X			82	10		13	13	20-30	107.7-108.1	19		
5/22/2006	800-1145	4 & 2				X	X	X	X		X		X			X	60		40	13	13	35	107.3-107.7	21	63	
	1145-1500	4 & 1				X	X	X	X		X					X	70		35	13	13	30	107.4-107.5	20.5		
	1500-1700	4 & 1				X	X	X	X		X					X	70		30	13	13	20	107.6-107.8	20.5		
5/23/2006	800-1225	4 & 2				X	X	X	X		X		X			X	60		40	13	13	35	107.3-107.6	21	62.6	
	1225-1315	4 & 0				X	X	X	X							X	72		20	13	13	35	107.5	20		
	1315-1500	4 & 0				X	X	X	X					X			80	15		13	13	35	107.8-107.9	19		
	1500-1655	4 & 0				X	X	X	X					X			80	10		13	13	17	108.2	19		
5/24/2006	800-1225	4 & 2				X	X	X	X	X	X					X	60		30	13	13	35	107.1-107.4	21	62.2	
	1225-1445	4 & 0				X	X	X	X					X			80	15		13	13	30	107.4-107.5	19.5		
	1445-1715	4 & 0				X	X	X	X					X			80	10		13	13	20	107.8-108.3	19.5		
	1715-1800	4 & 1				X	X	X	X	X				X			67	15		13	13	30	108.3	20.5		
5/25/2006	800-820	2 & 0					X	X						X			80	15		13	13	30	108	18.5	64.4	When lowering "A" gate, heard loud bang.
	820-1220	4 & 0			X	X	X	X						X			80	15		13	13	30	108.2-108.6	19.5		
	1220-1400	4 & 4			X	X	X	X		X	X	X	X			X	50		40	13	13	35	108.3-108.4	22.5		
	1400-1700	4 & 4			X	X	X	X		X	X	X	X			X	45		40	13	13	35	107.9-108.1	22.5		
5/26/2006	730-800	2 & 0												X			90	15		13	13	35	107.5	18.5	65.3	
	800-1200	4 & 0												X			84	15		13	13	35	108.1-108.4	19.5		
	1200-1730	4 & 2														X	63		30	13	13	30	108.4-108.6	21.5		
5/27/2006	700-1200	2 & 0					X		X					X			90	15		13	13	30	107.6-108.5	18.5	64.4	
	1200-1430	4 & 1				X	X	X	X	X				X			69	15		13	13	30	108.5-108.8	20.5		
	1430-1700	4 & 1				X	X	X	X	X						X	73		30	13	13	30	108.6	20.0-20.5		
5/28/2006	745-1410	2 & 0					X		X					X			90	10		13	13	20	107.8-108.7	17	66.2	Air leaking from one of the crowder doors. Hole in the line.
	1410-1700	4 & 1			X		X	X	X			X				X	70		45	13	13	30	108.4-108.7	20		
5/29/2006	700-1425	2 & 0					X		X					X			90	15		13	13	30	107.5-108.2	18.5	68	
	1425-1500	4 & 1			X		X	X	X		X					X	73		20	13	13	30	108.1	20		
5/30/2006	645-1005	2 & 0					X		X					X			90	15		13	13	30	108.2-108.5	18	70	
	1005-1115	4 & 1				X	X	X	X			X				X	72		40	13	13	30	108.8	20		
	1115-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	35	107.7-108.6	23		
5/31/2006	730-1225	2 & 0					X		X					X			90	15		13	13	30	106.2-107.5	17.5	71.3	
	1225-1500	4 & 3				X	X	X	X	X	X	X				X	48		40	13	13	30	107.4-107.6	22		
6/1/2006	700-1200	1 & 0					X							X			93	15		13	13	25	106.6-107.1	17.5	73.6	
	1200-1500	4 & 2			X	X	X		X		X	X				X	64		30	13	13	30	107.1-107.5	22		
6/2/2006	700-1300	1 & 0					X							X			95	15		13	13	25-30	107.3-108.5	17.5	77	
	1300-1500	4 & 4				X	X	X	X	X	X	X	X			X	50		30	13	13	30	108.7-109.0	22.5		
6/3/2006	700-1210	1 & 0					X							X			94	15		13	13	25	108.0-108.9	17	77	
	1210-1400	4 & 3	X		X		X	X			X	X	X			X	55		40	13	13	30	109.1	22		
6/4/2006	730-830	1 & 0					X							X			90	15		13	13	30	107.9	17	75.6	
	830-1030	4 & 0				X	X	X	X					X			80	15		13	13	30	107.9-108.1	19.5		
	1030-1115	1 & 0					X							X			90	15		13	13	30	108	17		
	1115-1400	4 & 1														X	70		30	13	13	30	108.0-108.1	20.5		
6/5/2006	730-1115	4 & 1			X	X	X	X					X			X	58		30	13	13	30	108.0-108.5	21	75.6	
4/23/2001	1130-1200	6 & 4								X	X	X	X			X	80		50			10	106.8	21.5	52.7	
	1200-1715	6 & 4								X	X	X	X			X	39		47			18	106.5	23		
4/25/2001	945-1545	6 & 4								X	X	X	X			X	39		47			18	107.1-107.5	23	55.4	
	1545-1830	6 & 4								X	X	X	X			X	58		55			30	107.5-107.7	23		
4/26/2001	930-1150	6 & 4								X	X	X	X			X	39		47			18	107.4	23	59	
	1150-1815	6 & 4								X	X	X	X			X	58		55			30	107.6-108.4	23		
4/27/2001	945-1830	6 & 4								X	X	X	X			X	48	25	52			23	107.8-108.0	23	59	
4/28/2001	800-845	4 & 0														X	84		70			10	108.2	17.5	59	
	845-955	4 & 2														X	70		70			10	108.4	21		
	955-1015	6 & 4								X	X	X	X			X	50		70			7	108.3	22		
	1015-1600	6 & 4								X	X	X	X			X	48	25	53			23	107.0-108.1	22.5-23.0		
	1600-1715	4 & 3														X							107	22.5		
	1715-1745	6 & 4								X	X	X	X			X	48	25	53			23	106.8-107.0	22.5-23.0		
4/29/2001	730-1100	2 & 2									X		X			X	80		70			10	108	17.5	60	Two Large turbine stuck in spin mode.
	1100-1300	2 & 2									X		X			X	78	25	52			15	108	17.5		
	1300-1535	4 & 1														X	76		55			28	108	20.5		
	1535-1835	6 & 4								X	X	X	X			X	39		47			12	108	23		
4/30/2001	750-1000	2 & 2									X		X			X	90		55			30	108	17.5	62.6	
	1000-1200	4 & 2									X		X			X	80		55			30	108	19.5-20.0		
	1200-1840	6 & 4								X	X	X	X			X	49		47			12	107.4-108.0	23		
5/1/2001	750-1230	2 & 1			X				X							X	80		70			10	107.5-107.9	17.5	62..6	
	Had maintenance come out to switch around plates, fish dumped into sorting tank and 41 tagged for telemetry study.																									
5/2/2001	800-900	2 & 1			X				X							X						20	107.8	18	66.2	
	900-1050	2 & 1			X				X							X	95		70			10	108.1-108.4	19		
	1050-1215	4 & 2														X	86		47			7	108.6-108.8	21.0-22.0		
	1215-1350	6 & 4								X	X	X	X			X	40		60			30	108.7	23		
	1350-1815	6 & 4								X	X	X	X			X	28		70			30	107.5-108.4	23		
5/3/2001	830-1010	2 & 0			X				X				X			X						10	107.9-108.0	18.5	67.1	Unit 11 stuck on slow spin -45%
	1010-1245	4 & 2														X	50		70			7	108.3-108.4	22		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged 41Shad for telemetry study.																									
5/4/2001	820-1200	1 & 3														X	80		70			10	107.0-107.2	17.5	69.9	
	1200-1815	3 & 4														X	39		47			12	107.0-108.0	22.0-23.0		
5/5/2001	800-1100	1 & 3									X	X	X			X	80		70			10	107	18	68.9	Large units stuck in slow spin.
	1100-1800	3 & 3														X	68		71			44	108	21		
5/6/2001	730-1830	2 & 3														X	80		70			11	107	18	69.9	Large units stuck in slow spin.
5/7/2001	830-1230	1 & 1														X	79		35			4	107.7-108.7	18.5	69.9	
	1230-1350	4 & 2														X	64		70			70	108.6-108.7	18.5		
	1350-1430	4 & 2														X	50		70			7	108.6	21		Problems with the crowder, maintance came out and fixed
	1430-1630	6 & 2														X	40		60			30	108.7	22		
	1630-1815	6 & 4								X	X	X	X			X	39		47			12	108.2-108.7	23		
5/8/2001	830-1245	2 & 1		X					X		X	X	X			X	84		70			6	106.7-107.3	18.5	68.9	Large Units stuck on slow spin
	1245-1400	2 & 1		X					X		X	X	X			X	79		70			4	107.3-107.8	18.5		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged Shad for telemetry study.																									
5/9/2001	800-1130	2 & 1			X		X				X	X	X			X	84		70			6	107.0-107.3	18.5	71.6	Large units stuck on slow spin. Both doors on hopper open, maintenance came out to fix.
	1130-1530	3 & 1			X		X		X		X	X	X			X	79		70			4	107.6-108.3	18.5		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

			Small Units							Large Units				Weir Gate				Diffuser Setting		Spillway Setting					
Date	Time	Generation (small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Gate Setting	A	B	A	B	Crowder Area Gate	Forebay Elevation	Tailrace Elevation	Water Temp F	
	1530-1800	4 & 2														X	86		47			7	108.6	21		
5/10/2001	800-850	2 & 1			X				X			X	X	X			X					4	106.2	16.5	74.3	
	850-1100	2 & 1			X				X			X	X	X			X	84		70		6	106.6-106.9	18.5		
	1100-1335	2 & 3														X	75		35			15	107.0-107.3	18.5		
	1335-1430	2 & 3														X	95		70			10	107.8	19		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged 40 Shad for telemetry study.																									
	1515-1730	2 & 3														X	95		70			10	108.1-108.5	19		
	1730-1830	4 & 1														X	70		70			10	108.6	21		
5/11/2001	830-1300	2 & 3														X	80		70			10	107.3-108.6	18	74.3	
	1300-1320	2 & 3														X	70		70			10	108.4-108.8	23		Broke cables on crowder, limit switch failed.
5/12/2001	800-1400	1 & 3														X	72		55			7	105.6-107.2	18.5	74.3	
	1400-1830	2 & 3														X							107.2-108.0	18.5		
5/13/2001	800-1630	2 & 3														X							106.4-106.7	17.5-18.0	73.4	
5/14/2001	800-830	2 & 0														X	92		35			10	106.4	16.5	72.5	
	830-1500	2 & 0														X	80		55			30	106.7-107.4	18		
	1500-1750	2 & 0														X	79		35			45	107.6-108.1	18		
5/15/2001	800-1050	2 & 0														X	80		55			30	107.4	18	71.6	
	1050-1240	2 & 0														X	79		35			45	107.7-108.1	18		
	1240-1315	2 & 2														X	84		70			10	108.3	20		
	1315-1400	2 & 2														X	70		70			10	108.3	21		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged Shad for telemetry study.																									
	1500-1750	2 & 2														X	70		70			10	108.3-108.5	21		
5/16/2001	800-1240	2 & 0					X		X			X	X	X			X	80		55		30	106.2-107.2	18	69.8	Large units stuck on slow spin.
	1240-1530	2 & 0					X		X			X	X	X			X	79		35		45	107.6-107.9	18		
	1530-1800	4 & 1														X	64		70			7	107.9-108.3	21		
5/17/2001	830-930	2 & 0			X	X										X	90		51			20	105.6-105.7	18	68.9	
	930-1020	2 & 0			X	X										X	74		30			10	105.8	18		
	1020-1400	2 & 0						X	X							X	79		35			4	106.1-106.3	18.0-18.5		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged Shad for telemetry study.																									
	1515-1645	2 & 0						X	X							X	80		55			30	106.6-107.2	18.5		
	1645-1800	2 & 0						X	X							X	79		35			45	107.5-107.7	18.5		
5/18/2001	800-1715	2 & 2														X	83		30			2	106.3-107.8	18.5	70.7	
5/19/2001	800-1715	2 & 2														X	83		30			2	106.4-108.2	18.0-18.5	70.7	
	1715-1745	4 & 2		X	X	X			X			X	X			X							108.2	21.5		
5/20/2001	800-1730	2 & 3										X	X	X		X	96		70			5	104.9-105.4	18	70.7	Large units stuck on slow spin
5/21/2001	830-1320	2 & 0														X	74		30			10	104.6-105.4	18	68.9	
	1320-1530	2 & 0														X	74		30			10	105.8-106.1	18		
	1530-1720	2 & 0														X	70		55			30	106.6-107.0	18		
5/22/2001	800-1050	2 & 0														X	74		30			10	106.0-106.2	18	69.5	
	1050-1345	2 & 0														X	80		55			30	106.6-107.3	18		
	1345-1530	2 & 0														X	79		35			45	107.6-108.0	18		
	1530-1540	4 & 2														X	70		70			10	108	18		
	1540-1750	4 & 2														X	50		70			7	108.2	21		
5/23/2001	800-1025	2 & 0			X				X			X	X	X			X	79		35			4	106.3-106.4	18.5	71.6	Large Units stuck on slow spin
	1025-1300	2 & 0			X				X			X	X	X			X	79		35			4	106.7-107.3	18.5		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged 50 Shad for telemetry study.																									
	1415-1450	2 & 0			X				X			X	X	X			X	79		35			4	107.4	18.5		
	1450-1745	2 & 0			X				X			X	X	X			X	73		35			20	107.7-108.0	19		
5/24/2001	800-920	2 & 0														X	74		30			10	105.4-105.5	18	70.2	
	920-1240	2 & 0														X	74		30			10	105.7-106.3	18		
	1240-1535	2 & 0														X	80		55			30	106.7-107.3	18		
	1535-1730	2 & 0														X	79		35			45	107.7-108.1	18		
5/25/2001	800-1000	2 & 0														X	74		30			10	106.9-107.0	18.0-18.5	70	
	1000-1400	2 & 3														X	95		70			10	107.3-107.8	18.5		
	1400-1700	2 & 2									X	X				X	83		30			2	108.0-108.6	20.0-21.0		
5/26/2001	1000-1700	1 & 3														X	74		30			10	106.2-107.0	18.5	70.7	
5/27/2001	1500-1640	2 & 3														X	95		70			10	108.2	18.5	71.6	Cyclinder to hopper door was bent, maintenance came out and swapped out cylinders.
5/28/2001	1045-1240	3 & 0														X	79		35			4	108	18.5	71.6	Downstream weir gate tripped
	1240-1730	4 & 1														X	58		55			30	108.0-108.2	21		
5/29/2001	1000-1140	4 & 1														X	70		70			10	108.4	21	71.4	
	1140-1340	4 & 1														X	86		47			7	108.5	21		
	1340-1730	4 & 3														X	50		70			7	108.1-108.5	22		
5/30/2001	1030-1240	2 & 0														X	79		35			10	108.0-108.4	18	71.4	
	1240-1315	4 & 1														X	86		47			7	108.6	21		
	1315-1340	4 & 3														X	50		70			7	108.6	21		
	1340-1700	4 & 3														X	40		60			30	108.5-108.6	22		
5/31/2001	1000-1220	None														X	79		35			10	107.2-107.8	18	69.8	"NO UNITS ON"
	1220-1615	4 & 1														X	70		70			10	108.0-108.5	21		
6/1/2001	1000-1300	1 & 3														X	79		35			10	107.5-107.8	18.0-18.5	69.9	
	1300-1700	4 & 1														X	70		70			10	108.1-108.2	21.5		
6/2/2001	1000-1500	1 & 3														X	79		35			10	107.6-108.6	18.5	69.6	
	1500-1700	3 & 1														X	70		70			10	108.9	21		
6/3/2001	1000-1700	1 & 3														X	79		35			10	106.9-108.0	17.5	72.5	Trash rack "A" tripped
6/4/2001	1030-1125	1 & 0														X	75		35			20	107.3-107.6	18	70.7	
	1125-1500	4 & 1														X	84		70			10	107.9-108.2	20		
6/6/2001	1030-1210	4 & 0														X	84		70			10	107.8-108.2	20	70	
	1210-1345	4 & 2														X	70		70			10	108.2-108.4	21		

OPERATIONAL MATRIX FOR CONOWINGO EAST FISH LIFT

RECOMMENDED GATE SETTINGS

Operating units		Discharge	Upstream Weir	Downstream Weir	Diffuser A	Diffuser B	Crowder	Spillways
Small	Large	(CFS)	Gate "A" (UWG)	Gate "C" (DWG)			Area Gate	
1	0	5,000	95	Closed	5-10	Closed	20	12-14
2	0	7,500-10,000	85-92	Closed	5-10	Closed	20	12-14
3	0	15,000	78-85	Closed	5-10	Closed	20-25	12-14
4	0	20,000	74-78	Closed	5-10	Closed	20-25	12-14
5	0	25,000	70-75	Closed	10	Closed	20-30	12-14
6	0	30,000	65-70	Closed	10	Closed	20-30	12-14
7	0	35,000	62-67	Closed	10-15	Closed	20-30	12-14
4	1	30,000	65-75	Closed	10-20	Closed	25-40	12-14
2	2	30,000	Closed	65-75	Closed	50	25	12-14
3	2	35,000	Closed	48-55	Closed	50	25-35	12-14
3	4	55,000	Closed	43-52	Closed	50	30-40	12-14
4	0	20,000	Closed	72-78	Closed	50	25	12-14
4	1	30,000	Closed	65-74	Closed	50	25-35	12-14
4	2	40,000	Closed	50-55	Closed	50	25-35	12-14
4	3	50,000	Closed	45-53	Closed	50	30-40	12-14
4	4	60,000	Closed	40-50	Closed	50	30-40	12-14
5	4	65,000	Closed	40-48	Closed	50	30-40	12-14
6	1	40,000	Closed	55-60	Closed	50	25-35	12-14
6	2	50,000	Closed	52-57	Closed	50	30-40	12-14
6	3	60,000	Closed	40-50	Closed	50	30-40	12-14
7	1	45,000	Closed	53-59	Closed	50	30-40	12-14
7	2	55,000	Closed	40-50	Closed	50	30-40	12-14
7	3	65,000	Closed	38-45	Closed	50	30-40	12-14
7	4	75,000	Closed	30-40	Closed	50	30-40	12-14

*When Operating either Weir Gate, no water should be going out the other Weir Gate. Diffuser B should be used for "C" gate only, Diffuser A should be used mainly for "A" gate, but can be cracked open to help with "C" gate.

**Spillways should be opened to 14%, if possible, without the water crashing onto I-beam.

***When water in east channel is spilling over angle wall then the Diffuser and/or Crowder Area Gate should be opened farther or the spillways should be closed a bit until spilling has stopped.

****Gates may need to be lower earlier in the season and may have to be raised after the water temperatures warms.

*****Only when unit #8 is on should the "A" gate be tried. This should only be used when unit #8, is only large unit going to be on or when they are expecting to decrease generation, to small units only, in the near future.

******These gate settings are only recommended.

Min Flows		# of units
April	10,000	2 Small
May	7,500	2 Small
June	5,000	1 Small

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	

2001

During the 2001 season the large units (8,9,10,11) were stuck on slow spin.

Date	Generation Time (24 Hour)	Generation Small + Large	Lift Time (24 Hour)	
4/23/2001	1130-1715	6 + 4	1145	
			1245	
			1345	
			1445	
			1545	
			1645	
			1715	
4/25/2001	945-1830		1030	
			1100	
			1145	
			1230	
			1315	
			1400	
			1445	
			1530	
			1615	
			1700	
			1745	
			1830	
4/26/2001	930-1815	6 + 4	1000	
			1045	
			1145	
			1215	
			1245	
			1315	
			1345	
			1415	
			1445	
			1515	
			1545	
			1615	
			1645	
			1715	
			1745	
			1815	
4/27/2001	945-1830	6 + 4	1000	
			1040	
			1105	
			1140	
			1215	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1245	
			1315	
			1345	
			1415	
			1445	
			1515	
			1545	
			1615	
			1645	
			1700	
			1730	
			1800	
			1830	
4/28/2001	800-845	4 + 0	845	
	845-955	4 + 2	915	
			1000	
	955-1600	6 + 4	1045	
			1130	
			1215	
			1300	
			1340	
			1430	
	1600-1715	4 + 3	1615	
			1700	
	1715-1745	6 + 4	1715	
4/29/2001	730-1300	2 + 2	900	
			945	
			1015	
			1100	
			1135	
			1215	
			1300	
	1300-1535	4 + 1	1330	
			1345	
			1410	
			1425	
			1440	
			1455	
			1520	
			1535	
	1535-1835	6 + 4	1550	
			1605	
			1615	
			1630	
			1645	
			1705	
			1725	
			1745	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1800	
			1835	
2 large turbines stuck in spin mode (#9, #11 can't be shut down completely).				
4/30/2001	750-1000	2 + 2	910	
			950	
	1000-1200	4 + 2	1035	
			1115	
			1145	
	1200-1840	6 + 4	1235	
			1320	
			1400	
			1430	
			1500	
			1530	
			1600	
			1630	
			1700	
			1730	
			1800	
			1840	
5/1/2001	750-1230	7 + 3	830	
			900	
			930	
			1000	
			1030	
			1100	
			1130	
			1205	
			1225	
Maint. came out to switch around plates, fish dumped into sorting tank.				
and 41 tagged for telemetry study. (1430)				
5/2/2001	800-1050	2 + 1	900	
			930	
			1000	
			1030	
	1050-1215	4 + 2	1100	
			1130	
			1200	
	1215-1815	6 + 4	1230	
			1300	
			1330	
			1400	
			1430	
			1500	
			1530	
			1600	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1630	
			1700	
			1730	
			1800	
			1815	
Maint. here in morning to switch plate from sort to trough.				
5/3/2001	830-1010	2 + 0	845	
			915	
			945	
			1015	
	1010-1245	4 + 2	1045	
			1115	
			1145	
			1215	
			1245	
Maint. came out to switch around plates, fish dumped into sorting tank.				
and 41 tagged for telemetry study. (1345)				
Switched plates back to trough (1500).				
5/4/2001	820-1200	1 + 3	915	
			1000	
			1015	
			1025	
			1035	
			1045	
			1100	
			1110	
			1125	
			1135	
			1145	
			1205	
	1200-1815	3 + 4	1215	
			1235	
			1245	
			1300	
			1310	
			1325	
			1340	
			1400	
			1415	
			1430	
			1445	
			1500	
			1515	
			1530	
			1545	
			1600	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1615	
			1630	
			1700	
			1730	
			1815	
5/5/2001	800-1100	1 + 3	815	
			845	
			930	
			1000	
			1030	
			1100	
	1100-1800	3 + 3	1115	
			1130	
			1145	
			1200	
			1215	
			1230	
			1245	
			1300	
			1315	
			1330	
			1345	
			1400	
			1415	
			1445	
			1500	
			1515	
			1530	
			1545	
			1600	
			1615	
			1630	
			1645	
			1700	
			1715	
			1730	
			1745	
			1800	
Units 8,9,10 were stuck on slow spin.				
5/6/2001	730-1830	2 + 3	815	
			845	
			915	
			930	
			945	
			1000	
			1015	
			1030	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1115	
			1140	
			1200	
			1215	
			1230	
			1300	
			1330	
			1400	
			1430	
			1500	
			1530	
			1600	
			1645	
			1715	
			1745	
			1830	
Units 8,9,10 were stuck on slow spin.				
5/7/2001	830-1230	1 + 3	840	
			910	
			940	
			1010	
			1030	
			1050	
			1215	
	1230-1430	4 + 3	1245	
			1315	
			1345	
			1415	
	1430-1630	6 + 3	1445	
			1515	
			1545	
			1615	
	1630-1815	6 + 4	1645	
			1715	
			1815	
Maint. Came out and fixed crowder, guide wheels came off track				
5/8/2001	830-1400	2 + 3	900	
			930	
			1000	
			1030	
			1100	
			1120	
			1140	
			1200	
			1220	
			1240	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1300	
			1320	
			1340	
			1400	
5/9/2001	800-1130	2 + 3	810	
			915	
			945	
			1015	
			1045	
			1115	
			1135	
	1130-1530	3 + 3	1155	
			1215	
			1235	
			1300	
			1330	
			1350	
			1420	
			1445	
			1510	
	1530-1800	4 + 3	1540	
			1610	
			1640	
			1710	
			1735	
			1800	
During 915 lift, both hopper doors opened, lost fish. Maint. Repaired				
5/10/2001	800-1420	2 + 3	815	
			845	
			915	
			945	
			1015	
			1045	
			1115	
			1145	
			1215	
			1245	
			1315	
			1350	
			1420	
	1515-1730	2 + 3	1540	
			1630	
			1710	
	1730-1830	4 + 3	1750	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1830	
Maint. came out to switch around plates, fish dumped into sorting tank.				
and 41 tagged for telemetry study. (1445). Back to trough and continued fishing.				
5/11/2001	830-1320	2 + 3	900	
			930	
			1000	
			1045	
			1115	
			1145	
			1215	
			1245	
			1315	
Crowder cable broke, limits failed done for the day.				
5/12/2001	800-1400	1 + 4	8300	
			900	
			930	
			1000	
			1030	
			1100	
			1130	
			1200	
			1230	
			1300	
			1330	
			1400	
	1400-1830	2 + 4	1430	
			1500	
			1530	
			1600	
			1630	
			1700	
			1730	
			1800	
			1830	
All large units stuck on slow spin.				
5/13/2001	800-1630	2 + 4	830	
			900	
			930	
			1000	
			1030	
			1100	
			1130	
			1200	
			1230	
			1300	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1330	
			1415	
			1500	
			1545	
			1630	
5/14/2001	800-1750	2 + 4	815	
			900	
			930	
			1015	
			1045	
			1130	
			1210	
			1245	
			1325	
			1405	
			1445	
			1530	
			1615	
			1700	
			1750	
5/15/2001	800-1400	2 + 4	830	
			915	
			1000	
			1035	
			1110	
			1145	
			1220	
			1300	
			1350	
	1500-1750	2 + 4	1525	
			1630	
			1715	
			1750	
Maint. came out to switch around plates, fish dumped into sorting tank.				
and tagged for telemetry study. (1430). Back to trough and continued fishing.				
5/16/2001	800-1530	2 + 3	830	
			915	
			1000	
			1040	
			1120	
			1155	
			1230	
			1310	
			1350	
			1430	
			1515	
	1530-1800	4 + 4	1600	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1640	
			1720	
			1800	
5/17/2001	830-1400	2 + 3	915	
			1000	
			1045	
			1130	
			1215	
			1300	
			1345	
	1515-1800	2 + 3	1530	
			1630	
			1715	
			1800	
Maint. came out to switch around plates, fish dumped into sorting tank.				
and 55 tagged for telemetry study. (1400). Back to trough and continued fishing.				
5/18/2001	800-1715	2 + 2	845	
			930	
			1030	
			1130	
			1230	
			1330	
			1430	
			1530	
			1630	
			1715	
5/19/2001	800-1715	2 + 2	845	
			1000	
			1100	
			1200	
			1300	
			1400	
			1545	
			1600	
			1700	
	1715-1745	4 + 2	1745	
5/20/2001	800-1730	2 + 3	845	
			935	
			1030	
			1115	
			1200	
			1245	
			1330	
			1415	
			1500	
			1600	
			1700	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1730	
5/21/2001	830-1720	2 + 3	900	
			1000	
			1100	
			1200	
			1300	
			1400	
			1500	
			1600	
			1645	
			1720	
5/22/2001	800-1050	2 + 3	845	
			945	
			1040	
			1120	
			1205	
			1250	
			1335	
			1425	
			1450	
			1520	
	1530-1750	4 + 3	1605	
			1650	
			1750	
5/23/2001	800-1300	2 + 3	845	
			945	
			1030	
			1115	
			1200	
			1245	
			1420	
	1415-1745	2 + 3	1515	
			1600	
			1700	
			1745	
Maint. came out to switch around plates, fish dumped into sorting tank.				
and 50 tagged for telemetry study. (1330). Back to trough and continued fishing.				
5/24/2001	800-1730	2 + 3	845	
			945	
			1045	
			1130	
			1230	
			1330	
			1430	
			1515	
			1600	
			1645	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1730	
5/25/2001	800-1400	2 + 3	900	
			1000	
	1000-1400		1100	
			1200	
			1300	
			1400	
	1400-1700	2 + 2	1500	
			1600	
			1700	
5/26/2001	1000-1700	1 + 3	1100	
			1200	
			1330	
			1500	
			1600	
			1700	
5/27/2001	1500-1640	2 + 3	1600	
			1640	
Late start due to bent cyclinder and door not closing. Maint. Fixed (1500)				
5/28/2001	1045-1240	3 + 3	1130	
			1230	
	1240-1730	4 + 3	1330	
			1430	
			1530	
			1630	
			1730	
5/29/2001	1000-1730	4 + 1	1045	
			1145	
			1245	
			1330	
			1400	
			1500	
			1600	
			1640	
			1730	
5/30/2001	1030-1240	2 + 3	1115	
			1200	
			1245	
	1240-1700	4 + 3	1345	
			1445	
			1545	
			1630	
			1700	
5/31/2001	1000-1220	0 + 3	1100	
			1200	
	1220-1615	4 + 3	1300	
			1400	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1500	
			1615	
6/1/2001	1000-1300	1 + 3	1115	
			1215	
	1300-1700	4 + 3	1315	
			1415	
			1515	
			1600	
			1700	
6/2/2001	1000-1500	1 + 3	1100	
			1200	
			1300	
			1400	
	1500-1700	3 + 3	1600	
			1700	
6/3/2001	1000-1700	1 + 3	1130	
			1230	
			1330	
			1430	
			1530	
			1630	
			1700	
6/4/2001	1030-1125	1 + 3	1115	
	1125-1500	4 + 3	1215	
			1315	
			1415	
			1500	
6/6/2001	1030-1345	4 + 3	1115	
			1200	
			1245	
			1345	

Conowingo East Lift Time Compared to Date and Generation Units running.

2006

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
4/3/2006	1130-1600	5,6	1230	
			1315	
			1400	
			1445	
			1530	
			1600	
4/5/2006	1115-1145	?		
	1145-1600	?	1200	
			1245	
			1330	
			1415	
			1500	
			1600	
4/7/2006	1030-1210	?	1115	
			1215	
	1210-1700	4,5	1315	
			1400	
			1445	
			1530	
			1615	
			1700	
4/8/2006	940-1205	4,5,6,7,8	1030	
			1115	
			1200	
	1205-1610	5,6	1300	
			1345	
			1430	
			1530	
			1610	
4/9/2006	1030-1300	4,5,6,7,9	1100	
			1200	
			1300	
	1300-1710	5,6	1400	
			1445	
			1530	
			1630	
			1710	
4/10/2006	1100-1110	?		
	1110-1530	5,6	1145	
			1245	
			1345	
			1445	
			1530	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
Limit switch failed during last lift. Hopper a had to be manually stop at trough.				
4/11/2006	1030-1210	?	1130	
	1210-1630	?	1230	
			1330	
			1430	
			1530	
			1630	
4/13/2006	1000-1110	?	1045	
	1110-1210	?	1130	
	1210-1700	?	1230	
			1315	
			1400	
			1445	
			1530	
			1615	
			1700	
	1700-1745	?	1745	
4/14/2006	1030-1415	?	1115	
			1230	
			1315	
			1400	
	1415-1745	?	1445	
			1530	
			1615	
			1700	
			1745	
Limit switch failed.				
4/15/2006	1000-1200	?	1030	
			1115	
			1200	
	1200-1700	?	1245	
			1330	
			1415	
			1500	
			1545	
			1625	
			1700	
4/16/2006	1000-1700	?	1100	
			1200	
			1300	
			1400	
			1445	
			1530	
			1615	
			1700	
4/17/2006	1100-1735	?	1130	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1215	
			1315	
			1415	
			1500	
			1545	
			1630	
			1710	
			1735	
Limit switch at trough failed.				
4/18/2006	1000-1335	4,5,6,7	1100	
			1145	
			1230	
			1315	
	1335-1605	5,6	1400	
			1445	
			1530	
			1610	
	1605-1720	4,5,6,7,8	1645	
			1720	
Repairing limit switch delayed start fishing time.				
4/19/2006	950-1210	3,4,6,7,10,11	1015	
			1100	
			1145	
	1210-1720	3,4,6,7	1230	
			1330	
			1430	
			1530	
			1630	
			1720	
Delayed start due to repairing viewing room gate.				
4/20/2006	930-1230	3,4,6,7	1015	
			1100	
			1140	
			1220	
	1230-1815	3,4,6,7,8,9,10,11	1300	
			1345	
			1430	
			1515	
			1600	
			1645	
			1730	
			1815	
4/21/2006	900-1400	?	950	
			1030	
			1115	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1200	
			1245	
			1330	
	1400-1800	?	1415	
			1500	
			1545	
			1630	
			1715	
			1800	
	1800-1845	?,8	1845	
4/22/2006	800-1100	3,4,6,7	845	
			930	
			1015	
			1100	
	1100-1730	6,7	1130	
			1200	
			1230	
			1300	
			1330	
			1400	
			1430	
			1515	
			1600	
			1645	
			1730	
4/23/2006	750-1655	3,4,6,7	830	
			915	
			1000	
			1100	
			1145	
			1230	
			1315	
			1400	
			1445	
			1530	
			1600	
			1630	
			1700	
	1655-1800	3,4,6,7,8,9,10	1730	
			1800	
Wire to air line schieve, broken and removed				
4/24/2006	800-1135	1,2,3,4,5,6,7,8,9,10,11	845	
			915	
			1000	
			1045	
			1130	
	1135-1500	3,4,6,7,10,11	1210	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1250	
			1330	
			1410	
			1450	
	1500-1745	1,2,3,4,5,6,7,8,9,10,11	1530	
			1615	
			1700	
			1745	
Wire to air line schieve, replaced by maint.				
4/25/2006	800-1445	1,2,3,4,5,6,7,8,9,10,11	845	
			945	
			1045	
			1145	
			1245	
			1345	
			1445	
4/26/2006	800-1600	1,2,3,4,5,6,7,8,9,10,11	845	
			930	
			1020	
			1115	
			1215	
			1315	
			1415	
			1510	
			1600	
4/27/2006	800-1600	1,2,3,4,5,6,7,8,9,10,11	845	
			945	
			1045	
			1135	
			1230	
			1325	
			1420	
			1515	
			1600	
4/28/2006	800-1655	1,2,3,4,5,6,7,8,9,10,11	830	
			915	
			1000	
			1045	
			1130	
			1215	
			1300	
			1345	
			1430	
			1515	
			1600	
			1655	
4/29/2006	800-1730	1,2,3,4,5,6,7,8,9,10,11	900	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			945	
			1030	
			1115	
			1200	
			1245	
			1330	
			1415	
			1500	
			1545	
			1640	
			1730	
4/30/2006	700-1120	5,6	845	
			1000	
			1100	
	1120-1150	4,5,6,7	1155	
	1150-1215	4,5,6,7,10,11		
	1215-1815	4,5,6,7,8,10,11	1245	
			1330	
			1415	
			1500	
			1545	
			1615	
			1645	
			1715	
			1745	
			1815	
5/1/2006	800-1215	1,2,3,4,5,6,7,8,9,10,11	900	
			1000	
			1045	
			1130	
			1215	
	1215-1700	4,5,6,7	1330	
			1410	
			1450	
			1530	
			1615	
			1700	
5/2/2006	800-1055	1,2,3,4,5,6,7,8,9,10,11	830	
			915	
			955	
			1025	Tour group
	1055-1700	4,5,6,7	1110	
			1145	Tour group
			1245	
			1330	
			1410	
			1450	
			1530	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1610	
			1700	
5/3/2006	800-1210	3,4,6,7,8,9,11	845	
			930	
			1015	
			1100	
			1140	
	1210-1650	3,4,6,7	1220	
			1300	
			1335	
			1410	
			1445	
			1520	
			1555	
			1630	
	1650-1730	3,4,6,7,8,9,11	1700	
			1730	
	1730-1800	3,4,6,7,8,9,10,11	1800	
Hopper and cables wrapped. Lift opertions down.				
5/4/2006				
Did not operate due to cable wrapped around hopper. Tested at 1945				
5/5/2006	900-1700	4,5,6,7,9,10	940	
			1045	
			1115	
			1145	
			1215	
			1245	
			1315	
			1345	
			1415	
			1445	
			1515	
			1545	
			1630	
	1700-1845	4,5,6,7,9,10,11	1715	
			1800	
			1845	
5/6/2006	800-1300	4,5,6,7	840	
			920	
			1000	
			1040	
			1120	
			1200	
			1240	
	1300-1400	5,7	1320	
			1400	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
	1400-1800	4,5,6,7,8	1440	
			1520	
			1600	
			1640	
			1720	
			1800	
5/7/2006	830-1800	5,7	915	
			945	
			1015	
			1045	
			1115	
			1145	
			1215	
			1245	
			1320	
			1355	
			1430	
			1510	
			1555	
			1655	
			1800	
Late start due to flushing woody debris in channel				
5/8/2006	800-1200	?	900	
			940	
			1020	
			1100	
			1140	
	1200-1700	?	1400	
			1440	
			1520	
			1600	
			1630	
			1700	
	1700-1800		1800	
Downstream "C" gate tripped while raising at 1200.				
Maint. observed missing slats on crowder screen hoist				
5/9/2006	830-1200	?	920	
			1000	
			1040	
			1120	
			1200	
	1200-1730		1240	
			1320	
			1400	
			1440	
			1520	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1650	
			1730	
Maint. replaced missing slats on crowder screen hoist (830)				
Crowder screen hoist would not fully lower, maint. Repaired (1550)				
5/10/2006	845-1030	4,5,6,7,9	930	
			1010	
	1030-1700	5,6,7	1050	
			1130	
			1210	
			1250	
			1330	
			1410	
			1450	
			1530	
			1610	
			1650	
	1700-1730	4,5,6,7,11	1730	
5/11/2006	745-1000	4,5,6,7,9,11	815	
			855	
			935	
	1000-1655	4,5,6	1015	
			1055	
			1135	
			1215	
			1255	
			1340	
			1425	
			1510	
			1555	
			1655	
5/12/2006	800-1100	?	840	
			920	
			1000	
			1040	
	1100-1600	?,10	1120	
			1200	
			1240	
			1320	
			1400	
			1440	
			1520	
			1600	
	1600-1720	?,9,10,11	1640	
			1720	
5/13/2006	800-1730	4,5,6,7	845	
			930	
			1015	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1100	
			1145	
			1230	
			1315	
			1400	
			1445	
			1530	
			1630	
			1730	
5/14/2006	745-1600	6,7	900	
			945	
			1030	
			1115	
			1200	
			1245	
			1330	
			1415	
			1500	
			1545	
	1600-1730	2,5,6,7,9,11	1645	
			1730	
5/15/2006	830-1305	2,5,6,7,9,11	915	
			1000	
			1045	
			1130	
			1215	
			1300	
	1305-1700	2,5,6,7,11	1345	
			1430	
			1515	
			1600	
			1700	
5/16/2006	800-1105		830	
			915	
			1000	
			1045	
	1105-1700		1145	
			1230	
			1315	
			1400	
			1445	
			1530	
			1615	
			1700	
5/17/2006	745-1100	3,4,5,6,8,10,11	830	
			915	
			1000	
			1045	

Conowingo East Lift Time Compared to Date and Generation Units running.

	Generation	Generation	Lift Time	
Date	Time (24 Hour)	Unit # Operating	(24 Hour)	
	1100-1700	3,4,5,6,8	1110	Tour group
			1145	
			1230	
			1315	
			1400	
			1445	
			1530	
			1615	
			1700	
5/18/2006	800-1245	4,5,6,7,8,10,11	830	
			915	
			1010	
			1045	
			1130	
			1215	
	1245-1710	4,5,6,7,10	1300	
			1345	
			1430	
			1515	
			1615	
			1700	
	1710-1745	4,5,6,7,8,10,11	1745	
5/19/2006	800-1300	4,5,6,7,8,?	830	
			915	
			1000	
			1045	
			1130	
			1215	
			1300	
	1300-1700	4,5,6,7,8	1400	
			1445	
			1530	
			1615	
			1700	
5/20/2006	800-1130	1,3,5,6	900	
			1030	
	1130-1210	1,5,6,7	1200	
	1210-1710	4,5,6,7	1300	
			1400	
			1500	
			1600	
			1710	
5/21/2006	745-810	5,6		
	810-1650	4,5,6,7	900	
			1000	
			1100	
			1200	
			1300	

Conowingo East Lift Time Compared to Date and Generation Units running.

	Generation	Generation	Lift Time	
Date	Time (24 Hour)	Unit # Operating	(24 Hour)	
			1400	
			1500	
			1600	
			1650	
5/22/2006	800-1145	4,5,6,7,9,11	900	
			1000	
			1100	
	1145-1700	4,5,6,7,9	1200	
			1300	
			1400	
			1500	
			1600	
			1700	
5/23/2006	800-1225	4,5,6,7,9,11	900	
			1000	
			1040	Tour group
			1130	
			1230	
	1225-1655	4,5,6,7	1330	
			1445	
			1550	
			1655	
5/24/2006	800-1225	4,5,6,7,8,9	900	
			1010	Tour group
			1100	Tour group
			1200	
	1225-1715	4,5,6,7	1330	
			1430	
			1530	
			1630	
	1715-1800	4,5,6,7,8	1730	
			1800	
5/25/2006	800-820	5,6		
	820-1220	3,4,5,6	900	
			1000	
			1100	
			1200	
	1220-1700	3,4,5,6,8,9,10,11	1300	
			1400	
			1500	
			1600	
			1700	
5/26/2006	730-800	?		
	800-1200	?	830	
			930	
			1030	
			1130	
	1200-1730	?	1230	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1330	
			1430	
			1530	
5/27/2006	700-1200	5,7	800	
			900	
			1000	
			1100	
			1200	
	1200-1700	4,5,6,7,8	1300	
			1400	
			1530	
			1700	
5/28/2006	745-1410	5,7	900	
			1000	
			1100	
			1200	
			1300	
			1400	
	1410-1700	3,5,6,7,10	1500	
			1600	
			1700	
Air leak from one of the crowder doors. Slow to close.				
5/29/2006	700-1425	5,7	800	
			900	
			1000	
			1100	
			1200	
			1300	
			1400	
	1425-1500	3,5,6,7,9	1500	
5/30/2006	645-1005	5,7	745	
			845	
			935	
	1005-1115	4,5,6,7,10	1100	
	1115-1500	1,2,3,4,5,6,7,8,9,10,11	1200	
			1315	
			1415	
			1500	
5/31/2006	730-1225	5,7	830	
			915	
			1015	
			1115	
			1210	
	1225-1500	4,5,6,7,8,9,10	1315	
			1415	
			1500	
6/1/2006	700-1200	5	815	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			915	
			1015	
			1115	
	1200-1500	3,4,5,7,9,10	1215	
			1315	
			1415	
			1500	
6/2/2006	700-1300	5	800	
			900	
			1000	
			1130	
			1300	
	1300-1500	4,5,6,7,8,9,10,11	1400	
			1500	
6/3/2006	700-1210	5	800	
			900	
			1000	
			1100	
			1200	
	1210-1400	1,3,5,6,9,10,11	1300	
			1400	
6/4/2006	730-830	5	815	
	830-1030	4,5,6,7	915	
			1015	
	1030-1115	5	1115	
	1115-1400	?	1215	
			1315	
			1400	
6/5/2006	730-1115	3,4,5,6,11	815	
			915	
			1015	
			1115	

Conowingo East Lift Time Compared to Date and Generation Units running.

2007

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
4/23/2007	1100-1500	1,2,3,4,5,6,7,8,9,10,11	1200	
			1300	
			1400	
			1500	
2 Spillgates open entire time				
4/24/2007	1000-1530	1,2,3,4,5,6,7,8,9,10,11	1030	
			1115	
			1200	
			1300	
			1400	
			1500	
			1530	
1 Spillgate open from 1215-				
4/25/2007	1000-1530	2,3,4,5,6,7,8,9,10,11	1030	
			1115	
			1200	
			1300	
			1400	
			1500	
			1530	
Air lines on crowder switched over to close faster.				
4/26/2007	1000-1515	1,2,3,4,5,6,7,8,9,10,11	1030	
			1100	
			1140	
			1215	
			1300	
			1345	
			1425	
			1515	
Oil leaking out of crowder screen hoist motor, Maint. repaired problem.				
4/27/2007	1100-1800	1,2,3,4,5,6,7,8,9,10,11	1110	
			1130	
			1200	
			1230	
			1310	
			1350	
			1430	
			1505	
			1535	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1610	
			1645	
			1720	
			1800	
4/28/2007	945-1140	1,3,4,5,6,7,8,9,10	1015	
			1045	
			1115	
			1145	
	1140-1530	1,2,3,4,5,6,7,8,9,10	1215	
			1245	
			1305	
			1335	
			1405	
			1435	
			1505	
			1530	
4/29/2007	930-1200	1,3,4,5,6,7,8,9	1005	
			1035	
			1105	
			1135	
			1205	
	1200-1725	1,3,4,5,6,7	1245	
			1320	
			1410	
			1445	
			1515	
			1545	
			1615	
			1645	
			1715	
			1725	
Hopper drifted down at trough level (4-5 inches)				
Crowder screen hoist did not fully lower on lift				
4/30/2007	715-1610	1,2,3,4,5,6,7,8,9,10,11	845	
			910	
			940	
			1010	
			1050	
			1135	
			1220	
			1310	
			1355	
			1440	
			1525	
			1610	
5/1/2007	730-1100	1,2,3,4,5,6,7,8,9,10,11	820	
			850	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			920	
			1015	
			1100	
	1100-1410	4,5,6,7,8,10	1130	
			1210	
			1255	
			1340	
	1410-1720	1,2,3,4,5,6,7,8,9,10,11	1420	
			1505	
			1550	
			1635	
			1720	
1 Spillgate open (1525-				
5/2/2007	750-1115	1,2,3,4,5,6,7,8,9,10,11	825	
			905	
			945	
			1030	
			1115	
	1115-1620	2,4,5,6,8,10	1155	
			1235	
			1305	
			1340	
			1415	
			1450	
			1525	
			1600	
	1620-1815	1,2,3,4,5,6,7,8,9,10,11	1635	
			1705	
			1740	
			1815	
Extra slack in West hopper cable when lowering.				
5/3/2007	740-1100	1,2,3,4,5,6,7,8,9,10,11	830	
			910	
			950	
			1030	
	1100-1605	2,4,5,6	1110	
			1210	
			1300	Tour group
			1345	
			1430	
			1515	
			1600	
	1605-1815	1,2,3,4,5,6,7,8,9,10,11	1645	
			1730	
			1815	
5/4/2007	735-955	1,2,3,4,5,6,7,8,9,10,11	815	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			900	
			935	
	955-1315	4,5,6,7	1015	
			1135	
			1220	
	1315-1400	4,5,6,7,8	1325	
	1400-1600	1,2,3,4,5,6,7,8,9,10,11	1415	
			1500	
			1545	
	1600-1700	1,2,3,4,5,6,7,8,10,11	1630	
	1700-1715	1,2,3,4,5,6,7,8,9,10,11	1715	
Hopper would ot stop when lowering it after the 1715 lift.				
This caused the cable to tangle aroung the hopper. Done for the night.				
5/5/2007	1130-1200	4,5,6,7,8,9,10,11	1200	
	1200-1545	4,5,6,7,8,10	1245	
			1330	
			1415	
			1450	
			1520	
			1550	
	1545-1830	4,5,6,7,8,9,10,11	1625	
			1700	
			1730	
			1800	
			1830	
5/6/2007	720-1245	4,5,6,7,9,10,11	800	
			845	
			925	
			1005	
			1045	
			1130	
			1215	
	1245-1635	4,5,6,7,11	1300	
			1350	
			1435	
			1515	
			1600	
	1635-1815	4,5,6,7,8,9,10,11	1645	
			1730	
			1815	
5/7/2007	0745-1115	1,2,3,4,5,6,7,8,9,10,11	830	
			915	
			1000	
			1035	
			1120	
	1115-1620	3,5,6,7,11	1205	
			1250	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1335	
			1420	
			1440	Tour group
			1525	
			1610	
	1620-1830	1,2,3,4,5,6,7,8,9,10,11	1655	
			1745	
			1830	
5/8/2007	730-800	1,2,3,4,5,6,7,8,9,10,11		
	800-1100	1,5,6,7,9,10,11	830	
			910	
			945	
			1020	
			1100	
	1100-1715	1,5,6,7	1200	
			1225	
			1250	
			1320	
			1355	
			1420	
			1445	
			1510	
			1535	
			1600	
			1625	
			1700	
			1720	
	1715-1800	1,5,6,7,9,10,11	1800	
5/9/2007	730-1110	2,3,4,5,6,7,8,9,10,11	820	
			900	
			945	
			1025	
			1100	
	1110-1625	4,5,6,7	1145	
			1220	Tour group
			1300	
			1345	
			1430	
			1515	
			1600	
	1625-1820	2,3,4,5,6,7,8,9,10,11	1645	
			1730	
			1820	
5/10/2007	730-800	1,2,3,4,5,6,7,8,9,10,11		
	800-1100	2,5,6,7,9,10,11	815	
			855	
			935	
			1030	Tour group

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
	1100-1605	4,5,6,7	1115	
			1200	
			1245	Tour group
			1330	
			1415	
			1500	
			1555	
	1605-1830	4,5,6,7,9,10,11	1645	
			1725	
			1800	
			1830	
5/11/2007	730-1105	4,5,6,7,8,9,10	825	
			900	
			935	
			1010	
			1045	
	1105-1625	4,5,6,7	1125	
			1205	
			1250	
			1330	
			1420	
			1500	
			1530	
			1600	
			1630	
	1625-1700	1,2,3,4,5,6,7,8,9,10,11	1700	
Air leak from crowder doors, did nt crowd the rest of the day. (1335-				
5/12/2007	730-1720	4,5,6,7,11	830	
			915	
			945	
			1005	
			1025	
			1045	
			1105	
			1125	
			1145	
			1205	
			1225	
			1245	
			1305	
			1325	
			1345	
			1410	
			1435	
			1500	
			1520	
			1540	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1605	
			1630	
			1655	
			1720	
			1750	
			1830	
5/13/2007	710-1615	5,7	750	
			815	
			840	
			905	
			930	
			955	
			1020	
			1045	
			1110	
			1135	
			1205	
			1235	
			1305	
			1335	
			1405	
			1430	
			1500	
			1530	
			1600	
	1615-1720	4,5,7,10,11	1630	
			1700	
	1720-1800	4,5,6,7,9,10,11	1730	
			1800	
5/14/2007	700-1305	4,5,6,7,9,10,11	815	
			900	
			935	
			1010	
			1050	
			1130	
			1210	
			1250	
	1305-1600	3,4,5,6,7,8,9,10,11	1350	
			1455	
			1600	
5/15/2007	730-1420	1,5,6,7,10,11	830	
			930	
			1000	
			1030	
			1050	
			1125	
			1215	
			1315	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1400	
	1420-1700	1,2,3,4,5,6,7,8,9,10,11	1445	
			1530	
			1620	
			1700	
Crowder screen hoist did not fully lower on 1125 lift. Screen fixed at 1330.				
5/16/2007	730-1145	4,5,6,7,9,11	830	
			905	
			955	
			1025	
			1105	
			1140	
	1145-1700	1,2,3,4,5,6,7,8,9,10,11	1215	
			1250	
			1325	
			1400	
			1435	
			1510	
			1550	
			1630	
			1700	
Maint. Fixed air line hose for crowder. (1025)				
5/17/2007	730-1315	4,5,6,7,11	815	
			855	
			935	
			1015	
			1105	
			1145	
			1230	
			1315	
	1315-1450	1,2,3,4,5,6,7,8,9,10,11	1400	
			1445	
	1450-1615	1,2,3,4,5,6,7,8,10,11	1530	
			1615	
	1615-1700		1700	
5/18/2007	730-1205	4,5,6,7,11	840	
			920	
			1015	
			1105	
			1145	
	1205-1710	4,5,6,7,8,9,11	1225	
			1305	
			1340	
			1415	
			1450	
			1525	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1600	
			1635	
			1710	
5/19/2007	740-1350	5,7	830	
			920	
			1005	
			1130	
			2110	
			1250	
			1330	
	1350-1700	5,8	1410	
			1455	
			1540	
			1625	
			1700	
Capacity test on Unit #8.				
5/20/2007	800-1620	5,7	830	
			905	
			935	
			1005	
			1035	
			1105	
			1135	
			1205	
			1235	
			1305	
			1335	
			1405	
			1435	
			1505	
			1535	
			1620	
5/21/2007	730-1315	4,5,6,7	845	
			940	
			1025	
			1115	
			1215	
			1315	
	1315-1600	4,5,6,7,8,9,11	1430	
			1600	
Had prob. With Downstream Weir gate, would not rise				
5/22/2007	730-1300	4,5,6,7	830	
			915	
			1000	
			1045	
			1130	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1215	
			1300	
	1300-1600	4,5,6,7,8,9,11	1345	
			1430	
			1515	
			1600	
5/23/2007	730-1225	5,7	845	
			940	
			1030	
			1115	
			1210	
	1225-1300	4,5,6,7	1255	
	1300-1600	,4,5,6,7,8,9,11	1400	
			1500	
			1600	
5/24/2007	730-1310	5,7	830	
			920	
			1000	
			1050	
			1140	
			1230	
	1310-1420	3,5,6,7	1320	
			1410	
	1420-1600	3,5,6,7,8,9,11	1510	
			1600	
Cleaned and flushed trash on screens in lower channel (1630).				
5/25/2007	730-1330	5,7	850	
			940	
			1040	
			1120	
			1215	
			1320	
	1330-1425	?		
	1425-1600	?	1445	
			1600	
Problem lowering hopper fully into the pit.				
5/26/2007	730-1325	5,7	830	
			915	
			1000	
			1045	
			1135	
			1225	
			1315	
	1325-1600	4,5,6,7	1405	
			1500	
			1600	

Conowingo East Lift Time Compared to Date and Generation Units running.

	Generation	Generation	Lift Time	
Date	Time (24 Hour)	Unit # Operating	(24 Hour)	
5/27/2007	720-1305	5,7	820	
			910	
			1000	
			1100	
			1200	
			1300	
	1305-1600	4,5,6,7,11	1400	
			1500	
			1600	
5/28/2007	730-1330	5,7	830	
			915	
			1000	
			1045	
			1130	
			1215	
			1300	
	1330-1600	3,4,5,7,10,11	1400	
			1500	
			1600	
5/29/2007	700-1025	5,7	815	
			900	
			945	
	1025-1300	8	1045	
			1145	
			1245	
	1300-1500	8,9,10,11	1345	
			1500	
5/30/2007	745-1400	5,7	930	
			1045	
			1200	
			1315	
			1420	
	1400-1500	1,2,3,4,5,6,7	1500	
5/31/2007	745-1330	5,7	845	
			1000	
			1045	
			1200	
			1330	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
		2008		
Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
4/16/2008	1000-1130	1,2,3,4,5,6,7,8,9,10,11	1030	
			1115	
	1130-1315	4,5,6,7	1215	
			1315	
	1315-1715		1415	
			1515	
			1615	
			1715	
4/17/2008	930-1100	1,2,3,4,5,6,7,8,9,10,11	1000	
			1030	
	1100-1530	4,5,6,7	1115	
			1215	
			1315	
			1415	
			1515	
	1530-1720	3,4,5,6	1615	
			1720	
4/18/2008	915-1100	1,2,3,4,5,6,7,8,9,10,11	1020	
	1100-1715	3,4,5,6	1120	
			1200	
			1245	
			1630	
			1645	
			1715	
Breaker to Crowder Screen Hoist tripped fixed at 1020.				
Prox. probe for hopper upper limit failed, maint. replaced at 1630.				
4/19/2008	900-1115	3,4,5,6,8,9,10	945	
			1015	
			1045	
	1115-1210	3,4,5,6	1130	
			1215	
	1210-1810	5,6	1300	
			1345	
			1430	
			1515	
			1600	
			1645	
			1730	
			1805	
4/20/2008	730-1415	5,6	845	
			945	
			1045	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1145	
			1245	
			1345	
			1420	
	1415-1650	3,4,5,6,9	1500	
			1600	
			1650	
4/21/2008	800-1500	3,4,5,6,8,9,10	835	
			915	
			1150	
			1220	
			1235	
			1310	
			1340	
			1410	
			1440	
	1500-	5,6	1535	
			1610	
During the 0915 lift, brakes on hopper would not hold, started to free fall.				
Maint. Came out to adjust problem.				
Crowder stuck in forward position after last lift.				
4/22/2008	1025-	3,4,5,6,8,9,10	1100	
			1130	
			1140	
			1200	
			1220	
			1240	
			1300	
			1330	
			1400	
			1430	
			1500	
			1530	
			1600	
			1630	
			1645	
4/23/2008	745-	3,4,5,6,8,9,10	820	
			1240	
			1255	
			1310	
			1325	
			1355	
			1410	
			1425	
			1445	
			1515	
			1545	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
Telemetry study was done in trough. (0830-1025)				
Crowder Screen Hoist lower limit witched failed on first lift, Maint replaced limit about 1200.				
4/24/2008	735-1000	3,4,5,6,9,10,11	830	
			905	
			940	
	1000-1115	3,4,5,6	1025	
			1110	
	1115-1300	5,6	1150	
			1230	
			1305	
	1300-1405	3,4,5,6	1405	
	1405-	1,2,3,4,5,6,7,8,9,10,11	1615	
			1650	
			1720	
			1755	
Telemetry study was done in trough. (1430-1600)				
4/25/2008	715-1155	3,4,5,6	815	
			850	
			930	
			1030	
			1115	
			1145	
	1155-1405	3,4,5,6,9,10,11	1225	
			1315	
	1405-	1,2,3,4,5,6,7,8,9,10,11	1415	
			1510	
			1600	
4/26/2008	750-1105	3,4,5,6,9	820	
			840	
			910	
			940	
			1020	
			1100	
	1105-1520	5,6	1200	
			1245	
			1330	
			1415	
			1500	
	1520-		1530	
			1610	
Hopper cable went extra slack while setting hopper back in pit (1610) and heard air leaking.				
Operations came out and shut us down for the day, hopper door air lines torn open.				

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
4/27/2008				
Did not operate today because of hopper problems on 4/26/08.				
4/28/2008				
Did not operate today because of hopper problems on 4/26/08.				
4/29/2008	745-1155	1,2,3,4,5,6,7,8,9,10,11	820	
			900	
			950	
			1030	
			1050	
			1115	
During the 1215, air line schieve block got all tangled up and hopper was lowered manually.				
4/30/2008	830-	1,2,3,4,5,6,7,8,910,11	900	
			945	
			1030	
			1120	
			1205	
			1350	
			1440	Tour group
			1500	Tour group
			1600	
5/1/2008	0730-	1,2,3,4,5,6,8,9,10,11	815	
			900	
			1000	
			1105	
			1225	
			1400	
			1530	
5/2/2008	730-1115	1,2,3,4,5,6,7,8,9,10,11	830	
			1000	
	1115-1415	4,5,6,7,11	1130	
			1245	
			1400	
	1415-	1,2,3,4,5,6,7,8,9,10,11	1530	
5/3/2008	730-1000	1,2,3,4,5,6,7,8,9,10,11	830	
			930	
	1000-1115	4,5,6,7,9	1030	
	1115-1630	5,7	1130	
			1215	
			1300	
			1345	
			1425	
			1505	
			1545	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1625	
	1630-1705	4,5,6,7,8	1705	
5/4/2008	835-1210	5,7	915	
			945	
			1015	
			1050	
			1125	
			1210	
	1210-1610	4,5,6,7,9,10	1240	
			1320	
			1405	
			1455	
			1545	
			1615	
5/5/2008	830-	1,2,3,4,5,6,7,8,9,10,11	900	
			930	
			1005	
			1045	
			1135	
			1225	
			1330	
			1420	Tour group
			1515	
			1615	
Telemetry study was done in trough. (0730-0830)				
5/6/2008	730-	1,2,3,4,5,6,7,8,9,10,11	830	
			930	
			1035	
			1130	
			1250	
			1400	
			1500	
			1545	
5/7/2008	730-810	4,5,6,7,10		
	810-	1,2,3,4,5,6,7,8,9,10,11	840	
			940	
			1040	
			1140	
			1245	
			1345	
			1445	
			1550	
5/8/2008	700-810	4,5,6,7		
	810-1020	4,5,6,7,8,9,10,11	835	
			920	
			1000	
	1020-1720	1,2,3,4,5,6,7,8,9,10,11	1050	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1135	
			1220	
			1305	
			1500	
			1520	
			1605	
			1650	
	1720-	4,5,6,7,8,9,10	1735	
			1820	
			1905	
Telemetry study was done in trough. (1330-1450)				
5/9/2008	805-1100	3,4,5,6,9,10	940	
			1000	
			1025	
			1055	
	1100-	3,4,5,6,7,8,9,10,11	1145	
			1235	
			1335	
			1430	
			1530	
			1630	
5/10/2008	800-820	4,5,6,7,9		
	820-1325	4,5,6,7,8,9,10	905	
			935	
			1005	
			1040	
			1110	
			1140	
			1215	
			1250	
			1325	
	1325-	4,5,6,7	1425	
			1500	
			1535	
			1605	
			1635	
			1705	
			1740	
			1810	
5/11/2008	700-1310	5,7	735	
			810	
			845	
			920	
			950	
			1025	
			1100	
			1135	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1210	
			1245	
			1320	
	1310-1555	4,5,6,9	1355	
			1445	
			1535	
	1555-	4,5,6,7,9,10	1620	
5/12/2008	730-1507	1,2,3,4,5,6,7,8,9,10,11	830915	
			1000	
			1045	
			1130	
			1220	
			1310	
			1400	
			1450	
	1507-	4,5,6,7,8,9,10,11	1540	
5/13/2008	745-	1,2,3,4,5,6,7,8,9,10,11	835	
			925	
			1025	
			1125	
			1225	
			1325	
			1425	
			1525	
5/14/2008	730-	1,2,3,4,5,6,7,8,9,10,11	830	
			930	
			1045	
			1200	
			1315	
			1430	
			1515	
5/15/2008	730-	1,2,3,4,5,6,7,8,9,10,11	825	
			925	
			1025	
			1125	
			1215	Tour group
			1325	
			1425	
			1525	
5/16/2008	800-1325	1,2,3,4,5,6,7,8,9,10,11	830	
			930	
			1030	
			1130	
			1230	
			1330	
	1325-	4,5,6,7,8	1430	
			1530	
5/17/2008	750-835	4,5,6,7,8		

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
	835-	1,2,3,4,5,6,7,8,9,10,11	900	
			1000	
			1045	
			1130	
			1215	
			1300	
			1345	
			1420	
			1455	
			1530	
5/18/2008	645-1100	5,7	730	
			805	
			835	
			905	
			935	
			1020	
			1105	
	1100-	4,5,6,7,8,9,10,11	1145	
			1225	
			1315	
			1405	
			1455	
			1545	
5/19/2008	730-	1,2,3,4,5,6,7,8,9,10,11	815	
			915	
			1015	
			115	
			1215	
			1300	
			1345	
			1430	
			1515	
5/20/2008	735-	1,2,3,4,5,6,7,8,9,10,11	820	
			915	
			1015	
			1115	
			1155	Tour group
			1255	
			1355	
			1455	
			1555	
5/21/2008	740-1515	1,2,3,4,5,6,7,8,9,10,11	820	
			905	
			1005	
			1105	
			1215	
			1315	
			1415	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1515	
5/22/2008	740-1530	1,2,3,4,5,6,7,8,9,10,11	830	
			930	
			1030	
			1130	
			1300	Tour group
			1400	
			1530	
Air hoses came loose from hopper, reconnected and finished lift (1400).				
5/23/2008	730-1110	1,2,3,4,5,6,7,8,9,10,11	830	
			930	
			1030	
	1110-	4,5,6,7,8,10,11	1130	
			1230	
			1330	
			1430	
			1530	
5/24/2008	745-830	4,5,6,7,8,9,10	830	
	830-945	4,5,6,7,8,9	930	
	945-1440	4,5,6,7,9	1030	
			1130	
			1230	
			1330	
			1430	
	1440-1530	4,5,6,7,8,9,10	1530	
5/25/2008	700-1025	5,7	800	
			845	
			930	
			1015	
	1025-1310	4,5,6,7,8	1115	
			1215	
			1315	
	1310-	4,5,6,7,8,9,10,11	1415	
			1515	
			1615	
			1700	
5/26/2008	700-1615	4,5,6,7	800	
			900	
			945	
			1030	
			1100	
			1235	
			1300	
			1345	
			1425	
			1505	
			1545	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1615	
Telemetry study was done in trough. (1120-1220)				
5/27/2008	800-900	5,7	905	
	900-1120	4,5,6,7,?	950	
			1050	
	1120-	1,2,3,4,5,6,7,8,9,10,11	1150	
			1250	
			1350	
			1450	
			1520	
Telemetry study was done in trough. (0730-0900)				
5/28/2008	730-915	9	830	
			915	
	915-1015	3,7,9	1000	
	1015-1430	2,3,4,5,6,7,9,10	1045	
			1130	
			1215	
			1300	
			1345	
			1430	
	1430-	3,4,5,6,7,9,10	1515	
			1600	
5/29/2008	730-1005	9	815	
			900	
			945	
	1005-1120	5,6,7,9	1030	
	1120-1415	1,4,5,6,7,9,10,11	1135	
			1150	
			1210	
			1300	
			1345	
	1415-	1,2,3,4,5,6,7,8,9,10,11	1430	
			1515	
			1600	
5/30/2008	800-930	8	900	
	930-1210	4,5,6,7,8,9,10	1000	
			1035	
			1120	
			1205	
	1210-	1,2,3,4,5,6,7,8,9,10,11	1330	
			1420	
			1510	
			1600	
Maint. Fixed the schieve black guide cable is morning (0730-0800)				
Telemetry study was done in trough. (1220-1320)				

Conowingo East Lift Time Compared to Date and Generation Units running.

	Generation	Generation	Lift Time	
Date	Time (24 Hour)	Unit # Operating	(24 Hour)	
5/31/2008	715-1050	5,7	815	
			900	
			945	
			1030	
	1050-1205	4,5,6,7,8	1120	
			1210	
	1205-1310	4,5,6,7,8,10	1310	
	1310-	4,5,6,7,8,9,10,11	1355	
			1440	
			1525	
			1600	
6/1/2008	730-1500	5	815	
			905	
			955	
			1045	
			1140	
			1235	
			1330	
			1425	
	1500-	4,5,6,7,8	1520	
			1600	
6/2/2008	745-1015	5	835	
			925	
			1020	
	1015-1135	4,5,6,7,8	1105	Tour group
	1135-	4,5,6,7,8,9,10,11	1200	
			1300	
			1400	
			1500	
			1600	
6/3/2008	730-1115	5	835	
			935	
			1035	
	1115-1255	4,5,6	1135	
			1235	
	1255-1400	3,4,5,6	1335	
	1400-	3,4,5,6,8,9,10,11	1435	
			1530	
6/4/2008	745-1110	5	845	
			945	
			1045	
	1110-1200	5,6,7	1145	
	1200-1315	4,5,6,7	1245	
	1315-	4,5,6,7,8,9,10,11	1415	
			1530	
6/5/2008	730-1110	5	845	
			945	
			1100	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
	1110-1230	2,4,5,6,8	1200	
	1230-	2,4,5,6,7,8,9,10,11	1300	
			1440	
			1530	
During the 1300 lift, Crowder scrren hoist would not lower fully and would not let crowder to go back to position, allowing us to fish (1340 back to fishing).				
6/6/2008	730-1055	5		
Flush trash through crowder area, after that hopper would not fully lower.				
No lifts done today and season is over.				

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
		2009		
Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
4/1/2009	1000-1105	2,3,4,5,6,7,8,9		
	1105-	2,7	1115	
			1250	
			1445	
4/2/2009	1000-1100	2,3,4,5,6,7,8,9		
	1100-1600	2,7	1115	
			1300	
			1430	
			1600	
4/3/2009	1015-1105	1,2,3,4,5,6,7,8,9,10,11		
	1105-1205	2,5,6,7	1130	
	1205-	2,7	1230	
			1330	
			1430	
			1530	
			1620	
4/6/2009	900-	1,2,3,4,5,6,7,8,9,10,11	1010	
			1130	
			1230	
			1345	
			1500	
4/8/2009	800-900	1,2,3,4,6,7,8,9,11		
	900-	1,2,3,4,5,6,7,8,9,10,11	950	**Lift for senator**
			1120	
			1250	
			1400	
			1500	
4/10/2009	810-	1,2,3,4,5,6,7,8,9,10,11	900	
			1200	
			1300	
			1400	
			1500	
Crowder screen upper limit failed, operated but not fishing between 900-1110.				
4/13/2009	900-1115	1,2,3,4,5,6,7,8,9,10,11	1110	
Crowder screen lower limit failed. Lift down until tomorrow.				
4/15/2009	830-1115	1,2,3,4,5,6,7,8,9,10,11		
	1115-1215	1,5,6,7	1125	
	1215-1615	5,7	1245	
			1355	
			1440	
			1510	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1555	
	1615-1700	3,4,5,7	1630	
			1700	
4/17/2009	900-1200	1,2,3,4,5,6,7,8,9,10,11	1000	
			1100	
	1200-1710	1,2,6,7	1200	
			1300	
			1400	
			1500	
			1600	
			1700	
4/19/2009	830-1610	5,7	930	
			1005	
			1035	
			1115	
			1200	
			1240	
			1325	
			1410	
			1455	
			1540	
	1610-1700	1,2,3,4,5,6,7	1625	
			1700	
4/20/2009	830-1100	1,2,3,4,5,6,7,8,9,10,11	930	
			1030	
	1100-1715	1,3,4,5,6,7	1130	
			1230	
			1315	
			1400	
			1445	
			1530	
			1615	
			1715	
4/21/2009	800-1100	1,2,3,4,5,6,7,8,9,10,11	900	
			1000	
			1100	
	1100-1200	1,2,3,4,5,6,7	1200	
	1200-1730	1,5,7	1300	
			1400	
			1530	
			1630	
			1700	
			1730	
4/22/2009	830-1215	1,2,3,4,5,6,7,8,9,10,11	930	
			1015	
			1115	
			1215	
	1215-	4,5,6,7,8	1315	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1400	
			1500	
			1545	
			1630	
			1700	
4/23/2009	800-1100	1,2,3,4,5,6,7,8,9,10,11	900	
			1000	
			1100	
	1100-1200	4,5,6,7,8,9	1130	
			1200	
	1200-1600	5,6,7	1300	
			1350	
			1430	
			1515	
			1550	
	1600-1700	4,5,6,7,8,9	1630	
	1700-	1,2,3,4,5,6,7,8,9,10,11	1710	
			1800	
4/24/2009	800-1100	1,2,3,4,5,6,7,8,9,10,11	900	
			1000	
			1050	
	1100-	1,5,6,7	1150	
			1235	
			1320	
			1405	
			1445	
			1525	
			1610	
			1655	
4/25/2009	830-1300	5,7	910	
			950	
			1030	
			1110	
			1145	
			1220	
			1300	
	1300-1400	1,2,3,4,5,6,7,8	1340	
	1400-	1,2,3,4,5,6,7,8,9,10,11	1420	
			1500	
			1600	
4/26/2009	815-1330	5,7	845	
			915	
			945	
			1020	
			1055	
			1130	
			1200	
			1225	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1255	
			1325	
	1330-1410	3,4,5,7,8	1405	
	1410-	1,2,3,4,5,6,7,8,9,10,11	1445	
			1545	
			1650	
4/27/2009	830-1115	5,7	910	
			940	
			1020	
			1100	
	1115-1225	3,5,6,7,11	1150	
	1225-	1,2,3,4,5,6,7,8,9,10,11	1240	
			1340	
			1435	
			1520	
			1605	
			1650	
4/28/2009	0815-1430	4,5,6,7,10	900	
			953	
			1030	
			1105	
			1145	
			1230	
			1315	
			1400	
	1430-	1,2,3,4,5,6,7,8,9,10,11	1445	
			1530	
			1615	
			1710	
			1800	
4/29/2009	0830-1210	5,6	900	
			940	
			1020	
			1100	
			1140	
	1210-1420	5,6,8,10	1220	
			1300	
			1350	
	1420-	2,5,6,8,9,10,11	1450	Tour group
			1550	
			1650	
			1750	
			1900	
4/30/2009	800-1130	4,7,8,9,10	830	
			900	
			940	
			1015	
			1120	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
	1130-1730	4,7	1200	
			1240	
			1315	
			1355	
			1425	
			1455	
			1525	
			1555	
			1625	
			1655	
			1725	
	1730-1800	4,7,8,9	1755	
	1800-	1,3,4,7,8,9,10,11	1845	
5/1/2009	900-925	4,7	925	
	925-1015	4,7,8,9	1015	
	1015-	3,4,7,8,9,10,11	1050	
			1135	
			1215	
			1255	
			1335	
			1415	
			1455	
			1535	
			1610	
			1645	
			1720	
			1755	
			1830	
			1900	
5/2/2009	730-1315	3,7	805	
			840	
			915	
			955	
			1035	
			1115	
			1155	
			1235	
			1310	
	1315-	3,5,6,7,10	1345	
			1415	
			1450	
			1530	
			1605	
			1640	
			1715	
			1750	
			1825	
			1900	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
5/3/2009	730-1700	5,7	815	
			845	
			925	
			1000	
			1035	
			1110	
			1150	
			1225	
			1300	
			1335	
			1410	
			1445	
			1520	
			1555	
			1630	
			1705	
	1700-1800	4,5,6,7,10	1740	
	1800-	4,5,6,7,8,9,10	1815	
			1900	
5/4/2009	800-1115	5,7	845	
			925	
			955	
			1025	
			1055	
	1115-1810	4,5,6,7,9,10	1125	
			1240	
			1310	
			1340	
			1410	
			1440	
			1510	
			1540	
			1610	
			1640	
			1710	
			1740	
			1810	
	1810-	5,7	1845	
			1915	
5/5/2009	800-1000	5,7	830	
			900	
			930	
			1000	
	1000-1100	3,5,6,7,10	1030	
			1100	
	1100-	1,2,3,4,5,6,7,8,9,10,11	1130	
			1200	
			1300	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1400	
			1500	
			1600	
			1700	
5/6/2009	700-915	5,7	730	
			800	
			830	
			900	
	915-1015	4,5,6,7,10	935	
			1020	
	1015-	1,2,3,4,5,6,7,8,9,10,11	1050	
			1130	
			1215	
			1310	
			1400	
			1455	
			1545	
			1640	
			1730	
5/7/2009	700-800	5,7	800	
	800-900	3,5,6,7,8	830	
	900-	1,2,3,4,5,6,7,8,9,10,11	915	
			1000	
			1045	
			1130	
			1215	
			1330	
			1430	
			1530	
			1630	
5/8/2009	700-815	4,5,6,7,10	810	
	815-	1,2,3,4,5,6,7,8,9,10,11	830	
			910	
			950	
			1040	
			1125	
			1215	
			1255	
			1340	
			1415	
			1500	
			1545	
			1630	
5/9/2009	715-800	5,7	750	
	800-	4,5,6,7,10	805	
			840	
			915	
			930	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1000	
			1045	
			1125	
			1205	
			1245	
			1320	
			1355	
			1435	
			1505	
			1530	
			1600	
			1630	
5/10/2009	700-845	5,7	745	
			815	
			845	
	845-1130	4,5,6,7,10	925	
			1005	
			1045	
			1125	
	1130-		1205	
			1240	
			1315	
			1345	
			1415	
			1445	
			1515	
			1545	
			1615	
			1645	
			1715	
5/11/2009	730-	4,5,6,7,8,9,10,11	900	
			945	
			1030	
			1115	
			1200	
			1250	
			1340	
			1430	
			1520	
			1615	
5/12/2009	730-800	3,4,5,6,7,10		
	800-	3,4,5,6,7,8,9,10,11	815	
			855	
			935	
			1000	
			1040	
			1120	
			1200	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1240	
			1320	
			1400	
			1440	
			1520	
			1610	
			1645	
5/13/2009	730-800	4,5,6,7,9	800	
	800-	4,5,6,7,8,9,11	845	
			925	
			1005	
			1045	
			1125	
			1205	
			1245	
			1325	
			1405	
			1445	
			1530	
			1610	
			1650	
			1730	
5/14/2009	730-810	4,5,6,7,10		
	810-	4,5,6,7,8,9,10	830	
			915	
			1000	
			1045	
			1130	
			1215	Tour group
			1255	
			1310	Tour group
			1345	
			1420	
			1500	
			1545	
			1625	
			1705	
			1745	
			1825	
			1900	
5/15/2009	730-815	4,5,6,7,10	800	
	815-	4,5,6,7,8,9,10	845	
			925	
			1000	
			1030	Tour group
			1105	Tour group
			1135	
			1210	

Conowingo East Lift Time Compared to Date and Generation Units running.

	Generation	Generation	Lift Time	
Date	Time (24 Hour)	Unit # Operating	(24 Hour)	
			1230	Tour group
			1300	
			1330	Tour group
			1400	
			1430	
			1510	
			1545	
			1625	
			1700	
5/16/2009	700-730	1,5		
	730-1330	1,5,6,7,9	800	
			850	
			950	
			1050	
			1140	
			1230	
			1325	
	1330-	1,5,6,7,9,10	1415	
			1500	
			1545	
			1630	
			1715	
			1800	
			1830	
5/17/2009	700-1300	3,5,7	800	
			835	
			920	
			1005	
			1045	
			1145	
			1230	
	1300-1620	4,5,6,7,9,10	1315	
			1400	
			1450	
			1535	
			1615	
	1620-	1,2,3,4,5,6,7,8,9,10,11	1700	
			1800	
5/18/2009	730-900	4,5,6,7	910	
	900-1000	4,5,6,7,9	950	
	1000-1515	1,2,3,4,5,6,7,8,9,10,11	1030	
			1110	
			1155	
			1255	
			1355	
			1450	
	1515-	3,5,6,7,11	1545	
			1630	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
Maint. Came out to fix hopper door, only opening 25%				
5/19/2009	730-815	5,7	800	
	815-1015	4,5,6,7,9	900	
			1000	
	1015-	1,2,3,4,5,6,7,8,9,10,11	1100	
			1200	
			1300	
			1400	
			1500	
			1600	
5/20/2009	800-1600	1,2,3,4,5,6,7,8,9,10,11	910	
			1000	
			1100	
			1200	
			1300	
			1400	
			1500	
			1600	
5/21/2009	730-			
	1300-1530	1,2,3,4,5,6,7,8,9,10,11	1400	
			1430	
			1530	
Had hopper full of debris from flushing screens in the morning with maint.				
5/22/2009	700-800	5,7	800	
	800-900	4,5,6,7,8	845	
	900-1605	1,2,3,4,5,6,7,8,9,10,11	945	
			1045	
			1145	
			1245	
			1345	
			1445	
			1545	
	1605-	2,3,4,5,6,7	1630	
5/23/2009	700-1100	5,7	800	
			840	
			920	
			1005	
			1050	
	1100-	1,2,3,4,5,6,7,8	1135	
			1215	
			1300	
			1345	
			1430	
			1515	
			1600	
5/24/2009	730-1100	5,7	815	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			900	
			940	
			1020	
			1100	
	1100-	3,4,5,6,7,8,9	1145	
			1230	
			1330	
			1420	
			1510	
			1600	
5/25/2009	730-1205	5,7	830	
			915	
			1000	
			1045	
			1130	
	1205-	4,5,6,7,9,10	1215	
			1300	
			1415	
			1515	
			1600	
5/26/2009	730-1000	5,7	815	
			900	
			945	
	1000-	4,5,6,7,9,10	1035	
			1120	
			1210	
			1300	
			1400	
			1500	
			1600	
5/27/2009	715-1005	4,7	815	
			900	
			945	
	1005-	4,5,6,7,9	1030	
			1130	
			1230	
			1335	
			1430	
			1515	
			1600	
5/28/2009	700-1000	4,7	935	
			1020	Tour group
	1000-	4,5,6,7,9,10	1041	
			1141	
			1255	
			1355	
			1440	
			1530	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1600	
			1615	Tour group
5/29/2009	730-1000	4,7	930	
	1000-1120	4,5,6,7		
	1120-	3,4,5,6,7,8,9,10,11	1130	
			1230	
			1340	
			1440	
			1600	
Problems with the downstream weir gate, Maint. Could not pinpoint problem.				
5/30/2009	730-910	4,5,6,7,9	830	
	910-1600	1,2,3,4,5,6,7,8,9,10,11	1015	
			1115	
			1215	
			1315	
			1415	
			1510	
			1600	
Flushed trash, now debris under hopper, hopper dividing screen off bottom but cables slack.				
5/31/2009	645-830	5,7	800	
	830-1005	4,5,6,7	900	
			1000	
	1005-	1,2,3,4,5,6,7,8,9,10,11	1100	
			1200	
			1300	
			1400	
			1500	
			1600	
6/1/2009	715-1015	4,5,6,7	845	
			945	
	1015-	1,2,3,4,5,6,7,8,9,10,11	1100	
			1200	
			1300	
			1400	
			1500	
			1600	
Downstream weir gate tripped while raising, Ops. Reset breaker.				
6/2/2009	715-1005	3,4,5	815	
			900	
			1000	
	1005-1130	3,4,5,8	1100	
	1130-	1,2,3,4,5,6,7,8,9,10,11	1200	
			1300	
			1440	

Conowingo East Lift Time Compared to Date and Generation Units running.

Date	Generation Time (24 Hour)	Generation Unit # Operating	Lift Time (24 Hour)	
			1600	
Hopper would not rise, upper limit switch falled, Maint. replaced it. (1440).				
6/3/2009	800-1000	2	930	
			1000	
	1000-1100	2,3,4,7,8	1045	
	1100-	1,2,3,4,5,6,7,8,9	1150	
			1255	
			1355	
			1455	
			1555	
Downstream weir gate screw stem bent while lowering it at end of day.				
Something broke but switch still works and wheels move, GATE "out of service"				
6/4/2009	800-905	2	900	
	905-1115	2,3,4,7,8	1000	
			1115	
	1115-	1,2,3,4,5,7,8,9,10	1200	
			1300	
			1400	
			1500	
			1600	
6/5/2009	730-1110	2	855	
			1000	
			1115	
	1110-	2,3,4,5,6,7,8,9	1220	
			1345	
			1500	

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2000			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/18/2000	1200	1	
	1300	1	
	1400	4	
	1500	3	
	1600	16	
	1700	30	
	1800	10	
	1900	6	
4/19/2000	1100	8	
	1200	3	
	1300	5	
	1400	0	
	1500	5	
	1600	3	
4/20/2000	1200	2	
	1300	1	
	1400	2	
	1500	1	
	1600	0	
	1700	3	
4/22/2000	1500	15	
	1600	9	
	1700	15	
5/4/2000	1200	212	
	1300	1969	
	1400	3800	
	1500	3055	
	1600	2629	
	1700	2447	
	1800	2974	
	1900	1095	
5/5/2000	800	1335	
	900	2345	
	1000	2495	
	1100	1980	
	1200	1260	
	1300	1550	
	1400	2350	
	1500	2080	
	1600	2410	
	1700	1740	
	1800	580	
5/6/2000	800	330	
	900	767	
	1000	969	

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1100	1070	
	1200	910	
	1300	1623	
	1400	1514	
	1500	1436	
	1600	1378	
	1700	1238	
	1800	1275	
	1900	1047	
5/7/2000	800	718	
	900	749	
	1000	1294	
	1100	2275	
	1200	2237	
	1300	1733	
	1400	1332	
	1500	718	
	1600	534	
	1700	643	
	1800	580	
	1900	255	
5/8/2000	800	125	
	900	813	
	1000	919	
	1100	955	
	1200	876	
	1300	1106	
	1400	937	
	1500	1160	
	1600	1417	
	1700	1052	
	1800	1100	
	1900	706	
5/9/2000	700	22	
	800	309	
	900	1367	
	1000	1632	
	1100	2136	
	1200	1860	
	1300	1280	
	1400	914	
	1500	707	
	1600	732	
	1700	541	
	1800	652	
	1900	47	
5/10/2000	800	272	
	900	1580	
	1000	1864	

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1100	2783	
	1200	2124	
	1300	2003	
	1400	712	
	1500	406	
	1600	240	
	1700	181	
	1800	222	
	1900	61	
5/11/2000	700	80	
	800	443	
	900	1325	
	1000	1396	
	1100	1031	
	1200	699	
	1300	471	
	1400	709	
	1500	520	
	1600	506	
	1700	1001	
	1800	1083	
	1900	451	
5/12/2000	800	353	
	900	961	
	1000	803	
	1100	742	
	1200	484	
	1300	543	
	1400	549	
	1500	795	
	1600	658	
	1700	581	
	1800	313	
	1900	174	
5/13/2000	800	16	
	900	509	
	1000	1190	
	1100	2720	
	1200	812	
	1300	623	
	1400	778	
	1500	458	
	1600	324	
	1700	253	
	1800	230	
5/14/2000	800	225	
	900	344	
	1000	255	
	1100	234	

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	171	
	1300	196	
	1400	358	
	1500	296	
	1600	242	
	1700	253	
	1800	205	
	1900	171	
5/15/2000	800	9	
	900	75	
	1000	185	
	1100	178	
	1200	225	
	1300	316	
	1400	265	
	1500	442	
	1600	491	
	1700	570	
	1800	519	
	1900	80	
5/16/2000	800	71	
	900	136	
	1000	144	
	1100	140	
	1200	373	
	1300	504	
	1400	554	
	1500	555	
	1600	458	
	1700	302	
	1800	285	
	1900	78	
5/17/2000	800	7	
	900	145	
	1000	206	
	1100	224	
	1200	207	
	1300	316	
	1400	257	
	1500	254	
	1600	301	
	1700	242	
	1800	189	
5/18/2000	800	31	
	900	93	
	1000	228	
	1100	259	
	1200	277	
	1300	286	

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1400	277	
	1500	256	
	1600	196	
	1700	199	
	1800	216	
5/19/2000	800	3	
	900	0	
	1000	72	
	1100	124	
	1200	221	
	1300	182	
	1400	194	
	1500	144	
	1600	80	
	1700	112	
	1800	85	
	1900	29	
5/20/2000	800	14	
	900	43	
	1000	109	
	1100	137	
	1200	124	
	1300	140	
	1400	107	
	1500	74	
	1600	56	
	1700	84	
	1800	48	
	1900	27	
5/21/2000	800	10	
	900	53	
	1000	58	
	1100	152	
	1200	155	
	1300	186	
	1400	236	
	1500	236	
	1600	116	
	1700	114	
	1800	52	
5/22/2000	800	1	
	900	33	
	1000	28	
	1100	46	
	1200	80	
	1300	103	
	1400	76	
	1500	55	
	1600	62	

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	48	
	1800	63	
	1900	8	
5/23/2000	1000	3	
	1100	2	
	1200	20	
	1300	28	
	1400	29	
	1500	58	
	1600	71	
	1700	51	
	1800	39	
5/24/2000	800	1	
	900	21	
	1000	48	
	1100	114	
	1200	197	
	1300	189	
	1400	211	
	1500	100	
	1600	120	
	1700	41	
5/25/2000	900	4	
	1000	25	
	1100	80	
	1200	140	
	1300	100	
	1400	162	
	1500	124	
	1600	141	
	1700	150	
	1800	92	
5/26/2000	800	5	
	900	3	
	1000	0	
	1100	1	
	1200	1	
	1300	0	
	1400	3	
	1500	1	
5/30/2000	1200	2	
	1300	5	
	1400	11	
	1500	10	
	1600	22	
	1700	11	
	1800	13	
5/31/2000	1100	4	
	1200	7	

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	13	
	1400	23	
	1500	34	
	1600	25	
	1700	35	
	1800	4	
6/1/2000	1000	2	
	1100	4	
	1200	11	
	1300	26	
	1400	44	
	1500	20	
	1600	47	
	1700	37	
	1800	17	
6/2/2000	1000	5	
	1100	13	
	1200	47	
	1300	37	
	1400	62	
	1500	60	
	1600	72	
	1700	39	
	1800	12	
6/3/2000	1100	11	
	1200	36	
	1300	30	
	1400	46	
	1500	35	
	1600	32	
	1700	53	
	1800	37	
6/4/2000	1100	94	
	1200	129	
	1300	280	
	1400	106	
	1500	153	
	1600	147	
	1700	115	
	1800	65	
6/5/2000	1100	94	
	1200	90	
	1300	145	
	1400	798	
	1500	122	
	1600	107	
	1700	48	
	1800	23	
6/6/2000	1100	29	

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	22	
	1300	182	
	1400	88	
	1500	95	
	1600	68	
	1700	48	
	1800	40	
6/7/2000	1100	10	
	1200	45	
	1300	91	
	1400	126	
	1500	112	
	1600	103	
	1700	87	
	1800	17	
6/8/2000	1200	15	
	1300	70	
	1400	46	
	1500	54	
	1600	43	
	1700	63	
6/9/2000	1000	9	
	1100	55	
	1200	29	
	1300	45	
	1400	31	
	1500	17	
	1600	13	
	1700	5	

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2001			
Date		Amercan Shad Passed	Gizzard Shad Passed
4/23/2001	1100	0	1100
	1200	0	1861
	1300	0	1650
	1400	0	294
	1500	1	264
	1600	0	687
	1700	4	309
4/25/2001	1000	1	2632
	1100	57	238
	1200	238	930
	1300	463	1854
	1400	384	1345
	1500	385	319
	1600	380	387
	1700	367	834
	1800	327	504
4/26/2001	900	93	37
	1000	166	3200
	1100	504	1035
	1200	779	390
	1300	701	270
	1400	638	295
	1500	447	672
	1600	626	730
	1700	744	1055
	1800	373	633
4/27/2001	900	90	8
	1000	627	6010
	1100	735	2884
	1200	521	2244
	1300	594	1992
	1400	717	2318
	1500	523	2227
	1600	622	3373
	1700	917	2200
	1800	1005	2381
4/28/2001	800	279	290
	900	136	2155
	1000	104	4553
	1100	122	1075
	1200	217	679
	1300	159	1364
	1400	98	1635
	1500	60	2001
	1600	216	1766

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	452	2000
	1800	469	1640
	1900	172	109
4/29/2001	800	80	56
	900	79	1178
	1000	154	826
	1100	447	1550
	1200	627	827
	1300	1159	655
	1400	3800	750
	1500	3300	1200
	1600	2013	4000
	1700	1490	3927
	1800	1086	1022
4/30/2001	800	333	33
	900	278	789
	1000	766	1088
	1100	1276	2313
	1200	1764	1350
	1300	649	1762
	1400	566	2086
	1500	385	2590
	1600	509	2120
	1700	710	1940
	1800	534	2320
5/1/2001	800	298	880
	900	1358	3149
	1000	2350	1940
	1100	1624	1032
	1200	1782	1577
Viewing was stopped due to the tagging of shad for telemetry			
5/2/2001	800	600	247
	900	2064	2190
	1000	2865	550
	1100	2405	376
	1200	2300	436
	1300	1542	1882
	1400	1113	2260
	1500	736	2204
	1600	790	1960
	1700	734	1780
	1800	475	1590
5/3/2001	800	207	570
	900	532	1234
	1000	1899	1303

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1100	2457	1200
	1200	1168	1100
	1300	322	400
Viewing was stopped due to the tagging of shad for telemetry			
5/4/2001	800	44	29
	900	307	695
	1000	3100	1820
	1100	4400	1250
	1200	4640	900
	1300	4050	
	1400	3010	2290
	1500	2100	3220
	1600	1140	2780
	1700	730	2310
	1800	590	810
5/5/2001	800	559	850
	900	1143	1275
	1000	1685	1150
	1100	1972	1500
	1200	2341	2200
	1300	2486	1800
	1400	2133	1250
	1500	2211	800
	1600	4003	800
	1700	3895	1000
	1800	2609	900
	1900	1378	450
5/6/2001	800	1244	2200
	900	1965	1800
	1000	2258	2000
	1100	2489	2300
	1200	3216	3200
	1300	1309	2000
	1400	1520	2120
	1500	1643	2950
	1600	1040	4500
	1700	777	2070
	1800	882	3400
5/7/2001	800	285	552
	900	692	1300
	1000	876	1010
	1100	1058	692
	1200	662	1000
	1300	681	1110
	1400	618	1360
	1500	417	665
	1600	328	1340
	1700	235	1119

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1800	100	2109
5/8/2001	800	72	140
	900	282	4550
	1000	458	5200
	1100	1183	5660
	1200	1375	3000
	1300	1101	2400
	1400	489	800
	1500	-	-
	1600	25	28
(-) Viewing was stopped due to the tagging of shad for telemetry			
5/9/2001	800	36	93
	900	287	2242
	1000	678	2672
	1100	760	2540
	1200	831	2868
	1300	721	2226
	1400	735	1082
	1500	601	1208
	1600	302	1745
	1700	331	1631
	1800	199	732
5/10/2001	800	613	845
	900	662	2000
	1000	473	2600
	1100	256	2280
	1200	145	1225
	1300	291	1080
	1400	259	440
	1500	-	-
	1600	320	620
	1700	592	435
	1800	395	725
(-) Viewing was stopped due to the tagging of shad for telemetry			
5/11/2001	800	150	44
	900	304	1495
	1000	562	3250
	1100	551	3560
	1200	786	2270
	1300	332	243
	1400	-	-
	1500	-	-
	1600	16	51

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	5	5
(-) Viewing was stopped due to crowder cable broken. No lifts			
5/12/2001	800	242	376
	900	522	3170
	1000	560	2820
	1100	632	2180
	1200	717	1700
	1300	341	740
	1400	578	1150
	1500	568	1480
	1600	207	1120
	1700	627	1640
	1800	791	1100
5/13/2001	800	300	180
	900	472	2750
	1000	643	3800
	1100	681	3970
	1200	501	4900
	1300	337	1940
	1400	230	2320
	1500	161	1940
	1600	254	3300
	1700	434	1090
5/14/2001	800	28	33
	900	509	3784
	1000	333	2920
	1100	324	1460
	1200	496	1710
	1300	306	1050
	1400	351	950
	1500	409	640
	1600	386	410
	1700	401	490
	1800	165	360
5/15/2001	700	4	6
	800	179	260
	900	288	2200
	1000	449	1950
	1100	431	2800
	1200	291	1300
	1300	241	1530
	1400	-	-
	1500	-	-
	1600	159	1800
	1700	263	1500
	1800	53	80

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
(-) Viewing was stopped due to the tagging of shad for telemetry			
5/16/2001	800	158	549
	900	440	358
	1000	414	2522
	1100	445	1122
	1200	383	2205
	1300	319	750
	1400	419	1336
	1500	359	670
	1600	330	2578
	1700	280	1080
	1800	130	975
5/17/2001	800	30	23
	900	79	1418
	1000	207	1204
	1100	272	3209
	1200	309	808
	1300	317	1295
	1400	-	-
	1500	-	-
	1600	208	710
	1700	302	893
	1800	123	65
5/18/2001	800	109	1180
	900	101	1300
	1000	108	2190
	1100	110	130
	1200	88	3140
	1300	167	800
	1400	149	930
	1500	213	1270
	1600	144	394
	1700	83	563
5/19/2001	800	115	620
	900	16	100
	1000	44	1470
	1100	42	700
	1200	90	1311
	1300	114	1037
	1400	150	1515
	1500	113	127
	1600	194	1900
	1700	355	1180
	1800	183	1790
5/20/2001	800	151	1030
	900	52	950
	1000	76	1260
	1100	153	1420

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	151	770
	1300	218	960
	1400	222	872
	1500	189	180
	1600	225	280
	1700	255	720
5/21/2001	800	48	42
	900	14	209
	1000	46	489
	1100	57	1501
	1200	134	1081
	1300	128	938
	1400	135	450
	1500	94	579
	1600	110	777
	1700	58	420
5/22/2001	800	53	0
	900	22	560
	1000	162	1120
	1100	268	300
	1200	216	720
	1300	344	510
	1400	106	350
	1500	216	1491
	1600	131	729
	1700	40	270
	1800	7	240
5/23/2001	800	54	50
	900	47	320
	1000	271	925
	1100	214	905
	1200	134	880
	1300	-	-
	1400	-	-
	1500	185	510
	1600	137	60
	1700	73	460
	1800	14	40
(-) Viewing was stopped due to the tagging of shad for telemetry			
5/24/2001	700	6	0
	800	39	20
	900	21	80
	1000	51	120
	1100	125	230
	1200	78	170
	1300	87	210

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1400	84	80
	1500	58	70
	1600	109	60
	1700	52	100
5/25/2001	800	8	52
	900	23	177
	1000	37	371
	1100	71	460
	1200	98	253
	1300	140	319
	1400	115	183
	1500	57	231
	1600	48	145
	1700	14	96
5/26/2001	1000	36	2
	1100	17	190
	1200	46	340
	1300	20	390
	1400	27	16
	1500	88	230
	1600	72	280
	1700	138	70
5/27/2001	1000	0	0
	1100	12	3
	1600	13	11
Late start due to hopper door cyclinder bent. Fixed at 1500.			
5/28/2001	1000	0	16
	1100	34	467
	1200	80	1457
	1300	56	1198
	1400	67	247
	1500	34	380
	1600	12	293
	1700	29	162
5/29/2001	1000	24	135
	1100	18	81
	1200	54	1259
	1300	120	1036
	1400	80	201
	1500	21	78
	1600	37	309
	1700	14	291
5/30/2001	1000	27	20
	1100	68	100
	1200	92	144
	1300	64	94
	1400	21	100
	1500	39	72

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1600	30	122
	1700	2	29
5/31/2001	1000	15	0
	1100	15	0
	1200	29	0
	1300	20	5
	1400	32	0
	1500	15	0
	1600	6	30
6/1/2001	1000	4	7
	1100	113	31
	1200	143	44
	1300	70	16
	1400	25	34
	1500	21	46
	1600	28	52
	1700	10	24
6/2/2001	1000	3	0
	1100	22	0
	1200	100	0
	1300	85	530
	1400	100	0
	1500	35	0
	1600	20	0
	1700	31	0
6/3/2001	1000	6	4
	1100	54	10
	1200	45	46
	1300	52	83
	1400	16	97
	1500	76	16
	1600	40	70
	1700	8	11
6/4/2001	1000	6	3
	1100	11	38
	1200	33	542
	1300	5	1055
	1400	11	1078
6/6/2001	1000	3	0
	1100	8	1123
	1200	12	0
	1300	9	0

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2002			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/8/2002	1200	0	3465
	1300	0	226
	1400	0	96
	1500	0	16
	1600	0	20
4/10/2002	1200	0	124
	1300	2	31
	1400	6	10
	1500	14	6
	1600	20	1
	1700	22	2
4/12/2002	1100	0	1850
	1200	0	702
	1300	34	207
	1400	83	125
	1500	304	729
	1600	333	1065
	1700	315	1196
	1800	454	885
4/13/2002	1100	142	127
	1200	27	2494
	1300	103	396
	1400	187	431
	1500	354	145
	1600	404	66
	1700	350	109
	1800	560	140
4/14/2002	1000	21	9
	1100	122	111
	1200	102	68
	1300	466	31
	1400	395	7
	1500	533	4
	1600	539	3
	1700	359	2
	1800	431	4
4/15/2002	1100	38	942
	1200	65	96
	1300	176	1042
	1400	227	756
	1500	131	63
	1600	128	540
	1700	202	252
	1800	348	1257
4/16/2002	800	145	91

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	900	143	245
	1000	705	873
	1100	274	810
	1200	269	1375
	1300	118	21
	1400	25	13
	1500	18	14
	1600	41	1715
	1700	391	1478
	1800	470	788
4/17/2002	1100	268	2600
	1200	37	4591
	1300	23	4475
	1400	10	2020
	1500	15	2194
	1600	20	1894
	1700	38	1029
4/18/2002	800	15	131
	900	12	2741
	1000	18	3675
	1100	8	2144
	1200	13	2139
	1300	4	1335
	1400	4	1401
	1500	12	1806
	1600	10	205
4/19/2002	700	2	210
	800	0	2755
	900	2	6430
	1000	11	4200
	1100	6	3260
	1200	14	280
	1300	0	0
	1400	5	367
	1500	42	3057
4/20/2002	1100	2	1512
	1200	0	0
	1300	4	1613
	1400	6	5873
	1500	87	2148
	1600	300	1385
	1700	276	2584
	1800	385	1773
4/21/2002	1100	111	2770
	1200	448	2771
	1300	1002	3470
	1400	1129	2840
	1500	738	2073
	1600	486	1988

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	854	2519
	1800	531	1445
4/22/2002	1100	110	1473
	1200	42	1958
	1300	17	1955
	1400	31	2066
	1500	37	1823
	1600	21	1604
	1700	16	1602
4/23/2002	1100	6	183
	1200	9	3091
	1300	5	1482
	1400	43	1087
	1500	45	1875
	1600	28	702
4/24/2002	1100	51	1866
	1200	380	3203
	1300	836	2437
	1400	1052	2200
	1500	423	1899
	1600	150	1188
	1700	275	1984
	1800	579	1433
4/25/2002	800	59	70
	900	83	1762
	1000	36	870
	1100	133	619
	1200	112	1430
	1300	206	683
	1400	186	410
	1500	123	495
	1600	271	681
	1700	368	387
	1800	252	0
4/26/2002	800	49	7
	900	22	851
	1000	34	810
	1100	55	410
	1200	81	240
	1300	55	220
	1400	180	180
	1500	175	240
	1600	116	190
	1700	181	423
	1800	196	290
4/27/2002	800	55	87
	900	165	694
	1000	450	1300
	1100	457	1495

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	535	1280
	1300	864	800
	1400	90	128
	1500	16	13
	1600	63	3
4/28/2002	900	210	10
	1000	136	4
	1100	48	4
4/29/2002	1000	5	0
	1100	8	0
	1200	1	0
4/30/2002	800	54	2415
	900	12	1718
	1000	21	2088
	1100	64	3987
	1200	104	1143
	1300	139	1276
	1400	112	527
	1500	104	551
	1600	228	1246
	1700	257	613
	1800	160	535
5/1/2002	800	0	25
	900	62	1307
	1000	9	1600
	1100	18	596
	1200	64	472
	1300	75	639
	1400	92	495
	1500	97	127
	1600	59	643
	1700	90	865
	1800	80	1130
5/2/2002	800	6	52
	900	64	2294
	1000	13	3327
	1100	14	1692
	1200	34	1197
	1300	26	1457
	1400	60	527
	1500	79	448
	1600	93	1414
	1700	69	826
	1800	139	546
5/3/2002	800	4	11
	900	25	1474
	1000	4	1264
	1100	0	1309
	1200	3	305

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	2	360
	1400	34	547
	1500	14	1410
	1600	35	1417
5/4/2002	800	7	148
	900	17	6624
	1000	0	3440
	1100	0	2750
	1200	0	630
	1300	35	1590
	1400	71	1834
	1500	132	4970
	1600	149	5770
	1700	284	4320
	1800	743	3450
	1900	251	2480
5/5/2002	800	41	53
	900	119	4348
	1000	13	1620
	1100	28	1075
	1200	86	1889
	1300	210	961
	1400	240	632
	1500	180	406
	1600	122	691
	1700	109	449
	1800	76	519
5/6/2002	800	1	22
	900	36	2935
	1000	90	5502
	1100	109	3144
	1200	409	2550
	1300	406	1020
	1400	286	2040
	1500	203	1040
	1600	266	994
	1700	359	2150
	1800	546	991
5/7/2002	800	78	29
	900	152	2887
	1000	197	2303
	1100	126	1809
	1200	303	3338
	1300	330	1411
	1400	534	2245
	1500	577	730
	1600	455	2035
	1700	363	990
	1800	932	790

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
5/8/2002	800	142	785
	900	448	1250
	1000	929	700
	1100	1314	850
	1200	1317	745
	1300	2183	1859
	1400	1274	516
	1500	1277	1018
	1600	917	1041
	1700	979	787
	1800	1220	751
	1900	323	14
5/9/2002	800	76	6
	900	123	2782
	1000	166	2764
	1100	344	1742
	1200	391	1001
	1300	629	2685
	1400	596	1164
	1500	690	1586
	1600	719	1111
	1700	678	419
	1800	271	754
5/10/2002	800	217	1075
	900	80	2910
	1000	84	3180
	1100	78	980
	1200	342	1270
	1300	702	1080
	1400	461	1230
	1500	686	1550
	1600	460	1220
	1700	245	640
	1800	630	1110
	1900	260	740
5/11/2002	800	58	622
	900	265	2105
	1000	865	1858
	1100	1634	1930
	1200	1309	811
	1300	1714	2528
	1400	1282	2504
	1500	1141	1939
	1600	903	1630
	1700	845	1183
	1800	1025	809
	1900	654	497
5/12/2002	800	95	530
	900	728	3090

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1000	1144	3690
	1100	1250	2420
	1200	1622	2400
	1300	958	1400
	1400	1055	1320
	1500	1202	1070
	1600	1093	970
	1700	1067	860
	1800	706	900
	1900	222	120
5/13/2002	800	176	1030
	900	315	1662
	1000	687	2173
	1100	618	1906
	1200	426	832
	1300	651	1245
	1400	317	704
	1500	194	533
	1600	96	342
	1700	12	26
5/14/2002	800	28	1080
	900	55	1656
	1000	44	2090
	1100	60	60
	1200	33	33
	1300	65	1535
	1400	74	892
	1500	74	1112
	1600	63	862
	1700	29	100
5/23/2002	800	0	0
	900	0	5020
	1000	0	2100
	1100	1	1600
	1200	0	1600
	1300	0	780
5/24/2002	900	0	2410
	1000	0	4830
	1100	0	4575
	1200	11	4290
	1300	72	3280
	1400	82	3980
	1500	92	3530
	1600	35	1430
5/25/2002	800	35	220
	900	14	143
	1000	160	358
	1100	223	969
	1200	201	1951

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	357	582
	1400	204	745
	1500	201	650
	1600	171	704
	1700	143	639
	1800	56	700
5/26/2002	800	86	119
	900	118	418
	1000	237	1016
	1100	462	680
	1200	610	949
	1300	460	1181
	1400	500	540
	1500	232	814
	1600	149	497
	1700	98	941
	1800	94	48
5/27/2002	800	53	23
	900	33	603
	1000	73	284
	1100	188	364
	1200	193	102
	1300	146	1044
	1400	251	53
	1500	374	1148
	1600	301	812
	1700	157	812
	1800	127	420
5/28/2002	800	46	6
	900	37	1794
	1000	128	2021
	1100	421	1080
	1200	831	660
	1300	802	1156
	1400	456	499
	1500	244	505
	1600	159	374
	1700	73	238
5/29/2002	800	14	4
	900	0	0
	1000	0	0
	1100	36	778
	1200	156	453
	1300	253	1643
	1400	287	726
	1500	176	1148
	1600	116	1383
	1700	171	561
	1800	143	485

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
5/30/2002	800	17	15
	900	54	433
	1000	119	1377
	1100	264	725
	1200	218	272
	1300	297	680
	1400	346	255
	1500	197	166
	1600	115	309
	1700	145	137
	1800	135	149
5/31/2002	800	42	4
	900	99	825
	1000	269	695
	1100	212	995
	1200	203	705
	1300	118	751
	1400	206	201
	1500	102	247
	1600	54	321
6/1/2002	800	69	71
	900	476	471
	1000	606	777
	1100	378	1178
	1200	225	859
	1300	188	482
	1400	85	430
	1500	200	873
	1600	251	361
	1700	91	391
6/2/2002	800	18	38
	900	216	317
	1000	113	224
	1100	102	224
	1200	82	149
	1300	88	146
	1400	71	74
	1500	38	24
	1600	28	118
6/3/2002	800	0	26
	900	60	476
	1000	51	1071
	1100	33	858
	1200	18	558
	1300	22	111
	1400	43	497
	1500	43	447
	1600	21	318
	1700	21	194

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
6/4/2002	800	10	32
	900	38	35
	1000	109	154
	1100	114	161
	1200	88	137
	1300	97	505
	1400	88	220
	1500	43	300
	1600	78	371
6/5/2002	800	3	15
	900	31	18
	1000	71	52
	1100	62	80
	1200	93	28
	1300	50	11
	1400	56	12
	1500	19	6
	1600	21	24
6/6/2002	800	11	4
	900	75	33
	1000	40	9
	1100	71	12
	1200	60	6
	1300	13	21
	1400	37	197
	1500	11	112
	1600	2	64
6/7/2002	800	0	31
	900	22	5
	1000	63	29
	1100	18	17
	1200	25	0
	1300	21	20
	1400	36	0

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2003			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/15/2003	1200	0	119
	1300	0	8
4/16/2003	1000	0	166
	1100	0	123
	1200	0	166
	1300	0	226
	1400	0	72
4/18/2003	900	0	1
	1000	0	1412
	1100	0	1769
	1200	0	1745
	1300	0	1311
	1400	0	690
	1500	0	567
4/21/2003	1000	0	3210
	1100	0	970
	1200	0	322
	1300	0	762
	1400	0	715
	1500	0	958
4/23/2003	1000	0	659
	1100	0	294
	1200	0	231
	1300	0	293
	1400	0	237
	1500	0	821
	1600	0	1905
4/25/2003	1000	0	1590
	1100	2	1000
	1200	0	2004
	1300	2	760
	1400	250	775
	1500	601	577
	1600	384	220
	1700	554	509
	1800	460	550
	1900	152	0
4/26/2003	900	120	6
	1000	24	488
	1100	9	697
	1200	36	899
	1300	79	1238
	1400	181	604
	1500	275	377
	1600	463	511

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	402	1773
	1800	434	943
	1900	158	791
4/27/2003	900	75	33
	1000	77	442
	1100	30	807
	1200	108	671
	1300	99	133
	1400	165	1065
	1500	59	1863
	1600	21	2064
	1700	34	1628
4/28/2003	1000	90	3490
	1100	100	1260
	1200	209	845
	1300	455	824
	1400	825	400
	1500	2127	1420
	1600	2275	480
	1700	1833	530
	1800	1512	580
	1900	590	365
4/29/2003	800	410	11
	900	220	1202
	1000	147	1753
	1100	231	2538
	1200	179	811
	1300	258	1518
	1400	340	1274
	1500	525	2070
	1600	817	2693
	1700	559	2810
	1800	463	1973
	1900	465	2006
4/30/2003	900	269	924
	1000	157	1407
	1100	261	2136
	1200	319	1743
	1300	431	2027
	1400	715	2180
	1500	925	1878
	1600	597	763
	1700	785	870
	1800	1337	512
	1900	600	534
5/1/2003	900	473	300
	1000	306	460
	1100	746	1080
	1200	1146	1270

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	945	810
	1400	774	465
	1500	727	350
	1600	798	620
	1700	812	610
	1800	562	570
	1900	215	320
5/2/2003	900	804	1712
	1000	719	2425
	1100	798	1577
	1200	939	2090
	1300	632	1050
	1400	843	1507
	1500	1070	1400
	1600	863	1320
	1700	727	1150
	1800	916	800
	1900	546	410
5/3/2003	800	259	3
	900	61	928
	1000	52	1058
	1100	271	582
	1200	969	1537
	1300	1346	1228
	1400	888	729
	1500	553	680
	1600	837	816
	1700	1013	3015
	1800	607	736
5/4/2003	800	48	19
	900	66	293
	1000	50	322
	1100	302	223
	1200	2031	24
	1300	2635	36
	1400	2453	54
	1500	1935	201
	1600	1375	227
	1700	1361	649
	1800	961	961
5/5/2003	800	128	2712
	900	273	3858
	1000	186	2604
	1100	162	2098
	1200	156	1304
	1300	173	2623
	1400	119	1830
	1500	98	2480
	1600	230	1565

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	283	2183
	1800	172	1934
	1900	76	50
5/6/2003	800	13	15
	900	38	510
	1000	216	2258
	1100	662	635
	1200	1043	2336
	1300	1028	1906
	1400	1233	2414
	1500	950	1618
	1600	889	1919
	1700	664	1471
	1800	426	721
	1900	218	2085
5/7/2003	800	23	18
	900	148	1005
	1000	374	1530
	1100	473	1074
	1200	261	1915
	1300	358	1539
	1400	299	1097
	1500	158	1724
	1600	113	1911
	1700	61	1059
	1800	128	1319
	1900	53	706
5/8/2003	800	29	9
	900	101	1542
	1000	169	915
	1100	157	990
	1200	332	1601
	1300	279	1448
	1400	346	766
	1500	289	1226
	1600	165	2417
	1700	198	1881
	1800	352	1066
	1900	227	977
5/9/2003	800	26	12
	900	241	1584
	1000	553	994
	1100	969	1632
	1200	734	421
	1300	739	735
	1400	724	1042
	1500	919	1192
	1600	859	1246
	1700	585	1503

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1800	321	1140
	1900	55	729
5/10/2003	800	38	12
	900	373	355
	1000	1476	467
	1100	738	417
	1200	212	258
	1300	121	686
	1400	264	2317
	1500	398	2255
	1600	245	1472
	1700	231	1397
	1800	246	2784
	1900	52	82
5/11/2003	800	15	21
	900	138	996
	1000	845	957
	1100	1173	496
	1200	906	500
	1300	1103	484
	1400	1040	296
	1500	652	303
	1600	514	263
	1700	274	181
	1800	163	33
	1900	42	18
5/12/2003	800	26	3179
	900	62	1296
	1000	50	2726
	1100	84	2403
	1200	148	1861
	1300	336	4
	1400	253	5
	1500	278	3461
	1600	298	2750
	1700	498	2876
	1800	355	3841
	1900	35	2860
5/13/2003	800	3	4
	900	43	1330
	1000	69	2460
	1100	77	1340
	1200	109	1511
	1300	258	2670
	1400	527	1985
	1500	481	1601
	1600	312	1420
	1700	291	1523
	1800	225	867

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
5/14/2003	800	2	4
	900	72	1928
	1000	39	805
	1100	37	1581
	1200	74	3122
	1300	41	1532
	1400	71	1893
	1500	63	1212
	1600	94	909
	1700	91	496
	1800	137	587
5/15/2003	900	51	890
	1000	175	1290
	1100	336	2991
	1200	257	1305
	1300	307	977
	1400	284	412
	1500	71	1187
	1600	347	335
	1700	705	718
	1800	615	293
5/16/2003	800	107	8
	900	80	1835
	1000	79	2907
	1100	88	1901
	1200	129	2691
	1300	142	2722
	1400	172	1025
	1500	268	1098
	1600	306	1059
	1700	222	792
	1800	167	1407
5/17/2003	800	38	7
	900	60	353
	1000	137	1511
	1100	152	1826
	1200	97	1390
	1300	79	908
	1400	137	1220
	1500	65	512
	1600	66	1406
	1700	92	517
	1800	43	700
5/18/2003	800	29	23
	900	43	2388
	1000	16	833
	1100	14	551
	1200	11	1446
	1300	17	774

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1400	37	1120
	1500	82	900
	1600	139	591
	1700	134	374
	1800	141	1042
	1900	37	74
5/19/2003	800	30	14
	900	72	4260
	1000	27	2453
	1100	41	2742
	1200	75	2008
	1300	61	646
	1400	143	1238
	1500	130	933
	1600	46	634
	1700	32	273
	1800	21	263
5/20/2003	800	4	6
	900	8	1656
	1000	7	950
	1100	24	648
	1200	96	820
	1300	55	458
	1400	116	480
	1500	125	702
	1600	127	326
	1700	111	295
	1800	74	30
5/21/2003	800	11	0
	900	78	2878
	1000	50	1369
	1100	151	1145
	1200	252	618
	1300	403	1101
	1400	294	906
	1500	189	345
	1600	174	648
	1700	207	534
	1800	126	297
5/22/2003	800	83	2
	900	77	1049
	1000	170	997
	1100	280	2033
	1200	268	1106
	1300	384	1037
	1400	338	504
	1500	305	1464
	1600	337	508
	1700	319	1283

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1800	207	1467
	1900	110	1174
5/23/2003	800	13	9
	900	82	1309
	1000	96	682
	1100	149	887
	1200	190	1543
	1300	260	826
	1400	394	880
	1500	377	1015
	1600	436	965
	1700	348	905
	1800	320	453
	1900	61	48
5/24/2003	800	37	10
	900	75	1378
	1000	32	482
	1100	115	1056
	1200	280	1553
	1300	239	1501
	1400	156	1104
	1500	96	736
	1600	184	680
	1700	232	1262
	1800	100	542
5/25/2003	800	67	48
	900	208	2467
	1000	211	1853
	1100	202	1782
	1200	126	1279
	1300	282	866
	1400	445	610
	1500	366	806
	1600	281	620
	1700	261	717
	1800	140	622
5/26/2003	800	83	102
	900	32	245
	1000	110	242
	1100	181	680
	1200	173	401
	1300	141	430
	1400	118	921
	1500	160	517
	1600	163	417
	1700	147	442
	1800	79	261
	1900	10	6
5/27/2003	800	21	1035

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	900	18	1169
	1000	11	2130
	1100	19	978
	1200	15	2245
	1300	38	865
	1400	63	1324
	1500	73	1077
	1600	84	626
	1700	64	817
	1800	59	426
	1900	39	368
5/28/2003	800	21	1102
	900	60	840
	1000	51	1365
	1100	61	1303
	1200	58	653
	1300	60	354
	1400	66	450
	1500	68	410
	1600	54	141
	1700	44	214
	1800	60	232
5/29/2003	800	4	4
	900	15	1064
	1000	12	827
	1100	8	1098
	1200	46	2020
	1300	41	815
	1400	15	568
	1500	3	25
	1600	30	726
	1700	35	313
	1800	53	320
	1900	47	131
5/30/2003	800	11	11
	900	23	1347
	1000	18	758
	1100	32	653
	1200	24	946
	1300	12	515
	1400	33	388
	1500	55	387
	1600	64	210
	1700	44	112
	1800	31	326
	1900	5	33
5/31/2003	800	8	8
	900	1	1
	1000	22	698

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1100	15	315
	1200	28	715
	1300	35	846
	1400	122	984
	1500	72	276
	1600	76	148
	1700	26	206
6/1/2003	800	43	22
	900	4	7
	1000	19	202
	1100	34	437
	1200	24	417
	1300	9	392
	1400	17	631
	1500	15	217
	1600	18	211
	1700	1	12
6/2/2003	1000	2	268
	1100	5	147

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2004			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	2004		
4/12/2004	1100	0	225
	1200	0	91
	1300	0	22
	1400	0	1
4/14/2004	1100	0	950
	1200	0	162
	1300	1	375
	1400	0	203
	1500	0	48
4/19/2004	1000	0	0
	1100	0	1228
	1200	0	508
	1300	0	332
	1400	0	316
	1500	0	86
4/21/2004	1100	0	3929
	1200	2	1880
	1300	6	382
	1400	7	780
	1500	57	906
	1600	65	500
	1700	56	242
4/22/2004	1000	25	2510
	1100	12	4640
	1200	18	2490
	1300	28	1290
	1400	28	2790
	1500	19	3520
	1600	7	2740
	1700	5	1010
4/23/2004	1000	19	3543
	1100	88	9204
	1200	426	4477
	1300	502	2400
	1400	480	4100
	1500	809	2621
	1600	918	1948
	1700	932	2600
	1800	245	1300
4/24/2004	700	195	119
	800	133	2781
	900	84	4600
	1000	179	4200
	1100	381	2300

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	399	2600
	1300	298	1600
	1400	321	1250
	1500	325	1500
	1600	233	1500
	1700	403	1650
	1800	282	700
4/25/2004	700	168	76
	800	141	7356
	900	31	8525
	1000	14	6400
	1100	26	11881
	1200	36	700
	1300	204	8382
	1400	638	2435
	1500	934	5782
	1600	916	7182
	1700	974	4400
	1800	1095	3800
4/26/2004	800	191	1580
	900	144	2900
	1000	282	1280
	1100	371	1740
	1200	376	780
	1300	436	1590
	1400	632	1370
	1500	521	960
	1600	580	1240
	1700	362	1000
	1800	274	590
4/27/2004	700	20	5
	800	9	3
	900	117	2200
	1000	110	2000
	1100	283	2100
	1200	301	1750
	1300	281	1681
	1400	126	1650
	1500	172	2490
	1600	137	1164
	1700	150	1293
4/28/2004	700	37	19
	800	24	1712
	900	6	1706
	1000	2	2050
	1100	4	1250
	1200	0	29
	1300	3	1750
	1400	0	1120

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1500	0	1200
	1600	0	918
	1700	0	34
4/29/2004	900	0	828
	1000	0	485
	1100	0	842
	1200	1	835
	1300	0	542
	1400	0	1130
	1500	0	1176
	1600	0	20
4/30/2004	800	0	1850
	900	0	2100
	1000	0	1550
	1100	0	1310
	1200	0	1930
	1300	0	540
	1400	0	575
	1500	0	852
5/1/2004	700	0	31
	800	0	3180
	900	1	4677
	1000	5	4030
	1100	127	114
	1200	329	2398
	1300	409	880
	1400	453	2026
	1500	302	1050
	1600	360	1698
	1700	371	908
	1800	644	1542
5/2/2004	700	121	35
	800	60	1525
	900	636	1360
	1000	1625	5330
	1100	3406	3700
	1200	2093	1120
	1300	1956	1681
	1400	3284	2324
	1500	3006	2052
	1600	2634	2860
	1700	1251	1701
	1800	692	2380
	1900	301	1397
5/3/2004	800	284	2022
	900	210	4910
	1000	511	3103
	1100	672	2067
	1200	885	1236

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	662	1503
	1400	487	1849
	1500	392	2362
	1600	305	1663
	1700	439	1006
	1800	440	1713
5/4/2004	800	92	1938
	900	19	1570
	1000	42	1660
	1100	49	807
	1200	230	988
	1300	261	3559
	1400	272	2068
	1500	170	2866
	1600	174	1006
	1700	27	1810
	1800	36	998
5/5/2004	800	250	1010
	900	41	1340
	1000	178	1240
	1100	470	750
	1200	712	1320
	1300	559	700
	1400	531	1420
	1500	256	1420
	1600	134	690
	1700	139	0
5/6/2004	700	10	14
	800	34	1990
	900	71	2980
	1000	78	880
	1100	57	1081
	1200	123	840
	1300	144	1920
	1400	273	1260
	1500	134	1020
	1600	79	980
	1700	114	940
	1800	69	1040
5/7/2004	700	2	28
	800	89	5034
	900	97	1776
	1000	203	1917
	1100	410	1668
	1200	355	692
	1300	424	708
	1400	401	880
	1500	433	1313
	1600	616	789

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	286	874
	1800	238	782
5/8/2004	800	124	1875
	900	39	2327
	1000	239	2622
	1100	813	2225
	1200	1221	2000
	1300	1501	1985
	1400	1143	1770
	1500	812	1550
	1600	401	1120
	1700	410	11000
	1800	481	1210
5/9/2004	700	37	64
	800	125	785
	900	146	2316
	1000	343	1258
	1100	837	3802
	1200	852	4600
	1300	902	3658
	1400	1206	3075
	1500	1120	3500
	1600	1102	3000
	1700	1573	2100
	1800	1030	2000
	1900	761	2300
5/10/2004	800	250	1748
	900	1128	1164
	1000	1730	2050
	1100	1556	2507
	1200	712	1349
	13000	647	1657
	1400	346	2778
	1500	323	2069
	1600	259	2730
	1700	259	1620
	1800	134	0
5/11/2004	800	28	1663
	900	9	281
	1000	2	42
	1100	0	0
	1200	0	0
	1300	5	4218
	1400	24	783
	1500	33	771
	1600	43	732
	1700	65	1440
5/12/2004	800	125	4052
	900	604	2844

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1000	286	1054
	1100	719	2157
	1200	529	2297
	1300	702	2053
	1400	476	2304
	1500	577	732
	1600	453	1543
	1700	445	1512
	1800	247	532
5/13/2004	700	38	30
	800	68	84
	900	443	2150
	1000	563	1835
	1100	807	1425
	1200	1003	1135
	1300	913	1200
	1400	453	1320
	1500	173	425
	1600	105	745
	1700	159	500
	1800	96	215
5/14/2004	800	121	1219
	900	399	3688
	1000	493	2012
	1100	486	2616
	1200	607	1504
	1300	486	2193
	1400	338	1223
	1500	301	547
	1600	50	341
	1700	265	1538
	1800	88	98
5/15/2004	800	67	243
	900	111	1488
	1000	70	3965
	1100	115	1982
	1200	154	2197
	1300	222	2815
	1400	229	1206
	1500	189	3227
	1600	95	2624
	1700	83	1209
	1800	26	626
5/16/2004	700	24	50
	800	56	320
	900	229	1050
	1000	272	870
	1100	208	1182
	1200	405	2210

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	808	1840
	1400	614	1060
	1500	552	1360
	1600	400	1160
	1700	160	900
	1800	109	470
5/17/2004	800	87	1411
	900	166	2906
	1000	105	2891
	1100	65	1304
	1200	173	2067
	1300	192	1344
	1400	149	1958
	1500	130	1022
	1600	99	1502
	1700	105	722
5/18/2004	800	79	1077
	900	107	2121
	1000	122	1726
	1100	162	2155
	1200	136	1186
	1300	170	1349
	1400	130	1740
	1500	135	1443
	1600	194	1004
	1700	203	1003
	1800	120	279
5/19/2004	800	26	24
	900	138	964
	1000	152	488
	1100	186	685
	1200	187	461
	1300	149	522
	1400	141	257
	1500	101	475
	1600	147	385
	1700	83	345
5/20/2004	700	14	18
	800	14	459
	900	54	1072
	1000	160	678
	1100	118	1660
	1200	150	701
	1300	187	2026
	1400	119	1202
	1500	110	1337
	1600	91	2414
	1700	87	958
5/21/2004	700	11	21

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	800	11	94
	900	8	223
	1000	42	297
	1100	18	123
	1200	15	226
	1300	6	166
	1400	3	45
	1500	5	67
	1600	14	217
5/22/2004	800	35	45
	900	365	260
	1000	200	475
	1100	90	276
	1200	71	1002
	1300	41	850
	1400	30	883
	1500	29	822
	1600	18	610
	1700	19	387
5/23/2004	700	4	64
	800	94	72
	900	329	760
	1000	419	309
	1100	180	1050
	1200	62	1045
	1300	62	716
	1400	10	370
	1500	9	375
	1600	7	495
5/24/2004	800	3	180
	900	3	643
	1000	5	625
	1100	4	612
	1200	4	432
	1300	2	169
	1400	4	212
	1500	3	146
5/25/2004	800	7	273
	900	7	910
	1000	3	741
	1100	7	641
	1200	8	280
	1300	13	425
	1400	18	179
	1500	24	110
5/26/2004	700	0	5
	800	8	7
	900	9	5
	1000	4	76

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1100	19	108
	1200	20	322
	1300	18	265
	1400	20	46
	1500	14	138
5/27/2004	700	0	4
	800	0	0
	900	24	52
	1000	9	150
	1100	6	101
	1200	5	182
	1300	8	181
	1400	9	186
	1500	9	144
5/28/2004	800	11	46
	900	3	64
	1000	6	71
	1100	12	142
	1200	6	161
	1300	4	150
	1400	42	177
	1500	15	199
	1600	4	29
5/29/2004	800	1	62
	900	12	37
	1000	3	29
	1100	4	23
	1200	1	37
	1300	3	41
	1400	1	33
	1500	7	19
5/30/2004	800	0	4
	900	9	5
	1000	62	10
	1100	41	9
	1200	56	27
	1300	20	9
	1400	7	31
	1500	15	60
5/31/2004	700	0	0
	800	7	33
	900	6	35
	1000	1	42
	1100	10	68
	1200	21	149
	1300	11	172

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2005			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/15/2005	1300	0	93
	1400	0	149
	1500	0	257
4/18/2005	1300	0	1121
	1400	0	1046
	1500	0	2024
4/20/2005	1000	0	2213
	1100	0	350
	1200	7	1625
	1300	62	2990
	1400	238	1295
	1500	171	3170
	1600	146	1960
	1700	50	1070
4/21/2005	900	20	151
	1000	34	3609
	1100	26	2016
	1200	27	2424
	1300	9	1024
	1400	34	491
	1500	13	110
	1600	4	258
	1700	43	251
4/22/2005	900	0	10
	1000	7	3174
	1100	39	1425
	1200	23	15964
	1300	88	1596
	1400	78	1420
	1500	82	1568
	1600	67	2080
	1700	139	1010
4/23/2005	900	36	28
	1000	13	4407
	1100	140	1290
	1200	169	3411
	1300	266	2070
	1400	233	2600
	1500	232	1529
	1600	196	1250
	1700	167	1713
	1800	94	1020
4/24/2005	900	38	27
	1000	24	141
	1100	6	57

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	23	173
	1300	7	9
	1400	36	295
	1500	83	795
	1600	24	2159
4/25/2005	900	13	202
	1000	9	5530
	1100	1	1320
	1200	11	1266
	1300	42	821
	1400	80	609
	1500	119	504
	1600	153	452
	1700	132	881
	1800	173	931
4/26/2005	900	33	1137
	1000	6	2130
	1100	5	2830
	1200	8	2300
	1300	10	1400
	1400	13	1500
	1500	16	940
	1600	8	1520
4/27/2005	900	7	154
	1000	17	2152
	1100	12	1214
	1200	2	831
	1300	2	1161
	1400	4	954
	1500	19	974
	1600	42	962
	1700	43	953
4/28/2005	900	4	700
	1000	1	1200
	1100	1	690
	1200	0	530
	1300	1	460
	1400	0	750
	1500	1	1200
	1600	0	940
4/29/2005	900	0	58
	1000	1	979
	1100	0	618
	1200	0	575
	1300	0	783
	1400	0	747
	1500	2	1037
4/30/2005	900	4	8
	1000	1	880

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1100	3	1377
	1200	3	503
	1300	12	201
	1400	9	185
5/1/2005	900	4	31
	1000	6	324
	1100	51	790
	1200	339	2780
	1300	1217	1050
	1400	1808	1300
	1500	856	1340
	1600	332	1520
	1700	103	2310
	1800	60	870
5/2/2005	900	80	1120
	1000	30	1340
	1100	7	2290
	1200	7	1390
	1300	14	1490
	1400	73	1060
	1500	125	260
	1600	86	500
	1700	130	360
5/3/2005	900	18	4
	1000	22	2272
	1100	27	2083
	1200	27	1014
	1300	24	145
	1400	179	476
	1500	563	1294
	1600	652	758
	1700	787	744
	1800	432	186
5/4/2005	900	10	2
	1000	75	901
	1100	294	702
	1200	481	3322
	1300	704	1560
	1400	587	1274
	1500	569	522
	1600	410	138
	1700	516	174
	1800	392	44
	1900	192	50
5/5/2005	900	41	1
	1000	41	2270
	1100	19	750
	1200	21	1140
	1300	45	70

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1400	268	540
	1500	559	559
	1600	397	810
	1700	388	880
	1800	109	250
5/6/2005	900	110	336
	1000	64	677
	1100	127	1154
	1200	75	360
	1300	227	142
	1400	311	906
	1500	464	480
	1600	715	513
	1700	485	328
	1800	222	481
5/7/2005	800	53	730
	900	47	780
	1000	27	781
	1100	266	534
	1200	212	537
	1300	184	78
	1400	263	149
	1500	394	135
	1600	356	138
	1700	657	118
	1800	545	131
	1900	267	114
5/8/2005	800	138	360
	900	54	481
	1000	100	413
	1100	219	210
	1200	458	221
	1300	383	107
	1400	502	181
	1500	426	73
	1600	550	86
	1700	282	101
	1800	154	199
5/9/2005	800	0	13
	900	61	1276
	1000	112	955
	1100	74	346
	1200	163	487
	1300	198	383
	1400	258	196
	1500	374	92
	1600	613	121
	1700	831	320
	1800	501	220

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1900	191	304
5/10/2005	800	28	3
	900	120	273
	1000	75	956
	1100	54	1593
	1200	84	2045
	1300	120	2560
	1400	342	1432
	1500	273	957
	1600	163	1532
	1700	129	1327
5/11/2005	730	1	30
	800	119	26
	900	97	121
	1000	210	2468
	1100	560	1618
	1200	781	2004
	1300	781	1678
	1400	544	1930
	1500	684	941
	1600	609	966
	1700	429	225
	1800	420	269
5/12/2005	700	39	6
	800	174	61
	900	497	548
	1000	484	987
	1100	382	1128
	1200	321	512
	1300	431	896
	1400	425	1469
	1500	310	610
	1600	163	831
	1700	118	739
	1800	101	573
5/13/2005	800	189	74
	900	307	1634
	1000	671	0.694
	1100	560	1406
	1200	186	210
	1300	197	632
	1400	180	630
	1500	185	210
	1600	287	207
	1700	630	130
	1800	654	104
5/14/2005	800	183	179
	900	176	276
	1000	378	827

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1100	286	516
	1200	413	2270
	1300	331	914
	1400	406	2134
	1500	273	743
	1600	317	1185
	1700	606	747
	1800	485	1185
5/15/2005	800	458	521
	900	766	1072
	1000	510	886
	1100	361	405
5/16/2005	1300	94	1213
	1400	65	1360
	1500	27	3131
	1600	156	1938
	1700	237	1727
	1800	418	968
	1900	158	208
5/17/2005	800	20	37
	900	361	740
	1000	404	682
	1100	608	725
	1200	588	1096
	1300	481	905
	1400	315	510
	1500	123	210
	1600	249	675
	1700	162	279
	1800	91	183
5/18/2005	800	35	32
	900	13	4
	1000	4	1
	1100	21	705
	1200	51	2760
	1300	90	1539
	1400	65	1763
	1500	110	638
	1600	24	157
	1700	105	30
	1800	103	17
	1900	63	17
5/19/2005	800	61	944
	900	482	1582
	1000	260	1040
	1100	196	1172
	1200	98	462
	1300	171	546
	1400	118	316

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1500	125	41
	1600	244	92
	1700	196	82
	1800	100	64
5/20/2005	800	42	52
	900	66	272
	1000	129	164
	1100	86	772
	1200	105	537
	1300	53	780
	1400	57	1112
	1500	61	423
	1600	130	1491
	1700	62	197
	1800	191	156
5/21/2005	800	34	101
	900	142	1994
	1000	97	1750
	1100	48	1589
	1200	52	1022
	1300	122	600
	1400	68	500
	1500	58	300
	1600	89	678
	1700	360	597
	1800	301	481
	1900	203	411
5/22/2005	700	19	151
	800	83	390
	900	362	308
	1000	224	290
	1100	227	296
	1200	186	227
	1300	255	260
	1400	154	243
	1500	124	260
	1600	98	698
	1700	78	678
	1800	69	378
5/23/2005	800	54	85
	900	45	117
	1000	83	173
	1100	112	112
	1200	12	151
	1300	9	164
	1400	15	396
	1500	17	449
	1600	7	209
	1700	19	221

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1800	33	25
5/24/2005	800	5	63
	900	20	313
	1000	9	500
	1100	10	434
	1200	8	252
	1300	9	737
	1400	9	523
	1500	29	678
	1600	45	327
5/25/2005	800	4	36
	900	6	34
	1000	8	446
	1100	10	733
	1200	15	365
	1300	9	342
	1400	21	216
	1500	34	317
	1600	227	118
	1700	118	72
5/26/2005	800	15	200
	900	96	275
	1000	191	300
	1100	211	300
	1200	103	400
	1300	87	525
	1400	91	625
	1500	74	195
	1600	80	123
	1700	26	
5/27/2005	800	48	48
	900	108	204
	1000	24	10
	1100	233	797
	1200	85	92
	1300	16	11
	1400	57	111
	1500	84	37
	1600	43	53
5/28/2005	800	21	80
	900	115	97
	1000	127	135
	1100	75	220
	1200	39	68
	1300	0	150
5/29/2005	700	37	68
	800	38	57
	900	51	11
	1000	39	13

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1100	365	141
	1200	144	279
	1300	43	224
	1400	13	43
	1500	0	26
5/30/2005	800	2	10
	900	123	132
	1000	125	76
	1100	47	83
	1200	100	74
	1300	87	120
	1400	103	271
	1500	78	255
	1600	36	376
5/31/2005	800	0	18
	900	15	12
	1000	30	7
	1100	58	75
	1200	31	9
	1300	10	46
	1400	0	3
	1500	1	2
	1600	0	13
6/1/2005	800	0	19
	900	17	0
	1000	19	17
	1100	6	12
	1200	7	3
	1300	55	3
	1400	19	0
	1500	53	5
	1600	12	4
6/2/2005	800	10	0
	900	78	40
	1000	26	106
	1100	117	105
	1200	155	162
	1300	39	110
	1400	2	209
	1500	0	23
	1600	2	339
6/3/2005	900	56	94
	1000	132	55
	1100	69	73
	1200	7	0
	1300	42	34
	1400	17	24
	1500	4	7
6/4/2005	800	0	3

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	900	0	6
	1000	2	18
	1100	27	20
	1200	36	18
	1300	19	64
	1400	43	10
	1500	12	4
	1600	1	0
6/5/2005	800	10	0
	900	34	0
	1000	50	0
	1100	36	5
	1200	34	6
	1300	16	3
	1400	6	2
	1500	2	50
6/6/2005	800	2	10
	900	9	0
	1000	1	3
	1100	0	2
	1200	17	3
	1300	9	0
	1400	4	0
6/7/2005	700	0	19
	800	0	4
	900	16	24
	1000	4	10
	1100	7	23
	1200	3	17
	1300	5	23
	1400	4	12
6/8/2005	800	1	4
	900	40	15
	1000	7	17
	1100	16	16
	1200	7	3
	1300	2	2

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2006			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/3/2006	1100	0	0
	1200	0	1
	1300	1	83
	1400	0	64
	1500	2	93
	1600	1	37
4/5/2006	1200	0	826
	130	1	151
	1400	1	94
	1500	1	62
	1600	1	265
4/7/2006	1100	0	3080
	1200	0	787
	1300	35	142
	1400	185	214
	1500	178	83
	1600	86	38
	1700	23	48
4/8/2006	1000	23	1065
	1100	2	1712
	1200	4	656
	1300	42	323
	1400	138	823
	1500	86	653
	1600	134	361
4/9/2006	1000	55	23
	1100	5	14
	1200	6	190
	1300	0	571
	1400	6	590
	1500	101	585
	1600	42	256
	1700	12	7
4/10/2006	1000	0	45
	1100	5	24
	1200	1	890
	1300	0	73
	1400	5	53
	1500	17	43
	1600	27	22
4/11/2006	1000	0	26
	1100	1	17
	1200	2	84
	1300	5	47
	1400	5	15

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1500	3	10
	1600	12	5
4/13/2006	1100	0	2424
	1200	1	233
	1300	20	480
	1400	106	242
	1500	315	965
	1600	270	341
	1700	125	701
	1800	13	29
4/14/2006	1100	14	2916
	1200	22	1060
	1300	57	972
	1400	106	1469
	1500	160	225
	1600	401	101
	1700	285	140
	1800	104	23
4/15/2006	1000	50	2355
	1100	51	1889
	1200	17	2674
	1300	100	267
	1400	241	473
	1500	189	121
	1600	185	330
	1700	51	44
4/16/2006	1000	25	35
	1100	7	42
	1200	6	167
	1300	28	526
	1400	74	709
	1500	133	192
	1600	196	110
	1700	159	30
4/17/2006	1000	1	13
	1100	57	1400
	1200	35	1600
	1300	47	1300
	1400	305	561
	1500	449	393
	1600	661	556
	1700	487	330
4/18/2006	1000	81	39
	1100	59	1660
	1200	27	1773
	1300	17	1331
	1400	22	1033
	1500	187	740
	1600	70	172

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	37	304
4/19/2006	1000	4	2335
	1100	0	2241
	1200	2	2789
	1300	0	959
	1400	0	434
	1500	2	885
	1600	3	417
	1700	11	604
4/20/2006	900	0	70
	1000	13	741
	1100	3	2153
	1200	22	2515
	1300	47	1404
	1400	38	3962
	1500	220	2685
	1600	221	4003
	1700	242	3194
	1800	248	2313
4/21/2006	900	48	333
	1000	24	3700
	1100	4	2354
	1200	2	2075
	1300	1	4135
	1400	1	1867
	1500	42	136
	1600	466	898
	1700	370	160
	1800	175	224
	1900	78	62
4/22/2006	800	78	847
	900	307	620
	1000	521	762
	1100	772	801
	1200	814	449
	1300	271	605
	1400	141	486
	1500	201	319
	1600	41	312
	1700	36	268
4/23/2006	800	28	1453
	900	10	2174
	1000	12	480
	1100	2	3346
	1200	11	2065
	1300	31	3780
	1400	111	609
	1500	486	2642
	1600	1361	1213

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	1456	2638
	1800	353	4362
4/24/2006	800	221	3328
	900	47	4694
	1000	34	6657
	1100	8	3760
	1200	9	3587
	1300	16	4437
	1400	17	1183
	1500	14	2317
	1600	18	1538
	1700	4	4140
	1800	0	220
4/25/2006	800	2	1112
	900	3	7003
	1000	5	4066
	1100	5	4180
	1200	3	4406
	1300	3	1803
	1400	3	2437
	1500	0	1106
4/26/2006	800	2	3000
	900	0	3000
	1000	0	2481
	1100	0	3198
	1200	0	3000
	1300	0	2600
	1400	1	2193
	1500	0	1865
	1600	0	1449
4/27/2006	800	0	3910
	900	0	3500
	1000	0	6320
	1100	2	3172
	1200	3	2716
	1300	0	3017
	1400	9	3060
	1500	30	1646
	1600	43	1861
4/28/2006	800	40	2604
	900	9	2222
	1000	3	2453
	1100	6	4153
	1200	6	2003
	1300	30	3452
	1400	85	2227
	1500	79	1892
	1600	98	1825
	1700	39	1526

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/29/2006	800	14	61
	900	35	1607
	1000	9	2010
	1100	4	1496
	1200	3	3156
	1300	5	2008
	1400	32	1645
	1500	64	1964
	1600	66	3258
	1700	52	1611
4/30/2006	800	42	174
	900	11	73
	1000	18	394
	1100	20	365
	1200	36	406
	1300	46	2744
	1400	195	2217
	1500	240	2893
	1600	236	4237
	1700	296	3610
	1800	488	3853
5/1/2006	800	58	83
	900	90	3000
	1000	30	4484
	1100	25	2703
	1200	62	1490
	1300	261	440
	1400	277	295
	1500	608	287
	1600	469	96
	1700	171	64
5/2/2006	800	40	3886
	900	33	2073
	1000	96	3791
	1100	136	2809
	1200	156	782
	1300	504	1255
	1400	635	850
	1500	631	1461
	1600	428	182
	1700	206	195
5/3/2006	800	64	976
	900	55	3056
	1000	371	2696
	1100	604	4909
	1200	522	1867
	1300	780	3050
	1400	734	2544
	1500	715	1716

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1600	883	1381
	1700	1015	2084
	1800	387	582
5/4/2006	800	7	10
	900	9	8
5/5/2006	900	30	5
	1000	309	1580
	1100	755	3240
	1200	971	2740
	1300	803	3110
	1400	538	2120
	1500	556	1813
	1600	213	2015
	1700	230	848
	1800	126	950
	1900	118	1045
5/6/2006	800	81	877
	900	76	2269
	1000	32	2480
	1100	17	1013
	1200	49	2712
	1300	98	2070
	1400	368	2013
	1500	165	2762
	1600	121	3994
	1700	316	2323
	1800	206	1540
5/7/2006	900	326	1377
	1000	690	3060
	1100	596	1778
	1200	589	1808
	1300	503	1557
	1400	471	1122
	1500	186	650
	1600	139	455
	1700	222	645
	1800	92	758
5/8/2006	800	37	37
	900	69	4446
	1000	138	2542
	1100	135	4745
	1200	19	180
	1300	43	151
	1400	151	2298
	1500	336	1660
	1600	406	1264
	1700	128	665
	1800	11	390
5/9/2006	800	0	33

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	900	35	1428
	1000	85	7694
	1100	98	4267
	1200	44	5731
	1300	59	2926
	1400	144	3710
	1500	122	2443
	1600	55	4127
5/10/2006	800	16	237
	900	108	1840
	1000	50	1881
	1100	19	2146
	1200	49	1302
	1300	83	1633
	1400	143	668
	1500	333	862
	1600	97	350
	1700	80	519
	1800	5	44
5/11/2006	800	24	2903
	900	142	4760
	1000	234	1146
	1100	234	1923
	1200	314	310
	1300	209	1752
	1400	214	1386
	1500	151	1029
	1600	81	500
	1700	17	593
5/12/2006	800	9	353
	900	29	1671
	1000	28	2253
	1100	30	818
	1200	39	4988
	1300	60	2718
	1400	49	1913
	1500	59	3350
	1600	76	5450
	1700	46	2255
5/13/2006	800	27	154
	900	66	2745
	1000	104	1883
	1100	49	861
	1200	88	2627
	1300	71	1572
	1400	51	497
	1500	94	924
	1600	43	500
	1700	57	542

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
5/14/2006	800	13	43
	900	96	1954
	1000	211	1892
	1100	151	1038
	1200	68	1401
	1300	124	1247
	1400	127	1369
	1500	130	2120
	1600	130	857
	1700	26	613
5/15/2006	800	4	13
	900	29	2693
	1000	28	587
	1100	27	3774
	1200	27	1191
	1300	11	2687
	1400	57	2354
	1500	74	1254
	1600	24	436
	1700	13	605
5/16/2006	800	15	2222
	900	3	1691
	1000	3	3964
	1100	4	495
	1200	96	398
	1300	67	306
	1400	51	669
	1500	86	187
	1600	72	228
	1700	21	0
5/17/2006	800	2	1141
	900	2	982
	1000	10	2797
	1100	28	592
	1200	53	2346
	1300	236	994
	1400	121	1710
	1500	72	1560
	1600	50	528
	1700	13	780
5/18/2006	800	20	427
	900	21	2058
	1000	35	1227
	1100	64	1826
	1200	41	725
	1300	32	1165
	1400	47	753
	1500	42	737
	1600	14	665

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	14	1377
	1800	6	227
5/19/2006	800	11	562
	900	15	669
	1000	24	597
	1100	61	1296
	1200	83	536
	1300	76	680
	1400	61	716
	1500	86	1556
	1600	85	580
	1700	41	490
5/20/2006	800	19	38
	900	11	28
	1000	20	22
	1100	19	1
	1200	103	60
	1300	21	41
	1400	55	267
	1500	56	93
	1600	68	98
	1700	78	89
5/21/2006	800	7	27
	900	40	45
	1000	129	256
	1100	193	230
	1200	244	363
	1300	254	524
	1400	161	346
	1500	129	142
	1600	80	91
	1700	59	21
5/22/2006	800	8	9
	900	16	257
	1000	47	695
	1100	54	800
	1200	63	713
	1300	55	967
	1400	88	944
	1500	34	537
	1600	36	87
	1700	8	627
5/23/2006	800	13	53
	900	13	278
	1000	24	1004
	1100	25	214
	1200	51	444
	1300	61	117
	1400	31	17

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1500	67	51
	1600	47	15
	1700	26	12
5/24/2006	800	7	5
	900	7	1231
	1000	3	1918
	1100	17	1335
	1200	8	1119
	1300	43	137
	1400	87	74
	1500	3	10
	1600	127	59
	1700	162	93
	1800	45	5
5/25/2006	800	7	17
	900	18	124
	1000	70	317
	1100	132	355
	1200	140	373
	1300	87	270
	1400	51	713
	1500	43	502
	1600	45	488
	1700	21	363
5/26/2006	700	11	6
	800	27	813
	900	88	152
	1000	74	426
	1100	56	622
	1200	97	530
	1300	74	430
	1400	95	330
	1500	78	597
	1600	77	373
	1700	58	333
5/27/2006	800	52	1000
	900	136	1021
	1000	164	600
	1100	133	953
	1200	169	906
	1300	32	106
	1400	5	53
	1500	5	595
	1600	7	95
	1700	12	894
5/28/2006	800	15	60
	900	22	476
	1000	44	584
	1100	100	821

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	94	567
	1300	62	447
	1400	89	532
	1500	29	135
	1600	29	620
	1700	22	127
5/29/2006	700	4	152
	800	174	860
	900	73	1650
	1000	89	428
	1100	60	841
	1200	54	356
	1300	33	182
	1400	17	24
	1500	13	64
5/30/2006	700	15	147
	800	18	173
	900	17	206
	1000	3	48
	1100	36	214
	1200	5	177
	1300	6	127
	1400	3	132
	1500	2	104
5/31/2006	800	173	232
	900	168	682
	1000	86	662
	1100	22	770
	1200	18	62
	1300	14	20
	1400	9	63
	1500	11	62
6/1/2006	800	91	8
	900	68	90
	1000	50	71
	1100	19	76
	1200	4	35
	1300	16	14
	1400	5	240
	1500	3	164
6/2/2006	700	1	20
	800	51	23
	900	53	174
	1000	37	82
	1100	2	195
	1200	31	100
	1300	13	342
	1400	1	23
	1500	1	21

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
6/3/2006	700	0	4
	800	69	64
	900	28	347
	1000	9	567
	1100	3	54
	1200	1	723
	1300	12	33
	1400	0	15
6/4/2006	700	1	0
	800	31	57
	900	11	70
	1000	5	24
	1100	3	26
	1200	6	150
	1300	2	199
	1400	2	159
6/5/2006	700	0	50
	800	2	157
	900	2	5
	1000	3	78
	1100	1	20

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2007			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/23/2007	1200	0	100
	1300	0	235
	1400	0	162
	1500	0	309
4/24/2007	1000	0	3215
	1100	0	708
	1200	0	344
	1300	0	282
	1400	0	796
	1500	0	1171
4/25/2007	1000	0	750
	1100	0	2270
	1200	0	728
	1300	0	1286
	1400	0	1529
	1500	0	4256
4/26/2007	1000	0	2466
	1100	0	3274
	1200	0	1208
	1300	0	594
	1400	1	2423
	1500	0	1796
4/27/2007	1100	0	5650
	1200	2	4360
	1300	3	1641
	1400	20	2735
	1500	18	2775
	1600	76	1415
	1700	79	3170
	1800	26	1062
4/28/2007	1000	44	5600
	1100	5	4600
	1200	3	4567
	1300	1	15800
	1400	1	9400
	1500	1	9315
4/29/2007	900	0	800
	1000	1	5879
	1100	0	4482
	1200	0	3505
	1300	3	1526
	1400	342	1145
	1500	361	1523
	1600	309	1615
	1700	296	1452

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/30/2007	800	30	3500
	900	32	3430
	1000	17	1938
	1100	6	3180
	1200	3	2430
	1300	3	1770
	1400	0	1480
	1500	2	2440
	1600	1	840
5/1/2007	800	0	4232
	900	3	1024
	1000	10	1512
	1100	19	2397
	1200	45	1848
	1300	21	3229
	1400	36	1257
	1500	12	1343
	1600	15	2454
	1700	8	1205
5/2/2007	800	3	1714
	900	43	315
	1000	83	1950
	1100	68	1520
	1200	91	3000
	1300	290	2700
	1400	323	1372
	1500	371	1100
	1600	211	1100
	1700	190	2100
	1800	75	670
5/3/2007	800	16	1012
	900	79	792
	1000	62	1180
	1100	75	779
	1200	54	285
	1300	317	337
	1400	577	778
	1500	504	305
	1600	323	370
	1700	221	1019
	1800	95	428
5/4/2007	800	70	1635
	900	21	2489
	1000	12	363
	1100	93	203
	1200	329	853
	1300	249	1289
	1400	227	2466
	1500	137	1010

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1600	110	1994
	1700	71	834
5/5/2007	1200	17	1450
	1300	10	2800
	1400	10	2450
	1500	17	1850
	1600	65	2600
	1700	132	1800
	1800	152	800
5/6/2007	800	31	1708
	900	44	2614
	1000	12	1023
	1100	15	2923
	1200	39	1000
	1300	40	882
	1400	170	2011
	1500	302	877
	1600	127	714
	1700	104	957
	1800	46	493
5/7/2007	800	6	1497
	900	9	868
	1000	21	2384
	1100	6	1424
	1200	27	550
	1300	59	2723
	1400	33	1781
	1500	78	3318
	1600	21	1309
	1700	14	2248
	1800	6	676
5/8/2007	800	17	1619
	900	32	2909
	1000	17	1003
	1100	6	1361
	1200	223	3376
	1300	430	3937
	1400	944	3877
	1500	615	1468
	1600	450	1024
	1700	256	615
	1800	35	327
5/9/2007	800	11	1115
	900	34	1546
	1000	86	1680
	1100	137	1692
	1200	119	1000
	1300	235	560
	1400	333	1739

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1500	272	478
	1600	144	302
	1700	162	595
	1800	24	1123
5/10/2007	800	17	2240
	900	117	3000
	1000	102	2570
	1100	225	1345
	1200	285	670
	1300	264	3480
	1400	127	1510
	1500	152	501
	1600	218	530
	1700	147	740
	1800	68	1040
5/11/2007	800	87	2610
	900	46	3268
	1000	88	2934
	1100	124	4011
	1200	126	1966
	1300	91	2789
	1400	56	996
	1500	102	1461
	1600	52	767
	1700	17	478
5/12/2007	800	7	756
	900	56	1630
	1000	375	2123
	1100	415	2096
	1200	335	1563
	1300	246	1500
	1400	232	1390
	1500	166	1241
	1600	103	755
	1700	134	1587
	1800	39	1650
5/13/2007	800	93	1713
	900	170	2000
	1000	171	2200
	1100	114	2500
	1200	111	1300
	1300	74	1100
	1400	148	1375
	1500	108	415
	1600	154	475
	1700	9	400
	1800	17	350
5/14/2007	800	8	790
	900	8	959

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1000	6	970
	1100	5	1803
	1200	2	1056
	1300	9	784
	1400	4	737
	1500	4	768
	1600	2	689
5/15/2007	800	1	288
	900	5	905
	1000	48	1790
	1100	108	3094
	1200	22	1485
	1300	22	1479
	1400	38	1470
	1500	39	1233
	1600	13	1133
	1700	9	312
5/16/2007	800	6	479
	900	5	1391
	1000	3	4300
	1100	30	5300
	1200	69	1765
	1300	74	2544
	1400	67	2131
	1500	45	979
	1600	48	2194
	1700	54	334
5/17/2007	800	36	830
	900	102	4220
	1000	90	2210
	1100	36	3260
	1200	72	5223
	1300	21	1357
	1400	47	1950
	1500	50	1880
	1600	42	1350
	1700	17	786
5/18/2007	800	34	473
	900	41	2062
	1000	63	722
	1100	29	3464
	1200	34	1550
	1300	27	2815
	1400	18	1405
	1500	13	2422
	1600	10	2333
	1700	11	1490
5/19/2007	800	76	1519
	900	271	1826

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1000	321	1072
	1100	309	1307
	1200	311	1623
	1300	261	1625
	1400	227	1113
	1500	100	864
	1600	44	862
	1700	16	308
5/20/2007	800	74	2884
	900	127	1368
	1000	194	1171
	1100	137	1363
	1200	103	1419
	1300	74	1030
	1400	42	1260
	1500	27	1325
	1600	4	70
5/21/2007	800	3	1154
	900	1	1094
	1000	7	938
	1100	16	1412
	1200	6	1111
	1300	12	789
	1400	0	939
	1500	0	39
	1600	1	362
5/22/2007	800	14	743
	900	38	860
	1000	111	1740
	1100	81	1111
	1200	52	2470
	1300	36	1090
	1400	12	379
	1500	13	791
	1600	7	370
5/23/2007	800	11	462
	900	68	826
	1000	124	2900
	1100	80	1416
	1200	33	1169
	1300	30	537
	1400	8	655
	1500	12	393
	1600	3	793
5/24/2007	800	23	660
	900	61	710
	1000	99	480
	1100	96	730
	1200	69	570

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	37	740
	1400	20	315
	1500	4	190
	1600	1	104
5/25/2007	800	14	415
	900	42	510
	1000	46	357
	1100	45	792
	1200	30	433
	1300	4	344
	1400	6	296
	1500	3	60
	1600	4	179
5/26/2007	800	22	1125
	900	57	1108
	1000	24	768
	1100	22	1345
	1200	17	589
	1300	8	445
	1400	1	1002
	1500	5	362
	1600	0	125
5/27/2007	800	51	153
	900	82	401
	1000	34	231
	1100	20	455
	1200	6	199
	1300	1	32
	1400	2	76
	1500	0	96
	1600	0	143
5/28/2007	800	37	170
	900	73	450
	1000	26	210
	1100	14	233
	1200	4	141
	1300	3	120
	1400	1	218
	1500	0	36
	1600	0	94
5/29/2007	800	10	188
	900	9	98
	1000	5	73
	1100	3	95
	1200	0	60
	1300	1	26
	1400	0	22
	1500	0	154
5/30/2007	800	0	9

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	900	3	25
	1000	1	190
	1100	7	52
	1200	11	132
	1300	2	113
	1400	2	37
	1500	3	42

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2008			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/16/2008	1000	0	1816
	1100	0	1350
	1200	1	701
	1300	0	49
	1400	2	471
	1500	3	840
	1600	24	968
	1700	41	704
4/17/2008	900	10	17
	1000	7	4870
	1100	1	291
	1200	2	87
	1300	16	691
	1400	5	1306
	1500	89	355
	1600	34	800
	1700	66	813
4/18/2008	900	28	18
	1000	18	3271
	1100	8	816
	1200	21	2660
	1300	16	759
	1400	0	3
	1500	-	-
	1600	3	2530
	1700	14	1300
4/19/2008	900	9	390
	1000	3	6790
	1100	0	3670
	1200	22	4620
	1300	74	1060
	1400	205	2100
	1500	232	920
	1600	388	1000
	1700	165	1170
	1800	67	280
4/20/2008	800	27	608
	900	48	295
	1000	62	407
	1100	43	326
	1200	71	743
	1300	118	863
	1400	328	505
	1500	49	401
	1600	13	276

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1700	0	530
4/21/2008	800	4	1905
	900	2	4865
	1000	0	1825
	1100	0	902
	1200	0	6386
	1300	0	7387
	1400	0	4892
	1500	2	1517
	1600	56	1204
4/22/2008	1000	37	127
	1100	75	11866
	1200	17	7410
	1300	1	4398
	1400	8	6544
	1500	2	6797
	1600	5	8030
	1700	0	449
4/23/2008	800	0	2380
	900	0	1492
	1000	0	114
	1100	*	*
	1200	0	2012
	1300	0	8761
	1400	0	7211
	1500	0	5942
	1600	0	658
4/24/2008	800	0	3276
	900	3	3795
	1000	10	2508
	1100	94	2341
	1200	250	5358
	1300	454	3526
	1400	291	1846
	1500	*	*
	1600	47	2423
	1700	63	4134
	1800	10	1463
4/25/2008	800	28	2150
	900	26	5409
	1000	4	2978
	1100	2	3635
	1200	0	4030
	1300	2	2124
	1400	6	1835
	1500	6	1044
	1600	2	1044
4/26/2008	700	4	154
	800	1	3569

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	900	1	3400
	1000	4	3041
	1100	1	3380
	1200	55	1600
	1300	43	2800
	1400	268	1800
	1500	257	1800
	1600	46	950
	1700	6	50
4/27/2008	1100	0	50
	1200	1	73
4/28/2008	**Did not operate**		
4/29/2008	700	0	6
	800	5	2121
	900	3	1365
	1000	2	4436
	1100	5	3637
	1200	0	308
	1300	0	106
4/30/2008	800	0	35
	900	0	3561
	1000	0	1970
	1100	0	2222
	1200	0	2329
	1300	0	2240
	1400	0	1631
	1500	1	1607
	1600	0	1433
5/1/2008	800	1	2936
	900	0	2660
	1000	2	4229
	1100	0	2877
	1200	1	2620
	1300	0	3159
	1400	4	2549
	1500	3	3113
5/2/2008	700	1	15
	800	0	1943
	900	0	115
	1000	0	1831
	1100	0	1774
	1200	0	1156
	1300	0	262
	1400	0	1026
	1500	0	1195
5/3/2008	800	0	1648
	900	0	1968
	1000	2	3294
	1100	2	3250

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	95	2956
	1300	255	3180
	1400	559	5372
	1500	406	3869
	1600	320	1340
	1700	229	886
5/4/2008	900	178	5910
	1000	156	5000
	1100	213	5820
	1200	159	7040
	1300	326	3010
	1400	131	1290
	1500	39	2940
	1600	30	1830
5/5/2008	900	98	10583
	1000	88	2799
	1100	44	6507
	1200	19	2733
	1300	12	3312
	1400	35	2244
	1500	15	3363
	1600	14	2324
5/6/2008	700	0	35
	800	4	1579
	900	6	480
	1000	5	1359
	1100	3	1848
	1200	1	130
	1300	2	375
	1400	3	1109
	1500	6	1416
	1600	3	471
5/7/2008	800	6	2146
	900	2	1629
	1000	8	3107
	1100	10	2469
	1200	4	1480
	1300	8	1426
	1400	0	2228
	1500	1	487
	1600	1	1632
5/8/2008	800	4	1259
	900	24	708
	1000	60	1804
	1100	173	1841
	1200	58	1000
	1300	81	1100
	1400	20	125
	1500	116	3033

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1600	148	1202
	1700	241	1971
	1800	76	1371
	1900	10	1850
5/9/2008	900	25	2662
	1000	44	4558
	1100	19	2967
	1200	79	3861
	1300	39	2698
	1400	12	1540
	1500	34	2963
	1600	17	1560
5/10/2008	800	35	200
	900	7	4200
	1000	0	6700
	1100	4	7200
	1200	0	3300
	1300	1	3400
	1400	161	1400
	1500	518	1000
	1600	501	1200
	1700	376	1200
	1800	88	500
5/11/2008	700	87	940
	800	510	3390
	900	239	2840
	1000	229	4210
	1100	225	4240
	1200	258	4130
	1300	226	1430
	1400	130	2960
	1500	27	2440
	1600	12	1045
5/12/2008	800	14	1504
	900	19	2151
	1000	5	1149
	1100	7	3543
	1200	4	2310
	1300	1	1899
	1400	2	2338
	1500	3	2785
5/13/2008	800	4	1389
	900	2	1212
	1000	2	2996
	1100	1	2851
	1200	1	2424
	1300	3	2394
	1400	1	1786
	1500	0	1818

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
5/14/2008	700	0	13
	800	0	1830
	900	3	1190
	1000	0	1080
	1100	1	3850
	1200	0	2530
	1300	1	2895
	1400	3	2802
	1500	1	347
5/15/2008	700	1	50
	800	0	1878
	900	0	1048
	1000	0	2026
	1100	1	1626
	1200	0	1965
	1300	0	2150
	1400	0	2506
	1500	2	1696
5/16/2008	800	0	2781
	900	0	1920
	1000	2	1441
	1100	2	2507
	1200	5	1852
	1300	4	1649
	1400	4	1228
	1500	8	949
5/17/2008	800	8	24
	900	6	610
	1000	8	7600
	1100	1	5300
	1200	1	4000
	1300	2	3400
	1400	2	6600
	1500	6	4700
5/18/2008	700	8	2885
	800	76	4352
	900	202	2716
	1000	149	1960
	1100	412	2973
	1200	107	1449
	1300	46	1797
	1400	32	1625
	1500	15	2189
	1600	11	1094
5/19/2008	700	0	57
	800	11	4460
	900	4	5390
	1000	2	4520
	1100	1	4210

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	0	5940
	1300	1	4750
	1400	1	2410
5/20/2008	800	12	3532
	900	2	1822
	1000	1	3004
	1100	0	2878
	1200	0	1383
	1300	0	3362
	1400	5	893
	1500	1	1323
	1600	1	871
5/21/2008	700	0	21
	800	1	1864
	900	0	1592
	1000	0	2955
	1100	0	3098
	1200	0	2782
	1300	0	1076
	1400	1	1787
	1500	0	1457
5/22/2008	800	0	2480
	900	0	1904
	1000	0	1652
	1100	0	1342
	1200	0	83
	1300	0	2436
	1400	0	897
	1500	0	1241
5/23/2008	700	0	45
	800	0	582
	900	0	897
	1000	0	841
	1100	1	1520
	1200	0	1008
	1300	0	1341
	1400	0	1182
	1500	0	861
5/24/2008	800	1	2689
	900	0	2585
	1000	1	2387
	1100	1	863
	1200	6	508
	1300	7	1686
	1400	28	2205
	1500	44	2400
5/25/2008	700	0	28
	800	75	2120
	900	103	1040

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1000	127	1260
	1100	62	3210
	1200	76	690
	1300	71	1690
	1400	140	1260
	1500	107	1130
	1600	55	1550
	1700	15	860
5/26/2008	800	61	3073
	900	34	1696
	1000	33	3258
	1100	*	*
	1200	27	3964
	1300	349	4154
	1400	540	827
	1500	295	2143
	1600	123	632
5/27/2008	900	144	2380
	1000	62	1150
	1100	68	2770
	1200	16	3350
	1300	15	2780
	1400	18	3950
	1500	21	1580
5/28/2008	800	24	2180
	900	53	2346
	1000	79	3662
	1100	49	5938
	1200	37	4396
	1300	24	1971
	1400	54	3212
	1500	46	2272
	1600	14	2152
5/29/2008	800	30	655
	900	71	1902
	1000	336	1967
	1100	113	1310
	1200	55	1624
	1300	21	1814
	1400	23	3742
	1500	20	1012
	1600	6	930
5/30/2008	800	3	265
	900	11	374
	1000	19	2727
	1100	5	2300
	1200	*	*
	1300	22	3091
	1400	57	1409

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1500	31	583
	1600	3	459
5/31/2008	800	140	3609
	900	211	1045
	1000	236	1136
	1100	93	693
	1200	32	270
	1300	5	2668
	1400	11	4304
	1500	14	3250
	1600	5	530
6/1/2008	800	82	371
	900	127	490
	1000	62	1421
	1100	54	956
	1200	50	2820
	1300	42	1057
	1400	12	966
	1500	21	1261
	1600	1	379
6/2/2008	800	27	739
	900	107	540
	1000	58	953
	1100	11	528
	1200	2	1205
	1300	2	2841
	1400	2	2769
	1500	0	4712
	1600	1	2335
6/3/2008	700	0	215
	800	10	226
	900	62	276
	1000	86	295
	1100	38	857
	1200	32	749
	1300	7	499
	1400	6	1022
	1500	2	236
6/4/2008	700	0	78
	800	3	60
	900	1	33
	1000	40	78
	1100	31	116
	1200	15	328
	1300	12	318
	1400	2	219
	1500	0	120
6/5/2008	800	0	260
	900	0	138

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1000	6	207
	1100	6	1201
	1200	4	92
	1300	0	170
	1400	0	1947
	1500	1	3381
6/6/2008	700	0	25
	800	-	-
	900	-	-
	1000	-	-
	1100	-	-
(-) = Viewing was stopped due to mechanical problem.			
(*) = Viewing was stopped due to the tagging of shad for telemetry study.			

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
2009			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
4/1/2009	1100	0	137
	1200	0	33
	1300	0	340
	1400	0	105
	1500	0	292
4/2/2009	1100	0	1260
	1200	0	520
	1300	0	136
	1400	0	300
	1500	0	1840
	1600	0	910
4/3/2009	1100	0	171
	1200	0	143
	1300	0	90
	1400	0	715
	1500	0	617
	1600	0	281
4/6/2009	900	0	1
	1000	0	465
	1100	0	72
	1200	0	53
	1300	0	16
	1400	0	237
	1500	0	218
4/8/2009	900	0	0
	1000	0	1290
	1100	0	313
	1200	0	29
	1300	0	271
	1400	0	90
	1500	0	17
4/10/2009	800	0	0
	900	0	1715
	1000	0	83
	1100	0	3
	1200	0	501
	1300	0	92
	1400	0	192
	1500	0	240
4/13/2009	1100	0	38
	1200	0	11
	1300	-	-
4/15/2009	800	0	-
	900	0	-
	1000	0	-

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1100	0	742
	1200	0	84
	1300	0	494
	1400	0	3171
	1500	0	6440
	1600	0	4200
	1700	0	655
4/17/2009	900	0	0
	1000	0	103
	1100	0	83
	1200	0	112
	1300	0	197
	1400	0	1035
	1500	0	1244
	1600	0	710
	1700	0	1196
4/19/2009	900	0	2849
	1000	0	3639
	1100	0	2997
	1200	0	3439
	1300	0	5089
	1400	0	2357
	1500	1	2223
	1600	3	3952
	1700	0	245
4/20/2009	800	0	89
	900	0	138
	1000	0	70
	1100	0	84
	1200	3	620
	1300	7	1565
	1400	10	2745
	1500	13	1529
	1600	8	1629
	1700	6	2725
4/21/2009	800	5	80
	900	4	631
	1000	2	303
	1100	3	882
	1200	0	1482
	1300	0	350
	1400	0	6
	1500	0	348
	1600	0	1707
	1700	0	0
4/22/2009	900	0	3586
	1000	0	563
	1100	0	925
	1200	0	986

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	0	3400
	1400	0	2701
	1500	0	1096
	1600	0	393
	1700	0	115
4/23/2009	800	0	30
	900	0	3183
	1000	1	925
	1100	1	3198
	1200	1	1107
	1300	5	1067
	1400	30	5233
	1500	85	2057
	1600	167	2755
	1700	70	363
	1800	10	1079
4/24/2009	800	9	158
	900	3	2370
	1000	3	1200
	1100	0	1180
	1200	1	2320
	1300	1	1780
	1400	8	1380
	1500	4	2950
	1600	4	1410
	1700	3	1290
4/25/2009	800	2	33
	900	4	6298
	1000	9	2455
	1100	9	7440
	1200	1	1928
	1300	15	5618
	1400	3	5575
	1500	2	1881
	1600	1	999
4/26/2009	800	2	2543
	900	2	5831
	1000	3	7142
	1100	2	6953
	1200	5	8614
	1300	7	9570
	1400	35	2921
	1500	24	2140
	1600	7	1070
	1700	2	1466
4/27/2009	800	0	163
	900	2	2780
	1000	17	3280
	1100	88	2961

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1200	71	1510
	1300	50	945
	1400	8	3570
	1500	1	3528
	1600	1	1822
	1700	0	2480
4/28/2009	800	0	559
	900	0	2647
	1000	3	7431
	1100	24	3464
	1200	46	5960
	1300	89	1630
	1400	125	2265
	1500	134	3506
	1600	86	1030
	1700	25	1154
	1800	4	304
4/29/2009	900	23	2076
	1000	57	1197
	1100	79	2192
	1200	100	1184
	1300	91	1521
	1400	7	186
	1500	5	363
	1600	10	1004
	1700	29	548
	1800	27	1420
	1900	27	588
4/30/2009	800	2	3100
	900	11	3169
	1000	2	1215
	1100	2	3400
	1200	69	2640
	1300	908	4000
	1400	226	3110
	1500	538	2820
	1600	493	2179
	1700	422	1310
	1800	153	612
	1900	6	20
5/1/2009	900	38	368
	1000	51	933
	1100	38	2491
	1200	18	1737
	1300	18	4232
	1400	16	2223
	1500	27	4173
	1600	70	3638
	1700	59	1761

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1800	73	2620
	1900	68	1640
5/2/2009	800	123	1575
	900	107	1303
	1000	26	748
	1100	21	1985
	1200	52	1493
	1300	257	910
	1400	135	3638
	1500	156	3240
	1600	124	2778
	1700	76	2251
	1800	176	3235
	1900	376	2454
5/3/2009	800	331	1982
	900	484	1593
	1000	355	2809
	1100	491	744
	1200	456	2852
	1300	388	2123
	1400	305	2134
	1500	262	1539
	1600	270	2714
	1700	163	3000
	1800	87	2673
	1900	54	2110
5/4/2009	800	89	765
	900	518	1657
	1000	1874	2248
	1100	1291	2678
	1200	252	2798
	1300	70	5310
	1400	13	4387
	1500	6	5518
	1600	3	3859
	1700	6	4120
	1800	23	1770
	1900	525	320
5/5/2009	800	87	815
	900	146	3299
	1000	258	2056
	1100	96	2907
	1200	25	428
	1300	10	1644
	1400	0	2109
	1500	3	2003
	1600	9	3128
	1700	1	1480
5/6/2009	700	2	933

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	800	51	2290
	900	260	1851
	1000	94	1450
	1100	6	2660
	1200	6	1540
	1300	5	2340
	1400	6	1660
	1500	6	3670
	1600	1	2640
	1700	0	1740
5/7/2009	800	14	2832
	900	9	2229
	1000	5	1819
	1100	10	1704
	1200	3	1647
	1300	1	2950
	1400	4	1939
	1500	6	1244
	1600	3	2123
5/8/2009	800	2	4800
	900	1	2230
	1000	1	3100
	1100	0	1850
	1200	0	4350
	1300	1	2430
	1400	3	1860
	1500	0	3850
	1600	2	2330
5/9/2009	800	102	3497
	900	33	3096
	1000	20	2768
	1100	33	5859
	1200	19	4163
	1300	18	6007
	1400	13	4094
	1500	40	4283
	1600	45	1800
5/10/2009	700	13	776
	800	353	2350
	900	335	3022
	1000	117	1631
	1100	96	4886
	1200	40	5526
	1300	36	3832
	1400	2	5607
	1500	4	4897
	1600	8	6904
	1700	3	2850
5/11/2009	800	3	449

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	900	3	3498
	1000	3	4295
	1100	1	1511
	1200	4	2260
	1300	3	5953
	1400	4	2123
	1500	6	1702
	1600	6	645
5/12/2009	800	1	1974
	900	0	3958
	1000	2	3632
	1100	0	2769
	1200	0	6374
	1300	0	4044
	1400	2	4430
	1500	1	2474
	1600	1	1918
5/13/2009	700	0	210
	800	3	2900
	900	1	4120
	1000	2	4620
	1100	1	2666
	1200	4	5642
	1300	4	2580
	1400	5	2230
	1500	22	4300
	1600	48	3360
	1700	41	1320
5/14/2009	800	17	1516
	900	24	2813
	1000	13	6753
	1100	9	3206
	1200	161	3200
	1300	254	3950
	1400	134	2576
	1500	252	4430
	1600	234	2037
	1700	242	2841
	1800	181	1918
	1900	107	417
5/15/2009	700	104	564
	800	70	1754
	900	142	2461
	1000	119	4853
	1100	212	5460
	1200	116	4190
	1300	64	2793
	1400	45	3760
	1500	67	3783

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1600	36	1880
	1700	54	2061
5/16/2009	700	29	100
	800	65	124
	900	48	604
	1000	32	1868
	1100	139	1963
	1200	69	2574
	1300	203	3069
	1400	315	1853
	1500	280	1621
	1600	200	3530
	1700	206	2088
	1800	201	1804
5/17/2009	800	531	1733
	900	308	1092
	1000	143	1935
	1100	146	949
	1200	119	1368
	1300	45	754
	1400	26	542
	1500	32	3257
	1600	49	2325
	1700	35	305
	1800	11	340
5/18/2009	700	6	22
	800	15	43
	900	68	788
	1000	219	1897
	1100	22	2121
	1200	15	805
	1300	7	1387
	1400	4	959
	1500	0	1640
	1600	3	1540
5/19/2009	700	0	67
	800	13	114
	900	46	1362
	1000	5	2255
	1100	6	1957
	1200	6	941
	1300	7	498
	1400	2	820
	1500	4	846
	1600	2	328
5/20/2009	900	5	1030
	1000	41	432
	1100	12	1658
	1200	17	945

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	0	1006
	1400	7	1097
	1500	7	1190
	1600	1	839
5/21/2009	800	4	30
	900	1	11
	1000	0	20
	1100	0	2
	1200	-	-
	1300	-	-
	1400	4	900
	1500	25	603
5/22/2009	800	205	2020
	900	91	127
	1000	60	535
	1100	54	290
	1200	78	672
	1300	86	278
	1400	34	468
	1500	30	334
	1600	13	1007
5/23/2009	700	0	128
	800	179	2025
	900	340	875
	1000	271	901
	1100	171	1193
	1200	78	1395
	1300	16	1182
	1400	18	4220
	1500	10	1910
	1600	3	1362
5/24/2009	700	25	478
	800	223	520
	900	553	1120
	1000	283	1230
	1100	155	1180
	1200	42	720
	1300	18	1650
	1400	5	1940
	1500	1	1270
	1600	4	430
5/25/2009	800	52	570
	900	57	720
	1000	75	1354
	1100	80	922
	1200	45	330
	1300	6	258
	1400	17	243
	1500	7	1764

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1600	0	373
5/26/2009	700	0	102
	800	160	81
	900	353	356
	1000	270	1058
	1100	39	260
	1200	5	703
	1300	5	2023
	1400	2	885
	1500	3	1966
	1600	1	725
5/27/2009	800	8	50
	900	124	63
	1000	99	76
	1100	60	83
	1200	22	30
	1300	9	463
	1400	12	1640
	1500	0	670
	1600	5	830
5/28/2009	800	4	91
	900	2	57
	1000	19	5
	1100	40	36
	1200	14	10
	1300	20	551
	1400	14	650
	1500	23	1290
	1600	11	590
	1700	5	30
5/29/2009	700	0	-
	800	8	-
	900	14	-
	1000	12	-
	1100	13	-
	1200	12	-
	1300	3	-
	1400	3	-
	1500	1	1800
	1600	1	775
5/30/2009	800	0	530
	900	1	630
	1000	1	112
	1100	6	146
	1200	1	450
	1300	1	330
	1400	3	230
	1500	2	200
	1600	0	83

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
5/31/2009	800	1	3
	900	6	210
	1000	2	25
	1100	16	52
	1200	3	19
	1300	14	9
	1400	2	130
	1500	5	30
	1600	2	16
6/1/2009	800	1	7
	900	7	5
	1000	0	0
	1100	1	0
	1200	4	0
	1300	10	95
	1400	11	57
	1500	0	22
	1600	1	142
6/2/2009	800	1	47
	900	1	19
	1000	2	15
	1100	1	9
	1200	0	8
	1300	3	15
	1400	-	-
	1500	0	38
	1600	0	63
6/3/2009	800	0	12
	900	39	16
	1000	71	120
	1100	2	11
	1200	7	1625
	1300	1	586
	1400	0	1304
	1500	0	440
	1600	2	344
6/4/2009	900	30	183
	1000	9	40
	1100	5	393
	1200	1	1713
	1300	3	1225
	1400	0	1641
	1500	9	834
	1600	6	1333
6/5/2009	800	7	260
	900	0	93
	1000	0	75
	1100	0	30
	1200	0	15

Hourly Shad Counts that Passed the Conowingo East Fish Lift Veiwing Window			
Date	Hour	Amercan Shad Passed	Gizzard Shad Passed
	1300	1	141
	1400	0	61
	1500	0	0

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
4/5/2010	1100	0	1700	
	1200	0	1300	
	1300	0	1800	
	1400	0	900	
	1500	0	9500	
	1600	0	22	
4/7/2010	1000	0	3795	
	1100	3	400	
	1200	0	1800	
	1300	0	0	
	1400	0	240	
	1500	1	2000	
	1600	0	2628	
4/9/2010	900	0	4232	
	1000	0	200	
	1100	0	10788	
	1200	0	1900	
	1300	0	6287	
	1400	1	5232	
	1500	0	7790	
	1600	0	3297	
4/11/2010	700	0	0	
	800	0	4696	
	900	4	6291	
	1000	4	8487	
	1100	4	6238	
	1200	0	6106	
	1300	0	6144	
	1400	1	5297	
	1500	3	5141	
	1600	1	5224	
	1700	1	2533	
4/13/2010	900	0	6900	
	1000	0	2900	
	1100	1	2300	
	1200	18	2956	
	1300	98	3992	
	1400	233	5400	
	1500	220	5200	
	1600	46	6500	
	1700	10	1800	
4/14/2010	800	6	135	
	900	12	3240	
	1000	7	4630	
	1100	3	5510	
	1200	0	1750	
	1300	0	4240	
	1400	0	1360	
	1500	1	1300	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
	1600	0	6780	
4/15/2010	900	1	6050	
	1000	0	4990	
	1100	0	6520	
	1200	0	11380	
	1300	0	6318	
	1400	0	5910	
	1500	0	8150	
	1600	0	5180	
4/16/2010	800	0	77	
	900	1	3115	
	1000	0	5172	
	1100	0	5444	
	1200	0	5080	
	1300	0	3813	
	1400	3	3590	
	1500	0	3100	
	1600	1	4972	
4/17/2010	800	1	220	
	900	18	876	
	1000	12	1118	
	1100	2	895	
	1200	8	1629	
	1300	46	3143	
	1400	47	1091	
	1500	78	1189	
	1600	70	1195	
4/18/2010	1300	51	1560	
	1400	8	1930	
	1500	7	2570	
	1600	2	3120	
	1700	2	1110	
4/19/2010	800	2	830	
	900	2	2010	
	1000	3	1390	
	1100	5	2878	
	1200	98	1771	
	1300	16	2423	
	1400	53	888	
	1500	288	2972	
	1600	423	909	
	1700	448	1755	
	1800	115	1578	
4/20/2010	800	53	2000	
	900	16	5800	
	1000	12	5300	
	1100	3	5500	
	1200	9	3700	
	1300	309	1400	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
	1400	841	1100	
	1500	861	2713	
	1600	652	1442	
	1700	390	2100	
	1800	126	1700	
4/21/2010	800	37	176	
	900	66	2761	
	1000	39	947	
	1100	136	2836	
	1200	231	4360	
	1300	623	1722	
	1400	497	2145	
	1500	274	956	
	1600	251	1240	
	1700	676	400	
	1800	267	2393	
4/22/2010	800	71	40	
	900	51	2100	
	1000	19	2200	
	1100	8	3300	
	1200	1	1300	
	1300	185	1750	
	1400	456	1500	
	1500	673	500	
	1600	435	700	
	1700	421	300	
	1800	120	2100	
4/23/2010	800	5	70	
	900	18	8000	
	1000	8	1393	
	1100	1	4000	
	1200	3	9350	
	1300	0	3820	
	1400	154	91	
	1500	669	403	
	1600	462	287	
	1700	309	476	
	1800	77	627	
4/24/2010	800	13	519	
	900	61	729	
	1000	19	3219	
	1100	12	2250	
	1200	22	764	
	1300	101	1048	
	1400	267	881	
	1500	478	836	
	1600	372	672	
	1700	477	971	
	1800	349	967	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
4/25/2010	800	10	12	
	900	76	2670	
	1000	36	820	
	1100	39	1750	
	1200	48	1750	
	1300	56	630	
	1400	61	260	
	1500	86	680	
	1600	176	410	
	1700	195	440	
	1800	171	1080	
4/26/2010	800	50	630	
	900	18	2366	
	1000	0	400	
	1100	2	2717	
	1200	0	2264	
	1300	1	370	
	1400	4	3528	
	1500	2	2147	
	1600	0	1724	
4/27/2010	800	10	143	
	900	5	906	
	1000	6	1948	
	1100	4	1961	
	1200	4	2946	
	1300	3	2449	
	1400	52	503	
	1500	34	1297	
	1600	6	118	
	1700	7	1601	
	1800	7	1908	
4/28/2010	800	3	85	
	900	2	65	
	1000	13	0.136	
	1100	5	2670	
	1200	8	4350	
	1300	2	1883	
	1400	6	2570	
	1500	1	1444	
	1600	0	3360	
4/29/2010	800	3	1006	
	900	4	530	
	1000	3	347	
	1100	26	1900	
	1200	45	2630	
	1300	25	420	
	1400	74	536	
	1500	14	2940	
	1600	7	1190	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
4/30/2010	800	1	370	
	900	19	2750	
	1000	38	1670	
	1100	23	1320	
	1200	21	780	
	1300	8	1430	
	1400	10	2410	
	1500	4	2040	
	1600	2	1720	
5/1/2010	800	1	83	
	900	3	1440	
	1000	0	3173	
	1100	1	1269	
	1200	2	1189	
	1300	2	2655	
	1400	10	1387	
	1500	32	4336	
	1600	42	1733	
	1700	175	3130	
	1800	100	978	
5/2/2010	800	110	605	
	900	76	940	
	1000	70	1600	
	1100	16	520	
	1200	6	470	
	1300	2	1040	
	1400	13	510	
	1500	104	2410	
	1600	110	810	
	1700	246	1120	
	1800	439	3100	
5/3/2010	800	21	300	
	900	140	3100	
	1000	148	1200	
	1100	92	3570	
	1200	81	1600	
	1300	56	1856	
	1400	78	4300	
	1500	132	1800	
	1600	69	3300	
	1700	111	3000	
	1800	72	3000	
5/4/2010	800	44	2898	
	900	103	1755	
	1000	230	2446	
	1100	96	2563	
	1200	45	2160	
	1300	46	2945	
	1400	34	3274	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
	1500	35	1686	
	1600	26	3623	
	1700	9	1380	
5/5/2010	800	14	200	
	900	19	100	
	1000	203	200	
	1100	239	153	
	1200	58	4491	
	1300	75	6400	
	1400	49	4400	
	1500	39	1900	
	1600	34	4700	
5/6/2010	800	17	700	
	900	28	213	
	1000	216	1100	
	1100	131	600	
	1200	86	700	
	1300	129	1000	
	1400	61	200	
	1500	5	350	
	1600	22	4100	
5/7/2010	800	1	312	
	900	10	1114	
	1000	31	1834	
	1100	44	3432	
	1200	79	2054	
	1300	218	2426	
	1400	144	1836	
	1500	301	3909	
	1600	368	2305	
	1700	500	3309	
	1800	459	2392	
	1900	188	1580	
5/8/2010	800	233	672	
	900	376	683	
	1000	677	834	
	1100	586	1877	
	1200	134	1801	
	1300	75	2377	
	1400	27	1590	
	1500	20	2837	
	1600	13	2450	
5/9/2010	800	87	1347	
	900	156	685	
	1000	231	1859	
	1100	249	530	
	1200	73	478	
	1300	42	1339	
	1400	67	2341	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
	1500	40	1478	
	1600	28	3234	
5/10/2010	900	2	100	
	1000	23	300	
	1100	15	100	
	1200	3	100	
	1300	79	33	
	1400	302	150	
	1500	131	100	
	1600	95	68	
	1700	84	100	
	1800	10	200	
5/11/2010	800	3	11	
	900	19	1933	
	1000	23	1066	
	1100	300	235	
	1200	495	695	
	1300	343	454	
	1400	210	1050	
	1500	97	214	
	1600	122	262	
	1700	145	166	
	1800	61	41	
5/12/2010	800	7	4	
	900	29	2400	
	1000	60	1400	
	1100	34	100	
	1200	400	800	
	1300	268	700	
	1400	203	900	
	1500	256	500	
	1600	217	150	
	1700	312	800	
	1800	182	75	
5/13/2010	800	45	0	
	900	40	0	
	1000	31	0	
	1100	56	10	
	1200	84	5	
	1300	367	240	
	1400	411	175	
	1500	161	100	
	1600	138	361	
	1700	57	143	
5/14/2010	800	46	751	
	900	7	2060	
	1000	2	280	
	1100	7	2450	
	1200	2	1640	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
	1300	1	4010	
	1400	5	610	
	1500	4	1730	
	1600	3	1150	
5/15/2010	800	5	100	
	900	14	3180	
	1000	2	1000	
	1100	15	700	
	1200	64	819	
	1300	48	632	
	1400	44	376	
	1500	31	743	
	1600	31	543	
5/16/2010	800	14	110	
	900	16	910	
	1000	10	1040	
	1100	6	640	
	1200	4	1070	
	1300	6	770	
	1400	6	980	
	1500	4	1770	
	1600	11	810	
5/17/2010	800	6	99	
	900	33	136	
	1000	36	773	
	1100	79	999	
	1200	39	1127	
	1300	121	2558	
	1400	62	472	
	1500	31	1210	
	1600	75	1447	
	1700	25	1171	
	1800	20	259	
5/18/2010	800	13	19	
	900	6	21	
	1000	0	6	
	1100	20	36	
	1200	47	175	
	1300	44	62	
	1400	19	128	
	1500	8	681	
	1600	6	776	
5/19/2010	900	2	225	
	1000	8	1684	
	1100	2	2152	
	1200	23	558	
	1300	9	1487	
	1400	8	1211	
	1500	14	1179	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
	1600	61	1334	
5/20/2010	800	14	100	
	900	15	100	
	1000	6	1900	
	1100	9	1300	
	1200	3	1800	
	1300	6	1400	
	1400	7	1200	
	1500	4	1500	
	1600	21	2800	
	1700	74	200	
	1800	70	91	
5/21/2010	800	16	52	
	900	56	400	
	1000	161	1960	
	1100	108	930	
	1200	142	1010	
	1300	93	3722	
	1400	62	917	
	1500	48	1528	
	1600	68	2839	
	1700	20	2000	
5/22/2010	800	22	633	
	900	32	222	
	1000	67	793	
	1100	46	1250	
	1200	57	750	
	1300	20	500	
	1400	25	935	
	1500	34	795	
	1600	12	772	
5/23/2010	800	83	870	
	900	79	280	
	1000	77	880	
	1100	54	500	
	1200	50	320	
	1300	37	450	
	1400	21	570	
	1500	37	420	
	1600	57	660	
	1700	37	560	
5/24/2010	800	17	100	
	900	91	600	
	1000	76	500	
	1100	49	300	
	1200	41	100	
	1300	10	50	
	1400	3	100	
	1500	29	600	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
	1600	36	1700	
5/25/2010	800	8	157	
	900	54	762	
	1000	27	469	
	1100	111	386	
	1200	8	34	
	1300	10	923	
	1400	19	1096	
	1500	26	1560	
	1600	28	1342	
5/26/2010	800	4	67	
	900	0	34	
	1000	19	97	
	1100	50	931	
	1200	36	781	
	1300	16	209	
	1400	18	1291	
	1500	9	1856	
	1600	5	1430	
5/27/2010	900	31	200	
	1000	59	400	
	1100	35	50	
	1200	44	400	
	1300	29	200	
	1400	32	150	
	1500	14	300	
	1600	6	50	
	1700	4	600	
5/28/2010	800	0	0	
	900	3	10	
	1000	28	100	
	1100	39	100	
	1200	15	50	
	1300	31	75	
	1400	6	150	
	1500	17	150	
	1600	8	35	
5/29/2010	800	1	41	
	900	1	181	
	1000	0	81	
	1100	0	96	
	1200	0	41	
	1300	2	25	
	1400	0	26	
	1500	7	187	
	1600	2	111	
5/30/2010	800	13	20	
	900	25	50	
	1000	40	25	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
	1100	12	20	
	1200	22	30	
	1300	20	20	
	1400	14	25	
	1500	8	17	
	1600	16	55	
5/31/2010	800	19	0	
	900	8	36	
	1000	41	25	
	1100	25	20	
	1200	46	35	
	1300	40	50	
	1400	36	50	
	1500	16	30	
	1600	4	75	
6/1/2010	800	1	0	
	900	4	30	
	1000	1	50	
	1100	0	100	
	1200	11	100	
	1300	0	30	
	1400	5	30	
	1500	22	30	
	1600	3	10	
6/2/2010	800	23	50	
	900	24	20	
	1000	52	15	
	1100	21	19	
	1200	6	25	
	1300	10	31	
	1400	3	10	
	1500	0	30	
	1600	2	20	
6/3/2010	800	1	24	
	900	13	24	
	1000	19	42	
	1100	6	9	
	1200	6	0	
	1300	6	8	
	1400	3	61	
	1500	4	121	
	1600	1	134	
6/4/2010	800	0	5	
	900	14	0	
	1000	17	15	
	1100	25	30	
	1200	23	37	
	1300	20	30	
	1400	20	29	

Hourly Shad Counts at the Conowingo East Lift Viewing Room				
Date	Time (Military)	American Shad	Gizzard Shad	
	1500	4	12	
	1600	0	7	
6/5/2010	800	0	25	
	900	0	59	
	1000	5	43	
	1100	10	19	
	1200	4	30	
	1300	4	39	
	1400	7	46	
	1500	1	7	
	1600	0	0	
6/6/2010	800	0	0	
	900	0	0	
	1000	6	10	
	1100	5	5	
	1200	4	10	
	1300	4	5	
	1400	1	5	
	1500	0	25	

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
4/8/2002	12:00	12:10	C	80		50	13	13	10	21.5	51.0
4/8/2002	12:10	14:50	C	55		70	13	13	7	21.5	51.0
4/8/2002	14:50	16:00	C	70		70	13	13	10	21.5	51.0
4/10/2002	11:00	11:45	C	84		70	13	13	10	20.0	52.5
4/10/2002	11:45	12:05	C	55		55	13	13	15	20.0	52.5
4/10/2002	12:05	17:00	C	58		70	13	13	7	21.1	52.5
4/12/2002	11:00	12:45	C	60		55	13	13	3	21.0	54.0
4/12/2002	12:45	18:00	A				13	13		19.7	54.0
4/13/2002	11:00	18:00	C	45		70	13	13	7	19.7	56.0
4/14/2002	10:45	18:00	C	45		70	13	13	7	15.2	58.5
4/15/2002	10:45	11:45	C	84		70	13	13	10	21.0	63.5
4/15/2002	11:45	12:20	C	84		70	13	13	10	21.5	63.5
4/15/2002	12:20	13:55	C	45		55	13	13	15	22.3	63.5
4/15/2002	13:55	18:00	C	39		75	13	13	7	22.5	63.5
4/16/2002	8:00	12:20	A	92	35		13	13	1	17.0	62.6
4/16/2002	12:20	13:20	C	58		47	13	13	5	19.0	62.6
4/16/2002	13:20	18:00	C	49		47	13	13	12	22.7	62.6
4/17/2002	11:00	13:35	C	49		47	13	13	11	23.0	66.4
4/17/2002	13:35	17:00	C	30		47	13	13	12	23.0	66.4
4/18/2002	8:00	15:00	C	39		47	13	13	18	23.0	66.8
4/19/2002	8:00	15:00	B	55	40		13	13	80	20.0	
4/20/2002	10:55	18:00	C	80		50	13	13	20	20.0	70.7
4/21/2002	10:45	18:00	C	75		35	13	13	15	18.3	68.9
4/22/2002	10:45	17:00	C	39		47	13	13	12	23.0	68.9
4/23/2002	11:30	16:00	C	49		47	13	13	12	22.7	64.8
4/24/2002	10:30	13:45	C	50		70	13	13	7	21.5	63.9
4/24/2002	13:45	18:00	C	50		47	13	13	7	22.0	63.9
4/25/2002	8:45	13:45	C	50		70	13	13	7	21.5	61.9
4/25/2002	13:45	18:00	C	56		55	13	13	20	21.5	61.9
4/26/2002	8:20	18:00	C	80		70	13	13	10	18.1	61.2
4/27/2002	8:30	9:20	C	72		55	13	13	7	19.0	60.0
4/27/2002	9:20	12:25	C	50		70	13	13	7	21.5	60.0
4/27/2002	12:25	16:00	C	72		55	13	13	7	21.5	60.0
4/30/2002	8:00	9:15	C	39		47	13	13	18	23.0	59.0
4/30/2002	9:15	12:20	C	39		47	13	13	18	23.0	59.0
4/30/2002	12:20	18:00	C	50		45	13	13	7	22.0	59.0
5/1/2002	8:30	12:20	C	39		47	13	13	18	23.0	60.7
5/1/2002	12:20	17:00	C	39		47	13	13	18	23.0	60.7
5/2/2002	8:30	10:10	C	39		47	13	13	18	23.0	60.7
5/2/2002	10:10	13:40	C	39		47	13	13	18	23.0	60.7
5/2/2002	13:40	18:00	C	36		60	13	13	17	24.0	60.7
5/3/2002	8:00	12:00	C	72		50	13	13	11	22.8	60.0
5/3/2002	12:00	14:00	C	39		47	13	13	18	23.0	60.0
5/3/2002	14:00	15:00	C	55		55	13	13	20	23.0	60.0
5/3/2002	15:00	17:00	C	36		60	13	13	17	23.5	60.0
5/4/2002	8:00	12:00	C	39		47	13	13	10	22.5	60.0
5/4/2002	12:00	13:00	C	41		70	13	13	7	22.5	60.0
5/4/2002	13:00	15:00	C	57		70	13	13	10	22.5	60.0
5/4/2002	15:00	16:00	C	55		70	13	13	7	22.5	60.0
5/4/2002	16:00	19:00	C	49		47	13	13	10	22.5	60.0
5/5/2002	8:30	18:00	C	44		50	13	13	11	23.5	59.4
5/6/2002	9:00	18:00	C	72		50	13	13	11	23.0	59.6
5/7/2002	8:30	13:55	C	39		47	13	13	18	23.0	60.7
5/7/2002	13:55	18:00	C	39		47	13	13	18	23.0	60.7
5/8/2002	8:15	12:50	C	85		47	13	13	5	21.0	61.7
5/8/2002	12:50	18:00	C	44		50	13	13	11	22.5	61.7
5/9/2002	8:30	18:00	C	44		50	13	13	11	22.5	61.2
5/10/2002	8:00	11:00	C	50		45	13	13	7	22.0	63.9
5/10/2002	11:00	14:00	C	41		70	13	13	10	22.0	63.9
5/10/2002	14:00	15:00	C	39		75	13	13	7	22.5	63.9
5/10/2002	15:00	18:00	C	39		47	13	13	18	23.0	63.9

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
5/11/2002	8:00	9:00	C	57		70	13	13	10	14.5	64.1
5/11/2002	9:00	10:00	C	50		47	13	13	7	22.5	64.1
5/11/2002	10:00	11:00	C	58		55	13	13	10	21.0	64.1
5/11/2002	11:00	12:00	C	84		70	13	13	10	21.0	64.1
5/11/2002	12:00	13:00	C	80		50	13	13	7	19.0	64.1
5/11/2002	13:00	14:00	A	75	35		13	13	20	19.0	64.1
5/11/2002	14:00	18:00	C	57		47	13	13	10	22.5	64.1
5/11/2002	18:00	19:00	C	49		47	13	13	10	22.5	64.1
5/12/2002	8:20	12:00	C	69		70	13	13	10	21.1	64.4
5/12/2002	12:00	18:00	C	40		60	13	13	40	23.5	64.4
5/13/2002	8:00	9:00	C	48		70	13	13	7	21.5	65.7
5/13/2002	9:00	13:00	C	39		47	13	13	18	23.0	65.7
5/13/2002	13:00	16:00	C	30		47	13	13	12	23.5	65.7
5/14/2002	8:00	14:20	C	49		47	13	13	12	23.0	65.0
5/14/2002	14:20	16:00	C	39		47	13	13	18	23.0	65.0
5/23/2002	8:20	13:00	C	39		47	13	13	18	23.5	57.2
5/24/2002	8:00	11:00	C	55		60	13	13	10	22.0	59.8
5/24/2002	11:00	12:00	C	49		47	13	13	12	23.0	59.8
5/24/2002	12:00	16:00	C	39		47	13	13	18	23.0	59.8
5/25/2002	8:00	10:00	C	41		70	13	13	7	21.0	62.6
5/25/2002	10:00	14:00	C	39		47	13	13	18	23.0	62.6
5/25/2002	14:00	18:00	C	36		60	13	13	17	23.5	62.6
5/26/2002	8:15	11:00	C	80		70	13	13	10	15.1	61.7
5/26/2002	11:00	18:00	C	45		70	13	13	7	19.4	61.7
5/27/2002	8:15	10:00	C	60		30	13	13	20	20.0	63.5
5/27/2002	10:00	12:00					13	13			
5/27/2002	12:00	13:00	C	57		70	13	13	10	21.5	63.5
5/27/2002	13:00	15:00	C	57		70	13	13	20	21.5	63.5
5/27/2002	15:00	17:00	C	36		60	13	13	17	23.5	63.5
5/27/2002	17:00	18:00	C	39		47	13	13	18	23.5	63.5
5/28/2002	8:30	8:45	C	58		55	13	13	30	22.0	65.3
5/28/2002	8:45	10:45	C	41		70	13	13	10	22.0	65.3
5/28/2002	10:45	11:20	C	45		45	13	13	35	23.0	65.3
5/28/2002	11:20	16:00	C	39		47	13	13	10	23.0	65.3
5/29/2002	8:15	12:20	C	56		60	13	13	7	21.5	
5/29/2002	12:20	18:00	C	45		55	13	13	15	23.0	
5/30/2002	8:30	9:30	C	60		30	13	13	20	21.0	66.2
5/30/2002	9:30	13:20	C	84		47	13	13	5	21.0	66.2
5/30/2002	13:20	14:35	C	55		60	13	13	10	21.0	66.2
5/30/2002	14:35	16:25	C	50		45	13	13	7	21.0	66.2
5/30/2002	16:25	18:00	C	58		70	13	13	7	22.0	66.2
5/31/2002	8:00	11:00	C	61		70	13	13	10	20.0	68.9
5/31/2002	11:00	12:00	C	50		70	13	13	7	22.0	68.9
5/31/2002	12:00	13:00	C	49		47	13	13	10	22.5	68.9
5/31/2002	13:00	16:00	C	36		60	13	13	17	23.5	68.9
5/31/2002	16:00	17:00	C	49		47	13	13	12	23.0	68.9
6/1/2002	8:40	10:50	C	84		70	13	13	6	18.0	75.2
6/1/2002	10:50	13:05	C	60		45	13	13	7	22.0	75.2
6/1/2002	13:05	17:00	C	39		47	13	13	18	23.0	75.2
6/2/2002	8:00	16:00	C	80		70	13	13	10	22.0	76.1
6/3/2002	8:30	9:40	C	57		70	13	13	20	21.5	76.9
6/3/2002	9:40	12:10	C	57		70	13	13	10	21.5	76.9
6/3/2002	12:10	16:00	C	44		50	13	13	11	22.5	76.9
6/4/2002	8:30	10:10	C	70		60	13	13	60	21.5	76.1
6/4/2002	10:10	11:35	C	70		50	13	13	20	20.5	76.1
6/4/2002	11:35	16:00	C	50		45	13	13	7	22.0	76.1
6/5/2002	8:30	12:25	C	96		70	13	13	5	19.0	76.2
6/5/2002	12:25	13:50	C	96		70	13	13	5	19.0	76.2
6/5/2002	13:50	14:50	C	75		47	13	13	5	19.0	76.2
6/5/2002	14:50	16:00	C	39		47	13	13	18	19.0	76.2
6/6/2002	8:30	11:50	C	80		70	13	13	10	17.5	77.0

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
6/6/2002	11:50	12:50	C	70		70	13	13	10	19.5	77.0
6/6/2002	12:50	16:00	C	50		45	13	13	7	23.0	77.0
6/7/2002	8:00	15:00	C	55		30	13	13	20	15.5	76.3

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
4/15/2003	1200	1400	C	36		60	13	13	17	23.5	54.5
4/16/2003	1000	1400	C	55		55	13	13	20	23.5	54.5
4/18/2003	910	1120	C	84		70	13	13	15	20.0	54.8
4/18/2003	1120	1145	C	57		70	13	13	10	21.5	54.8
4/18/2003	1145	1500	C	49		47	13	13	12	23.0	54.8
4/21/2003	900	1215	C	39		47	13	13	12	23.0	57.5
4/21/2003	1215	1500	C	45		55	13	13	15	22.5	57.5
4/23/2003	900	1110	C	96		70	13	13	5	23.0	56.3
4/23/2003	1110	1310	C	55		60	13	13	10	22.0	56.3
4/23/2003	1310	1600	C	60		45	13	13	7	22.0	56.3
4/25/2003	900	1000	C	50		45	13	13	7	22.0	57.2
4/25/2003	1000	1100	C	30		47	13	13	12	23.5	57.2
4/25/2003	1100	1200	C	49		47	13	13	12	23.0	57.2
4/25/2003	1200	1300	A	75	35		13	13	20	20.0	57.2
4/25/2003	1300	1400	A/B	63/74	30		13	13	10	18.0	57.2
4/25/2003	1400	1700	C	55		30	13	13	20	18.0	57.2
4/25/2003	1700	1800	A/B	75/75	30		13	13	15	18.0	57.2
4/25/2003	1800	1900	A/B	63/74	30		13	13	10	18.0	57.2
4/26/2003	900	1300	C	49		47	13	13	12	23.0	58.1
4/26/2003	1300	1400	C	39		47	13	13	18	23.0	58.1
4/26/2003	1400	1500	C	80		70	13	13	10	19.5	58.1
4/26/2003	1500	1600	A	79	35		13	13	4	18.5	58.1
4/26/2003	1600	1900	A	83	35		13	13	1	17.5	58.1
4/27/2003	900	1700	A	83	35		13	13	1	19.0	58.1
4/28/2003	945	1100	C	50		47	13	13	7	21.5	60.8
4/28/2003	1100	1310	C	44		50	13	13	11	22.5	60.8
4/28/2003	1310	1620	C	58		47	13	13	5	21.5	60.8
4/28/2003	1620	1650	C	70		46	13	13	20	21.0	60.8
4/28/2003	1650	1900	C	70		70	13	13	10	21.0	60.8
4/29/2003	830	1010	C	50		47	13	13	7	22.0	62.6
4/29/2003	1010	1420	C	44		50	13	13	11	22.5	62.6
4/29/2003	1420	1455	C	57		70	13	13	10	22.5	62.6
4/29/2003	1455	1800	C	60		55	13	13	3	20.5	62.6
4/30/2003	830	1155	C	50		45	13	13	7	22.0	61.7
4/30/2003	1155	1540	C	45		70	13	13	7	20.5	61.7
4/30/2003	1540	1900	C	96		70	13	13	5	19.0	61.7
5/1/2003	815	1230	C	57		70	13	13	20	21.5	62.6
5/1/2003	1230	1420	C	48		70	13	13	7	21.5	62.6
5/1/2003	1420	1510	C	55		70	13	13	7	21.5	62.6
5/1/2003	1510	1900	C	58		55	13	13	30	21.0	62.6
5/2/2003	800	1200	C	44		50	13	13	11	22.5	65.3
5/2/2003	1200	1300	C	39		47	13	13	10	22.5	65.3
5/2/2003	1300	1400	C	58		55	13	13	7	21.0	65.3
5/2/2003	1400	1500	B	55	40		13	13	80	20.0	65.3
5/2/2003	1500	1900	C	61		70	13	13	10	19.5	65.3
5/3/2003	800	900	A	83	35		13	13	1	17.5	65.3
5/3/2003	900	1000	C	80		50	13	13	20	19.5	65.3
5/3/2003	1000	1100	C	45		55	13	13	15	22.5	65.3
5/3/2003	1100	1400	C	49		47	13	13	10	22.5	65.3
5/3/2003	1400	1500	C	64		70	13	13	7	21.0	65.3
5/3/2003	1500	1800	C	96		70	13	13	5	20.0	65.3
5/4/2003	800	1500	AB	63/74	30		13	13	10	18.0	64.4
5/4/2003	1500	1900	C	75		35	13	13	15	18.5	64.4
5/5/2003	800	845	C	44		50	13	13	11	22.5	65.3
5/5/2003	845	1225	C	39		47	13	13	18	23.0	65.3
5/5/2003	1225	1800	C	57		70	13	13	60	22.0	65.3
5/6/2003	830	1020	C	55		70	13	13	20	21.0	63.5
5/6/2003	1020	1900	C	58		31	13	13	23	21.0	63.5
5/7/2003	830	1515	C	39		47	13	13	12	23.0	65.3
5/7/2003	1515	1900	C	55		70	13	13	10	21.0	65.3
5/8/2003	815	1255	C	44		50	13	13	11	22.5	68.9

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
5/8/2003	1255	1800	C	70		60	13	13	7	20.0	68.9
5/9/2003	800	900	C	58		47	13	13	5	21.0	68.0
5/9/2003	900	1200	C	44		50	13	13	11	22.5	68.0
5/9/2003	1200	1300	C	60		55	13	13	3	20.5	68.0
5/9/2003	1300	1500	C	72		55	13	13	7	19.5	68.0
5/9/2003	1500	1700	A/C	83/52		45	13	13	6	19.5	68.0
5/9/2003	1700	1900	C	49		47	13	13	10	22.5	68.0
5/10/2003	1200	1400	A/B	63/84		30	13	13	10	17.1	64.4
5/10/2003	1400	1600	C	69		70	13	13	20	20.5	64.4
5/10/2003	1600	1700	C	58		55	13	13	30	21.0	64.4
5/10/2003	1700	1800	C	64		70	13	13	7	21.0	64.4
5/11/2003	800	1000	A/B	63/74		30	13	13	10	18.5	65.0
5/11/2003	1000	1400	A	79	35		13	13	4	18.5	65.0
5/11/2003	1400	1500	A/B	75/75	30		13	13	15	18.5	65.0
5/11/2003	1500	1700	A	71	35		13	13	20	19.0	65.0
5/11/2003	1700	1800	A/B	63/84	30		13	13	10	19.0	65.0
5/12/2003	800	1540	C	45		75	13	13	7	22.5	65.7
5/12/2003	1540	1800	C	50		70	13	13	7	21.5	65.7
5/13/2003	900	1300	C	45		75	13	13	7	21.0	66.2
5/13/2003	1300	1800	C	50		47	13	13	7	21.0	66.2
5/14/2003	800	1310	C	39		47	13	13	10	22.5	63.9
5/14/2003	1310	1800	C	58		55	13	13	7	21.0	63.9
5/15/2003	900	1215	C	30		47	13	13	12	23.0	64.4
5/15/2003	1215	1310	C	84		47	13	13	5	21.0	64.4
5/15/2003	1310	1800	C	45		70	13	13	7	19.5	64.4
5/16/2003	800	900	C	30		47	13	13	12	23.0	63.9
5/16/2003	900	1100	C	39		47	13	13	18	23.0	63.9
5/16/2003	1100	1200	C	49		47	13	13	12	23.0	63.9
5/16/2003	1200	1400	C	57		70	13	13	10	21.5	63.9
5/16/2003	1400	1700	C	72		55	13	13	7	19.5	63.9
5/16/2003	1700	1800	C	57		70	13	13	10	20.5	63.9
5/17/2003	800	1000	C	80		70	13	13	10	17.5	62.8
5/17/2003	1000	1100	C	70		70	13	13	10	21.0	62.8
5/17/2003	1100	1300	C	63		60	13	13	10	21.5	62.8
5/17/2003	1300	1400	C	57		70	13	13	20	22.0	62.8
5/17/2003	1400	1500	C	39		47	13	13	12	23.0	62.8
5/17/2003	1500	1600	C	30		47	13	13	10	23.5	62.8
5/17/2003	1600	1800	C	34		47	13	13	12	23.0	62.8
5/18/2003	800	1000	C	57		70	13	13	10	21.5	61.3
5/18/2003	1000	1500	C	50		47	13	13	10	21.5	61.3
5/18/2003	1500	1600	C	57		70	13	13	60	21.5	61.3
5/18/2003	1600	1700	C	50		70	13	13	7	21.5	61.3
5/18/2003	1700	1800	C	45		55	13	13	15	22.5	61.3
5/19/2003	815	1415	C	39		47	13	13	18	23.0	60.8
5/19/2003	1415	1700	C	30		47	13	13	12	23.0	60.8
5/20/2003	815	1350	C	60		55	13	13	12	23.0	60.0
5/20/2003	1350	1700	C	44		50	13	13	11	22.5	60.0
5/21/2003	830	910	C	30		47	13	13	12	23.0	61.4
5/21/2003	910	1050	C	50		47	13	13	10	21.5	61.4
5/21/2003	1050	1340	C	64		70	13	13	7	21.5	61.4
5/21/2003	1340	1615	C	57		70	13	13	20	21.5	61.4
5/21/2003	1615	1645	C	45		55	13	13	16	21.5	61.4
5/21/2003	1645	1800	C	39		47	13	13	12	22.5	61.4
5/22/2003	815	1155	C	30		47	13	13	12	23.0	60.8
5/22/2003	1155	1445	C	60		30	13	13	20	20.0	60.8
5/22/2003	1445	1900	C	84		70	13	13	10	20.0	60.8
5/23/2003	800	900	C	30		47	13	13	12	23.0	60.3
5/23/2003	900	1200	C	39		47	13	13	18	23.0	60.3
5/23/2003	1200	1300	C	84		47	13	13	5	21.0	60.3
5/23/2003	1300	1500	C	45		70	13	13	7	20.0	60.3
5/23/2003	1500	1800	C	84		70	13	13	20	19.5	60.3

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
5/24/2003	800	900	C	84		70	13	13	20	20.0	63.2
5/24/2003	900	1000	C	63		60	13	13	10	21.5	63.2
5/24/2003	1000	1400	C	49		47	13	13	12	23.0	63.2
5/24/2003	1400	1700	C	55		55	13	13	15	22.0	63.2
5/24/2003	1700	1800	C	56		55	13	13	20	21.5	63.2
5/25/2003	800	1100	C	84		70	13	13	20	19.5	64.1
5/25/2003	1100	1400	C	63		60	13	13	10	21.5	64.1
5/25/2003	1400	1800	C	49		47	13	13	12	23.0	64.1
5/26/2003	800	1120	C	56		60	13	13	7	22.0	61.9
5/26/2003	1120	1800	C	50		50	13	13	30	22.5	61.9
5/27/2003	815	1115	C	36		60	13	13	17	23.0	61.7
5/27/2003	1115	1330	C	41		70	13	13	10	22.0	61.7
5/27/2003	1330	1900	C	50		45	13	13	7	22.0	61.7
5/28/2003	800	1050	C	30		47	13	13	12	23.0	61.7
5/28/2003	1050	1450	C	39		47	13	13	10	22.5	61.7
5/28/2003	1450	1655	C	39		75	13	13	7	22.5	61.7
5/28/2003	1655	1800	C	30		47	13	13	12	23.0	61.7
5/29/2003	900	950	C	39		47	13	13	18	23.0	63.5
5/29/2003	950	1035	C	49		47	13	13	10	22.0	63.5
5/29/2003	1035	1530	C	58		55	13	13	30	21.0	63.5
5/29/2003	1530	1800	C	39		47	13	13	12	21.0	63.5
5/30/2003	800	1200	C	30		47	13	13	12	23.0	64.4
5/30/2003	1200	1300	C	55		70	13	13	7	22.0	64.4
5/30/2003	1300	1600	C	60		45	13	13	7	22.0	64.4
5/30/2003	1600	1700	C	72		50	13	13	11	22.0	64.4
5/30/2003	1700	1800	C	49		47	13	13	12	23.0	64.4
5/31/2003	900	1100	C	45		55	13	13	15	22.5	66.1
5/31/2003	1100	1300	C	44		50	13	13	11	22.0	66.1
5/31/2003	1300	1400	C	57		70	13	13	10	21.0	66.1
5/31/2003	1400	1500	C	80		50	13	13	20	20.0	66.1
5/31/2003	1500	1600	C	84		70	13	13	10	20.0	66.1
5/31/2003	1600	1800	C	70		70	13	13	10	21.0	66.1
6/1/2003	800	1000	C	63		60	13	13	10	21.5	
6/1/2003	1000	1400	C	57		70	13	13	20	21.5	
6/1/2003	1400	1500	C	45		55	13	13	15	22.0	
6/1/2003	1500	1600	C	39		47	13	13	10	22.5	
6/2/2003	1015	1100	C	39		47	13	13	18	23.0	65.8

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
4/12/2004	1030	1215	C	39		47	13	13	18	23.0	50.0
4/12/2004	1215	1400	C	85		47	13	13	5	21.0	50.0
4/14/2004	1030	1200	C	49		47	13	13	12	23.0	50.0
4/14/2004	1200	1500	C	39		47	13	13	18	23.0	50.0
4/19/2004	1030	1130	C	39		47	13	13	18	23.0	53.6
4/19/2004	1130	1500	C	39		47	13	13	12	23.0	53.6
4/21/2004	1030	1545	C	39		47	13	13	18	23.0	60.3
4/21/2004	1545	1700	C	55		60	13	13	10	22.0	60.3
4/22/2004	1015	1305	C	39		47	13	13	18	23.0	62.6
4/22/2004	1305	1325	C	55		60	13	13	10	23.0	62.6
4/22/2004	1325	1700	C	50		47	13	13	10	21.5	62.6
4/23/2004	1000	1300	C	30		47	13	13	12	23.5	63.0
4/23/2004	1300	1800	C	39		47	13	13	18	23.0	63.0
4/24/2004	800	1800	C	55		45	13	13	25	22.5	63.0
4/25/2004	800	904	C	50		45	13	13	25	19.5	64.4
4/25/2004	904	1210	C	47		45	13	13	25	22.0	64.4
4/25/2004	1210	1320	C	50		45	13	13	25	22.0	64.4
4/25/2004	1320	1800	C	60		45	13	13	25	21.0	64.4
4/26/2004	800	1110	C	34		47	13	13	12	23.0	63.9
4/26/2004	1110	1215	C	50		47	13	13	10	23.0	63.9
4/26/2004	1215	1610	C	70		60	13	13	7	21.5	63.9
4/26/2004	1610	1800	C	30		47	13	13	12	23.0	63.9
4/27/2004	830	1155	C	39		47	13	13	18	23.0	63.0
4/27/2004	1155	1800	C	30		47	13	13	12	23.0	63.0
4/28/2004	800	1050	C	39		47	13	13	18	23.0	59.0
4/28/2004	1050	1800	C	96		70	13	13	5	23.0	59.0
4/29/2004	100	1050	C	96		70	13	13	5	23.0	58.9
4/29/2004	1050	1600	C	30		47	13	13	12	23.0	58.9
4/30/2004	800	1300	C	39		47	13	13	18	23.0	59.6
4/30/2004	1300	1500	C	30		47	13	13	12	23.5	59.6
5/1/2004	800	1100	C	30		47	13	13	12	23.5	61.0
5/1/2004	1100	1300	C	29		49	13	13	25	23.5	61.0
5/1/2004	1300	1800	C	30		47	13	13	12	23.5	61.0
5/2/2004	745	835	C	75		45	13	13	25	19.5	61.2
5/2/2004	835	920	C	55		45	13	13	25	21.5	61.2
5/2/2004	920	1335	C	50		45	13	13	25	21.5	61.2
5/2/2004	1335	1435	C	50		45	13	13	35	21.5	61.2
5/2/2004	1435	1715	C	50		45	13	13	45	21.5	61.2
5/2/2004	1715	1900	C	35		55	13	13	45	23.0	61.2
5/3/2004	800	850	C	30		47	13	13	12	23.0	62.0
5/3/2004	850	1320	C	30		47	13	13	25	23.5	62.0
5/3/2004	1320	1800	C	27		91	13	13	34	23.0	62.0
5/4/2004	730	1200	C	30		47	13	13	12	23.5	62.1
5/4/2004	1200	1600	B	40	40		13	13	55	23.8	62.1
5/4/2004	1600	1800	C	30		47	13	13	12	23.8	62.1
5/5/2004	800	1240	C	30		47	13	13	12	23.5	64.4
5/5/2004	1240	1800	C	25		47	13	13	30	23.5	64.4
5/6/2004	800	1450	C	30		47	13	13	12	23.5	61.9
5/6/2004	1450	1800	C	36		60	13	13	17	23.5	61.9
5/7/2004	800	1500	C	30		47	13	13	12	23.5	64.0
5/7/2004	1500	1800	C	30		47	13	13	12	23.5	64.0
5/8/2004	800	900	C	30		47	13	13	12	23.5	62.3
5/8/2004	900	1400	C	30		47	13	13	12	23.5	62.3
5/8/2004	1400	1600	C	30	44	90	13	13	25	23.5	62.3
5/8/2004	1600	1800	C	30		47	13	13	12	23.5	62.3
5/9/2004	730	810	C	70		90	13	13	25	23.5	66.2
5/9/2004	810	1100	C	30		90	13	13	35	23.5	66.2
5/9/2004	1100	1412	C	32		90	13	13	35	23.5	66.2
5/9/2004	1412	1600	C	50		90	13	13	45	23.5	66.2
5/9/2004	1600	1900	C	50		90	13	13	45	23.5	66.2
5/10/2004	800	1800	C	36		60	13	13	17	23.5	66.2

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
5/11/2004	800	1700	C	30		47	13	13	12	23.5	68.0
5/12/2004	730	1340	C	30		47	13	13	12	23.5	67.7
5/12/2004	1340	1800	C	36		60	13	13	17	23.5	67.7
5/13/2004	800	1800	C	30		47	13	13	12	23.0	69.7
5/14/2004	815	1700	C	39		47	13	13	18	23.3	71.6
5/15/2004	730	900	C	70		50	13	13	20	20.0	73.4
5/15/2004	900	930	C	39		47	13	13	18	23.5	73.4
5/15/2004	930	1800	C	30		47	13	13	12	23.5	73.4
5/16/2004	740	1010	C	37		70	13	13	45	22.5	73.6
5/16/2004	1010	1208	C	40		70	13	13	50	22.5	73.6
5/16/2004	1208	1625	C	55		50	13	13	55	21.0	73.6
5/16/2004	1625	1800	C	32		50	13	13	35	21.0	73.6
5/17/2004	745	930	C	49		47	13	13	12	23.0	73.8
5/17/2004	930	1105	C	30		47	13	13	12	23.0	73.8
5/17/2004	1105	1700	C	44		50	13	13	11	22.5	73.8
5/18/2004	730	1120	C	30		47	13	13	12	22.5	75.2
5/18/2004	1120	1600	C	39		47	13	13	10	22.5	75.2
5/18/2004	1600	1700	C	40		60	13	13	50	22.5	75.2
5/19/2004	800	950	C	30		47	13	13	18	23.5	75.6
5/19/2004	950	1140	C	27		84	13	13	25	21.0	75.6
5/19/2004	1140	1700	C	58		55	13	13	7	21.0	75.6
5/20/2004	745	840	C	30		70	13	13	30	23.5	73.8
5/20/2004	840	1115	C	30		47	13	13	12	23.5	73.8
5/20/2004	1115	1700	C	50		60	13	13	35	22.0	73.8
5/21/2004	735	1300	C	34		47	13	13	12	23.0	71.6
5/21/2004	1300	1600	C	49		47	13	13	10	22.5	71.6
5/22/2004	745	1000	A	72	35		13	13	15	19.0	74.3
5/22/2004	1000	1100	C	72		45	13	13	7	22.0	74.3
5/22/2004	1100	1500	C	42		59	13	13	24	23.5	74.3
5/22/2004	1500	1700	C	30		47	13	13	12	23.0	74.3
5/23/2004	730	1010	A	78	30		13	13	25	16.0	75.0
5/23/2004	1010	1255	C	50		75	13	13	35	22.0	75.0
5/23/2004	1255	1600	C	33		75	13	13	35	22.5	75.0
5/24/2004	800	1245	C	39		47	13	13	18	23.0	76.1
5/24/2004	1245	1500	C	30		47	13	13	12	23.0	76.1
5/25/2004	730	1530	C	39		47	13	13	18	23.0	76.2
5/26/2004	730	850	C	71		71	13	13	30	23.0	77.0
5/26/2004	850	1020	C	30		47	13	13	12	23.0	77.0
5/26/2004	1020	1500	C	30		47	13	13	12	23.0	77.0
5/27/2004	900	1500	C	32		82	13	13	25	23.0	77.0
5/28/2004	750	1500	C	33		80	13	13	30	22.5	76.1
5/29/2004	730	835	C	48		55	13	13	15	21.5	73.8
5/29/2004	835	1500	C	39		85	13	13	39	23.0	73.8
5/30/2004	740	1235	A	75	30		13	13	30	16.0	73.4
5/30/2004	1235	1500	C	55		80	13	13	35	21.5	73.4
5/31/2004	720	1024	A	72		30	13	13	30	17.0	72.0
5/31/2004	1024	1300	C	72		80	13	13	30	21.5	72.0

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
4/15/2005	1200	1500	C	44		50	13	13	11	22.0	52.7
4/18/2005	1200	1320	C	70		50	13	13	20	20.5	55.4
4/18/2005	1320	1500	C	44		50	13	13	11	22.5	55.4
4/20/2005	930	1215	C	61		70	13	13	20	20.0	58.9
4/20/2005	1215	1610	C	39		47	13	13	12	23.0	58.9
4/20/2005	1610	1700	C	50		45	13	13	7	21.5	58.9
4/21/2005	900	1140	C	39		47	13	13	18	23.0	59.0
4/21/2005	1140	1150	A	68	58		13	13	30	23.0	59.0
4/21/2005	1150	1315	C	86		47	13	13	7	20.5	59.0
4/21/2005	1315	1700	A	73	35		13	13	20	18.0	59.0
4/22/2005	900	1100	C	39		47	13	13	18	23.0	61.0
4/22/2005	1100	1400	C	69		70	13	13	10	21.5	61.0
4/22/2005	1400	1700	C	61		70	13	13	10	19.5	61.0
4/23/2005	925	1410	C	41		70	13	13	7	21.5	60.5
4/23/2005	1410	1800	C	61		70	13	13	10	21.0	60.5
4/24/2005	925	1025	C	80		70	13	13	10	17.5	58.7
4/24/2005	1025	1505	A	70	35		13	13	14	17.5	58.7
4/24/2005	1505	1600	C	61		70	13	13	10	19.0	58.7
4/25/2005	900	1305	C	44		50	13	13	11	22.5	59.6
4/25/2005	1305	1530	C	45		70	13	13	7	20.5	59.6
4/25/2005	1530	1800	C	70		50	13	13	20	20.0	59.6
4/26/2005	900	1215	C	44		50	13	13	11	22.5	60.4
4/26/2005	1215	1600	C	39		47	13	13	10	22.5	60.4
4/27/2005	900	1700	C	39		47	13	13	10	22.5	57.2
4/28/2005	900	1010	C	35		75	13	13	22	23.0	55.4
4/28/2005	1010	1330	C	55		70	13	13	20	21.0	55.4
4/28/2005	1330	1600	C	60		55	13	13	3	20.5	55.4
4/29/2005	900	1200	C	30		47	13	13	12	23.0	55.3
4/29/2005	1200	1500	C	50		70	13	13	7	21.5	55.3
4/30/2005	900	1120	C	30		47	13	13	12	23.0	55.4
4/30/2005	1120	1150	C	39		75	13	13	7	23.0	55.4
4/30/2005	1150	1215	C	60		55	13	13	3	20.0	55.4
4/30/2005	1215	1400	C	72		55	13	13	7	19.0	55.4
5/1/2005	900	1115	A	83	45		13	13	20	16.5	56.0
5/1/2005	1115	1400	A	80	35		13	13	20	16.5	56.0
5/1/2005	1400	1510	A	65	35		13	13	30	16.5	56.0
5/1/2005	1510	1700	B	75		65	13	13	30	18.5	56.0
5/2/2005	900	1210	C	39		75	13	13	7	22.5	58.5
5/2/2005	1210	1410	C	58		60	13	13	20	21.0	58.5
5/2/2005	1410	1700	C	82		51	13	13	18	18.5	58.5
5/3/2005	900	1230	C	32		60	13	13	20	23.0	57.0
5/3/2005	1230	1320	A	65	35		13	13	30	19.0	57.0
5/3/2005	1320	1700	A	80	45		13	13	20	17.0	57.0
5/4/2005	945	1000	C	55		60	13	13	10	21.5	57.2
5/4/2005	1000	1800	A	65	65		13	13	25	19.0	57.2
5/5/2005	900	1230	C	46		50	13	13	20	22.5	57.2
5/5/2005	1230	1430	A	79	35		13	13	20	18.5	57.2
5/5/2005	1430	1645	A	79	35		13	13	4	18.5	57.2
5/5/2005	1645	1800	A	79	35		13	13	45	18.5	57.2
5/6/2005	830	1200	C	30		47	13	13	12	23.5	56.2
5/6/2005	1200	1600	C	61		70	13	13	10	19.0	56.2
5/6/2005	1600	1700	C	58		55	13	13	30	21.0	56.2
5/7/2005	800	820	C	80		50	13	13	20	21.5	56.8
5/7/2005	820	900	C	75		50	13	13	8	22.0	56.8
5/7/2005	900	1235	C	50		45	13	13	7	22.0	56.8
5/7/2005	1235	1800	A	64	35		13	13	45	19.5	56.8
5/8/2005	710	1100	A	78	35		13	13	30	17.0	57.2
5/8/2005	1100	1410	A	78	35		13	13	35	17.0	57.2
5/8/2005	1410	1800	A	68	35		13	13	43	18.0	57.2
5/9/2005	800	1140	C	55		60	13	13	20	21.5	57.6
5/9/2005	1140	1405	C	62		60	13	13	25	21.0	57.6
5/9/2005	1405	1740	A	80	35		13	13	30	17.0	57.6
5/9/2005	1740	1800	C	64		70	13	13	7	20.5	57.6
5/10/2005	800	1310	C	70		60	13	13	25	21.0	59.0

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
5/10/2005	1310	1700	C	55		40	13	13	20	21.5	59.0
5/11/2005	830	1205	C	70		51	13	13	20	21.0	61.7
5/11/2005	1205	1800	C	55		55	13	13	25	21.5	61.7
5/12/2005	730	807	A	83	35		13	13	1	19.0	62.9
5/12/2005	807	1100	A	71	35		13	13	20	22.0	62.9
5/12/2005	1100	1605	C	55		55	13	13	15	22.0	62.9
5/12/2005	1605	1800	C	85		70	13	13	10	19.5	62.9
5/13/2005	800	1140	C	58		55	13	13	7	20.5	63.0
5/13/2005	1140	1830	A	70	34		13	13	30	19.5	63.0
5/14/2005	730	1800	A	78	15		13	13	50	18.5	62.1
5/15/2005	715	1000	A	78	35		13	13	40	17.0	63.1
5/16/2005	1300	1800	C	65		56	13	13	25	21.0	67.7
5/17/2005	810	1435	A	60	40		13	13	25	19.0	67.8
5/17/2005	1435	1700	A	65	35		13	13	35	19.0	67.8
5/18/2005	1100	1500	C	67		55	13	13	40	21.0	68.2
5/18/2005	1500	1800	A	65	35		13	13	30	17.0	68.2
5/19/2005	800	910	C	63		56	13	13	30	20.5	68.4
5/19/2005	910	1440	C	67		56	13	13	30	20.5	68.4
5/19/2005	1440	1600	A	60	30		13	13	40	20.5	68.4
5/19/2005	1600	1800	A	71	30		13	13	40	19.0	68.4
5/20/2005	730	1000	A	71	35		13	13	20	19.0	67.1
5/20/2005	1000	1659	C	67		50	13	13	40	20.5	67.1
5/20/2005	1700	1800	C	70		50	13	13	40	20.0	67.1
5/21/2005	800	1100	A/B	63/74	30		13	13	10	18.0	69.8
5/21/2005	1100	1545	A	72	35		13	13	4	20.0	69.8
5/21/2005	1545	1915	A	70	10		13	13	55	18.0	69.8
5/22/2005	730	1800	A	76	15		13	13	45	17.0	67.1
5/23/2005	800	1105	C	64	40		13	13	40	18.5	67.1
5/23/2005	1105	1800	C	55		40	13	13	40	19.0	67.1
5/24/2005	730	855	A	68	35		13	13	30	18.5	68.0
5/24/2005	855	1520	C	68		38	13	13	40	20.5	68.0
5/24/2005	1520	1600	C	75		28	13	13	50	20.0	68.0
5/25/2005	830	1505	C	67		54	13	13	25	18.5	66.8
5/25/2005	1505	1700	A	70	25		13	13	50	19.5	66.8
5/26/2005	800	1700	A	66	25		13	13	35	19.0	66.3
5/27/2005	730	1100	A	69	30		13	13	20	16.5	66.4
5/27/2005	1100	1200	A	60	30		13	13	50	19.5	66.4
5/27/2005	1200	1400	C	61		70	13	13	10	19.5	66.4
5/27/2005	1400	1500	A	85	35		13	13	20	19.5	66.4
5/27/2005	1500	1600	A	71	35		13	13	20	19.5	66.4
5/28/2005	730	900	A	83	35		13	13	1	17.5	68.9
5/28/2005	900	1200	A	83	35		13	13	1	17.5	68.9
5/28/2005	1200	1400	A	71	35		13	13	20	19.5	68.9
5/29/2005	730	1310	A	77	10		13	13	55	17.5	68.2
5/29/2005	1310	1500	A	77	20		13	13	20	19.5	68.2
5/30/2005	730	1630	A	74	10		13	13	45	17.5	68.4
5/31/2005	800	1100	A	75	25		13	13	30	18.5	70.2
5/31/2005	1100	1600	A	67	15		13	13	45	19.0	70.2
6/1/2005	730	1010	A	78	10		13	13	40	17.0	71.3
6/1/2005	1010	1600	A	59	9		13	13	46	20.5	71.3
6/2/2005	730	1215	A	78	10		13	13	40	17.0	70.0
6/2/2005	1215	1400	C	70		50	13	13	45	20.5	70.0
6/3/2005	730	1500	A	80	10		13	13	35	18.5	70.7
6/4/2005	730	1000	A	92	35		13	13	1	17.0	70.7
6/4/2005	1000	1230	A	83	35		13	13	1	17.0	70.7
6/4/2005	1230	1400	A	65	35		13	13	35	20.0	70.7
6/5/2005	720	1230	A	79	10		13	13	35	17.0	71.8
6/5/2005	1230	1500	A	70		40	13	13	60	20.0	71.8
6/6/2005	730	915	A	80	11		13	13	35	17.0	73.6
6/6/2005	915	1110	A	76	11		13	13	30	18.0	73.6
6/6/2005	1110	1235	A	80	15		13	13	35	22.0	73.6
6/6/2005	1235	1400	C	52	44		13	13	25	22.5	73.6
6/7/2005	800	1225	A	80	15		13	13	20	17.0	76.6
6/7/2005	1225	1400	C	52		30	13	13	25	22.5	76.6

Date	start time	end time	Gate	GateSetting	DiffuserA	DiffuserB	SpillwayA	SpillwayB	Crowder	Tailrace	Watertemp
6/8/2005	815	1240	A	81	15		13	13	25	17.5	77.0
6/8/2005	1240	1400	C	52		30	13	13	25	22.0	77.0

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
4/5/2010	1100-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	N/A		50	9	9	30	106.8-107.1	23.0-24.0	58.1	Hopper would not rise on last lift and DWG is not working correctly.
4/7/2010	945-1310	5 & 4	X	X		X		X	X	X	X	X	X			X	44		60	13	12	31	107.1-107.3	22.5-23.0	59.4	Crowder doors closed by themselves. Hoppr stopped 60% of the way up. Upper limit sw
	1310-1635	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		60	13	13	30	107.0-107.2	22.5-23.5		
4/9/2010	700-800	3 & 0					X	X	X					X			82	10		14	14	25	106.8	18.5	61.7	Large amount of debris on screens
	800-1010	6 & 3		X	X	X	X	X	X	X	X	X				X	45		50	14	14	30	106.9-107.0	22		Crowder doors are opening and closing on themselves
	1010-1615	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	14	14	30	106.7-107.0	23		
4/11/2010	730-1000	2 & 0					X		X					X			92	6		14	14	20	106.2-106.9	18	64.4	Problem with opening Diff. A
	1000-1155	4 & 0				X	X	X	X					X			82	6		12	12	20	107.4-107.8	19.5		
	1155-1355	4 & 0				X	X	X	X					X			77	6		12	12	25	108.0-108.3	19.5-20.0		
	1355-1655	4 & 1				X	X	X	X	X						X	70		50	12	12	25	108.4-108.5	21		
4/13/2010	830-1200	6 & 3		X	X	X	X	X	X	X	X		X			X	40		40	13	14	25	107.1-107.2	22.8-23.0	62.6	Tripped DWG breaker
	1200-1400	3 & 1					X	X	X				X			X							107.1-107.8	20.3-20.5		
	1400-1650	4 & 2				X	X	X	X	X			X			X							107.7-107.8	21.5-22.0		
4/14/2010	800-1415	4 & 2			X	X		X	X	X	X					X	50		40	14	14	31	106.8-107.7	22	61.5	
	1415-1640	4 & 2				X	X	X	X	X	X					X	65		40	14	14	31	107.3-107.7	22		
4/15/2010	800-1630	4 & 2				X	X	X	X	X	X					X	55		50	14	14	30	106.7-107.1	21.5	62.7	
4/16/2010	0815-0905	2 & 0					X		X							X	90		50	14	14	30	106.6	18	63	
	905-1640	4 & 2				X	X	X	X	X	X					X	55		60	14	14	30	107.0-108.0	21		
4/17/2010	800-1615	3 & 0					X	X	X					X			80	5		11	14	30	107.1-108.5	17.0-18.5	64.4	Largeamount of debris on screens
	1615-1630	5 & 0			X	X	X	X	X							X	65		25	11	3	25	108.4	17		
4/18/2010	1300-1700	3 & 1				X	X	X		X						X	78		40	12	12	25	108.2-108.4	19.5	60.8	Large amount of debris on screens and in hopper. Late staart
4/19/2010	800-1235	4 & 0				X	X	X	X					X			82	5		14	14	25	107.3-108.1	19.8	60.4	
	1235-1650	4 & 0				X	X	X	X					X			78	10		14	14	30	108.0-108.3	19.7-20.0		Maint came out and raised Diff A to 10%...to be left here for the year.
	1650-1830	6 & 3	X		X	X	X	X	X	X	X		X			X	50	10	50	14	14	30	108.0-108.3	22.5		
4/20/2010	800-1205	4 & 1				X	X	X	X	X						X	71	10	50	14	14	30	106.4-106.7	20.5-20.8	61.7	
	1205-1700	2 & 0					X		X					X			88	10		14	14	30	106.9-107.9	19		
	1700-1815	4 & 1				X	X	X	X	X						X	71	10	50	14	14	30	107.9-108.0	20.5		UWG stopped at 14 on the way closed. Maint. Said it was a thermal breaker.
4/21/2010	830-1215	4 & 1		X			X	X	X	X						X	70	10	40	14	14	30	106.3-106.7	20.5	61	
	1215-1705	2 & 0		X					X					X			94	10		16	16	30	107.2-108.4	18.5		
	1705-1845	7 & 3	X	X	X	X	X	X	X	X	X		X			X	46	10	50	14	14	40	108.7	23		
4/22/2010	815-1015	4 & 0				X	X	X	X					X			78	10		14	14	30	106.5-106.9	19.8	62.6	
	1015-1215	4 & 2				X	X	X	X	X	X					X	52	10	50	14	14	30	107.0-107.1	21		
	1215-1710	2 & 0				X		X						X			90	10		16	16	30	107.4-108.3	19		
	1710-1840	6 & 3		X	X	X	X	X	X	X	X		X			X	43	10	50	14	14	30	108.1-108.3	23		
4/23/2010	800-1320	4 & 2				X	X	X	X	X	X					X	52	10	50	14	14	30	106.2-107.0	21	62.1	1030-1105 Maint. Fixed window gate
	1320-1700	2 & 0					X		X					X			88	10		14	14	30	107.0-107.4	19		
	1700-1745	4 & 2				X	X	X	X	X	X					X	52	10	50	14	14	30	107.4	21		Trash Rack A would not lower correctly at end of night
4/24/2010	800-1830	2 & 0					X		X					X			86	10		14	14	30	105.9-107.0	18.5-19.0	61.7	Gate A tripped breaker
4/25/2010	800-1020	2 & 0					X		X					X			94	2		14	14	30	105.5-105.8	18	61.7	Diffuser A mystically closed
	1020-1505	2 & 0					X		X					X			88	2		14	14	30	106.0-106.5	18		
	1505-1700	2 & 0					X		X					X			90	2		14	14	30	106.5-106.7	18		
	1700-1835	4 & 0				X	X	X	X					X			80	2		14	14	30	106.7-106.8	19.5		
4/26/2010	800-1630	4 & 2				X	X	X	X	X	X					X	55	10	50	14	14	30	106.8-107.1	21.5-22.1	60.5	Maint. fixed Trash Rack A first thing this morning
4/27/2010	800-900	2 & 0					X		X					X			82	10		14	14	30	106.1	19	62.2	
	900-1300	4 & 0				X	X	X	X					X			76	10		14	14	30	106.5-106.8	19.5-19.8		
	1300-1620	2 & 0					X	X						X			87	10		14	14	30	106.8-106.9	19		
	1620-1820	6 & 3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	30	106.7-106.9	22.5		
4/28/2010	800-915	2 & 0				X	X							X			88	10	46	14	14	30	105.8	18.5	61.7	
	915-1000	4 & 0				X	X	X	X					X			72	10	46	14	14	30	106.2	21		
	1000-1630	4 & 2				X	X	X	X	X	X					X	55	10	50	14	14	30	106.9-107.2	21.5		
4/29/2010	800-1300	2 & 0					X		X					X			90	10		14	14	30	107.0-107.9	18.5-19.0	61.7	
	1300-1630	7 & 3	X	X	X	X	X	X	X	X	X	X				X	42	10	50	14	14	35	107.6-108.0	23		UWG A tripped while closing
4/30/2010	800-1200	5 & 3			X	X	X	X	X	X	X		X			X	45	10	50	14	14	26	106.2	22.5-23.0	60.8	
	1200-1640	7 & 3	X	X	X	X	X	X	X	X	X		X			X	40	10	50	14	14	26	106.2-106.4	23		
5/1/2010	800-1300	4 & 2		X			X	X	X	X	X					X	55	10	50	14	14	30	106.1-106.7	21.0-22.0	61.7	
	1300-1800	6 & 4		X	X	X	X	X	X	X	X	X	X			X	40	10	50	14	14	30	106.9-107.1	23.1-23.5		
5/2/2010	730-1015	2 & 0		X			X							X			95	10		14	14	20	106.5-107.3	18	61.9	
	1015-1410	4 & 2		X			X	X	X	X	X					X	58	10	50	14	14	30	107.5-107.7	22		
	1410-1840	6 & 4		X	X	X	X	X	X	X	X	X	X			X	47	10	50	14	14	35	107.4-107.8	23		
5/3/2010	800-1200	2 & 0		X			X							X			97	10		14	14	30	107.2-107.8	18.5	63.5	
	1200-1215	7 & 0	X	X	X	X	X	X	X							X	48	10	50	14	14	30	107.8	23		
	1215-1830	7 & 3	X	X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	30	108.0-108.5	23		
5/4/2010	800-1200	4 & 0		X			X	X	X					X			78	10		14	14	30	107.1-108.1	20.0-20.4	65.7	
	1200-1700	6 & 4		X	X	X	X	X	X	X	X	X	X			X	38	10	50	14	14	30	108.0-108.2	23.5		
5/5/2010	800-1100	4 & 0		X	X			X	X					X			85	10		14	14	30	107.2-107.9	19	66.3	
	~~1100-1630~~	~~7 & 3~~	X	X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	35	~~107.6-108.0~~	~~22.8-23.0~~		
5/6/2010	800-1400	2 & 0		X			X							X			85	10		14	14	30	105.9-108.0	18.0-19.0	66.5	
	1400-1600	7 & 3	X	X	X	X	X	X	X		X	X	X			X	38	10	50	14	14	30	108.0-109.0	23		
	1600-1635	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	10	50	14	14	30	109	23.5		
5/7/2010	815-1130	4 & 1		X			X	X	X	X						X	65	10	50	14	14	30	106.5-107.2	21	70	
	1130-1410	4 & 1		X			X	X	X	X						X	65	10	50	14	14	35	107.2-107.7	21		
	1410-1850	6 & 3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	40	107.5-107.7	23		
5/8/2010	800-1100	2 & 0		X			X							X			85	10		14	14	30	106.6-107.0	19	70.7	
	1100-1630	4 & 2		X			X	X	X	X	X					X	50	10	50	14	14	30	107.0-108.0	22.0-22.5		
5/9/2010	710-855	2 & 0		X			X							X			95	10		15	15	25	106.9	18	68.2	
	855-945	2 & 0		X			X							X			100	10		15	15	25	107.2	18		
	945-1115	2 & 0		X			X							X			95	10		15	15	25	107.2-107.7	18		
	1115-1640	6 & 1		X	X	X	X	X	X	X						X	60	10	50	15	15	35	106.7-107.6	21.5		
5/10/2010	800-1000	4 & 1		X			X	X	X	X						X	65	10	50	14	14	30	106.4	19.5-20.0	67.1	
	1000-1145	4 & 0		X			X	X	X					X			78	10		14	14	30	106.3-106.4	20.0-20.5		
	1145-1305	4 & 0		X			X	X	X					X			74	10		14	14	35	106.4-106.5	19.5-20.1		
	1305-1800	2 & 0		X			X							X			85	10		14	14	30	106.5-107.7	19		
	1800-1830	4 & 2		X			X	X	X	X	X					X	55	10	50	14	14	30	107.7	22		
5/11/2010	745-1000	4 & 2		X			X	X	X	X	X					X	55	10	50	14	14	30	106.5-106.8	22	67.1	
	1000-1545	2 & 0		X			X							X			82	10		14	14	30	107.0-107.8	19		
	1545-1800	2 & 0		X			X							X			88	10		14	14	30	108.0-108.4	19		
5/12/2010	750-1005	6 & 1		X	X	X	X	X	X	X						X	55	10	50	14	14	30	106.4-106.6	21.5	65.7	
	1005-1515	3 & 0		X			X		X					X			80	10		14	14	30	106.4-107.7	19.3-19.5		
	1515-1800	3 & 0		X			X		X					X			87	10		14	14	30	107.9-108.6	19.3-19.4		
5/13/2010	800-945	2 & 0		X			X							X			85	10		14	14	30	105.3-105.9	18.5-19.0	65.3	
	945-1115	2 & 0		X			X							X			88	10		14	14	30	106.3-106.5	19		
	1115-1245	2 & 0		X			X							X			90	10		14	14	30	106.8	19		
	1245-1515	2 & 0		X			X							X			94	10		14	14	30	107.3-107.8	19		
	1515-1700	2 & 0		X			X							X			96	10		14	14	30	107.8	19		
5/14/2010	800-1030	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32	10	50	14	14	30	105.5-106.0	23.5	67.1	
	1030-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37	10	50	14	14	30	105.4	23.5		
	1100-1300	4 & 1				X	X	X	X	X						X	73	10	50	14	14	30	105.8-106.1	20.6		
	1300-1620	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	34	10	50	14	14	30	105.7-105.8	23.4-23.5		
5/15/2010	800-1140	6 & 1		X	X	X	X	X	X	X						X	60	10	50	14	14	25	107.3-107.5	21.5-22.0	64.4	
	1140-1400	6 & 1		X	X	X	X	X	X	X						X	55	10	50	14	14	30	107.3-107.4	22		
	1400-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30	10	50	14	14	30	107.4-107.5	23.5-24.0		
5/16/2010	745-1255	6 & 1		X	X	X	X	X	X	X						X	60	10	50	14	14	30	106.5-106.7	21.5	62.6	
	1255-1630	6 & 1		X	X	X	X	X	X	X						X	65	10	50	14	14	40	106.7-107.2	21.5		
5/17/2010	800-1145	6 & 1		X	X	X	X	X	X	X						X	57	10	50	14	14	30	106.8-107.1	21.5-22.0	63.5	
	1145-1300	6 & 4		X	X	X	X	X	X	X	X	X	X			X	45	10	50	14	14	25	107.0-107.2	23		
	1300-1800	6 & 4		X	X	X	X	X	X	X	X	X	X			X	42	10	50	14	14	25	106.2-107.0	22.5-23.5		
5/18/2010	800-1130	2 & 0		X			X							X			82	10		14	14	30	106.0-107.0	18.5-19.3	63.3	
	1130-1300	2 & 0		X			X							X			95	10		14	14	30	107.0-107.8	19.3-19.5		
	1300-1315	4 & 2		X			X	X	X	X	X					X	60	10	50	14	14	30	107.8	22		
	1315-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	39	10	50	14	14	30	107.1-107.6	23.4-23.5		
5/19/2010	800-1135	4 & 0		X			X	X	X					X			96	10		14	14	30	105.9-106.3	18.5-19.8	64.3	
	1135-1300	4 & 0		X			X	X	X					X			83	10		14	14	30	106.4-106.8	19.5-19.6		
	1300-1640	6 & 3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	30	106.5-106.8	22.8		
5/20/2010	800-945	4 & 2		X			X	X	X	X	X					X	62	10	50	14	14	25	107.0-107.2	22	65.7	
	945-1300	4 & 2		X			X	X	X	X	X					X	55	10	50	14	14	25	107.0-107.2	22		
	1300-1320	6 & 3		X	X	X	X	X	X	X	X		X			X	42	10	50	14	14	30	107	23		
	1320-1510	7 & 3	X	X	X	X	X	X	X	X	X	X	X			X	42	10	50	14	14	30	106.5	22.0-22.5		
	1510-1600	4 & 2		X			X	X	X	X			X			X	50	10	50	14	14	30	106.5-107.1	19.5		
	1600-1800	3 & 0		X			X	X						X			90	10		14	14	30	107.1-107.3	19.0-19.5		
5/21/2010	0745-0900	2&0		X			X							X			92	10		14	14	25	108.0-108.2	19	66.8	
	0900-1400	4&2						X	X	X	X					X	60	10	50	14	14	30	108.2-108.5	19.0-22.0		
	1400-1720	7&4	X		X	X						X	X			X	38	10		14	14	35	108.1-108.5	22.0-23.5		
5/22/2010	0800-1200	2&0		X			X							X			85	10	50	14	14	30	106.1-107.3	19.0-22.5	67.1	
	1200-1630	6&2	X	X	X	X	X	X		X	X					X	55	10	92	14	14	35	106.5-107.5	22.5		
5/23/2010	0645-1000	2&0		X			X							X			100	10		14	14	20	107.1-107.4	18.25-18.50	67.5	

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
	1000-1400	4&2						X	X	X	X					X	65	10	50	14	14	35	107.3-107.6	18.5-22.0		
	1400-1700	4&1						X	X	X						X	70	10		14	14	35	107.3-107.4	21.0-21.8		
5/24/2010	0730-1200	2&0		X			X							X			100	10		18	18	20	108.0-108.8	18.5	68	
	1200-1630	6&3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	40	108.4-108.9	18.5-23.3		
5/25/2010	0800-1200	4&0		X			X	X	X					X			100	10		18	18	20	108.0-108.7	19.4-23.0	70.3	
	1200-1600	6&3		X	X	X	X	X	X	X	X		X			X	48	10	50	14	14	30	108.7-109.1	22.9-23.1		
5/26/2010	0800-0930	2&0		X			X							X			86	10		14	14	30	107.6-107.9	19	73	
	0930-1300	6&2		X	X	X	X	X	X	X			X			X	70	10	50	14	14	30	107.2-107.6	19.0-22.5		
	1530-1620	7&4	X	X	X	X	X	X	X	X	X	X	X			X	40	10	50	14	14	35	106.8-107.1	23.5		
5/27/2010	0800-1400	2&0		X			X							X			100	10	50	20	20	30	106.5-108.3	18.5-23.2	73.4	
	1400-1600	6&4		X	X	X	X	X	X	X	X	X	X			X	42	10	50	14	14	30	108.4-108.6	23.2-23.5		
5/28/2010	0730-1100	2&0		X			X							X			100	10		18	18	20	107.6-108.1	18.5-21.0	73.1	
	1100-1515	4&1						X	X	X						X	74	10	50	18	18	30	108.0-108.2	21.0-21.2		
	1515-1630	6&2			X	X					X					X	60	10	50	18	18	30	108.1	21.0-22.5		
5/29/2010	0800-1300	2&0		X			X							X			100	10	50	14	14	30	107.0-108.8	18.5-20.5	75.2	
	1300-1545	4&1		X			X	X	X	X	X					X	80	10		14	14	30	108.8	20.5		
5/30/2010	0715-1435	2&0		X			X							X			100	10		16	16	20	107.5-108.7	18.3	75.5	
	1435-1510	4&1						X	X	X						X	75	10	50	15	15	30	108.6-108.7	18.3		
	1510-1612	6&3			X	X										X	60	10	50	15	15	30	108.5-108.6	21.0-22.5		
5/31/2010	0730-1415	2&0		X			X							X			30	10		14	14	20	107.4-108.3	17.8	78.8	
	1415-1600	4&1		X			X	X	X	X						X	75	10	50	14	14	20	108.3-108.6	17.8-20.6		
6/1/2010	0800-1230	2&0		X			X							X			100	10		14	14	20	107.3-108.0	17.8	79.3	
	1230-1400	6&3		X	X	X	X	X	X	X	X		X			X	45	10	50	14	14	30	107.6-108.0	17.8-23.0		
6/2/2010	0800-1215	2&0		X			X							X			100	10		14	14	20	106.8-107.5	18.0-19.0	80.6	
	1215-1410	4&2		X			X	X	X	X	X					X	60	10	50	14	14	20	107.5-108.0	19.0-23.0		
	1410-1615	7&3	X	X	X	X	X	X	X	X	X		X			X	45	10	50	14	14	30	107.6	23		
6/3/2010	0800-1200	2&0		X			X							X			100	10		14	14	20	106.4-106.8	18.0-22.5	80.6	
	1200-1600	4&3				X	X	X	X	X	X		X			X	55	10	45	14	14	30	106.8-107.3	22.5		
6/4/2010	0800-1420	2&0					X	X						X			100	10		17	17	25	106.6-108.1	17.5-18.0	81.5	
	1420-1600	4&2				X			X	X	X					X	65	10	25	17	17	30	107.9-108.1	18.0-22.0		
6/5/2010	0800-1300	2&0					X	X						X			100	10	50	14	14	25	107.1-108.3	18.5-20.5	83.3	
	1300-1400	5&1	X		X		X	X	X	X	X					X	75	10	50	14	14	30	108.2-108.3	20.5-22.0		
	1400-1600	6&2	X		X	X	X	X	X	X	X					X	60	10	50	14	14	30	108.0-108.3	22.0-23.5		
6/6/2010	0730-1200	2&0		X			X							X			100	10		14	14	20	107.0-107.6	17.2	83.3	
	1200-1500	4&1						X	X	X						X	70	10	50	14	14	30	107.6-107.8	17.2-20.9		
																		10								
4/1/2009	1000-1105	6 & 2		X	X	X	X	X	X	X	X					X	55		50	13	13	25	105.5	21.7	48.7	
	1105-1445	2 & 0		X					X					X			92	10		13	13	30	105.5-106.0	17.5-18.0		
4/2/2009	1000-1100	6 & 2		X	X	X	X	X	X	X	X					X	55	3	50	13	13	25	105.7	21.5	50.9	
	1100-1600	2 & 0		X					X					X			95	10		13	13	25	106.1-107.4	17.5-18.0		
4/3/2009	1015-1105	7 & 2	X	X	X	X	X	X	X		X	X				X	45		50	13	13	25	105.6	22	51.8	
	1105-1205	4 & 0		X			X	X	X					X			77	6		13	13	25	105.7	22		
	1205-1620	2 & 0		X					X					X			97	5		13	13	20	105.7-107.1	17.5		
4/6/2009	900-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	13	13	15	106.3-107.0	23.5	55.9	
4/8/2009	800-900	6 & 3	X	X	X	X		X	X	X	X		X			X	50		50	13	13	25	104.8	22.8	52.7	
	900-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35-50		50	13	13	25	104.8-105.3	23.0-23.5		
4/10/2009	810-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	45		50/70	13	13	35/15	107.9-108.3	23.0-23.4	50.9	Crowder screen hoist upper limit failed
4/13/2009	900-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		50	13	13	25	106.7-107.1	23.5	50.0	Crowder screen hoist lower limit failed.
4/15/2009	830-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		70	13	13	25	106.2-106.5	23.5	50.0	
	1115-1215	4 & 0	X				X	X	X					X			80	5		13	13	25	106.3-106.4	19.5		
	1215-1615	2 & 0					X		X					X			98	3		13	13	15	106.6-107.5	17.5		
	1615-1700	4 & 0			X	X	X		X					X			85	3		13	13	20	108.0-108.2	19		
4/17/2009	900-1200	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	13	13	35	106.6-106.8	23	50.9	
	1200-1710	4 & 0	X	X				X	X					X			82	10		13	13	25	107.0-108.3	19		
4/19/2009	830-1610	2 & 0					X		X					X			92	10		13	13	20	106.7-108.6	18	53.3	
	1610-1700	7 & 0	X	X	X	X	X	X	X					X			65	10		13	13	25	108.4	20.5		
4/20/2009	830-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	25	106.4-106.8	23.5	54.5	
	1100-1715	6 & 0	X		X	X	X	X	X					X			70	10		13	13	25	106.8-107.9	20		
4/21/2009	800-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		35	13	13	25	105.6-106.4	23.5	55.0	
	1100-1200	7 & 0	X	X	X	X	X	X	X					X			60	15		13	13	25	106.0-106.9	19.3		
	1200-1730	3 & 0	X				X		X					X			80	10		13	13	25	107.3-108.0	18.5-18.8		
4/22/2009	830-1215	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		52	13	13	25	106.5-106.9	23.5	56.0	
	~~1215-1700~~	~~4 & 1~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~							~~70~~		~~52~~	~~13~~	~~13~~	~~25~~	~~106.6-108.1~~	~~20.9-21.0~~		
4/23/2009	800-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		62	13	13	25	106.5-106.8	23.5	55.8	
	1100-1200	4 & 2				X	X	X	X	X	X			X			55	15		13	13	36	106.3	20.1		
	1200-1600	3 & 0					X	X	X					X			80	8		13	13	25	107.1-107.8	19		
	1600-1700	4 & 2				X	X	X	X	X	X			X			55	15		13	13	36	107.5	23.5		
	1700-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		62	13	13	25	107.7	23		
4/24/2009	800-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		62	13	13	25	105.4-106.0	23.5	57.2	
	1100-1700	4 & 0	X				X	X	X					X			75	8		13	13	30	105.8-107.6	19.5-19.9		
4/25/2009	830-1300	2 & 0					X		X					X			95	7		13	13	18	106.4-108.5	18	59.2	
	1300-1400	7 & 1	X	X	X	X	X	X	X	X				X									108.5	21		
	1400-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		57	13	13	31	107.6-108.4	23.5		
4/26/2009	815-1330	2 & 0					X		X					X			92/100	5		13	13	20	106.8-108.1	18	58.1	
	1330-1410	4 & 1				X	X		X	X						X	74		50	13	13	25	108	20		
	1410-1650	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		65	13	13	45	107.6-108.1	23		
4/27/2009	830-1115	2 & 0					X		X					X			90	8		13	13	20	107.3-107.8	18.2	60.8	
	1115-1225	4 & 1				X		X	X	X						X	75	3	60	13	13	25	108.1-108.2	20.8		
	1225-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		60	13	13	25	107.1-108.0	23.5		
4/28/2009	0815-1430	4 & 1				X	X	X	X			X				X	65/70		50	13	13	35	107.2-107.8	20.5	62.6	
	1430-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		65	13	13	50	107.3-107.7	23		
4/29/2009	0830-1210	2 & 0					X	X						X			86	15		13	13	25	107.3-108.6	18	64.4	
	1210-1420	2 & 2					X	X		X		X				X	70		40	13	13	30	108.7	21		
	1420-1900	3 & 4		X			X	X		X	X	X	X			X	50	5	52	13	13	30	107.5-108.6	23		
4/30/2009	800-1130	2 & 3				X			X	X	X	X				X	54		53	13	13	32	106.3-106.6	21.5	62.6	
	1130-1730	2 & 0				X			X					X			85	8		13	13	30	106.8-108.0	18		
	1730-1800	2 & 2				X			X	X	X			X			70	15		13	13	30	108.2	19.5		
	1800-1900	4 & 4	X		X	X			X	X	X	X	X			X	50		41	13	13	40	108.3	23		
5/1/2009	900-925	2 & 0				X			X					X			92	5		13	13	15	107.5	17	64.4	
	925-1030	2 & 2				X			X	X	X					X	78		50	13	13	25	107.6	19.5		
	1030-1900	3 & 4			X	X			X	X	X	X	X			X	52		50	13	13	40	106.8-107.9	22		
5/2/2009	730-1315	2 & 0			X				X					X			88	5		13	13	20	107.0-107.7	17	66.2	
	1315-1900	4 & 1			X		X	X	X				X			X	66	3	30	13	13	35	107.0-107.4	20.5		
5/3/2009	730-1700	2 & 0					X		X					X			92	10		13	13	20	106.7-108.6	17.0-17.5	68.0	
	1700-1800	4 & 1				X	X	X	X				X			X	72		50	13	13	35	108.9	21.5		
	1800-1900	4 & 3				X	X	X	X	X	X	X				X	50		50	13	13	35	108.7	21.5		
5/4/2009	800-1115	2 & 0					X		X					X			90	10		13	13	20	106.4-107.3	20	67.7	
	1115-1810	4 & 2			X		X	X	X		X	X				X	55		50	13	13	30	107.6-107.8	21.3-22.0		
	1810-1915	2 & 0					X		X					X			90	10		13	13	20	108.1	17.3		
5/5/2009	800-1000	2 & 0					X		X					X			91	10		13	13	20	108.0-108.2	18	66.2	
	1000-1100	4 & 1			X		X	X	X				X			X	75		44	13	13	35	108.7	18.5		
	1100-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		43	13	13	35	107.1-108.7	23.5		
5/6/2009	700-915	2 & 0					X		X					X			92	5		13	13	20	107.0-107.3	17	64.4	
	915-1015	4 & 1				X	X	X	X			X				X	66	3	30	13	13	35	107.3	20.5		
	1015-1730	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	45	105.7-107.2	23		
5/7/2009	700-800	2 & 0					X		X					X			92	10		13	13	20	107	16	64.4	
	800-900	4 & 1			X		X	X	X	X						X	75	15		13	13	30	107.1	20		
	900-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33	1	71	13	13	35	107.5-107.9	23.5-24.0		Maintenance came out to fix viewing room gate
5/8/2009	700-815	4 & 1				X	X	X	X			X				X	72		50	13	13	35	107.2	21	64.1	
	815-1630	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		50	13	13	35	106.8-107.1	24.2-23.5		
5/9/2009	715-800	2 & 0					X		X					X			90	10		13	13	20	106.8	17	64.3	
	800-1630	4 & 1				X	X	X	X			X				X	68	1	75	13	13	35	106.9-108.8	21		
5/10/2009	700-845	2 & 0					X		X					X			92	5		13	13	20	108.2	17	64.4	
	845-1130	4 & 1				X	X	X	X			X				X	66	3	30	13	13	35	108.5-108.9	20.5		
	1130-1715	4 & 3				X	X	X	X	X	X	X				X	50		45	13	13	45	108.6-109.1	22		
5/11/2009	730-1615	4 & 4				X	X	X	X	X	X	X	X			X	50		30	13	13	30	107.6-108.5	23.0-23.2	63.5	
5/12/2009	730-800	5 & 1			X	X	X	X	X			X				X	68		50	13	13	35	108.7	22.5	63.5	
	800-1645	5 & 4			X	X	X	X	X	X	X	X	X			X	45		75	13	13	35	107.8-108.7	23		
5/13/2009	730-800	4 & 1				X	X	X	X		X					X	72		50	13	13	35	108.3	21	65.3	
	800-1730	4 & 3				X	X	X	X	X	X		X			X	50		45	13	13	45	107.6-108.4	22.5-22.6		
5/14/2009	730-810	4 & 1				X	X	X	X			X				X	68		75	13	13	35	108.5	21	64.4	
	810-1900	4 & 3				X	X	X	X	X	X	X				X	50		50	13	13	35	108.2-108.6	22.4-22.5		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
5/15/2009	730-815	4 & 1				X	X	X	X			X				X	68	2	45	13	13	40	109.1	22	65.2	
	815-1700	4 & 3				X	X	X	X	X	X	X				X	55	5	70	13	13	40	108.4-108.9	23		
5/16/2009	700-730	2 & 0	X				X							X			92	10		13	13	20	109	17	66.2	
	730-1330	4 & 1	X				X	X	X		X					X	68/70	2	75	13	13	30	108.8-109.0	20.8		
	1330-1830	4 & 2	X				X	X	X		X	X				X	58	5	75	13	13	30	109.0-109.1	21.8		
5/17/2009	700-1300	3 & 0			X		X		X					X			84	10		13	13	25	108.3-108.9	18.9-19.5	66.4	
	1300-1620	4 & 2				X	X	X	X		X	X				X	65		50	13	13	35	108.6-109.0	21.5-22.0		
	1620-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		75	13	13	35	107.6-108.3	23.5		
5/18/2009	730-900	4 & 0				X	X	X	X					X			90	10		13	13	20	107.9	18	66.2	Hopper door will not open fully
	900-1000	4 & 1				X	X	X	X		X			X			75	15		13	13	20	108.2-108.6	18		
	1000-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	3	45	13	13	30	107.7-108.4	23.5		
	1515-1700	4 & 1			X		X	X	X				X			X	45	3	45	13	13	30	107.9	22.4		
5/19/2009	730-815	2 & 0					X		X					X			90	12		13	13	20	107.7	17	66.2	
	815-1015	4 & 1				X	X	X	X		X					X	70	3	45	13	13	30	108.3-108.4	18		
	1015-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	45	3	45	13	13	30	107.5-108.4	23.4-23.5		
5/20/2009	800-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		75	13	13	40	106.5-106.8	23.5-23.8	66.2	
5/21/2009	730-	2 & 0					X		X					X			92	10		13	13	20	106.6	22	66.2	Tried to flush trash with maintenance, but filled the hopper (1/2) with debris.
	1300-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		75	13	13	40	107.5-107.6	23.5		
5/22/2009	700-800	2 & 0					X		X					X			92	10		13	13	20	107.6	17	68.0	
	800-900	4 & 1				X	X	X	X	X				X			75	15		13	13	30	107.6	21.5		
	900-1605	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	5	75	13	13	30	107.3	22		
	1605-1630	6 & 0		X	X	X	X	X	X							X	65		70	13	13	25	106.3-107.3	23.0-23.5		
5/23/2009	700-1100	2 & 0					X		X					X			92	10		13	13	20	108.5-108.7	17.5-17.7	68.0	
	1100-1600	7 & 1	X	X	X	X	X	X	X	X						X	58	5	75	13	13	35	108.5-109.2	21.8-22.0		
5/24/2009	730-1100	2 & 0					X		X					X			92	10		13	13	20	107.6-108.4	18	69.9	
	1100-1600	5 & 2			X	X	X	X	X	X	X					X	60	1	60	13	13	40	108.2-108.4	22		
5/25/2009	730-1205	2 & 0					X		X					X			92	10		13	13	20	107.6-108.4	17.5	71.6	
	1205-1600	4 & 2				X	X	X	X		X	X				X	55		50	13	13	30	108.4-108.5	22		
5/26/2009	730-1000	2 & 0					X		X					X			92	10		13	13	20	107.5-108.2	17	73.4	
	1000-1600	4 & 2				X	X	X	X		X	X				X	55		50	13	13	30	108.0-108.4	22		
5/27/2009	715-1005	2 & 0				X			X					X			92	10		13	13	20	107.7	17.8	72.5	
	1005-1600	4 & 1				X	X	X	X		X					X	72	1	60	13	13	40	107.5-107.8	20.8		
5/28/2009	700-1000	2 & 0				X		X						X			92	10		13	13	20	107.9-108.2	17.7-17.9	72.5	
	1000-1615	4 & 2				X	X	X	X		X	X				X	53	1	60	13	13	35	108.1-108.6	22.0-22.5		
5/29/2009	730-1000	2 & 0				X			X					X			85	10		13	13	25	107.5-107.6	18.0-18.1	68.6	Downstream "C" gate tripped while bring up.
	1000-1120	4 & 0				X	X	X	X					X			85	10		13	13	25	107.9	18		Maintance came out to fix but could not pin point problem. "see report"
	1120-1600	5 & 4			X	X	X	X	X	X	X	X	X			X	38		60	13	13	35	107.4-107.8	23.2-23.5		
5/30/2009	730-910	4 & 1				X	X	X	X		X					X	68		50	13	13	35	108.1-108.3	20.5	73.4	Flushed trash, now debris under hopper, hopper dividing screen off bottom but cables sl
	910-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	45	107.5-108.3	23		
5/31/2009	645-830	2 & 0					X		X					X			95	5		13	13	20	107.8-108.3	18	73.6	
	830-1005	4 & 0				X	X	X	X					X			85	10		13	13	30	108.7	18.5		
	1005-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		60	13	13	45	107.8-108.8	23		
6/1/2009	715-1015	4 & 0				X	X	X	X					X			92	10		13	13	20	107.6	17	68.2	"C" gate tripped while raising, Ops assisted. "see report"
	1015-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35	7	35	13	13	35	106.5-107.3	23.5		
6/2/2009	715-1005	3 & 0			X	X	X							X			91	10		13	13	20	107.3-107.9	17	70.9	
	1005-1130	4 & 1			X	X	X		X	X						X	30	7	43	13	13	33	108.1	23		
	1130-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30	7	43	13	13	33	107.5-107.8	23.5		Hopper will not rise, replaced upper limit switch.
6/3/2009	800-1000	1 & 0		X						X				X			96	6		13	13	20	106.3	16.5	69.9	
	1000-1100	4 & 1		X	X	X			X	X						X	65	6	50	13	13	40	106.7	21.5		While lowering "C" gate, guage moving, wheels turning, but gate not. Bent west stem.
	1100-1600	7 & 2	X	X	X	X	X	X	X	X	X					X	38	6	50	13	13	42	107.1	23		Out of service. "see report". Tripped "A" gate.
6/4/2009	730-905	1 & 0		X										X			98	8		13	13	20	108.0-108.2	16.5	70.2	
	905-930	4 & 1		X	X	X			X	X				X			70	15		13	13	30	108.2-108.4	20.5		
	930-1115	4 & 1		X	X	X			X	X						X	#70		60	13	13	30	108.2	20.5		
	1115-1600	6 & 3	X	X	X	X	X		X	X	X	X				X	#70	20	100	13	13	55	107.7-108.2	22		
6/5/2009	730-1110	1 & 0		X										X			96	8		13	13	20	106.8-107.4	17.5	68.9	
	1110-1500	6 & 2		X	X	X	X	X	X	X	X					X	#70	10	50	13	13	30	107.3-108.0	20.5		
#70 is where the downstream "C" gate is sitting after the west stem bent. Was not able to move it after 6/3/2009, when it was taken out of service.																										
4/16/2008	1000-1130	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		60	13	13	46	106.9-107.5	23	57.8	
	1130-1315	4 & 0				X	X	X	X							X	75		40	13	13	46	108.1-108.2	21		
	1315-1715	4 & 0				X	X	X	X					X			80	15		13	13	40	108.2-108.8	21		
4/17/2008	930-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33		50	13	13	45	106.8-107.2	23	57.6	
	1100-1530	4 & 0				X	X	X	X					X			75	15		13	13	45	107.2-108.1	21		
	~~1530-1720~~	~~4 & 0~~			~~X~~	~~X~~	~~X~~	~~X~~						~~X~~			~~75~~	~~15~~		~~13~~	~~13~~	~~45~~	~~108.3-108.5~~	~~21~~		
4/18/2008	915-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		60	13	13	50	105.6-105.8	23	60.0	Proxprobe failed at high point near trough, hopper will not rise.
	1100-1715	4 & 0			X	X	X	X						X			75	20		13	13	45	105.7-107.2	20.5-21.0		
4/19/2008	900-1115	4 & 3			X	X	X	X		X	X	X				X	45		50	13	13	45	105.8-106.1	22	59.4	
	1115-1210	4 & 0			X	X	X	X						X			75	15		13	13	45	106	20		
	1210-1810	2 & 0					X	X						X			82	15		13	13	45	106.4-107.8	19		
4/20/2008	730-1415	2 & 0					X	X						X			88	15		13	13	45	108.2-109.0	19	60	
	1415-1650	4 & 1			X	X	X	X			X					X	70		45	13	13	40	108.5-108.7	21		
4/21/2008	800-1500	4 & 3			X	X	X	X		X	X	X				X	54		50	13	13	38	106.8-107.1	22.4-23.0	62.6	During 2nd lift, hopper brakes slipped causing hopper to free fall
	1500-1615	2 & 0					X	X						X			88	16		13	13	43	106.9	19.3		Crowder stuck in forward position, day done.
4/22/2008	1025-1645	4 & 3			X	X	X	X		X	X	X				X				13	13		108.0-108.5	22.1-22.5	62.6	Telemetry study done.
4/23/2008	745-1545	4 & 3			X	X	X	X		X	X	X				X	54		84	13	13	40	107.1-108.0	22.4-22.9	64.3	Crowder screen hoist limit switch failed.
4/24/2008	735-1000	4 & 3			X	X	X	X			X	X	X			X	40		91	13	13	45	105.8-106.0	22.9	65.3	
	1000-1115	4 & 0			X	X	X	X						X			75	15		13	13	45	105.5-105.7	19.4-19.9		
	1115-1300	2 & 0					X	X						X			88	15		13	13	45	106.3	18.1		
	1300-1405	4 & 0			X	X	X	X						X			75	15		13	13	45	106.6	19.5		
	1405-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	26		91	13	13	45	106.3-106.9	23.6		Telemetry study.
4/25/2008	715-1130	4 & 0			X	X	X	X						X			75	15		13	13	45	107.8-108.0	19.5-19.8	65.3	
	1130-1155	4 & 0			X	X	X	X								X	75		70	13	13	45	108.2	20		
	1155-1405	4 & 3			X	X	X	X			X	X	X			X	45		55	13	13	45	108.2-108.4	23		
	1405-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		55	13	13	45	108.3	23.5		
4/26/2008	750-1105	4 & 1			X	X	X	X			X					X	62		50	13	13	45	106.6-107.6	21	66.2	
	1105-1530	2 & 0					X	X						X			84	15		13	13	45	107.3-108.7	18.5		
	1530-1610	4 & 1			X	X	X	X			X					X	62		50	13	13	45	109.1	21		Slack in hopper cable and air leaking.
4/27/2008	NO FISHING WAS DONE TODAY BECAUSE OF AIR LINE LEAK AND STEEL PLATE FOR AIR LINE SHIEVE CHANNEL BEING REPLACED BY DIVERS.																								65.3	
4/28/2008	NO FISHING WAS DONE TODAY BECAUSE OF AIR LINE LEAK AND STEEL PLATE FOR AIR LINE SHIEVE CHANNEL BEING REPLACED BY DIVERS.																								66.6	
	SHIEVE BLOCK FOR AIR LINE REBUILT AND NEW AIR HOSES TO HOPPER DOOR.																									
4/29/2008	745-1155	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X				13	13		104.9-105.6	22.5-22.6	64.4	
	1155-1400	6 & 4	X	X	X	X	X	X		X	X	X	X			X				13	13		104.9	23		
	AT 1210 SHIEVE BLOCK FOR AIR LINE IS ALL BALLED UP AND HAD TO STOP HOPPER MANUALLY. MAINTANCE HAD TO LOWER HOPPER MANUALLY. HOPPER BRAKES STILL AN ISSUE.																									
4/30/2008	830-1600	6 & 4	X	X	X	X	X	X		X	X	X	X			X	35		70	13	13	38	106.1-107.0	23.0-23.6	62.6	
5/1/2008	0730-1130	6 & 4	X	X	X	X	X	X		X	X	X	X			X	33		50	13	13	35	106.4-106.5	23.3-23.5	62.5	
	1130-1530	6 & 4	X	X	X	X	X	X		X	X	X	X			X	42		50	13	13	40	106.7-106.8	23.1-23.3		
5/2/2008	730-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	40	106.3-106.8	23.3-23.5	60	
	1115-1415	4 & 1				X	X	X	X				X			X	70		50	13	13	40	106.5-107.2	20.9-21.0		
	1415-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	40	107.7	21		
5/3/2008	730-1000	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		40	13	13	40	105.0-105.9	23.2-23.3	60.7	
	1000-1115	4 & 1				X	X	X	X		X					X	68		40	13	13	40	105.2	18.7-20.4		
	1115-1630	2 & 0					X		X					X			88	10		13	13	38	105.6-107.5	17.0-17.6		
	1630-1705	4 & 1				X	X	X	X	X				X						13	13	38	107.4	23.5		
5/4/2008	835-1210	2 & 0					X		X					X			90	4		13	13	25	108.0-108.7	17	61.7	Telemetry study.
	1210-1610	4 & 2				X	X	X	X		X	X				X	55		50	13	13	40	108.9-109.1	22		
5/5/2008	830-1615	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		52	13	13	38	107.3-107.5	23.4-23.6	60.8	Telemetry study.
5/6/2008	730-1545	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		50	13	13	38	106.3-106.9	23.0-23.2	61.7	Crowder starting to stick on return trip
5/7/2008	730-810	4 & 1				X	X	X	X			X				X	68		45	13	13	38	107.1	23	62.6	
	810-1550	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	38	105.7-106.7	23.4-23.6		Crowder roller wheels are coming loose.
5/8/2008	700-810	4 & 0				X	X	X	X					X			68	5		13	13	38	107	19.6	66.2	
	810-1020	4 & 4				X	X	X	X	X	X	X	X			X	43		50	13	13	38	106.8-106.9	22.9-23.0		
	1020-1720	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	38	105.5-106.7	23.5-23.6		Telemetry study.
	1720-1905	4 & 3				X	X	X	X	X	X	X				X	48		50	13	13	38	105.5	22.4		
5/9/2008	805-1100	4 & 2			X	X	X	X			X	X				X	51		50	13	13	40	106.9-107.0	21.5	66.4	Telemetry study.
	1100-1630	4 & 4			X	X	X	X		X	X	X	X			X	42		45	13	13	35	107.2-107.4	22.6-23.0		
5/10/2008	800-820	4 & 1				X	X	X	X			X				X	45		40	13	13	38	106.1	22.4	64.4	"C" gate breaker tripped
	820-1325	4 & 3				X	X	X	X	X	X	X				X	38		40	13	13	38	105.8-106.0	22.6-23.0		Diffuser "A" boil is really boiling
	1325-1810	4 & 0				X	X	X	X					X			76	4		13	13	32	106.0-107.0	19.8		
5/11/2008	700-1310	2 & 0					X		X					X			90	4		13	13	20	107.1-109.0	17.5	64.3	
	1310-1555	4 & 1				X	X	X	X		X					X	71		50	13	13	40	109.0-109.1	21		
	1555-1620	4 & 2				X	X	X	X		X	X				X	50		50	13	13	40	109.3	22		
5/12/2008	730-1507	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37		50	13	13	40	106.5-106.7	23.5	64.4	
	1507-1540	4 & 4				X	X	X	X	X	X	X	X			X	42		50	13	13	40	106.5	22.5		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
5/13/2008	745-1523	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33		50	13	13	35	106.9-107.5	23.5-23.6	62.6	
5/14/2008	730-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	35	105.8-106.1	23.4-23.6	60.8	
5/15/2008	730-1525	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	33		40	13	13	40	106.7-107.0	23.5-23.7	60.7	
5/16/2008	800-1325	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		50	13	13	50	106.3-106.5	23.4-23.5	61.7	
	1325-1430	4 & 1				X	X	X	X	X				X		X	50-62	10	20	17	17	40	106.8	20.5		Tried to fish both gates.
	1430-1530	4 & 1				X	X	X	X	X				X			70	10	40	16	16	40	106.9	20.5		
5/17/2008	750-835	4 & 1				X	X	X	X	X						X	68		48	13	13	40	108.5	20.6	62.3	
	835-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37		54	13	13	45	107.1-108.0	23.4-23.6		
5/18/2008	645-1000	2 & 0					X		X					X			90	10		13	13	38	106.7-108.1	17	62.8	
	1000-1100	2 & 0					X		X					X			92	12		13	13	26	108.3	22.9		
	1100-1545	4 & 4				X	X	X	X	X	X	X	X			X	44		50	13	13	38	108.6-108.8	23		
5/19/2008	730-1035	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	45		45	13	13	38	106.8-107.0	23.4	61	
	1035-1200	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	38	106.9-107.4	23.3-23.4		
	1200-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	48		45	13	13	38	107.3-107.9	23.2		
5/20/2008	735-1555	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	34		50	13	13	50	105.5-106.5	23	59.3	Media day, Channel 11 news
5/21/2008	740-1150	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	50	107.3-107.8	23.6	59.4	
	1150-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36	5	50	13	13	50	108.1-108.5	23.6		
5/22/2008	740-1200	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		50	13	13	40	106.5-107.0	23.8	59	
	1200-1530	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		50	13	13	40	106.8-107.6	23.9		Air line to hopper door came detached , maintenance fix problem
5/23/2008	730-1110	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		50	13	13	55	106.0-106.3	23.5	57.2	
	1110-1530	4 & 3				X	X	X	X	X		X	X			X	52		50	13	13	55	106.6-107.6	22		
5/24/2008	745-830	4 & 3				X	X	X	X	X	X	X				X	53		50	13	13	45	107	22.4	59	
	830-945	4 & 2				X	X	X	X	X	X					X	59		50	13	13	45	106.7	21.8		
	945-1145	4 & 1				X	X	X	X		X					X	63		50	13	13	45	107.1-107.5	21.3		
	1145-1245	4 & 1				X	X	X	X		X					X	70		50	13	13	45	107.9	20.9		
	1245-1440	4 & 1				X	X	X	X		X					X	74		50	13	13	45	108.3-108.6	20.8		
	1440-1530	4 & 3				X	X	X	X	X	X	X				X	59		50	13	13	45	108.6	22.5		
5/25/2008	700-1025	2 & 0					X		X					X			92	15		13	13	25	107.6-108.0	17	60	
	1025-1310	4 & 1				X	X	X	X	X						X	75		50	13	13	45	108.4-108.7	20.5		
	1310-1700	4 & 4				X	X	X	X	X	X	X	X			X	47		50	13	13	50	108.5-108.7	22.5		
5/26/2008	700-1615	4 & 0				X	X	X	X					X			78	15		13	13	40	107.4-108.7	19	62.6	Telemetry study.
5/27/2008	800-900	2 & 0					X		X					X			88	12		13	13	40	108	20	65.3	Telemetry study.
	900-1120	4 & 1														X	72		50	13	13	50	108.4	20.5		
	1120-1520	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		50	13	13	50	108.3-108.5	23.0-23.6		
5/28/2008	730-915	0 & 1									X					X	94		50	13	13	38	107.4-107.6	19.4-19.6	64.4	
	915-1015	2 & 1			X				X		X					X	85		50	13	13	38	107.6	19.4		
	1015-1345	6 & 2		X	X	X	X	X	X		X	X				X	57		50	13	13	38	107.7-107.8	22.8		
	1345-1430	6 & 2		X	X	X	X	X	X		X	X				X	57		40	13	13	38	107.8	22.8		
	1430-1600	5 & 2			X	X	X	X	X		X	X				X	57		40	13	13	38	107.7	22.8		
5/29/2008	730-1005	0 & 1									X					X	94		40	13	13	35	106.9-107.4	17	68	
	1005-1120	3 & 1					X	X	X		X					X	85		40	13	13	40	107.8-108.1	18		Maintenance came out to fix broken cable on air line schieve block.
	1120-1415	5 & 3	X			X	X	X	X		X	X	X			X	40		40	13	13	50	107.9-108.3	23		
	1415-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		35	13	13	30	107.9	23.5		
5/30/2008	800-930	0 & 1								X						X	95		40	13	13	20	108.3-108.5	17	68.9	Maintenance came out to replace guide cable to air line schieve block.
	930-1210	4 & 3				X	X	X	X	X	X	X				X	50		45	13	13	45	107.5-108.0	22		
	1210-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		50	13	13	45	106.2-107.0	23		Telemetry study.
5/31/2008	715-1050	2 & 0					X		X					X			92	15		13	13	25	107.8-108.3	16.9	70.4	
	1050-1205	4 & 1				X	X	X	X	X				X			74	15		13	13	25	108.5-108.8	20.0-20.6		
	1205-1300	4 & 2				X	X	X	X	X		X				X	55		43	13	13	38	109	21.9		
	1300-1600	4 & 4				X	X	X	X	X	X	X	X			X	42		43	13	13	38	108.4	23		
6/1/2008	730-1230	1 & 0					X							X			99	10		13	13	20	107.8-108.1	16.5	71.6	
	1230-1430	1 & 0					X							X			99	10		13	13	30	108.3-108.4	16.5		
	1430-1500	1 & 0					X							X			95	10		13	13	30	108.4	16.5		
	1500-1600	4 & 1				X	X	X	X	X				X			70	10		13	13	30	108.6	20.2		
6/2/2008	745-1015	1 & 0					X							X			99	10		13	13	25	108.5-108.6	16.5	73.4	
	1015-1135	4 & 1				X	X	X	X	X				X			70	10		13	13	35	108.7-108.9	20.5-21.0		
	1135-1600	4 & 4				X	X	X	X	X	X	X	X			X	46		45	13	13	45	108.1-108.6	23		
6/3/2008	730-1115	1 & 0					X							X			99	8		13	13	20	106.8-107.5	16.5	74.8	
	1115-1255	3 & 0				X	X	X						X			88	8		13	13	30	107.5	16.9		
	1255-1400	4 & 0			X	X	X	X						X			82	8		13	13	30	107.8	17		
	1400-1530	4 & 4			X	X	X	X		X	X	X	X			X	45		45	13	13	45	108.2	23		
6/4/2008	745-1110	1 & 0					X							X			98	10		13	13	20	107.4-108.0	16.5	75.4	Tripped "A" diffuser breaker
	1110-1200	3 & 0					X	X	X					X			83	10		13	13	25	108.1	16.5		
	1200-1315	4 & 0				X	X	X	X					X			80	10		13	13	30	108.1	19		
	1315-1530	4 & 4				X	X	X	X	X	X	X	X			X	45	8	40	13	13	40	108.1	23		
~~6/5/2008~~	~~730-1110~~	~~1 & 0~~				~~X~~								~~X~~			~~98~~	~~8~~		~~13~~	~~13~~	~~20~~	~~108.0-108.5~~	~~16.5~~	~~76.1~~	
	1110-1230	4 & 1		X		X	X	X		X				X			73	8		13	13	40	108.6	20.5		
	1230-1530	4 & 4		X		X	X	X		X	X	X	X			X	45	8	40	13	13	40	108.5	22.7-23.0		Debris under crowder screen hoist, cable went slack.
6/6/2008	730-1055	1 & 0					X							X			98	8		13	13	20	107.8	16.5	76	
	Flush trash through crowder area, after that hopper would not fully lower. No lifts done today and season is over.																									
4/23/2007	1100-1500	7 & 4*	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	30	108.2	23.5-24.3	53.6	2 Spillgates open
4/24/2007	1000-1250	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		45	13	13	35	108.2-108.6	23.25	57	
	1250-1530	7 & 4*	X	X	X	X	X	X	X	X	X	X	X			X	38		45	13	13	35	108.5-108.6	23.5-23.7		1 Spillgate open
4/25/2007	1000-1530	6 & 4		X	X	X	X	X	X	X	X	X	X			X	40		45	13	13	40	105.8-106.0	22.5	56	
4/26/2007	1000-1515	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	45	107.2	23	58.1	Oil leaking from crowder screen hoist
4/27/2007	1100-1800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	45	108.5-108.7	23	58	
4/28/2007	945-1140	6 & 3	X		X	X	X	X	X	X	X	X				X	44		45	13	13	45	106.8	22	59	
	1140-1300	7 & 3	X	X	X	X	X	X	X	X	X	X				X	40		45	13	13	45	107	22.5		
	1300-1530	7 & 3	X	X	X	X	X	X	X	X	X	X				X	38		45	13	13	45	107	22.5		
4/29/2007	930-1200	6 & 2	X		X	X	X	X	X	X	X					X	55		45	13	13	40	106.6-107.1	21	58.1	
	1200-1330	6 & 0	X		X	X	X	X	X							X	75		45	13	13	40	107.1-107.2	20.0-21.0		Hopper dropped when it was at the dump position, had to slow rise, this time it stayed
	1330-1725	6 & 0	X		X	X	X	X	X					X			68	15		13	13	40	107.6-108.2	20		Crowder screen hoist would not stop when it was being lowered. (debris under gate).
4/30/2007	715-1610	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	41	106.3-107.2	23.0-23.4	59	
5/1/2007	730-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	107.3-107.4	23.3-23.4	60	
	1100-1410	4 & 2				X	X	X	X	X		X				X	55		45	13	13	40	107.7-108.7	21.9-22.2		
	1410-1525	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	40	109	23.5		
	1525-1720	7 & 4*	X	X	X	X	X	X	X	X	X	X	X			X	25		45	13	13	40	109	23.0-24.5		1 Spillgate open
5/2/2007	750-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	40	106.1-106.5	22.5	60.5	
	1115-1620	4 & 2		X		X	X	X		X		X				X	55		45	13	13	40	106.2-108.0	21		
	1620-1815	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		45	13	13	40	108.2-108.3	22.5		
5/3/2007	740-1100	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	106.0-106.5	23	62.6	
	1100-1605	4 & 0		X		X	X	X						X			70	15		13	13	40	106.0-107.5	20		
	1605-1815	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	107.8-108.0	23.0-23.6		
5/4/2007	735-955	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	106.1	23	63	
	955-1315	4 & 0				X	X	X	X					X			70	15		13	13	40	106.3-107.2	20		
	1315-1400	4 & 1				X	X	X	X	X						X	75		45	13	13	40	108.1	20.5		
	1400-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	108.3-108.5	23.0-23.6		
	1600-1700	7 & 3	X	X	X	X	X	X	X	X		X	X			X	40		45	13	13	40	108.7	23		
	1700-1715	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	36		45	13	13	40	108.7	23		Hopper wouldn't stop when returning to position. It is not on bottom and the cables are s
5/5/2007	1130-1200	4 & 4				X	X	X	X	X	X	X	X			X	40		45	13	13	40	107.1	22.5	64.4	Repairs to hopper and cables being made in morning.
	1200-1545	4 & 2				X	X	X	X	X		X				X	58		45	13	13	40	107.1-107.5	22		
	1545-1830	4 & 4				X	X	X	X	X	X	X	X			X	38		45	13	13	40	107.5-107.6	23		
5/6/2007	720-1045	4 & 3				X	X	X	X		X	X	X			X	47		45	13	13	40	107.2-107.3	22	63.5	
	1045-1245	4 & 3				X	X	X	X		X	X	X			X	44		45	13	13	40	107.3-107.4	22		
	1245-1635	4 & 1				X	X	X	X				X			X	68		20	13	13	50	107.5-108.1	20.5		
	1635-1815	4 & 4				X	X	X	X	X	X	X	X			X	40		35	13	13	50	107.9-108.1	22.5		
5/7/2007	0745-1115	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		45	13	13	40	106.5-106.8	23.0-23.3	64.4	
	1115-1620	4 & 1			X		X	X	X				X			X	68		24	13	13	40	106.5-108.6	21.5		
	1620-1830	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	30	108.2-108.6	23.3-23.6		
5/8/2007	730-800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		35	13	13	40	107.1	23	65	
	800-1100	4 & 3	X				X	X	X		X	X	X			X	45		35	13	13	40	106.6-106.8	22		
	1100-1715	4 & 0	X				X	X	X					X			88	18		13	13	40	106.9-107.5	19.2-19.5		
	1715-1800	4 & 3	X				X	X	X		X	X	X			X	35		35	13	13	40	107.5	19.2		
5/9/2007	730-1110	6 & 4		X	X	X	X	X	X	X	X	X	X			X	36		46	13	13	40	106.5-107.3	23	66.2	
	1110-1625	4 & 0					X	X	X					X			67	17		13	13	42	106.5-108.4	20		
	1625-1820	6 & 4		X	X	X	X	X	X	X	X	X	X			X	38		36	13	13	45	108.3	23		
5/10/2007	730-800	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	37		45	13	13	40	107.2	23	68	
	800-1100	4 & 3		X			X	X	X		X	X	X			X	47		40	13	13	40	106.6-106.8	22.5		
	1100-1605	4 & 0				X	X	X	X					X			77	15		13	13	45	106.4-107.7	19.5-20.0		
	1605-1830	4 & 3				X	X	X	X		X	X	X			X	52		35	13	13	40	108	22.5		
5/11/2007	730-1105	4 & 3				X	X	X	X	X	X	X				X	48		35	13	13	40	107.1-107.4	22.4-22.6	68	
	1105-1625	4 & 0				X	X	X	X					X			75	15		13	13	40	106.9-108.5	19.6-20.0		Air Leak coming from crowder doors
	1625-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	38		40	13	13	40	108.5	23.6		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

Date	Time	Generation (small & large)	Small Units 1	2	3	4	5	6	7	Large Units 8	9	10	11	Weir Gate A	B	C	Gate Setting	Diffuser Setting A	B	Spillway Setting A	B	Crowder Area Gate	Forebay Elevation	Tailrace Elevation	Water Temp F	
5/12/2007	730-1300	4 & 1				X	X	X	X				X			X	68		35	13	13	55	107.0-107.7	21	69.9	
	1300-1720	4 & 1				X	X	X	X				X			X	68		20	13	13	60	107.9-108.7	21		
5/13/2007	710-1615	2 & 0					X		X					X			90	15		13	13	40	107.0-108.1	17	70	
	1615-1720	3 & 2				X	X		X			X	X			X	66		45	13	13	35	108.1	21		
	1720-1800	4 & 3				X	X	X	X		X	X	X			X	50		45	13	13	35	108.1	22.5		Cleaned trash racks and gate behind them at end of the day.
5/14/2007	700-1200	4 & 3				X	X	X	X		X	X	X			X	45		50	13	13	40	106.7-107.4	22.5-22.8	71	
	1200-1305	4 & 3				X	X	X	X		X	X	X			X	35		61	13	13	30	106.7	22.8		
	1305-1600	5 & 4			X	X	X	X	X	X	X	X	X			X	40		35	13	13	35	106.4-106.6	22.5-23.0		
5/15/2007	730-1420	4 & 2	X				X	X	X			X	X			X	58		43	13	13	50	106.8-107.2	22	71.1	Hopper cables have a lot of slack.
	1420-1500	7 & 3	X	X	X	X	X	X	X	X		X	X			X	38		43	13	13	50	107.2	23		
	1500-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	32		52	13	13	46	106.8-107.0	23.4-23.5		
5/16/2007	730-1145	4 & 2				X	X	X	X		X		X			X	62	3	40	13	13	40	107.3-107.7	21.6-21.9	73.4	Air line for crowder doors being fixed
	1145-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40		40	13	13	50	107.0-107.3	23.0-23.6		
5/17/2007	730-1315	4 & 1				X	X	X	X				X			X	70	5	40	13	13	40	107.6-108.0	21	74.3	
	1315-1450	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40	5	40	13	13	40	108	23.3-23.5		
	1450-1615	7 & 3	X	X	X	X	X	X	X	X		X	X			X	40	5	40	13	13	40	107.8	23.1		
	1615-1700	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	40	5	40	13	13	40	107.5	23.4		
5/18/2007	730-1205	4 & 1				X	X	X	X				X			X	68		38	13	13	55	107.0-107.3	21	71.6	Needed to decrease crowder area gate to set hopper in pit, cables going very slack.
	1205-1710	4 & 3				X	X	X	X	X	X		X			X	53		42	13	13	48	107.3-107.4	22.4		
5/19/2007	740-1350	2 & 0					X		X					X			95	12		13	13	40	107.4-108.3	17.7-17.8	70.7	
	1350-1700	1 & 1				X				X				X			90	12		13	13	40	108.6-108.8	18.2-18.3		Capacity test on unit #8.
5/20/2007	800-1620	2 & 0					X		X					X			92	14		13	13	45-55	107.2-108.2	18	69.9	Had problem setting hopper in pit, cable are going slack when hopper is about 6 feet fro
5/21/2007	730-930	4 & 0				X	X	X	X							X	89		35	13	13	48	108.7	22.5	70	Downstream weir gate got stuck at 89 %.
	930-1315	4 & 0				X	X	X	X					X			85	15		13	13	48	108.7-108.8	20.4-20.5		
	1315-1600	4 & 3				X	X	X	X	X	X	X				X	43		34	13	13	34	108.7	22.5		
5/22/2007	730-1300	4 & 0				X	X	X	X					X			83	12		13	13	40	108.0-108.4	19.4-19.5	71.6	
	1300-1600	4 & 3				X	X	X	X	X	X		X			X	57	15		13	13	39	108.4-108.5	22.3-22.5		
5/23/2007	730-1225	2 & 0					X		X					X			92	14		13	13	48	107.5-108.6	18	71.6	
	1225-1300	4 & 0				X	X	X	X							X	80		35	13	13	45	108.7	19.6		
	1300-1600	4 & 3				X	X	X	X	X	X		X			X	54		38	13	13	48	108.5	22.4-22.9		
5/24/2007	730-1310	2 & 0					X		X					X			92-95	15		13	13	60	106.8-107.5	17	71.6	
	1310-1420	4 & 0			X		X	X	X					X			82	15		13	13	60	108.2	19		
	1420-1600	4 & 3			X		X	X	X	X	X		X			X	55		35	13	13	60	108.0-108.2	22		Cleaned trash racks and gate behind them at end of the day.
5/25/2007	730-1330	2 & 0					X		X					X			92	14		13	13	50	107.2-108.5	18	72.5	Had problem setting hopper in the pit.
	1330-1425	4 & 1														X	68		39	13	13	50	108.6	21		
	1425-1600	4 & 3														X	53		39	13	13	50	108.6-108.7	22.6		
5/26/2007	730-1325	2 & 0					X		X					X			96	15		13	13	60	107.0-108.2	17	75.5	
	1325-1600	4 & 0				X	X	X	X					X			85	15		13	13	60	108.2-108.4	18.5		
5/27/2007	720-1305	2 & 0					X		X					X			97	15		13	13	60	107.0-108.3	17	77	
	1305-1600	4 & 1				X	X	X	X				X			X	72		30	13	13	60	108.5-108.6	20.5		
5/28/2007	730-1330	2 & 0					X		X					X			96	12		13	13	43	107.5-108.0	18.4-18.5	75.2	
	1330-1600	4 & 2			X	X	X		X			X	X			X	66	5	20	13	13	56	107.8-108.0	21.5		
5/29/2007	700-1025	2 & 0					X		X					X			96	12		13	13	39	107.0-107.3	18.5	77.9	
	1025-1300	0 & 1								X				X			96	12		13	13	39	107.4-108.0	18.5		
	1300-1500	0 & 4								X	X	X	X			X	75		23	13	13	35	108.1	21.9		
5/30/2007	745-1400	2 & 0					X		X					X			92	15		13	13	58	106.5-107.2	18	79.7	
	1400-1500	7 & 0	X	X	X	X	X	X	X					X			72	13		13	13	48	106.9	20		
5/31/2007	745-1330	2 & 0					X		X					X			94	14		13	13	50	105.7-106.2	17.8	80.1	Crowder shaking when coming forward. Season is over
4/3/2006	1130-1600	2 & 0					X	X								X	84		39	13	13	24	107.3-107.7	18.0-18.5	52.7	
4/5/2006	1115-1145	4 & 1														X							107.9	20.5	48.6	
	1145-1600	2 & 0																					107.9-108.1	18.5		
4/7/2006	1030-1210	4 & 2														X	60		50	13	13	25	107	22	55	Diffuser A and B are not working properly.
	1210-1700	2 & 0				X	X							X			78			13	13	20	106.9-107.3	18		
4/8/2006	940-1205	4 & 1				X	X	X	X	X						X	68		40	13	13	25	107.1-107.4	20	54.5	
	1205-1610	2 & 0					X	X						X			78			13	13	20	107.6-108.3	18		
4/9/2006	1030-1300	4 & 1				X	X	X	X		X			X			62	20		13	13	24	108.2-108.3	20.5-21.0	53.6	
	1300-1710	2 & 0					X	X						X			78	20		13	13	24	108.4-108.6	18.5		Hopper is not lined up correctly with trough.
4/10/2006	1100-1110	4 & 0												X						13	13	28	107.5	20.5	55.1	
	1110-1530	2 & 0					X	X						X			78	45		13	13	28	107.7-108.4	19.0-19.5		Limit switch failed during last lift. Hopper a had to be manually stop at trough.
4/11/2006	1030-1210	4 & 0												X			72	45		13	13	20	107.6	19.5	55.4	
	1210-1630	2 & 0												X			78	45		13	13	25	107.7-108.8	19		
4/13/2006	1000-1110	4 & 3														X	50		53	13	13	25	106.7	22	57	
	1110-1210	4 & 0														X	65		53	13	13	25	106.8	20.5		
	~~1210-1700~~	~~2 & 0~~												~~X~~			~~82~~	~~25~~		~~13~~	~~13~~	~~25~~	~~106.8-108.1~~	~~18.5~~		
	1700-1745	3 & 0												X			76	25		13	13	25	108.2	19		
4/14/2006	1030-1415	4 & 1														X	70		18	13	13	25	108.2-108.5	20.0-21.0	57.2	
	1415-1745	2 & 0												X			78	20		13	13	25	108.5-108.8	19		Limit switch at trough failed.
4/15/2006	1000-1200	4 & 1														X	65-68		51	13	13	25	107.6-107.7	21.0-21.5	59	
	1200-1700	2 & 0												X			80	20		13	13	25-30	107.8-108.6	19		
4/16/2006	1000-1700	2 & 0												X			80	25		13	13	25	107.8-108.6	18.5	59.4	Maintenance here in morning to fix limit switch.
4/17/2006	1100-1735	4 & 0												X			72	45		13	13	20-25	107.3-108.8	19.5		Limit switch at trough failed again.
4/18/2006	1000-1335	4 & 0				X	X	X	X					X			72	40		13	13	25	107.3-107.8	19.5	60	
	1335-1605	2 & 0					X	X						X			80	45		13	13	30	108.1-108.8	19		
	1605-1720	4 & 1				X	X	X	X	X				X			62	35		13	13	40	108.9	20.5		
4/19/2006	950-1210	4 & 2			X	X		X	X			X	X			X	55		50	13	13	25	107.2-107.4	21.5	60.8	Maintenance made repairs to viewing room gate.
	1210-1720	4 & 0			X	X		X	X							X	70		55	13	13	25	107.5-108.3	20.5		Upstream "A" gate tripped mid-day.
4/20/2006	930-1230	4 & 0			X	X		X	X					X			72	50		13	13	25	107.5-107.7	19.5	61.4	
	1230-1815	4 & 4			X	X		X	X	X	X	X	X			X	45		52	13	13	25	107.0-108.0	22.5		Had to shut down spills to switch gates.
4/21/2006	900-1400	4 & 1														X	60		52	13	13	26	106.6-106.9	20.5-21.0	62.6	
	1400-1800	3 & 0												X			75	15		13	13	26	107.3-107.7	19.5		
	1800-1845	4 & 1								X				X									107.7	20		
4/22/2006	800-1100	4 & 0			X	X		X	X					X			70	15		13	13	30	106.1-106.3	19.5	62.6	
	1100-1300	2 & 0						X	X					X			78	15		13	13	35	106.5-107.0	18.5		
	1300-1730	2 & 0						X	X					X			80	15		13	13	25	107.0-107.9	18.5		
4/23/2006	750-1655	4 & 0			X	X		X	X					X			70	15		13	13	30	108.0-109.0	20	61.7	Thin cable for schieve block for air line was wrapped around hoses. Removed.
	1655-1800	4 & 3			X	X		X	X	X	X	X				X	50		45	13	13	35	108.7	21		
4/24/2006	800-1135	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	24	106.3-107.0	23	61.7	
	1135-1500	4 & 2			X	X		X	X			X	X			X	48		45	13	13	24	106.3-107.3	22		Maintenance replace guide cable for schieve block.
	1500-1745	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	24	107.6-107.7	23		
4/25/2006	800-1445	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	27		50	13	13	30	107.3-107.6	23	61.7	
4/26/2006	800-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	25		50	13	13	30	106.7-107.0	23.0-23.5	59	
4/27/2006	800-1600	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	28		50	13	13	30	107.8-108.4	23.5	59	
4/28/2006	800-1655	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	40	107.2-107.5	23.5	59	
4/29/2006	800-1730	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		45	13	13	40	106.7-108.1	23.5	59	
4/30/2006	700-1120	2 & 0					X	X						X			78	15		13	13	35	107.9-108.7	18.5	59	
	1120-1150	4 & 0				X	X	X	X					X			72	15		13	13	35	108.7	19		
	1150-1215	4 & 2				X	X	X	X			X	X			X	52		45	13	13	35	108.8	20		
	1215-1815	4 & 3				X	X	X	X	X		X	X			X	52		45	13	13	35	108.7-108.8	22		
5/1/2006	800-1215	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		50	13	13	35	107.3-108.3	23	59	
	1215-1700	4 & 0				X	X	X	X					X			71	20		13	13	35	107.5-108.6	19.5-20.0		
5/2/2006	800-1055	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	30		52	13	13	35	107.1-108.0	23.5	60.8	
	1055-1700	4 & 0				X	X	X	X					X			70	20		13	13	35	106.9-107.7	20		
5/3/2006	800-1210	4 & 3			X	X		X	X	X	X		X			X	45		55	13	13	30	107.6-108.0	22.5	62.3	
	1210-1650	4 & 0			X	X		X	X							X	75		40	13	13	30	107.9-108.8	20		
	1650-1730	4 & 3			X	X		X	X	X	X		X			X	45		40	13	13	45	109	22.5		
	1730-1800	4 & 4			X	X		X	X	X	X	X	X			X	37		40	13	13	45	108.8	23		Hopper cable wrapped around cage on last lift.
5/4/2006	DID NOT OPERATE TODAY DUE TO HOPPER CABLE WRAPPED AROUND CAGE. Tested at 1945.																									
5/5/2006	900-1700	4 & 2				X	X	X	X		X	X				X	52		51	13	13	35	108.0-108.7	22	64.4	
	1700-1845	4 & 3				X	X	X	X	X	X	X				X	46		45	13	13	30	108.7-108.9	22.5		
5/6/2006	800-1300	4 & 0				X	X	X	X					X			70	20		13	13	35	107.3-108.1	20.0-19.5	64.8	
	1300-1400	2 & 0					X		X					X			79	10		13	13	41	108.5	19		
	1400-1800	4 & 1				X	X	X	X	X						X	70		45	13	13	25	108.5-108.6	20.5-21.0		
5/7/2006	830-1800	2 & 0					X		X					X			82	15		13	13	30	107.0-108.3	18	65.3	Flushed debris and had maintenance come out to fully lower dividing screen hoist.
5/8/2006	800-1200	4 & 1														X	65		54	13	13	25	106.7-106.8	20.0-21.0	64.8	
	1200-1700	2 & 0												X			82	15		13	13	30	106.8-107.9	19.5-20.0		Downstream "C" gate tripped while switching over.
	1700-1800	4 & 2														X	52		25	13	13	35	108	21.5		Maintenance saw bottom section of crowder screen hoist missing.
5/9/2006	830-1200	4 & 1														X	65		55	13	13	35	107.6-107.8	21	66.2	
	1200-1730	4 & 1														X	60		55	13	13	30	108.1-108.8	21		Had problem with crowder screen hoist not fully lowering.
5/10/2006	845-1030	4 & 1				X	X	X	X			X				X	63		55	13	13	30	106.4-106.7	20.5	67	
	1030-1330	3 & 0					X	X	X					X			77	25		13	13	30	106.5-106.8	19.5-20.5		
	1330-1610	3 & 0					X	X	X					X			77	10		13	13	20	107.3-107.6	19.5		
	1610-1700	3 & 0					X	X	X					X			77	8		13	13	45	107.8	19.5		
	1700-1730	4 & 1				X	X	X	X				X			X	63		42	13	13	35	108.2	19.5		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
5/11/2006	745-1000	4 & 2				X	X	X	X		X		X			X	53		40	13	13	30-35	106.1-106.3	21	66.6	
	1000-1400	3 & 0				X	X	X						X			77	25		13	13	30	106.2-107.1	19		
	1400-1655	3 & 0				X	X	X						X			77	10		13	13	20	107.3-107.8	19		
5/12/2006	800-1100	4 & 0												X			70	20		13	13	35	107.3-107.5	19.5	67.8	
	1100-1600	4 & 1										X				X	63		55	13	13	32	107.7-108.6	21.5		
	1600-1720	4 & 3									X	X	X			X	52		45	13	13	30	108.5	22		
5/13/2006	800-1730	4 & 0												X			69	25		13	13	30	106.0-106.9	19.5	68.2	
5/14/2006	745-1600	2 & 0						X	X					X			90	15		13	13	20	107.4-108.6	18	67.1	
	1600-1730	4 & 2		X			X	X	X		X		X			X	58		45	13	13	35	108.6	21.5		
5/15/2006	830-1305	4 & 2		X			X	X	X		X		X			X	55		45	13	13	30	107.7-108.1	21.5	67.1	
	1305-1700	4 & 1		X			X	X	X		X					X	62		45	13	13	30	108.1-108.5	21		
5/16/2006	800-1105	4 & 3														X	47		40	13	13	30	106.7-106.8	22	66.2	
	1105-1700	4 & 0												X			77	15		13	13	30	107.0-107.9	19.5		
5/17/2006	745-1100	4 & 3			X	X	X	X		X		X	X			X	50		45	13	13	30	107.1-107.4	22	66.6	
	1100-1700	4 & 1			X	X	X	X		X						X	69		45	13	13	30	107.3-108.1	20.5		
5/18/2006	800-1245	4 & 3				X	X	X	X	X		X	X			X	50		45	13	13	25-30	107.0-107.4	22	66.2	
	1245-1710	4 & 1				X	X	X	X			X				X	67		40	13	13	25-30	107.5-108.1	20.5		
	1710-1745	4 & 3				X	X	X	X	X		X	X			X	50		30	13	13	20	108	22		
5/19/2006	800-1300	4 & 3														X	50		36	13	13	40	107.9-108.1	22	66.2	
	1300-1700	4 & 1				X	X	X	X	X						X	69-72		25-35	13	13	25-30	108.1-108.6	20.5		
5/20/2006	800-1130	4 & 0	X		X		X	X						X			78	15		13	13	35	107.0-107.3	19	64.4	
	1130-1210	4 & 0	X				X	X	X					X			84	15		13	13	30	107.6	19		
	1210-1710	4 & 0				X	X	X	X					X			84	15		13	13	25	107.9-108.4	19		
5/21/2006	745-810	2 & 0					X	X						X			82	15		13	13	35	107.7	18	64	
	810-1650	4 & 0				X	X	X	X					X			82	10		13	13	20-30	107.7-108.1	19		
5/22/2006	800-1145	4 & 2				X	X	X	X		X		X			X	60		40	13	13	35	107.3-107.7	21	63	
	1145-1500	4 & 1				X	X	X	X		X					X	70		35	13	13	30	107.4-107.5	20.5		
	1500-1700	4 & 1				X	X	X	X		X					X	70		30	13	13	20	107.6-107.8	20.5		
5/23/2006	800-1225	4 & 2				X	X	X	X		X		X			X	60		40	13	13	35	107.3-107.6	21	62.6	
	1225-1315	4 & 0				X	X	X	X							X	72		20	13	13	35	107.5	20		
	1315-1500	4 & 0				X	X	X	X					X			80	15		13	13	35	107.8-107.9	19		
	1500-1655	4 & 0				X	X	X	X					X			80	10		13	13	17	108.2	19		
5/24/2006	800-1225	4 & 2				X	X	X	X	X	X					X	60		30	13	13	35	107.1-107.4	21	62.2	
	1225-1445	4 & 0				X	X	X	X					X			80	15		13	13	30	107.4-107.5	19.5		
	1445-1715	4 & 0				X	X	X	X					X			80	10		13	13	20	107.8-108.3	19.5		
	1715-1800	4 & 1				X	X	X	X	X				X			67	15		13	13	30	108.3	20.5		
5/25/2006	800-820	2 & 0					X	X						X			80	15		13	13	30	108	18.5	64.4	When lowering "A" gate, heard loud bang.
	820-1220	4 & 0			X	X	X	X						X			80	15		13	13	30	108.2-108.6	19.5		
	1220-1400	4 & 4			X	X	X	X		X	X	X	X			X	50		40	13	13	35	108.3-108.4	22.5		
	1400-1700	4 & 4			X	X	X	X		X	X	X	X			X	45		40	13	13	35	107.9-108.1	22.5		
5/26/2006	730-800	2 & 0												X			90	15		13	13	35	107.5	18.5	65.3	
	800-1200	4 & 0												X			84	15		13	13	35	108.1-108.4	19.5		
	1200-1730	4 & 2														X	63		30	13	13	30	108.4-108.6	21.5		
5/27/2006	700-1200	2 & 0					X		X					X			90	15		13	13	30	107.6-108.5	18.5	64.4	
	1200-1430	4 & 1				X	X	X	X	X				X			69	15		13	13	30	108.5-108.8	20.5		
	1430-1700	4 & 1				X	X	X	X	X						X	73		30	13	13	30	108.6	20.0-20.5		
5/28/2006	745-1410	2 & 0					X		X					X			90	10		13	13	20	107.8-108.7	17	66.2	Air leaking from one of the crowder doors. Hole in the line.
	1410-1700	4 & 1			X		X	X	X			X				X	70		45	13	13	30	108.4-108.7	20		
5/29/2006	700-1425	2 & 0					X		X					X			90	15		13	13	30	107.5-108.2	18.5	68	
	1425-1500	4 & 1			X		X	X	X		X					X	73		20	13	13	30	108.1	20		
5/30/2006	645-1005	2 & 0					X		X					X			90	15		13	13	30	108.2-108.5	18	70	
	1005-1115	4 & 1				X	X	X	X			X				X	72		40	13	13	30	108.8	20		
	1115-1500	7 & 4	X	X	X	X	X	X	X	X	X	X	X			X	35		45	13	13	35	107.7-108.6	23		
5/31/2006	730-1225	2 & 0					X		X					X			90	15		13	13	30	106.2-107.5	17.5	71.3	
	1225-1500	4 & 3				X	X	X	X	X	X	X				X	48		40	13	13	30	107.4-107.6	22		
6/1/2006	700-1200	1 & 0					X							X			93	15		13	13	25	106.6-107.1	17.5	73.6	
	1200-1500	4 & 2			X	X	X		X		X	X				X	64		30	13	13	30	107.1-107.5	22		
6/2/2006	700-1300	1 & 0					X							X			95	15		13	13	25-30	107.3-108.5	17.5	77	
	1300-1500	4 & 4				X	X	X	X	X	X	X	X			X	50		30	13	13	30	108.7-109.0	22.5		
6/3/2006	700-1210	1 & 0					X							X			94	15		13	13	25	108.0-108.9	17	77	
	1210-1400	4 & 3	X		X		X	X			X	X	X			X	55		40	13	13	30	109.1	22		
6/4/2006	730-830	1 & 0					X							X			90	15		13	13	30	107.9	17	75.6	
	830-1030	4 & 0				X	X	X	X					X			80	15		13	13	30	107.9-108.1	19.5		
	1030-1115	1 & 0					X							X			90	15		13	13	30	108	17		
	1115-1400	4 & 1														X	70		30	13	13	30	108.0-108.1	20.5		
~~6/5/2006~~	~~730-1115~~	~~4 & 1~~			~~X~~	~~X~~	~~X~~	~~X~~					~~X~~			~~X~~	~~58~~		~~30~~	~~13~~	~~13~~	~~30~~	~~108.0-108.5~~	~~21~~	~~75.6~~	
4/23/2001	1130-1200	6 & 4								X	X	X	X			X	80		50			10	106.8	21.5	52.7	
	1200-1715	6 & 4								X	X	X	X			X	39		47			18	106.5	23		
4/25/2001	945-1545	6 & 4								X	X	X	X			X	39		47			18	107.1-107.5	23	55.4	
	1545-1830	6 & 4								X	X	X	X			X	58		55			30	107.5-107.7	23		
4/26/2001	930-1150	6 & 4								X	X	X	X			X	39		47			18	107.4	23	59	
	1150-1815	6 & 4								X	X	X	X			X	58		55			30	107.6-108.4	23		
4/27/2001	945-1830	6 & 4								X	X	X	X			X	48	25	52			23	107.8-108.0	23	59	
4/28/2001	800-845	4 & 0														X	84		70			10	108.2	17.5	59	
	845-955	4 & 2														X	70		70			10	108.4	21		
	955-1015	6 & 4								X	X	X	X			X	50		70			7	108.3	22		
	1015-1600	6 & 4								X	X	X	X			X	48	25	53			23	107.0-108.1	22.5-23.0		
	1600-1715	4 & 3														X							107	22.5		
	1715-1745	6 & 4								X	X	X	X			X	48	25	53			23	106.8-107.0	22.5-23.0		
4/29/2001	730-1100	2 & 2									X		X			X	80		70			10	108	17.5	60	Two Large turbine stuck in spin mode.
	1100-1300	2 & 2									X		X			X	78	25	52			15	108	17.5		
	1300-1535	4 & 1														X	76		55			28	108	20.5		
	1535-1835	6 & 4								X	X	X	X			X	39		47			12	108	23		
4/30/2001	750-1000	2 & 2									X		X			X	90		55			30	108	17.5	62.6	
	1000-1200	4 & 2									X		X			X	80		55			30	108	19.5-20.0		
	1200-1840	6 & 4								X	X	X	X			X	49		47			12	107.4-108.0	23		
5/1/2001	750-1230	2 & 1			X				X							X	80		70			10	107.5-107.9	17.5	62..6	
	Had maintenance come out to switch around plates, fish dumped into sorting tank and 41 tagged for telemetry study.																									
5/2/2001	800-900	2 & 1			X				X							X						20	107.8	18	66.2	
	900-1050	2 & 1			X				X							X	95		70			10	108.1-108.4	19		
	1050-1215	4 & 2														X	86		47			7	108.6-108.8	21.0-22.0		
	1215-1350	6 & 4								X	X	X	X			X	40		60			30	108.7	23		
	1350-1815	6 & 4								X	X	X	X			X	28		70			30	107.5-108.4	23		
5/3/2001	830-1010	2 & 0			X				X				X			X						10	107.9-108.0	18.5	67.1	Unit 11 stuck on slow spin -45%
	1010-1245	4 & 2														X	50		70			7	108.3-108.4	22		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged 41Shad for telemetry study.																									
5/4/2001	820-1200	1 & 3														X	80		70			10	107.0-107.2	17.5	69.9	
	1200-1815	3 & 4														X	39		47			12	107.0-108.0	22.0-23.0		
5/5/2001	800-1100	1 & 3									X	X	X			X	80		70			10	107	18	68.9	Large units stuck in slow spin.
	1100-1800	3 & 3														X	68		71			44	108	21		
5/6/2001	730-1830	2 & 3														X	80		70			11	107	18	69.9	Large units stuck in slow spin.
5/7/2001	830-1230	1 & 1														X	79		35			4	107.7-108.7	18.5	69.9	
	1230-1350	4 & 2														X	64		70			70	108.6-108.7	18.5		
	1350-1430	4 & 2														X	50		70			7	108.6	21		Problems with the crowder, maintance came out and fixed.
	1430-1630	6 & 2														X	40		60			30	108.7	22		
	1630-1815	6 & 4								X	X	X	X			X	39		47			12	108.2-108.7	23		
5/8/2001	830-1245	2 & 1		X					X		X	X	X			X	84		70			6	106.7-107.3	18.5	68.9	Large Units stuck on slow spin
	1245-1400	2 & 1		X					X		X	X	X			X	79		70			4	107.3-107.8	18.5		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged Shad for telemetry study.																									
5/9/2001	800-1130	2 & 1			X		X				X	X	X			X	84		70			6	107.0-107.3	18.5	71.6	Large units stuck on slow spin. Both doors on hopper open, maintenance came out to fi
	1130-1530	3 & 1			X		X		X		X	X	X			X	79		70			4	107.6-108.3	18.5		
	1530-1800	4 & 2														X	86		47			7	108.6	21		
5/10/2001	800-850	2 & 1			X				X		X	X	X			X						4	106.2	16.5	74.3	
	850-1100	2 & 1			X				X		X	X	X			X	84		70			6	106.6-106.9	18.5		
	1100-1335	2 & 3														X	75		35			15	107.0-107.3	18.5		
	1335-1430	2 & 3														X	95		70			10	107.8	19		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged 40 Shad for telemetry study.																									
	1515-1730	2 & 3														X	95		70			10	108.1-108.5	19		
	1730-1830	4 & 1														X	70		70			10	108.6	21		
5/11/2001	830-1300	2 & 3														X	80		70			10	107.3-108.6	18	74.3	
	1300-1320	2 & 3														X	70		70			10	108.4-108.8	23		Broke cables on crowder, limit switch failed.
5/12/2001	800-1400	1 & 3														X	72		55			7	105.6-107.2	18.5	74.3	
	1400-1830	2 & 3														X							107.2-108.0	18.5		

Gate and Diffuser setting are in percent open and forebay and tailrace elevations are in feet above mean sea level and are taken inside our downstream channel. Water temperature was taken in the morning from the surface of the trough.

		Generation	Small Units							Large Units				Weir Gate			Gate	Diffuser Setting		Spillway Setting		Crowder	Forebay	Tailrace	Water	
Date	Time	(small & large)	1	2	3	4	5	6	7	8	9	10	11	A	B	C	Setting	A	B	A	B	Area Gate	Elevation	Elevation	Temp F	
5/13/2001	800-1630	2 & 3														X							106.4-106.7	17.5-18.0	73.4	
5/14/2001	800-830	2 & 0														X	92		35			10	106.4	16.5	72.5	
	830-1500	2 & 0														X	80		55			30	106.7-107.4	18		
	1500-1750	2 & 0														X	79		35			45	107.6-108.1	18		
5/15/2001	800-1050	2 & 0														X	80		55			30	107.4	18	71.6	
	1050-1240	2 & 0														X	79		35			45	107.7-108.1	18		
	1240-1315	2 & 2														X	84		70			10	108.3	20		
	1315-1400	2 & 2														X	70		70			10	108.3	21		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged Shad for telemetry study.																									
	1500-1750	2 & 2														X	70		70			10	108.3-108.5	21		
5/16/2001	800-1240	2 & 0					X		X		X	X	X			X	80		55			30	106.2-107.2	18	69.8	Large units stuck on slow spin.
	1240-1530	2 & 0					X		X		X	X	X			X	79		35			45	107.6-107.9	18		
	1530-1800	4 & 1														X	64		70			7	107.9-108.3	21		
5/17/2001	830-930	2 & 0			X	X										X	90		51			20	105.6-105.7	18	68.9	
	930-1020	2 & 0			X	X										X	74		30			10	105.8	18		
	1020-1400	2 & 0						X	X							X	79		35			4	106.1-106.3	18.0-18.5		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged Shad for telemetry study.																									
	1515-1645	2 & 0						X	X							X	80		55			30	106.6-107.2	18.5		
	1645-1800	2 & 0						X	X							X	79		35			45	107.5-107.7	18.5		
5/18/2001	800-1715	2 & 2														X	83		30			2	106.3-107.8	18.5	70.7	
5/19/2001	800-1715	2 & 2														X	83		30			2	106.4-108.2	18.0-18.5	70.7	
	1715-1745	4 & 2		X	X	X			X		X	X				X							108.2	21.5		
5/20/2001	800-1730	2 & 3									X	X	X			X	96		70			5	104.9-105.4	18	70.7	Large units stuck on slow spin
5/21/2001	830-1320	2 & 0														X	74		30			10	104.6-105.4	18	68.9	
	1320-1530	2 & 0														X	74		30			10	105.8-106.1	18		
	1530-1720	2 & 0														X	70		55			30	106.6-107.0	18		
5/22/2001	800-1050	2 & 0														X	74		30			10	106.0-106.2	18	69.5	
	1050-1345	2 & 0														X	80		55			30	106.6-107.3	18		
	1345-1530	2 & 0														X	79		35			45	107.6-108.0	18		
	1530-1540	4 & 2														X	70		70			10	108	18		
	1540-1750	4 & 2														X	50		70			7	108.2	21		
5/23/2001	800-1025	2 & 0			X				X		X	X	X			X	79		35			4	106.3-106.4	18.5	71.6	Large Units stuck on slow spin
	1025-1300	2 & 0			X				X		X	X	X			X	79		35			4	106.7-107.3	18.5		
	Had maintenance come out to switch around plates, fish dumped into sorting tank and tagged 50 Shad for telemetry study.																									
	1415-1450	2 & 0			X				X		X	X	X			X	79		35			4	107.4	18.5		
	1450-1745	2 & 0			X				X		X	X	X			X	73		35			20	107.7-108.0	19		
5/24/2001	800-920	2 & 0														X	74		30			10	105.4-105.5	18	70.2	
	920-1240	2 & 0														X	74		30			10	105.7-106.3	18		
	1240-1535	2 & 0														X	80		55			30	106.7-107.3	18		
	1535-1730	2 & 0														X	79		35			45	107.7-108.1	18		
5/25/2001	800-1000	2 & 0														X	74		30			10	106.9-107.0	18.0-18.5	70	
	1000-1400	2 & 3														X	95		70			10	107.3-107.8	18.5		
	1400-1700	2 & 2									X	X				X	83		30			2	108.0-108.6	20.0-21.0		
5/26/2001	1000-1700	1 & 3														X	74		30			10	106.2-107.0	18.5	70.7	
5/27/2001	1500-1640	2 & 3														X	95		70			10	108.2	18.5	71.6	Cyclinder to hopper door was bent, maintenance came out and swapped out cylinders.
5/28/2001	1045-1240	3 & 0														X	79		35			4	108	18.5	71.6	Downstream weir gate tripped
	1240-1730	4 & 1														X	58		55			30	108.0-108.2	21		
5/29/2001	1000-1140	4 & 1														X	70		70			10	108.4	21	71.4	
	1140-1340	4 & 1														X	86		47			7	108.5	21		
	1340-1730	4 & 3														X	50		70			7	108.1-108.5	22		
5/30/2001	1030-1240	2 & 0														X	79		35			10	108.0-108.4	18	71.4	
	1240-1315	4 & 1														X	86		47			7	108.6	21		
	1315-1340	4 & 3														X	50		70			7	108.6	21		
	1340-1700	4 & 3														X	40		60			30	108.5-108.6	22		
5/31/2001	1000-1220	None														X	79		35			10	107.2-107.8	18	69.8	"NO UNITS ON"
	1220-1615	4 & 1														X	70		70			10	108.0-108.5	21		
6/1/2001	1000-1300	1 & 3														X	79		35			10	107.5-107.8	18.0-18.5	69.9	
	1300-1700	4 & 1														X	70		70			10	108.1-108.2	21.5		
6/2/2001	1000-1500	1 & 3														X	79		35			10	107.6-108.6	18.5	69.6	
	1500-1700	3 & 1														X	70		70			10	108.9	21		
6/3/2001	1000-1700	1 & 3														X	79		35			10	106.9-108.0	17.5	72.5	Trash rack "A" tripped
6/4/2001	1030-1125	1 & 0														X	75		35			20	107.3-107.6	18	70.7	
	1125-1500	4 & 1														X	84		70			10	107.9-108.2	20		
6/6/2001	1030-1210	4 & 0														X	84		70			10	107.8-108.2	20	70	
	1210-1345	4 & 2														X	70		70			10	108.2-108.4	21		

4/10/2000-6/9/2000								
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/10/2000	1	0.00	24.00		5/10/2000	1	0.00	24.00
	2	0.00	24.00			2	12.45	18.10
	3	0.00	24.00			3	12.45	21.50
	4	0.00	24.00			4	12.45	21.50
	5	0.00	24.00			5	12.05	18.10
	6	0.00	24.00			6	12.05	18.10
	7	0.00	24.00			7	0.00	24.00
	8	0.00	24.00			8	12.00	18.10
	9	0.00	24.00			9	12.00	18.10
	10	0.00	24.00			10	12.45	18.10
	11	0.00	24.00			11	12.00	18.10
4/11/2000	1	0.00	24.00		5/11/2000	1	0.00	21.45
	2	0.00	24.00			2	NA	NA
	3	0.00	24.00			3	10.05	10.20
	4	0.00	24.00			4	10.05	10.25
	5	0.00	24.00			4	21.45	24.00
	6	0.00	24.00			5	10.20	15.55
	7	0.00	24.00			5	20.15	21.45
	8	0.00	24.00			6	10.25	15.55
	9	0.00	24.00			6	20.15	21.45
	10	0.00	24.00			7	0.00	24.00
	11	0.00	24.00			8	10.05	11.25
						8	13.35	15.55
4/12/2000	1	0.00	24.00			8	20.20	21.30
	2	0.00	24.00			9	10.05	15.55
	3	0.00	24.00			9	20.20	21.30
	4	0.00	24.00			10	9.20	10.00
	5	0.00	24.00			10	11.25	13.35
	6	0.00	24.00			10	20.25	21.40
	7	0.00	24.00			11	10.05	15.55
	8	0.00	24.00					
	9	0.00	24.00		5/12/2000	1	NA	NA
	10	0.00	24.00			2	11.50	18.20
	11	0.00	24.00			2	20.30	21.35
						3	11.50	13.25
4/13/2000	1	0.00	24.00			3	14.50	18.20
	2	0.00	24.00			3	20.25	21.30
	3	0.00	24.00			4	0.00	13.25
	4	0.00	24.00			4	14.50	24.00
	5	0.00	24.00			5	11.10	23.00
	6	0.00	24.00			6	11.10	23.00
	7	0.00	24.00			7	0.00	24.00
	8	0.00	24.00			8	13.25	18.20
	9	0.00	24.00			8	20.30	21.30
	10	0.00	24.00			9	11.10	18.20
	11	0.00	24.00			9	20.30	21.30
						10	NA	NA
4/14/2000	1	0.00	24.00			11	11.10	18.20
	2	0.00	24.00			11	20.30	21.30
	3	0.00	24.00					
	4	0.00	24.00		5/13/2000	1	NA	NA
	5	0.00	24.00			2	NA	NA
	6	0.00	24.00			3	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	0.00	24.00			4	0.00	24.00
	8	0.00	24.00			5	9.05	23.30
	9	0.00	24.00			6	9.05	23.30
	10	0.00	24.00			7	0.00	24.00
	11	0.00	24.00			8	10.25	23.30
						9	9.05	22.50
4/15/2000	1	0.00	24.00			10	NA	NA
	2	0.00	24.00			11	10.25	22.50
	3	0.00	3.15					
	4	0.00	3.15		5/14/2000	1	NA	NA
	5	0.00	24.00			2	11.25	24.00
	6	0.00	24.00			3	11.25	24.00
	7	0.00	3.15			4	0.00	24.00
	8	0.00	24.00			5	8.25	24.00
	9	0.00	24.00			6	8.25	24.00
	10	0.00	24.00			7	0.00	24.00
	11	0.00	24.00			8	10.15	23.50
						9	9.20	23.50
4/16/2000	1	0.00	1.45			10	NA	NA
	1	9.45	24.00			11	10.15	24.00
	2	0.00	1.45					
	2	9.45	24.00		5/15/2000	1	NA	NA
	3	0.00	0.05			2	0.00	0.35
	3	8.00	24.00			2	6.55	24.00
	4	0.00	0.05			3	0.00	0.35
	4	8.00	24.00			3	6.55	24.00
	5	0.00	24.00			4	0.00	24.00
	6	0.00	24.00			5	0.00	2.45
	7	0.00	0.05			5	6.25	24.00
	7	8.00	24.00			6	0.00	2.45
	8	0.00	1.40			6	6.25	24.00
	8	9.45	24.00			7	0.00	24.00
	9	0.00	1.40			8	6.55	24.00
	9	8.00	24.00			9	6.25	24.00
	10	0.00	24.00			10	NA	NA
	11	0.00	1.40			11	0.00	0.35
	11	8.00	24.00			11	6.55	24.00
4/17/2000	1	0.00	24.00		5/16/2000	1	NA	NA
	2	0.00	24.00			2	0.00	19.15
	3	0.00	3.00			3	0.00	0.45
	3	6.15	24.00			3	6.40	24.00
	4	0.00	3.00			4	0.00	0.45
	4	6.15	24.00			4	6.40	24.00
	5	0.00	24.00			5	0.00	24.00
	6	0.00	24.00			6	0.00	24.00
	7	0.00	2.55			7	0.00	24.00
	7	6.15	24.00			8	0.00	0.55
	8	0.00	2.45			8	6.40	24.00
	8	6.15	24.00			9	0.00	24.00
	9	0.00	24.00			10	NA	NA
	10	0.00	24.00			11	0.00	1.00
	11	0.00	2.45			11	6.30	24.00
	11	6.15	24.00					
					5/17/2000	1	NA	NA
4/18/2000	1	0.00	3.50			2	9.10	24.00
	1	6.15	24.00			3	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	2	0.00	3.50			4	0.00	24.00
	2	6.15	24.00			5	0.00	24.00
	3	0.00	2.35			6	0.00	24.00
	3	6.15	24.00			7	0.00	24.00
	4	0.00	2.35			8	0.00	24.00
	4	6.15	24.00			9	0.00	24.00
	5	0.00	24.00			10	NA	NA
	6	0.00	24.00			11	0.00	24.00
	7	0.00	2.35					
	7	6.20	24.00		5/18/2000	1	NA	NA
	8	0.00	3.50			2	0.00	10.45
	8	6.20	24.00			3	0.00	24.00
	9	0.00	2.30			4	0.00	24.00
	9	6.20	24.00			5	0.00	24.00
	10	0.00	2.30			6	0.00	24.00
	10	6.20	24.00			7	0.00	24.00
	11	0.00	3.50			8	0.00	24.00
	11	6.20	24.00			9	0.00	24.00
						10	NA	NA
4/19/2000	1	0.00	0.25			11	0.00	24.00
	1	4.45	24.00					
	2	0.00	24.00		5/19/2000	1	NA	NA
	3	0.00	4.45			2	NA	NA
	3	6.20	24.00			3	0.00	1.30
	4	0.00	0.25			3	7.05	7.25
	4	6.20	24.00			3	8.50	9.20
	5	0.00	24.00			4	0.00	24.00
	6	0.00	24.00			5	0.00	24.00
	7	0.00	0.25			6	0.00	24.00
	7	6.20	24.00			7	0.00	24.00
	8	0.00	24.00			8	0.00	1.30
	9	0.00	24.00			8	5.40	24.00
	10	0.00	24.00			9	0.00	24.00
	11	0.00	0.25			10	5.40	24.00
	11	6.20	24.00			11	0.00	1.30
						11	5.40	13.45
4/20/2000	1	0.00	24.00					
	2	0.00	24.00		5/20/2000	1	NA	NA
	3	0.00	24.00			2	NA	NA
	4	0.00	24.00			3	NA	NA
	5	0.00	24.00			4	0.00	0.45
	6	0.00	24.00			4	7.15	24.00
	7	0.00	24.00			5	0.00	0.45
	8	0.00	24.00			5	7.15	24.00
	9	0.00	24.00			6	0.00	0.45
	10	0.00	24.00			6	6.50	24.00
	11	0.00	24.00			7	0.00	0.45
						7	7.15	24.00
4/21/2000	1	0.00	24.00			8	0.00	0.45
	2	0.00	24.00			8	7.30	24.00
	3	0.00	24.00			9	0.00	0.45
	4	0.00	24.00			9	7.15	24.00
	5	0.00	24.00			10	0.00	24.00
	6	0.00	24.00			11	7.30	24.00
	7	0.00	24.00					
	8	0.00	24.00		5/21/2000	1	NA	NA
	9	0.00	24.00			2	19.30	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	0.00	24.00			3	19.30	24.00
	11	0.00	24.00			4	0.00	1.00
						5	0.00	0.25
4/22/2000	1	0.00	24.00			5	7.20	24.00
	2	0.00	24.00			6	0.00	0.25
	3	0.00	24.00			6	8.05	24.00
	4	0.00	24.00			7	0.00	1.00
	5	0.00	24.00			7	8.05	24.00
	6	0.00	24.00			8	0.00	0.25
	7	0.00	24.00			8	14.00	24.00
	8	0.00	24.00			9	0.00	0.25
	9	0.00	24.00			9	9.30	24.00
	10	0.00	24.00			10	0.00	24.00
	11	0.00	24.00			11	0.00	0.25
						11	9.30	24.00
4/23/2000	1	0.00	24.00					
	2	0.00	24.00		5/22/2000	1	NA	NA
	3	0.00	24.00			2	0.00	24.00
	4	0.00	24.00			3	0.00	24.00
	5	0.00	24.00			4	0.00	24.00
	6	0.00	24.00			5	0.00	24.00
	7	0.00	24.00			6	0.00	24.00
	8	0.00	24.00			7	0.00	24.00
	9	0.00	24.00			8	0.00	24.00
	10	0.00	24.00			9	0.00	24.00
	11	0.00	24.00			10	0.00	24.00
						11	0.00	24.00
4/24/2000	1	0.00	24.00					
	2	0.00	24.00		5/23/2000	1	NA	NA
	3	0.00	24.00			2	0.00	24.00
	4	0.00	24.00			3	0.00	24.00
	5	0.00	24.00			4	0.00	24.00
	6	0.00	24.00			5	0.00	24.00
	7	0.00	24.00			6	0.00	24.00
	8	0.00	24.00			7	0.00	24.00
	9	0.00	24.00			8	0.00	24.00
	10	0.00	24.00			9	0.00	24.00
	11	0.00	24.00			10	0.00	24.00
						11	0.00	24.00
4/25/2000	1	0.00	24.00					
	2	0.00	24.00		5/24/2000	1	NA	NA
	3	0.00	24.00			2	0.00	24.00
	4	0.00	24.00			3	0.00	7.35
	5	0.00	24.00			3	11.00	24.00
	6	0.00	24.00			4	0.00	7.35
	7	0.00	24.00			4	11.00	24.00
	8	0.00	24.00			5	0.00	24.00
	9	0.00	24.00			6	0.00	24.00
	10	0.00	24.00			7	0.00	24.00
	11	0.00	24.00			8	0.00	8.05
						8	10.00	24.00
4/26/2000	1	0.00	24.00			9	0.00	8.05
	2	0.00	24.00			9	11.00	24.00
	3	0.00	24.00			10	0.00	24.00
	4	0.00	24.00			11	0.00	7.55
	5	0.00	24.00			11	10.00	24.00
	6	0.00	24.00					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	0.00	24.00		5/25/2000	1	NA	NA
	8	0.00	24.00			2	0.00	9.05
	9	0.00	24.00			2	19.20	24.00
	10	0.00	24.00			3	0.00	24.00
	11	0.00	24.00			4	0.00	24.00
						5	0.00	24.00
4/27/2000	1	0.00	24.00			6	0.00	24.00
	2	0.00	24.00			7	0.00	24.00
	3	0.00	24.00			8	0.00	24.00
	4	0.00	24.00			9	0.00	24.00
	5	0.00	24.00			10	0.00	24.00
	6	0.00	24.00			11	0.00	24.00
	7	0.00	24.00					
	8	0.00	24.00		5/26/2000	1	NA	NA
	9	0.00	24.00			2	0.00	24.00
	10	0.00	24.00			3	0.00	24.00
	11	0.00	24.00			4	0.00	24.00
						5	0.00	24.00
4/28/2000	1	0.00	24.00			6	0.00	24.00
	2	0.00	24.00			7	0.00	24.00
	3	0.00	24.00			8	0.00	24.00
	4	0.00	24.00			9	0.00	24.00
	5	0.00	24.00			10	0.00	24.00
	6	0.00	24.00			11	0.00	24.00
	7	0.00	24.00					
	8	0.00	24.00		5/27/2000	1	NA	NA
	9	0.00	24.00			2	0.00	24.00
	10	0.00	24.00			3	0.00	24.00
	11	0.00	24.00			4	0.00	24.00
						5	0.00	24.00
4/29/2000	1	0.00	24.00			6	0.00	24.00
	2	0.00	24.00			7	0.00	24.00
	3	0.00	2.10			8	0.00	24.00
	3	7.15	24.00			9	0.00	24.00
	4	0.00	2.10			10	0.00	24.00
	4	7.15	24.00			11	0.00	24.00
	5	0.00	24.00					
	6	0.00	24.00		5/28/2000	1	NA	NA
	7	0.00	2.10			2	0.00	24.00
	7	7.15	24.00			3	0.00	24.00
	8	0.00	2.15			4	0.00	24.00
	8	7.10	24.00			5	0.00	24.00
	9	0.00	2.15			6	0.00	24.00
	9	7.10	24.00			7	0.00	24.00
	10	0.00	24.00			8	0.00	24.00
	11	0.00	2.25			9	0.00	24.00
	11	7.10	24.00			10	0.00	24.00
						11	0.00	24.00
4/30/2000	1	0.00	23.40					
	2	0.00	23.40		5/29/2000	1	NA	NA
	3	0.00	0.50			2	0.00	24.00
	3	19.45	24.00			3	0.00	24.00
	4	0.00	0.50			4	0.00	24.00
	4	19.45	24.00			5	0.00	24.00
	5	0.00	24.00			6	0.00	24.00
	6	0.00	24.00			7	0.00	24.00
	7	0.00	0.50			8	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	19.45	23.40			9	0.00	24.00
	8	0.00	2.45			10	0.00	24.00
	8	11.05	24.00			11	0.00	24.00
	9	0.00	0.50					
	9	10.15	24.00		5/30/2000	1	NA	NA
	10	0.00	24.00			2	0.00	24.00
	11	0.00	2.45			3	0.00	24.00
	11	10.15	24.00			4	0.00	24.00
						5	0.00	24.00
5/1/2000	1	8.10	12.15			6	0.00	24.00
	2	6.50	24.00			7	0.00	24.00
	3	0.00	24.00			8	0.00	24.00
	4	0.00	24.00			9	0.00	24.00
	5	0.00	24.00			10	0.00	24.00
	6	0.00	1.30			11	0.00	24.00
	6	12.10	24.00					
	7	1.30	24.00		5/31/2000	1	NA	NA
	8	0.00	0.25			2	0.00	2.15
	8	6.40	24.00			2	6.25	24.00
	9	0.00	0.25			3	0.00	2.05
	9	6.40	24.00			3	6.25	14.10
	10	0.00	24.00			3	20.30	24.00
	11	0.00	0.25			4	0.00	2.05
	11	6.45	24.00			4	6.25	24.00
						5	0.00	2.15
5/2/2000	1	19.55	24.00			5	6.25	24.00
	2	0.00	1.30			6	0.00	2.15
	2	19.55	24.00			6	6.25	24.00
	3	0.00	24.00			7	0.00	2.05
	4	0.00	24.00			7	6.25	24.00
	5	0.00	1.30			8	0.00	2.05
	6	0.00	24.00			8	6.25	24.00
	7	0.00	24.00			9	0.00	2.15
	8	0.00	1.30			9	6.25	24.00
	8	7.00	23.00			10	0.00	24.00
	9	0.00	0.10			11	0.00	2.05
	9	6.35	23.00			11	6.25	24.00
	10	0.00	0.10					
	10	6.35	24.00		6/1/2000	1	NA	NA
	11	0.00	1.30			2	0.00	1.00
	11	7.00	24.00			2	6.25	24.00
						3	0.00	0.55
5/3/2000	1	0.00	0.15			3	8.10	12.00
	1	0.55	1.20			3	14.45	24.00
	2	0.00	0.15			4	0.00	0.55
	2	19.45	23.00			4	6.25	14.45
	3	0.00	11.15			4	19.00	23.50
	3	19.35	23.00			5	0.00	24.00
	4	0.00	24.00			6	0.00	2.35
	5	5.20	23.25			6	6.25	24.00
	6	5.20	23.25			7	0.00	0.55
	7	0.00	0.25			7	6.25	23.50
	7	11.15	24.00			8	0.00	1.10
	8	5.40	23.00			8	6.30	23.50
	9	5.40	23.00			9	0.00	1.10
	10	0.00	0.15			9	6.30	23.50
	10	5.40	11.05			10	0.00	2.35

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	11.10	23.00			10	6.30	24.00
	11	5.40	23.00			11	0.00	1.00
						11	6.30	23.50
5/4/2000	1	NA	NA					
	2	19.05	23.20		6/2/2000	1	NA	NA
	3	19.05	23.20			2	0.00	24.00
	4	0.00	24.00			3	0.00	1.00
	5	5.15	22.15			3	2.05	8.20
	6	5.15	22.15			3	8.55	22.35
	7	0.00	24.00			4	8.20	24.00
	8	7.00	22.10			5	0.00	0.20
	9	7.00	22.10			5	7.25	23.15
	10	7.05	13.10			6	0.00	0.20
	10	19.05	22.10			6	7.25	24.00
	11	7.05	13.10			7	8.55	11.05
	11	19.05	22.10			7	14.00	22.35
						8	8.55	22.35
5/5/2000	1	NA	NA			9	8.55	23.15
	2	NA	NA			10	0.00	0.20
	3	NA	NA			10	8.55	24.00
	4	0.00	24.00			11	8.55	23.15
	5	5.20	22.00					
	6	5.20	22.00		6/3/2000	1	NA	NA
	7	0.00	24.00			2	0.00	24.00
	8	5.40	11.20			3	NA	NA
	8	16.10	22.00			4	10.10	22.00
	9	5.40	11.10			5	9.45	23.00
	9	16.10	22.05			6	9.45	23.00
	10	6.15	22.00			7	NA	NA
	11	6.15	11.20			8	10.10	22.00
	11	16.10	20.35			9	11.20	22.00
						10	11.20	23.00
5/6/2000	1	NA	NA			11	16.00	18.00
	2	NA	NA					
	3	NA	NA		6/4/2000	1	NA	NA
	4	0.00	24.00			2	0.00	10.20
	5	12.10	24.00			3	NA	NA
	6	12.10	24.00			4	10.20	24.00
	7	0.00	24.00			5	10.00	23.15
	8	13.05	22.15			6	10.00	23.15
	9	13.05	21.45			7	10.05	23.15
	10	13.05	21.40			8	20.25	22.20
	11	13.05	24.00			9	10.05	23.05
						10	11.45	22.20
5/7/2010	1	12.30	13.05			11	13.50	23.05
	2	12.30	13.05					
	3	12.20	13.05		6/5/2000	1	NA	NA
	3	20.25	20.56			2	7.10	24.00
	4	0.00	24.00			3	NA	NA
	5	0.00	0.10			4	0.00	22.20
	5	12.10	21.40			5	7.10	22.20
	6	0.00	0.10			6	7.10	22.20
	6	12.10	21.40			7	NA	NA
	7	0.00	24.00			8	8.20	18.15
	8	12.25	18.50			9	10.05	22.20
	9	12.25	18.45			10	NA	NA
	9	20.10	21.30			11	7.10	22.25

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	12.10	18.45					
	10	20.10	21.30		6/6/2000	1	NA	NA
	11	0.00	0.10			2	0.00	23.20
	11	12.25	18.50			3	19.05	22.35
	11	20.10	21.30			4	9.20	24.00
						5	9.20	23.20
5/8/2000	1	0.00	13.10			6	9.20	23.20
	2	0.00	13.10			7	19.05	22.35
	3	0.00	10.40			8	9.20	23.00
	4	NA	NA			9	14.00	23.00
	5	0.00	8.25			10	19.10	22.35
	6	0.00	8.25			11	9.20	17.00
	7	NA	NA			11	19.10	23.00
	8	10.40	18.00					
	9	0.00	9.25		6/7/2000	1	NA	NA
	10	0.00	8.25			2	8.05	22.10
	11	0.00	9.25			3	NA	NA
						4	0.00	24.00
5/9/2000	1	0.00	24.00			5	8.05	22.10
	2	13.25	18.05			6	8.05	22.10
	2	20.25	21.45			7	NA	NA
	3	13.25	18.05			8	8.05	22.00
	3	20.15	21.45			9	11.00	22.00
	4	13.00	21.45			10	NA	NA
	5	11.35	18.05			11	9.30	22.00
	5	20.15	22.10					
	6	11.35	18.05		6/8/2000	1	NA	NA
	6	20.15	22.10			2	19.20	24.00
	7	0.00	24.00			3	7.10	23.40
	8	11.35	18.05			4	0.00	24.00
	8	20.20	21.35			5	7.10	24.00
	9	13.00	21.30			6	7.10	24.00
	10	11.45	22.10			7	8.10	23.40
	11	11.45	18.05			8	7.10	23.35
	11	20.20	21.35			9	8.10	23.35
						10	8.10	24.00
						11	8.10	23.35
					6/9/2000	1	NA	NA
						2	0.00	0.15
						2	6.35	23.50
						3	10.50	22.05
						4	0.00	22.05
						5	0.00	0.15
						5	6.35	23.50
						6	0.00	0.15
						6	6.35	24.00
						7	13.25	22.05
						8	10.50	22.05
						9	10.50	23.45
						10	0.00	0.30
						10	6.35	23.45
						11	10.50	23.45

	4/23/2001-6/6/2001							
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/23/2001	1	NA	NA		5/15/2001	1	NA	NA
	2	0.00	24			2	0.00	23.05
	3	0.00	2.25			3	NA	NA
	3	6.45	24			4	NA	NA
	4	0.00	2.1			5	23.05	24.00
	4	6.45	24			6	NA	NA
	5	0.00	24			7	0.00	24.00
	6	0	24			8	19.15	21.25
	7	0.00	24.00			9	12.35	23.00
	8	0.00	2.25			10	12.35	23.00
	8	6.35	24.00			11	19.15	21.30
	9	0.00	2.25					
	9	5.20	24.00		5/16/2001	1	NA	NA
	10	0.00	2.10			2	15.20	24.00
	10	6.40	24.00			3	15.25	24.00
	11	0.00	2.25			4	20.40	21.25
	11	5.20	24.00			5	0.00	22.40
						6	20.40	21.25
4/24/2001	1	NA	NA			7	0.00	22.40
	2	0.00	24.00			8	20.35	21.35
	3	0.00	3.25			9	15.30	22.40
	3	5.25	8.15			10	19.50	22.40
	3	12.20	24.00			11	20.35	21.40
	4	0.00	3.25					
	4	5.30	8.15		5/17/2001	1	NA	NA
	4	12.25	24.00			2	0.00	10.25
	5	0.00	24.00			3	0.00	24.00
	6	0.00	8.15			4	NA	NA
	6	12.20	24.00			5	NA	NA
	7	0.00	24.00			6	NA	NA
	8	0.00	24.00			7	10.25	24.00
	9	0.00	3.25			8	NA	NA
	9	5.25	24.00			9	20.30	21.20
	10	0.00	3.25			10	20.30	21.20
	10	5.30	24.00			11	NA	NA
	11	0.00	3.25					
	11	5.30	24.00		5/18/2001	1	NA	NA
						2	NA	NA
4/25/2001	1	NA	NA			3	0.00	24.00
	2	0.00	24.00			4	NA	NA
	3	0.00	24.00			5	NA	NA
	4	0.00	1.20			6	NA	NA
	4	6.55	24.00			7	0.00	24.00
	5	0.00	24.00			8	NA	NA
	6	0.00	1.20			9	NA	NA
	6	6.55	24.00			10	NA	NA
	7	0.00	24.00			11	NA	NA
	8	0.00	1.20					
	8	6.30	24.00		5/19/2001	1	NA	NA
	9	0.00	24.00			2	17.05	22.00
	10	0.00	1.20			3	0.00	24.00
	10	6.30	24.00			4	NA	NA
	11	0.00	24.00			5	17.10	22.05

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
						6	19.40	22.00
4/26/2001	1	NA	NA			7	0.00	24.00
	2	0.00	24.00			8	19.40	21.45
	3	0.00	24.00			9	17.10	21.50
	4	0.00	0.35			10	17.10	21.55
	4	8.15	24.00			11	18.20	21.55
	5	0.00	24.00					
	6	0.00	0.35		5/20/2001	1	NA	NA
	6	8.10	24.00			2	NA	NA
	7	0.00	24.00			3	0.00	24.00
	8	0.00	1.00			4	NA	NA
	8	7.45	24.00			5	NA	NA
	9	0.00	24.00			6	NA	NA
	10	0.00	0.35			7	0.00	24.00
	10	0.50	24.00			8	NA	NA
	11	0.00	0.50			9	NA	NA
	11	7.45	24.00			10	NA	NA
						11	NA	NA
4/27/2001	1	NA	NA					
	2	0.00	24.00		5/21/2001	1	NA	NA
	3	0.00	1.00			2	NA	NA
	3	7.50	23.55			3	0.00	24.00
	4	0.00	0.40			4	NA	NA
	4	8.45	23.10			5	NA	NA
	5	0.00	5.25			6	NA	NA
	5	7.50	24.00			7	0.00	24.00
	6	0.00	0.40			8	NA	NA
	6	8.25	23.10			9	NA	NA
	7	0.00	1.00			10	NA	NA
	7	5.25	23.40			11	NA	NA
	8	0.00	1.00					
	8	8.25	23.55		5/22/2001	1	14.40	15.20
	9	0.00	0.30			1	15.25	16.00
	9	8.15	23.40			1	17.05	18.30
	10	0.00	0.30			1	18.50	19.25
	10	7.55	23.20			2	NA	NA
	11	0.00	0.40			3	0.00	24.00
	11	8.10	23.10			4	NA	NA
						5	15.20	18.45
4/28/2001	1	NA	NA			5	20.05	23.30
	2	0.00	24.00			6	15.30	18.45
	3	7.45	23.15			6	20.05	23.30
	4	10.00	14.20			7	0.00	24.00
	4	17.15	21.45			8	NA	NA
	5	0.00	23.35			9	15.30	18.00
	6	10.00	14.20			9	20.25	22.20
	6	17.15	21.45			10	15.30	18.00
	7	7.45	24.00			10	20.25	22.20
	8	9.40	14.20			11	NA	NA
	8	17.15	23.35					
	9	8.35	21.45		5/23/2001	1	13.45	16.45
	10	9.40	23.35			1	16.55	20.15
	11	8.35	23.15			2	NA	NA
						3	0.00	18.05
4/29/2001	1	NA	NA			3	20.10	24.00
	2	0.00	23.00			4	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	3	12.25	22.40			5	20.10	22.20
	4	15.40	22.25			6	20.10	22.20
	5	12.25	24.00			7	0.00	24.00
	6	15.40	22.25			8	NA	NA
	7	0.00	24.00			9	20.20	22.05
	8	15.40	23.00			10	20.20	22.05
	9	14.00	22.40			11	NA	NA
	10	15.15	23.00					
	11	12.25	14.00		5/24/2001	1	3.00	8.50
	11	15.15	22.25			2	17.20	22.30
						3	0.00	3.00
4/30/2001	1	NA	NA			3	8.50	24.00
	2	10.15	22.55			4	NA	NA
	3	10.15	24.00			5	17.20	22.30
	4	12.05	22.15			6	NA	NA
	5	0.00	23.00			7	0.00	24.00
	6	12.05	22.15			8	NA	NA
	7	0.00	24.00			9	19.55	22.00
	8	12.00	23.05			10	NA	NA
	9	11.55	22.55			11	19.55	22.00
	10	12.00	23.05					
	11	11.55	23.00		5/25/2001	1	NA	NA
						2	12.25	12.55
5/1/2001	1	NA	NA			3	0.00	24.00
	2	12.40	21.25			4	NA	NA
	3	0.00	24.00			5	12.25	12.55
	4	13.25	21.25			6	NA	NA
	5	12.50	22.25			7	0.00	24.00
	6	13.20	22.25			8	NA	NA
	7	0.00	24.00			9	13.45	21.25
	8	13.20	21.25			10	13.45	21.25
	9	13.00	22.10			11	NA	NA
	10	13.20	21.30					
	11	13.00	22.10		5/26/2001	1	NA	NA
						2	NA	NA
5/2/2001	1	NA	NA			3	0.00	24.00
	2	10.45	21.40			4	NA	NA
	3	0.00	24.00			5	NA	NA
	4	12.35	21.40			6	NA	NA
	5	14.15	22.15			7	0.00	24.00
	6	10.50	22.15			8	NA	NA
	7	0.00	24.00			9	NA	NA
	8	10.50	21.40			10	NA	NA
	9	8.35	8.40			11	NA	NA
	9	8.55	9.00					
	9	12.20	22.15		5/27/2001	1	NA	NA
	10	11.45	11.50			2	19.10	22.50
	10	12.05	12.10			3	0.00	24.00
	10	12.25	22.15			4	NA	NA
	11	12.30	22.15			5	19.10	22.50
						6	NA	NA
5/3/2001	1	NA	NA			7	0.00	24.00
	2	10.05	21.10			8	NA	NA
	3	0.00	24.00			9	19.30	21.10
	4	12.45	19.55			10	19.55	22.50
	5	10.00	21.10			11	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	6	12.40	19.55					
	7	0.00	24.00		5/28/2001	1	NA	NA
	8	12.35	19.55			2	12.20	21.40
	9	10.10	12.10			3	0.00	24.00
	10	10.10	20.05			4	NA	NA
	11	12.35	20.05			5	12.25	21.30
						6	NA	NA
5/4/2001	1	NA	NA			7	0.00	24.00
	2	13.15	20.00			8	NA	NA
	3	0.00	24.00			9	12.30	21.30
	4	13.15	19.00			10	20.20	21.40
	5	12.35	20.00			11	NA	NA
	6	12.35	19.00					
	7	0.00	24.00		5/29/2001	1	NA	NA
	8	13.30	20.00			2	6.10	23.00
	9	12.45	19.00			3	0.00	24.00
	10	13.25	20.00			4	NA	NA
	11	12.45	19.00			5	6.10	23.00
						6	NA	NA
5/5/2001	1	NA	NA			7	0.00	24.00
	2	11.00	21.15			8	NA	NA
	3	0.00	24.00			9	6.10	21.50
	4	NA	NA			10	13.35	17.45
	5	11.00	21.15			10	20.45	23.00
	6	NA	NA			11	13.35	17.45
	7	0.00	24.00					
	8	NA	NA		5/30/2001	1	NA	NA
	9	NA	NA			2	12.35	22.25
	10	NA	NA			3	0.00	24.00
	11	11.00	21.15			4	NA	NA
						5	12.40	22.25
5/6/2001	1	NA	NA			6	NA	NA
	2	NA	NA			7	0.00	24.00
	3	0.00	24.00			8	NA	NA
	4	NA	NA			9	13.15	22.25
	5	NA	NA			10	12.40	21.40
	6	NA	NA			11	13.15	21.40
	7	0.00	24.00					
	8	NA	NA		5/31/2001	1	NA	NA
	9	NA	NA			2	NA	NA
	10	NA	NA			3	0.00	9.10
	11	NA	NA			3	12.03	22.50
						4	9.10	24.00
5/7/2001	1	NA	NA			5	12.35	22.50
	2	12.15	24.00			6	NA	NA
	3	0.00	22.35			7	0.00	24.00
	4	NA	NA			8	NA	NA
	5	12.20	22.35			9	19.50	22.50
	6	NA	NA			10	12.35	22.00
	7	0.00	24.00			11	19.50	22.00
	8	16.25	18.30					
	8	21.15	22.15		6/1/2001	1	NA	NA
	9	16.25	18.30			2	NA	NA
	9	21.15	22.10			3	12.50	22.25
	10	12.20	18.30			4	0.00	24.00
	10	21.15	22.15			5	12.50	22.20

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	12.20	22.35			6	NA	NA
						7	12.50	22.25
5/8/2001	1	NA	NA			8	NA	NA
	2	0.00	16.55			9	20.25	22.20
	2	19.05	21.50			10	20.25	22.15
	3	16.00	24.00			11	12.50	22.25
	4	19.05	21.50					
	5	16.00	23.15		6/2/2001	1	NA	NA
	6	16.55	22.55			2	NA	NA
	7	0.00	24.00			3	15.05	24.00
	8	19.10	22.55			4	0.00	24.00
	9	19.05	21.50			5	15.05	24.00
	10	16.00	21.50			6	NA	NA
	11	19.05	21.50			7	15.10	24.00
						8	NA	NA
5/9/2001	1	NA	NA			9	20.45	22.40
	2	16.00	22.05			10	NA	NA
	3	0.00	24.00			11	15.10	24.00
	4	20.25	21.20					
	5	7.45	22.05		6/3/2001	1	NA	NA
	6	15.40	16.00			2	NA	NA
	6	20.25	21.20			3	20.10	20.35
	7	0.00	7.45			4	0.00	24.00
	7	14.50	24.00			5	20.35	22.45
	8	20.25	22.05			6	20.35	24.00
	9	18.15	21.20			7	20.10	24.00
	10	15.35	21.20			8	NA	NA
	11	18.15	21.20			9	20.35	22.45
						10	20.35	22.45
5/10/2001	1	NA	NA			11	20.35	22.45
	2	17.15	22.15					
	3	0.00	24.00		6/4/2001	1	NA	NA
	4	20.05	21.25			2	11.10	24.00
	5	17.15	22.15			3	NA	NA
	6	20.05	21.25			4	0.00	24.00
	7	0.00	24.00			5	11.10	24.00
	8	20.05	22.15			6	NA	NA
	9	17.20	21.25			7	11.15	24.00
	10	20.05	21.25			8	NA	NA
	11	20.05	21.25			9	NA	NA
						10	11.15	23.45
5/11/2001	1	NA	NA			11	NA	NA
	2	13.55	21.10					
	3	0.00	24.00		6/5/2001	1	NA	NA
	4	14.05	18.35			2	0.00	0.25
	5	14.00	21.10			2	10.00	23.55
	6	14.05	18.35			3	NA	NA
	7	0.00	24.00			4	0.00	24.00
	8	13.55	18.35			5	0.00	0.20
	9	12.20	21.10			5	10.00	23.55
	10	12.55	18.35			6	NA	NA
	11	12.55	18.35			7	0.00	0.35
						7	10.15	23.55
5/12/2001	1	NA	NA			8	NA	NA
	2	NA	NA			9	NA	NA
	3	0.00	7.20			10	10.15	22.15

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	4	7.35	24.00			11	20.30	23.55
	5	NA	NA					
	6	NA	NA		6/6/2001	1	NA	NA
	7	0.00	24.00			2	10.05	24.00
	8	NA	NA			3	10.10	24.00
	9	NA	NA			4	0.00	24.00
	10	NA	NA			5	10.10	24.00
	11	NA	NA			6	NA	NA
						7	NA	NA
5/13/2001	1	NA	NA			8	NA	NA
	2	NA	NA			9	12.05	22.15
	3	0.00	24.00			10	12.05	22.15
	4	NA	NA			11	NA	NA
	5	NA	NA					
	6	NA	NA					
	7	0.00	24.00					
	8	NA	NA					
	9	NA	NA					
	10	NA	NA					
	11	NA	NA					
5/14/2001	1	NA	NA					
	2	8.20	24.00					
	3	0.00	8.25					
	4	NA	NA					
	5	19.55	22.05					
	6	20.15	21.15					
	7	0.00	24.00					
	8	20.15	21.15					
	9	NA	NA					
	10	NA	NA					
	11	20.15	21.15					

4/8/2002-6/7/2002								
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/8/2002	1	0.00	22.45		5/8/2002	1	18.05	22.00
	2	6.15	24.00			2	18.05	22.00
	3	NA	NA			3	18.05	22.00
	4	6.30	11.55			4	0.00	24.00
	4	17.50	21.50			5	0.00	0.15
	5	6.15	24.00			5	6.15	22.30
	6	0.00	22.45			6	0.00	0.15
	7	6.30	11.55			6	6.15	22.30
	7	17.45	21.50			7	0.00	1.00
	8	6.30	11.55			7	1.10	24.00
	8	17.45	22.45			8	12.55	22.00
	9	6.15	11.55			9	6.15	22.00
	9	17.45	21.50			10	12.55	22.20
	10	6.30	22.45			11	6.15	22.20
	11	6.15	11.55					
	11	17.45	21.50		5/9/2002	1	20.25	21.50
						2	20.25	21.50
4/9/2002	1	6.25	21.05			3	2.15	21.50
	2	0.00	21.05			4	0.00	2.15
	3	NA	NA			4	20.25	24.00
	4	15.50	22.25			5	6.15	23.30
	5	0.00	24.00			6	6.15	23.30
	6	6.15	24.00			7	0.00	24.00
	7	15.45	22.25			8	6.15	23.15
	8	6.15	22.25			9	6.15	23.15
	9	6.15	12.00			10	7.20	21.50
	9	15.45	22.25			11	7.20	21.50
	10	18.55	22.25					
	11	6.15	12.00		5/10/2002	1	13.20	22.20
	11	18.55	21.05			2	13.20	22.20
						3	13.35	24.00
4/10/2002	1	19.30	22.35			4	0.00	22.20
	2	19.30	24.00			5	5.45	23.10
	3	NA	NA			6	5.45	23.10
	4	5.50	24.00			7	0.00	24.00
	5	0.00	22.35			8	6.20	23.05
	6	0.00	22.35			9	13.15	22.20
	7	5.50	22.35			10	6.20	23.05
	8	5.50	11.55			11	13.20	22.15
	8	19.30	22.35					
	9	5.50	11.55		5/11/2002	1	NA	NA
	9	19.30	22.35			2	13.10	24.00
	10	19.30	22.35			3	0.00	24.00
	11	5.50	11.55			4	13.10	24.00
	11	19.30	22.35			5	7.50	23.40
						6	7.50	23.40
4/11/2002	1	6.15	24.00			7	0.00	24.00
	2	0.00	12.10			8	8.05	9.05
	2	17.30	23.30			8	13.10	24.00
	3	NA	NA			9	7.50	10.55
	4	0.00	12.10			9	13.10	23.40
	5	17.35	24.00			10	8.05	9.05
	6	9.50	23.30			10	13.10	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	6.15	9.50			11	8.05	9.05
	8	6.15	12.10			11	13.10	23.40
	8	18.30	22.15					
	9	6.15	11.40		5/12/2002	1	12.00	24.00
	9	18.30	23.30			2	0.00	0.55
	10	18.30	22.15			2	12.00	24.00
	11	6.15	11.40			3	0.00	0.55
	11	18.30	23.30			3	12.00	24.00
						4	0.00	24.00
4/12/2002	1	0.00	24.00			5	8.00	24.00
	2	6.20	22.25			6	8.00	24.00
	3	NA	NA			7	0.00	24.00
	4	NA	NA			8	0.00	0.55
	5	0.00	22.25			8	12.00	24.00
	6	NA	NA			9	8.00	24.00
	7	6.20	24.00			10	0.00	0.55
	8	6.20	12.00			10	12.00	24.00
	9	6.20	12.00			11	8.00	24.00
	9	18.40	22.25					
	10	18.40	22.25		5/13/2002	1	0.00	24.00
	11	6.20	12.00			2	0.00	24.00
	11	18.40	22.25			3	6.30	24.00
						4	0.00	24.00
4/13/2002	1	0.00	24.00			5	0.00	24.00
	2	8.00	12.20			6	6.25	24.00
	2	17.40	24.00			7	6.30	24.00
	3	NA	NA			8	6.25	24.00
	4	NA	NA			9	6.10	24.00
	5	NA	NA			10	6.25	24.00
	6	8.00	12.05			11	6.10	24.00
	6	17.40	22.20					
	7	0.00	22.20		5/14/2002	1	0.00	24.00
	8	8.10	12.05			2	0.00	24.00
	8	17.45	22.20			3	0.00	24.00
	9	8.10	13.45			4	0.00	24.00
	9	17.45	22.20			5	0.00	24.00
	10	18.20	21.35			6	0.00	24.00
	11	8.10	12.20			7	0.00	24.00
	11	17.45	22.20			8	0.00	24.00
						9	0.00	24.00
4/14/2002	1	0.00	24.00			10	0.00	24.00
	2	0.00	24.00			11	0.00	24.00
	3	NA	NA					
	4	18.35	24.00		5/15/2002	1	0.00	24.00
	5	22.40	24.00			2	0.00	24.00
	6	18.40	24.00			3	0.00	24.00
	7	22.45	24.00			4	0.00	24.00
	8	18.40	24.00			5	0.00	24.00
	9	18.35	24.00			6	0.00	24.00
	10	22.40	24.00			7	0.00	24.00
	11	18.35	24.00			8	0.00	24.00
						9	0.00	24.00
4/15/2002	1	0.00	0.20			10	0.00	24.00
	1	17.25	23.15			11	0.00	24.00
	2	0.00	0.20					
	2	17.25	20.40		5/16/2002	1	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	3	NA	NA			2	0.00	24.00
	4	0.00	23.15			3	0.00	24.00
	5	0.00	1.00			4	0.00	24.00
	5	6.15	24.00			5	0.00	24.00
	6	0.00	24.00			6	0.00	24.00
	7	0.00	1.00			7	0.00	24.00
	7	6.15	20.40			8	0.00	24.00
	8	0.00	1.00			9	0.00	24.00
	8	6.15	8.10			10	0.00	24.00
	8	12.15	23.15			11	0.00	24.00
	9	0.00	0.20					
	9	6.15	20.40		5/17/2002	1	0.00	24.00
	9	22.15	23.05			2	0.00	24.00
	10	0.00	0.35			3	0.00	24.00
	10	12.15	23.05			4	0.00	24.00
	11	0.00	0.35			5	0.00	24.00
	11	6.15	20.40			6	0.00	24.00
	11	22.15	23.05			7	0.00	24.00
						8	0.00	24.00
4/16/2002	1	13.20	22.15			9	0.00	24.00
	2	13.20	24.00			10	0.00	24.00
	3	NA	NA			11	0.00	24.00
	4	12.30	24.00					
	5	0.00	24.00		5/18/2002	1	0.00	24.00
	6	0.00	22.05			2	0.00	24.00
	7	12.30	24.00			3	0.00	24.00
	8	13.20	24.00			4	0.00	24.00
	9	12.30	22.15			5	0.00	24.00
	10	13.20	24.00			6	0.00	24.00
	11	12.30	23.00			7	0.00	24.00
						8	0.00	24.00
4/17/2002	1	6.15	24.00			9	0.00	24.00
	2	0.00	24.00			10	0.00	24.00
	3	NA	NA			11	0.00	24.00
	4	0.00	24.00					
	5	0.00	1.25		5/19/2002	1	0.00	24.00
	5	9.00	24.00			2	0.00	24.00
	6	9.00	24.00			3	0.00	24.00
	7	0.00	1.25			4	0.00	24.00
	7	6.15	24.00			5	0.00	24.00
	8	0.00	1.25			6	0.00	24.00
	8	6.25	24.00			7	0.00	24.00
	9	6.15	24.00			8	0.00	24.00
	10	0.00	1.25			9	0.00	24.00
	10	9.00	24.00			10	0.00	24.00
	11	6.15	24.00			11	0.00	24.00
4/18/2002	1	0.00	0.20		5/20/2002	1	0.00	24.00
	1	5.40	24.00			2	0.00	24.00
	2	0.00	0.20			3	0.00	24.00
	2	5.45	24.00			4	0.00	24.00
	3	NA	NA			5	0.00	24.00
	4	0.00	24.00			6	0.00	24.00
	5	0.00	24.00			7	0.00	24.00
	6	0.00	24.00			8	0.00	24.00
	7	0.00	24.00			9	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	8	0.00	0.20			10	0.00	24.00
	8	5.40	24.00			11	0.00	24.00
	9	0.00	24.00					
	10	0.00	0.20		5/21/2002	1	0.00	24.00
	10	5.40	24.00			2	0.00	24.00
	11	0.00	24.00			3	0.00	24.00
						4	0.00	24.00
4/19/2002	1	0.00	24.00			5	0.00	24.00
	2	0.00	24.00			6	0.00	24.00
	3	NA	NA			7	0.00	24.00
	4	0.00	24.00			8	0.00	24.00
	5	0.00	24.00			9	0.00	24.00
	6	0.00	2.10			10	0.00	24.00
	6	6.35	24.00			11	0.00	24.00
	7	0.00	2.10					
	7	6.40	24.00		5/22/2002	1	0.00	24.00
	8	0.00	2.10			2	0.00	24.00
	8	6.35	24.00			3	0.00	24.00
	9	0.00	24.00			4	0.00	24.00
	10	0.00	2.10			5	0.00	24.00
	10	6.40	24.00			6	0.00	24.00
	11	0.00	3.10			7	0.00	24.00
	11	7.05	24.00			8	0.00	24.00
						9	0.00	24.00
4/20/2002	1	0.00	24.00			10	0.00	24.00
	2	0.00	1.25			11	0.00	24.00
	2	8.10	22.00					
	3	NA	NA		5/23/2002	1	0.00	24.00
	4	0.00	1.25			2	0.00	24.00
	4	8.15	22.00			3	0.00	24.00
	5	0.00	24.00			4	0.00	24.00
	6	0.00	1.30			5	0.00	24.00
	6	8.20	23.45			6	0.00	24.00
	7	0.00	1.30			7	0.00	24.00
	7	8.25	23.45			8	0.00	24.00
	8	0.00	1.30			9	0.00	24.00
	8	8.25	23.45			10	0.00	24.00
	9	0.00	1.25			11	0.00	24.00
	9	8.20	22.00					
	10	0.00	1.25		5/24/2002	1	0.00	24.00
	10	8.20	23.45			2	0.00	24.00
	11	0.00	1.25			3	0.00	24.00
	11	8.20	22.00			4	0.00	1.55
						4	7.25	9.05
4/21/2002	1	0.00	24.00			4	10.10	24.00
	2	7.40	24.00			5	0.00	24.00
	3	NA	NA			6	0.00	1.55
	4	17.00	22.55			6	7.25	9.05
	5	0.00	24.00			6	10.10	24.00
	6	7.45	22.55			7	0.00	1.55
	7	17.05	24.00			7	7.25	9.05
	8	17.00	24.00			7	10.10	24.00
	9	7.45	22.55			8	0.00	1.55
	10	17.05	22.55			8	7.25	24.00
	11	7.40	22.55			9	0.00	24.00
						10	0.00	9.05

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/22/2002	1	0.00	24.00			10	10.10	24.00
	2	6.05	22.15			11	0.00	24.00
	3	NA	NA					
	4	7.20	22.15		5/25/2002	1	0.00	24.00
	5	0.00	24.00			2	0.00	24.00
	6	8.45	22.50			3	0.00	24.00
	7	6.05	22.50			4	0.00	2.35
	8	7.20	22.40			4	9.35	13.25
	9	6.05	22.40			4	15.15	24.00
	10	8.45	22.40			5	0.00	24.00
	11	6.05	22.15			6	0.00	2.35
						6	9.40	24.00
4/23/2002	1	0.00	22.15			7	0.00	2.35
	2	17.10	22.25			7	9.45	24.00
	3	NA	NA			8	0.00	3.20
	4	17.10	24.00			8	9.35	24.00
	5	0.00	24.00			9	0.00	2.35
	6	7.20	20.15			9	9.35	24.00
	7	7.20	22.25			10	0.00	3.20
	8	7.20	22.20			10	9.35	13.25
	9	7.20	22.20			10	15.10	24.00
	10	7.20	22.20			11	0.00	2.35
	11	7.20	22.15			11	9.35	24.00
4/24/2002	1	NA	NA		5/26/2002	1	0.00	1.30
	2	13.55	17.35			1	10.25	24.00
	3	NA	NA			2	0.00	24.00
	4	0.00	24.00			3	0.00	1.30
	5	0.00	15.20			3	10.30	24.00
	5	17.25	24.00			4	0.00	1.20
	6	7.15	24.00			4	19.45	22.35
	7	7.15	24.00			5	0.00	24.00
	8	NA	NA			6	0.00	1.20
	9	7.15	24.00			6	19.45	22.35
	10	NA	NA			7	0.00	1.20
	11	7.15	24.00			7	19.45	22.35
						8	0.00	1.20
4/25/2002	1	NA	NA			8	10.55	23.10
	2	18.25	24.00			9	0.00	1.20
	3	NA	NA			9	10.55	23.10
	4	0.00	24.00			10	0.00	1.20
	5	0.00	24.00			10	10.55	23.10
	6	0.00	24.00			11	0.00	1.20
	7	0.00	24.00			11	10.55	23.10
	8	NA	NA					
	9	0.00	0.05		5/27/2002	1	0.00	24.00
	9	7.05	24.00			2	0.00	8.55
	10	0.00	0.05			2	11.55	22.50
	11	7.05	24.00			3	0.00	8.55
						3	12.05	24.00
4/26/2002	1	NA	NA			4	14.05	24.00
	2	0.00	0.10			5	0.00	22.40
	2	18.35	24.00			6	14.10	22.40
	3	NA	NA			7	14.15	24.00
	4	0.00	0.10			8	14.15	22.50
	4	6.25	24.00			9	11.55	22.40

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	5	0.00	24.00			10	14.20	22.50
	6	0.00	24.00			11	12.00	22.40
	7	0.00	0.10					
	7	6.25	24.00		5/28/2002	1	0.00	0.55
	8	NA	NA			1	11.35	22.25
	9	0.00	0.10			2	11.40	22.05
	9	7.35	24.00			3	0.00	0.55
	10	NA	NA			3	11.40	24.00
	11	0.00	0.05			4	0.00	22.05
	11	7.35	24.00			5	6.25	22.25
						6	6.30	22.10
4/27/2002	1	20.10	21.50			7	0.00	24.00
	2	0.00	0.15			8	8.40	22.20
	2	20.05	21.50			9	6.30	22.25
	3	17.30	18.10			10	8.40	22.10
	4	0.00	0.15			11	6.35	22.20
	4	9.15	12.20					
	4	19.00	23.15		5/29/2002	1	NA	NA
	5	0.00	24.00			2	7.15	22.00
	6	0.00	24.00			3	0.00	22.55
	7	0.00	0.15			4	12.30	24.00
	7	9.15	12.20			5	6.35	22.00
	7	19.00	23.15			6	6.40	7.15
	8	20.00	21.50			6	12.30	22.55
	9	0.00	0.10			7	0.00	24.00
	9	9.15	12.15			8	12.20	22.00
	9	19.05	23.15			9	6.40	22.00
	10	20.00	21.50			10	12.20	22.00
	11	0.00	0.10			11	6.45	22.55
	11	9.15	12.15					
	11	19.05	23.15		5/30/2002	1	20.45	22.30
						2	13.20	22.40
4/28/2002	1	19.20	23.45			3	13.20	16.15
	2	19.20	23.45			3	20.35	22.10
	3	13.00	18.10			4	0.00	24.00
	4	20.10	24.00			5	6.15	22.40
	5	0.00	24.00			6	6.15	16.15
	6	0.00	24.00			6	20.30	22.10
	7	20.10	24.00			7	0.00	24.00
	8	20.10	24.00			8	13.05	16.20
	9	19.20	23.45			8	20.20	22.30
	10	20.10	24.00			9	6.15	22.40
	11	19.20	23.45			10	20.40	22.30
						11	13.10	16.20
4/29/2002	1	8.20	11.55			11	20.20	22.40
	1	17.10	22.50					
	2	8.20	8.30		5/31/2002	1	11.55	21.25
	2	8.45	11.55			2	6.10	22.25
	2	20.05	22.10			3	16.15	24.00
	3	NA	NA			4	0.00	22.25
	4	0.00	1.05			5	6.10	21.10
	4	6.10	17.10			6	11.55	21.10
	4	20.05	22.10			7	0.00	22.25
	5	0.00	24.00			8	10.30	22.25
	6	0.00	24.00			9	6.15	22.25
	7	0.00	1.05			10	10.30	21.10

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	6.10	22.50			11	12.05	21.15
	8	0.00	0.35					
	8	6.15	11.55		6/1/2002	1	12.55	18.00
	8	20.05	22.50			2	12.55	18.00
	9	6.15	12.15			3	0.00	21.50
	9	19.40	22.50			4	12.55	21.50
	10	0.00	0.35			5	8.30	24.00
	10	8.20	12.15			6	8.30	18.00
	10	19.40	22.10			7	8.30	21.50
	11	6.15	12.15			8	10.45	21.35
	11	19.40	22.10			9	10.45	20.20
						10	12.55	21.35
4/30/2002	1	5.40	12.10			11	10.45	20.25
	2	5.40	24.00					
	3	0.00	16.00		6/2/2002	1	8.30	22.05
	3	19.50	24.00			2	8.30	22.05
	4	5.40	13.35			3	20.50	22.05
	4	19.50	23.50			4	8.30	22.25
	5	0.00	12.15			5	0.00	24.00
	5	16.00	24.00			6	20.50	22.25
	6	0.00	23.50			7	20.50	22.25
	7	5.40	24.00			8	15.05	22.25
	8	5.40	12.15			9	15.05	22.15
	8	19.50	23.50			10	15.05	22.25
	9	5.40	23.50			11	8.30	22.15
	10	5.40	12.15					
	10	19.50	23.50		6/3/2002	1	NA	NA
	11	5.40	24.00			2	12.00	21.15
						3	12.05	23.15
5/1/2002	1	NA	NA			4	6.50	21.15
	2	0.00	24.00			5	0.00	24.00
	3	0.00	24.00			6	6.50	23.15
	4	6.20	24.00			7	6.50	23.15
	5	0.00	24.00			8	12.00	21.15
	6	6.20	24.00			9	6.50	21.05
	7	0.00	24.00			10	12.00	21.20
	8	6.20	24.00			11	6.50	21.10
	9	6.20	24.00					
	10	6.20	24.00		6/4/2002	1	NA	NA
	11	0.00	24.00			2	NA	NA
						3	11.40	23.50
5/2/2002	1	8.55	24.00			4	8.15	23.50
	2	0.00	5.50			5	0.00	24.00
	2	6.00	24.00			6	8.15	23.50
	3	0.00	24.00			7	8.15	23.50
	4	0.00	24.00			8	11.40	23.50
	5	0.00	24.00			9	8.15	9.10
	6	0.00	24.00			9	11.40	23.50
	7	0.00	24.00			10	11.40	23.50
	8	0.00	24.00			11	8.15	9.10
	9	0.00	24.00			11	11.40	23.50
	10	0.00	24.00					
	11	0.00	24.00		6/5/2002	1	NA	NA
						2	14.55	22.15
5/3/2002	1	0.00	24.00			3	14.55	22.15
	2	0.00	0.40			4	14.00	22.15

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	2	13.20	24.00			5	0.00	24.00
	3	0.00	24.00			6	14.00	21.20
	4	0.00	24.00			7	14.00	21.20
	5	0.00	24.00			8	14.50	21.25
	6	0.00	24.00			9	14.00	21.20
	7	0.00	24.00			10	14.50	21.25
	8	0.00	24.00			11	14.00	21.20
	9	0.00	24.00					
	10	0.00	24.00		6/6/2002	1	NA	NA
	11	0.00	24.00			2	12.50	23.20
						3	12.55	23.20
5/4/2002	1	0.00	10.15			4	11.55	23.20
	1	19.00	24.00			5	0.00	24.00
	2	0.00	10.15			6	11.55	21.25
	2	19.00	24.00			7	11.55	21.25
	3	0.00	24.00			8	12.50	23.10
	4	0.00	24.00			9	11.55	21.25
	5	0.00	24.00			10	12.50	23.10
	6	0.00	0.05			11	1.35	1.40
	6	14.05	24.00			11	11.55	21.25
	7	0.00	24.00					
	8	0.00	24.00		6/7/2002	1	NA	NA
	9	0.00	24.00			2	15.20	18.50
	10	0.00	0.05			2	19.10	24.00
	10	14.05	24.00			3	15.20	18.50
	11	0.00	24.00			4	10.30	18.50
						5	0.00	24.00
5/5/2002	1	0.00	0.40			6	10.15	18.50
	1	10.05	24.00			7	10.15	18.50
	2	0.00	0.40			8	15.20	24.00
	2	7.20	24.00			9	10.15	24.00
	3	0.00	3.45			10	15.20	19.15
	3	7.20	24.00			11	10.15	24.00
	4	0.00	24.00					
	5	0.00	3.45					
	5	6.50	24.00					
	6	0.00	0.40					
	6	6.50	24.00					
	7	0.00	24.00					
	8	0.00	0.40					
	8	7.20	24.00					
	9	0.00	3.40					
	9	6.50	24.00					
	10	0.00	0.40					
	10	7.20	24.00					
	11	0.00	3.35					
	11	6.50	24.00					
5/6/2002	1	0.00	0.15					
	1	6.00	24.00					
	2	0.00	0.15					
	2	6.10	24.00					
	3	0.00	0.15					
	3	6.05	24.00					
	4	0.00	24.00					
	5	0.00	0.35					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	5	5.35	6.50					
	5	7.10	24.00					
	6	0.00	0.35					
	6	5.35	24.00					
	7	0.00	24.00					
	8	0.00	0.30					
	8	5.50	24.00					
	9	0.00	0.25					
	9	5.50	24.00					
	10	0.00	0.15					
	10	5.50	24.00					
	11	0.00	0.25					
	11	5.35	24.00					
5/7/2002	1	0.00	0.05					
	1	6.30	23.50					
	2	0.00	0.05					
	2	6.40	23.50					
	3	0.00	0.05					
	3	6.40	23.50					
	4	0.00	24.00					
	5	0.00	0.40					
	5	6.30	24.00					
	6	0.00	0.40					
	6	6.45	24.00					
	7	0.00	24.00					
	8	0.00	0.40					
	8	6.40	23.55					
	9	0.00	0.20					
	9	6.30	23.55					
	10	0.00	0.20					
	10	6.40	24.00					
	11	0.00	0.20					
	11	6.40	24.00					

4/15/2003-6/2/2003								
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/15/2003	1	0.00	24.00		5/9/2003	1	19.15	22.20
	2	0.00	24.00			2	19.20	22.20
	3	0.00	24.00			3	19.15	22.20
	4	0.00	24.00			4	6.10	24.00
	5	0.00	24.00			5	0.00	24.00
	6	0.00	24.00			6	0.00	24.00
	7	0.00	24.00			7	6.10	24.00
	8	0.00	24.00			8	6.10	11.45
	9	0.00	24.00			8	17.10	24.00
	10	0.00	24.00			9	8.35	11.45
	11	0.00	24.00			9	17.10	24.00
						10	6.10	11.45
4/16/2003	1	0.00	24.00			10	17.10	22.20
	2	0.00	24.00			11	8.35	11.45
	3	0.00	24.00			11	17.10	22.20
	4	0.00	24.00					
	5	0.00	24.00		5/10/2003	1	19.35	23.40
	6	0.00	24.00			2	19.40	23.40
	7	0.00	24.00			3	19.35	23.40
	8	0.00	24.00			4	0.00	24.00
	9	0.00	24.00			5	0.00	0.15
	10	0.00	24.00			6	9.55	23.40
	11	0.00	24.00			7	0.00	24.00
						8	0.00	0.15
4/17/2003	1	0.00	24.00			8	9.55	23.40
	2	0.00	24.00			9	0.00	0.15
	3	0.00	24.00			9	19.15	23.40
	4	0.00	24.00			10	17.25	23.40
	5	0.00	24.00			11	19.15	23.40
	6	0.00	24.00					
	7	0.00	24.00		5/11/2003	1	19.40	22.20
	8	0.00	24.00			2	19.40	22.20
	9	0.00	24.00			3	19.40	22.20
	10	0.00	24.00			4	0.00	24.00
	11	0.00	24.00			5	13.50	24.00
						6	13.50	24.00
4/18/2003	1	0.00	8.15			7	0.00	24.00
	1	11.35	24.00			8	19.00	24.00
	2	0.00	8.15			9	19.00	24.00
	2	11.35	24.00			10	19.30	22.25
	3	0.00	24.00			11	19.30	22.25
	4	0.00	24.00					
	5	0.00	24.00		5/12/2003	1	18.40	22.35
	6	0.00	8.30			2	18.40	22.35
	6	11.40	24.00			3	19.10	22.35
	7	0.00	24.00			4	0.00	24.00
	8	0.00	24.00			5	5.15	23.30
	9	0.00	8.50			6	5.15	23.30
	9	11.10	24.00			7	0.00	24.00
	10	0.00	8.30			8	6.05	23.30
	10	11.10	24.00			9	6.10	15.30
	11	0.00	8.20			9	18.20	23.30
	11	11.35	24.00			10	6.05	22.35
						11	6.05	15.30

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/19/2003	1	0.00	23.50			11	18.20	22.35
	2	0.00	0.20					
	2	8.50	23.50		5/13/2003	1	19.35	21.55
	3	0.00	13.05			2	19.40	21.55
	3	18.20	23.50			3	19.40	22.05
	4	0.00	13.05			4	0.00	24.00
	4	18.20	23.55			5	5.15	24.00
	5	0.00	13.05			6	5.15	24.00
	5	18.20	23.55			7	0.00	24.00
	6	0.00	0.30			8	5.55	12.50
	6	8.45	24.00			8	19.25	22.10
	7	0.00	0.30			9	5.55	22.05
	7	8.45	24.00			10	6.10	12.50
	8	0.00	0.30			10	19.30	22.10
	8	8.35	23.55			11	6.10	22.05
	9	0.00	0.20					
	9	8.35	23.55		5/14/2003	1	6.15	13.00
	10	0.00	0.30			1	19.55	22.45
	10	8.35	23.55			2	6.15	13.00
	11	0.00	0.20			2	19.55	22.45
	11	8.35	23.50			3	6.15	13.00
						3	19.55	22.25
4/20/2003	1	19.00	22.20			4	0.00	24.00
	2	19.05	22.20			5	0.00	0.10
	3	8.05	24.00			5	5.05	23.55
	4	8.05	24.00			6	0.00	0.10
	5	18.50	22.20			6	5.05	23.55
	6	0.00	24.00			7	0.00	24.00
	7	0.00	24.00			8	6.15	23.55
	8	8.10	11.10			9	6.15	13.00
	8	18.55	23.25			9	19.50	23.55
	9	8.05	11.10			10	6.15	22.45
	9	18.50	23.25			11	19.50	22.25
	10	8.10	11.10					
	11	8.05	11.10		5/15/2003	1	5.35	12.05
	11	18.50	23.30			1	18.40	21.50
						2	5.35	12.05
4/21/2003	1	7.00	24.00			2	18.40	21.50
	2	7.10	24.00			3	5.40	12.05
	3	0.00	12.10			3	18.40	24.00
	3	17.25	24.00			4	0.00	24.00
	4	0.00	24.00			5	5.10	23.15
	5	6.55	12.10			6	5.10	23.15
	5	17.15	24.00			7	0.00	21.50
	6	0.00	12.10			8	5.30	12.10
	6	17.15	24.00			8	18.20	23.15
	7	0.00	24.00			9	5.30	12.05
	8	6.15	24.00			9	18.30	21.55
	9	6.05	24.00			10	5.30	12.10
	10	8.55	24.00			10	18.20	23.15
	11	6.35	12.10			11	5.40	12.10
	11	17.30	24.00			11	18.30	21.55
4/22/2003	1	0.00	0.25		5/16/2003	1	6.15	8.05
	1	7.05	12.25			1	18.50	22.45
	1	17.15	22.30			2	6.15	8.05
	2	0.00	0.25			2	18.15	22.45

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	2	7.05	24.00			3	0.00	24.00
	3	0.00	12.25			4	0.00	24.00
	3	17.25	24.00			5	5.00	24.00
	4	0.00	24.00			6	5.00	24.00
	5	0.00	0.25			7	6.20	8.05
	5	7.05	12.25			8	5.00	13.05
	5	17.15	24.00			8	17.10	24.00
	6	0.00	24.00			9	5.40	13.05
	7	0.00	24.00			9	17.10	22.45
	8	0.00	0.45			10	5.00	11.25
	8	7.05	12.57			10	18.50	24.00
	8	17.15	24.00			11	5.40	11.25
	9	0.00	0.45			11	18.15	22.50
	9	6.20	12.25					
	9	17.15	22.30		5/17/2003	1	13.40	24.00
	10	0.00	0.45			2	13.55	24.00
	10	6.20	12.57			3	0.00	24.00
	10	17.15	22.30			4	0.00	24.00
						5	0.00	0.20
4/23/2003	1	6.05	11.05			6	9.30	24.00
	1	18.25	22.10			7	NA	NA
	2	0.00	0.10			8	0.00	0.05
	2	6.10	22.10			8	9.30	24.00
	3	0.00	11.05			9	0.00	0.04
	3	18.40	24.00			9	9.30	24.00
	4	0.00	24.00			10	0.00	0.05
	5	0.00	0.10			10	13.40	24.00
	5	6.15	11.05			11	13.40	24.00
	5	18.45	22.10					
	6	0.00	24.00		5/18/2003	1	0.00	0.10
	7	0.00	24.00			1	17.30	23.55
	8	0.00	0.10			2	0.00	0.10
	8	6.10	24.00			2	17.30	23.55
	9	6.05	11.05			3	0.00	24.00
	9	18.45	22.10			4	0.00	24.00
	10	6.10	24.00			5	0.00	24.00
	11	6.05	11.05			6	0.00	24.00
	11	18.50	22.10			7	NA	NA
						8	0.00	24.00
4/24/2003	1	7.40	13.15			9	0.00	0.10
	1	18.30	21.05			9	17.30	24.00
	2	7.45	13.15			10	0.00	24.00
	2	18.30	24.00			11	0.00	0.25
	3	0.00	24.00			11	17.30	24.00
	4	0.00	23.10					
	5	7.35	23.10		5/19/2003	1	5.20	14.55
	6	0.00	13.15			2	5.10	22.55
	6	18.30	21.05			3	0.00	22.55
	7	0.00	21.05			4	0.00	24.00
	8	0.00	0.30			5	0.00	23.50
	8	6.45	23.10			6	0.00	23.50
	9	6.55	13.15			7	14.55	24.00
	9	18.30	22.50			8	0.00	23.50
	10	0.00	0.25			9	0.00	0.05
	10	6.45	13.20			9	5.10	22.55
	10	18.30	23.10			10	0.00	23.50
	11	7.35	13.20			11	0.00	0.05

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	18.30	22.50			11	5.25	22.55
4/25/2003	1	6.45	11.35		5/20/2003	1	7.00	13.45
	1	18.50	22.35			2	7.00	13.45
	2	0.00	22.35			3	7.00	13.45
	3	0.00	23.05			4	0.00	24.00
	4	6.45	11.35			5	4.55	24.00
	4	18.50	23.05			6	4.55	24.00
	5	6.10	11.35			7	0.00	24.00
	5	18.50	22.55			8	6.25	22.50
	6	6.10	11.45			9	6.25	22.50
	6	18.50	24.00			10	6.25	22.50
	7	6.45	11.45			11	6.25	22.50
	7	18.50	24.00					
	8	6.10	11.45		5/21/2003	1	6.20	9.00
	8	18.50	22.35			1	16.50	22.25
	9	6.10	11.35			2	6.20	9.00
	9	18.50	23.05			2	16.50	22.25
	10	6.45	11.45			3	6.30	9.00
	10	18.50	22.55			3	16.55	22.25
	11	6.10	11.35			4	0.00	24.00
	11	18.50	22.55			5	0.00	24.00
						6	0.00	24.00
4/26/2003	1	19.05	24.00			7	0.00	24.00
	2	19.05	24.00			8	6.00	22.25
	3	8.15	13.45			9	6.25	9.00
	3	19.05	24.00			9	16.10	22.25
	4	19.05	24.00			10	6.00	22.25
	5	8.15	13.55			11	6.00	9.00
	5	19.05	24.00			11	16.10	22.25
	6	0.00	24.00					
	7	0.00	24.00		5/22/2003	1	6.25	12.00
	8	8.15	13.50			1	18.15	23.10
	8	19.05	24.00			2	6.25	12.00
	9	8.15	13.55			2	18.15	23.10
	9	19.05	24.00			3	6.25	23.10
	10	8.15	13.50			4	0.00	11.50
	10	19.05	24.00			4	18.05	24.00
	11	8.15	13.45			5	0.00	0.10
	11	19.05	24.00			5	5.00	11.50
						5	18.05	24.00
4/27/2003	1	0.00	1.00			6	0.00	0.10
	2	0.00	1.00			6	5.00	11.50
	3	0.00	1.00			6	18.30	24.00
	4	0.00	1.00			7	0.00	24.00
	4	15.10	21.30			8	6.20	11.55
	5	0.00	1.00			8	18.05	23.15
	5	15.10	21.30			9	5.00	23.15
	6	0.00	24.00			10	5.10	11.55
	7	0.00	24.00			10	18.05	23.15
	8	0.00	1.00			11	6.20	11.55
	8	19.00	21.30			11	18.20	23.10
	9	0.00	1.00					
	9	15.20	21.30		5/23/2003	1	6.45	12.05
	10	0.00	1.00			1	19.15	23.25
	10	15.10	21.30			2	6.45	12.05
	11	0.00	1.00			2	19.15	23.25

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	19.00	21.30			3	6.45	12.05
						3	19.15	24.00
4/28/2003	1	20.25	24.00			4	0.00	24.00
	2	20.25	24.00			5	0.00	0.10
	3	20.25	24.00			5	5.10	24.00
	4	5.50	24.00			6	0.00	0.10
	5	5.50	24.00			6	5.10	23.25
	6	0.00	24.00			7	0.00	24.00
	7	0.00	24.00			8	6.10	12.05
	8	5.50	24.00			8	19.15	23.25
	9	5.50	13.05			9	6.25	12.05
	9	20.00	24.00			9	19.05	23.55
	10	5.50	13.05			10	6.10	12.05
	10	20.00	24.00			10	19.05	23.25
	11	5.50	12.55			11	6.25	12.05
	11	20.00	24.00			11	19.05	23.55
4/29/2003	1	0.00	0.15		5/24/2003	1	NA	NA
	1	19.55	22.15			2	NA	NA
	2	0.00	0.15			3	0.00	0.05
	2	19.55	22.15			4	0.00	24.00
	3	0.00	0.15			5	0.00	0.05
	3	5.50	23.50			5	7.20	24.00
	4	0.00	0.35			6	7.20	24.00
	4	20.00	22.15			7	0.00	24.00
	5	0.00	0.35			8	9.20	23.50
	5	5.50	23.50			9	9.35	13.10
	6	0.00	24.00			9	20.35	23.50
	7	0.00	24.00			10	9.20	23.45
	8	0.00	0.15			11	9.35	13.10
	8	5.50	23.50			11	20.35	23.45
	9	0.00	0.35					
	9	6.15	14.20		5/25/2003	1	19.45	23.10
	9	19.55	22.15			2	19.45	23.10
	10	0.00	0.15			3	19.45	23.10
	10	6.15	14.15			4	0.00	24.00
	10	19.55	22.15			5	0.00	0.15
	11	0.00	0.35			5	8.05	24.00
	11	6.15	14.05			6	0.00	0.15
	11	19.55	22.15			6	8.05	24.00
						7	0.00	24.00
4/30/2003	1	19.55	22.10			8	11.00	23.15
	2	20.00	22.10			9	13.20	23.10
	3	5.50	15.30			10	11.00	23.15
	3	20.15	24.00			11	13.20	23.10
	4	20.10	24.00					
	5	5.50	15.30		5/26/2003	1	18.25	23.50
	5	20.20	22.10			2	18.25	23.50
	6	0.00	24.00			3	18.25	23.50
	7	0.00	24.00			4	0.00	24.00
	8	5.55	11.55			5	0.00	24.00
	8	20.10	22.15			6	0.00	24.00
	9	5.50	15.30			7	0.00	24.00
	9	19.55	24.00			8	7.50	23.50
	10	5.55	11.55			9	11.20	23.50
	10	20.10	22.15			10	7.50	23.50
	11	5.50	11.55			11	7.50	23.50

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	19.55	24.00					
					5/27/2003	1	6.50	11.10
5/1/2003	1	20.25	22.15			1	20.25	24.00
	2	20.25	22.15			2	6.50	24.00
	3	0.00	0.15			3	6.50	24.00
	3	5.10	23.55			4	0.00	24.00
	4	0.00	24.00			5	0.00	24.00
	5	5.10	23.55			6	0.00	24.00
	6	0.00	0.15			7	0.00	24.00
	6	20.25	22.15			8	6.30	24.00
	7	0.00	24.00			9	3.05	24.00
	8	6.05	23.45			10	6.30	11.10
	9	0.00	0.15			10	20.25	24.00
	9	20.00	23.45			11	3.05	24.00
	10	6.10	23.55					
	11	0.00	0.15		5/28/2003	1	0.00	0.15
	11	6.15	14.20			1	6.15	10.55
	11	20.00	22.15			1	16.55	24.00
						2	0.00	0.15
5/2/2003	1	20.25	22.20			2	6.15	10.55
	2	20.25	22.20			2	16.55	24.00
	3	5.10	22.20			3	0.00	0.15
	4	0.00	24.00			3	6.15	10.55
	5	5.10	24.00			3	16.55	24.00
	6	20.25	24.00			4	0.00	24.00
	7	0.00	24.00			5	0.00	24.00
	8	5.50	13.05			6	0.00	24.00
	8	20.05	24.00			7	0.00	24.00
	9	5.55	13.05			8	0.00	24.00
	9	20.05	22.25			9	0.00	0.15
	10	5.50	13.05			9	6.15	24.00
	10	20.05	22.30			10	0.00	24.00
	11	5.55	13.05			11	0.00	24.00
	11	20.05	22.30					
					5/29/2003	1	0.00	1.20
5/3/2003	1	20.10	22.05			1	6.05	9.50
	2	20.10	22.05			1	18.00	23.15
	3	19.55	22.05			2	0.00	1.20
	3	23.15	24.00			2	6.10	9.50
	4	0.00	23.15			2	18.00	23.15
	5	0.00	0.45			3	0.00	1.20
	5	8.50	24.00			3	6.05	9.50
	6	0.00	0.45			3	18.00	23.15
	6	8.45	14.50			4	0.00	24.00
	6	20.10	24.00			5	0.00	24.00
	7	0.00	24.00			6	0.00	24.00
	8	0.00	0.45			7	0.00	24.00
	8	8.50	14.50			8	0.00	23.15
	8	19.55	24.00			9	0.00	24.00
	9	9.25	13.35			10	0.00	10.30
	9	19.55	22.40			10	18.00	23.15
	10	9.20	13.35			11	0.00	10.30
	10	19.55	24.00			11	18.00	24.00
	11	9.25	13.35					
	11	20.00	22.40		5/30/2003	1	6.10	11.05
						1	18.05	24.00
5/4/2003	1	19.30	22.20			2	6.15	11.05

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	2	19.35	22.20			2	18.05	24.00
	3	0.00	24.00			3	6.15	11.05
	4	18.30	24.00			3	18.05	24.00
	5	0.00	0.35			4	0.00	24.00
	5	18.35	23.15			5	0.00	24.00
	6	0.00	0.35			6	0.00	24.00
	6	19.30	23.15			7	0.00	24.00
	7	0.00	22.20			8	6.25	24.00
	8	0.00	0.35			9	0.00	11.25
	8	18.30	22.50			9	17.00	24.00
	9	19.25	22.50			10	6.10	24.00
	10	0.00	0.35			11	0.00	11.25
	10	19.25	23.15			11	17.00	24.00
	11	19.25	22.20					
					5/31/2003	1	0.00	0.35
5/5/2003	1	20.20	22.40			1	9.05	21.15
	2	20.20	22.40			2	0.00	0.35
	3	0.00	24.00			2	10.10	11.00
	4	0.00	22.40			2	18.00	21.15
	5	4.55	24.00			3	0.00	0.04
	6	8.30	24.00			3	10.10	21.15
	7	4.55	8.30			4	0.00	9.05
	7	20.20	24.00			4	10.10	24.00
	8	4.55	24.00			5	0.00	11.00
	9	6.15	24.00			5	18.00	24.00
	10	6.10	12.15			6	0.00	11.00
	10	20.20	22.40			6	18.00	24.00
	11	6.15	12.15			7	0.00	24.00
	11	20.20	22.40			8	0.00	2.00
						8	9.10	13.05
5/6/2003	1	NA	NA			8	15.55	21.20
	2	10.05	22.10			9	0.00	13.05
	3	0.00	22.10			9	15.55	24.00
	4	5.20	22.10			10	0.00	2.00
	5	5.20	7.35			10	9.10	10.20
	5	10.05	22.10			10	17.20	21.20
	6	7.35	22.10			11	0.00	10.20
	7	0.00	22.10			11	17.20	24.00
	8	5.20	10.05					
	8	21.00	24.00		6/1/2003	1	17.15	20.15
	9	7.35	10.05			2	17.15	20.15
	10	5.20	7.35			3	17.15	20.15
	11	10.05	21.00			4	0.00	24.00
						5	0.00	24.00
5/7/2003	1	6.10	12.35			6	0.00	24.00
	1	20.10	22.05			7	0.00	24.00
	2	6.10	12.30			8	8.10	24.00
	2	20.10	22.05			9	0.00	3.00
	3	6.10	9.15			9	13.20	24.00
	3	20.10	22.05			10	8.10	24.00
	4	12.35	24.00			11	0.00	3.00
	5	6.10	9.15			11	13.20	24.00
	5	12.30	24.00					
	6	9.15	24.00		6/2/2003	1	6.15	24.00
	7	9.15	24.00			2	6.15	24.00
	8	0.00	24.00			3	6.15	24.00
	9	6.30	14.55			4	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	9	20.10	24.00			5	0.00	24.00
	10	6.30	22.05			6	0.00	24.00
	11	6.30	14.55			7	0.00	24.00
	11	20.10	22.05			8	0.00	0.20
						8	6.20	24.00
5/8/2003	1	20.05	22.10			9	0.00	24.00
	2	20.05	22.10			10	0.00	24.00
	3	20.05	22.10			11	0.00	24.00
	4	6.15	23.15					
	5	5.30	24.00					
	6	6.15	24.00					
	7	6.15	23.15					
	8	0.00	23.15					
	9	6.15	12.50					
	9	20.05	22.10					
	10	6.15	12.50					
	10	20.05	22.10					
	11	6.15	12.50					
	11	20.05	22.10					

4/12/2004-5/31/2004								
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/12/2004	1	7.15	24.00		5/7/2004	1	0.00	23.35
	2	7.15	24.00			2	0.00	23.35
	3	0.00	24:00			3	0.00	23.35
	4	0.00	24.00			4	0.00	24.00
	5	6.40	12.08			5	0.00	24.00
	5	17.05	24.00			6	0.00	24.00
	6	6.40	12.08			7	0.00	24.00
	6	17.05	24.00			8	0.00	24.00
	7	7.15	12.08			9	0.00	23.35
	7	17.05	24.00			10	0.00	23.50
	8	6.40	24.00			11	0.00	23.50
	9	7.00	12.08					
	9	17.05	24.00		5/8/2004	1	8.20	23.15
	10	7.00	12.08			2	8.25	23.15
	10	17.05	24.00			3	8.25	24.00
	11	7.00	12.08			4	0.00	24.00
	11	17.05	24.00			5	0.00	23.15
						6	0.00	24.00
4/13/2004	1	6.30	24.00			7	0.00	24.00
	2	6.30	24.00			8	0.00	23.15
	3	0.00	24.00			9	8.15	23.15
	4	0.00	24.00			10	8.20	23.15
	5	0.00	24.00			11	8.15	23.15
	6	6.30	24.00					
	7	0.00	24.00		5/9/2004	1	8.10	14.10
	8	6.30	24.00			1	20.15	24.00
	9	6.30	24.00			2	8.10	14.10
	10	6.30	24.00			2	20.15	24.00
	11	6.30	24.00			3	0.00	24.00
						4	0.00	24.00
4/14/2004	1	0.00	24.00			5	8.10	14.10
	2	0.00	24.00			5	20.15	24.00
	3	0.00	24.00			6	0.00	24.00
	4	0.00	24.00			7	0.00	24.00
	5	0.00	24.00			8	8.10	14.10
	6	0.00	13.30			8	20.15	24.00
	6	15.55	24.00			9	8.10	24.00
	7	0.00	24.00			10	8.10	24.00
	8	0.00	24.00			11	8.10	24.00
	9	0.00	24.00					
	10	0.00	24.00		5/10/2004	1	0.00	0.20
	11	0.00	24.00			1	5.40	24.00
						2	0.00	0.20
4/15/2004						2	5.40	24.00
	1	0.00	24.00			3	0.00	24.00
	2	0.00	24.00			4	0.00	0.35
	3	0.00	24.00			4	5.10	24.00
	4	0.00	24.00			5	0.00	0.20
	5	0.00	24.00			5	5.40	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	6	0.00	24.00			6	0.00	0.35
	7	0.00	3.20			6	5.05	24.00
		7.55	24.00			7	0.00	24.00
	8	0.00	24.00			8	0.00	0.20
	9	0.00	24.00			8	5.05	24.00
	10	0.00	24.00			9	0.00	0.20
	11	0.00	24.00			9	5.40	24.00
						10	0.00	0.20
4/16/2004	1	0.00	24.00			10	5.40	24.00
	2	0.00	24.00			11	0.00	0.20
	3	0.00	24.00			11	5.40	24.00
	4	0.00	24.00					
	5	0.00	24.00		5/11/2004	1	0.00	0.05
	6	0.00	24.00			1	6.45	24.00
	7	0.00	24.00			2	0.00	0.05
	8	0.00	24.00			2	6.45	23.50
	9	0.00	24.00			3	0.00	24.00
	10	0.00	24.00			4	0.00	24.00
	11	0.00	24.00			5	0.00	0.05
						5	6.45	23.50
4/17/2004	1	0.00	24.00			6	0.00	23.50
	2	0.00	24.00			7	0.00	24.00
	3	0.00	24.00			8	0.00	23.50
	4	0.00	24.00			9	0.00	0.05
	5	0.00	24.00			9	6.45	23.55
	6	0.00	24.00			10	0.00	23.55
	7	0.00	24.00			11	0.00	23.55
	8	0.00	24.00					
	9	0.00	24.00		5/12/2004	1	0.00	24.00
	10	0.00	24.00			2	6.15	23.45
	11	0.00	24.00			3	0.00	24.00
						4	0.00	24.00
4/18/2004	1	0.00	24.00			5	6.15	23.45
	2	0.00	24.00			6	6.15	23.45
	3	0.00	24.00			7	0.00	24.00
	4	0.00	24.00			8	6.15	24.00
	5	0.00	24.00			9	6.10	24.00
	6	0.00	24.00			10	6.10	24.00
	7	0.00	24.00			11	6.10	24.00
	8	0.00	24.00					
	9	0.00	24.00		5/13/2004	1	0.00	24.00
	10	0.00	24.00			2	5.25	24.00
	11	0.00	24.00			3	0.00	5.17
						3	12.15	24.00
4/19/2004	1	0.00	24.00			4	0.00	24.00
	2	0.00	24.00			5	6.20	24.00
	3	0.00	24.00			6	6.20	24.00
	4	0.00	24.00			7	0.00	24.00
	5	0.00	24.00			8	0.00	24.00
	6	0.00	24.00			9	0.00	24.00
	7	0.00	24.00			10	0.00	24.00
	8	0.00	24.00			11	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	9	0.00	24.00					
	10	0.00	24.00		5/14/2004	1	0.00	24.00
	11	0.00	24.00			2	0.00	23.30
						3	0.00	23.30
4/20/2004	1	0.00	24.00			4	0.00	24.00
	2	0.00	1.10			5	0.00	23.30
	2	7.15	23.40			6	0.00	24.00
	3	0.00	1.10			7	0.00	24.00
	3	7.15	24.00			8	0.00	23.25
	4	0.00	24.00			9	0.00	23.25
	5	0.00	24.00			10	0.00	23.30
	6	0.00	23.40			11	0.00	23.30
	7	0.00	1.10					
	7	7.15	23.40		5/15/2004	1	0.00	1.30
	8	0.00	24.00			1	8.30	22.20
	9	0.00	24.00			2	8.30	22.20
	10	0.00	24.00			3	7.10	24.00
	11	0.00	24.00			4	0.00	24.00
						5	8.35	22.20
4/21/2004	1	0.00	24.00			6	0.00	1.30
	2	6.20	15.35			6	7.10	24.00
	2	19.55	24.00			7	0.00	24.00
	3	0.00	24.00			8	1.25	1.42
	4	0.00	24.00			8	8.30	22.25
	5	0.00	24.00			9	8.45	22.25
	6	6.25	15.35			10	9.00	22.25
	6	19.55	24.00			11	8.35	22.20
	7	6.25	15.35					
	7	19.55	24.00					
	8	6.15	24.00		5/16/2004	1	16.25	24.00
	9	0.00	15.35			2	16.25	24.00
	9	19.55	24.00			3	0.00	24.00
	10	0.00	24.00			4	0.00	24.00
	11	0.00	24.00			5	16.25	24.00
						6	0.00	24.00
4/13/2004	1	0.00	14.40			7	0.00	24.00
	1	21.00	23.55			8	4.30	24.00
	2	0.00	0.15			9	4.30	12.10
	2	6.40	13.05			9	16.25	24.00
	3	0.00	23.55			10	4.30	12.10
	4	0.00	24.00			10	16.25	24.00
	5	0.00	23.35			11	4.30	24.00
	6	0.00	0.15					
	6	6.45	13.05		5/17/2004	1	0.00	11.00
	6	21.00	23.35			1	20.05	23.10
	7	0.00	0.15			2	6.30	11.00
	7	6.40	13.15			2	20.05	23.10
	7	14.35	24.00			3	0.00	24.00
	8	0.00	0.28			4	0.00	24.00
	8	6.40	23.35			5	6.30	11.00
	9	0.00	0.28			5	20.05	23.10
	9	6.40	23.55			6	6.35	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	0.00	13.05			7	0.00	24.00
	10	18.48	23.45			8	0.00	0.35
	11	0.00	13.05			8	6.35	23.10
	11	18.48	23.45			9	0.00	0.30
						9	6.15	23.15
4/23/2004	1	6.00	12.00			10	0.00	0.30
	1	20.15	24.00			10	6.15	23.15
	2	6.00	12.00			11	6.15	23.15
	2	20.15	24.00					
	3	6.50	24.00		5/18/2004	1	6.20	24.00
	4	0.00	24.00			2	6.20	11.20
	5	6.50	22.45			2	20.25	23.19
	6	6.50	12.00			3	0.00	24.00
	6	20.15	22.45			4	0.00	24.00
	7	0.00	22.45			5	6.15	11.20
	8	6.00	22.45			5	20.25	23.19
	9	6.55	22.45			6	0.00	11.20
	10	7.00	22.55			6	20.25	23.20
	11	6.55	22.55			7	0.00	24.00
						8	6.15	23.25
4/24/2004	1	0.00	10.35			9	5.55	23.25
	1	11.25	24.00			10	5.55	23.25
	2	0.00	10.40			11	5.55	23.20
	2	20.50	24.00					
	3	0.00	10.45		5/19/2004	1	0.00	23.15
	3	20.40	24.00			2	7.45	11.45
	4	0.00	10.45			2	20.25	23.15
	4	20.40	24.00			3	0.00	24.00
	5	10.40	24.00			4	0.00	11.45
	6	10.40	24.00			4	10.25	24.00
	7	10.45	24.00			5	7.45	11.45
	8	8.05	24.00			7	20.25	23.15
	9	8.05	24.00			8	7.45	24.00
	10	8.05	24.00			7	0.00	24.00
	11	8.05	24.00			8	7.45	23.15
						9	6.05	23.15
4/25/2004	1	0.00	0.05			10	6.05	11.45
	1	20.00	24.00			10	20.25	23.15
	2	0.00	0.35			11	6.05	11.45
	2	20.00	24.00			11	20.25	23.15
	3	0.00	24.00					
	4	0.00	24.00		5/20/2004	1	7.45	11.10
	5	0.00	24.00			1	20.30	22.50
	6	0.00	0.05			2	7.50	11.20
	6	19.55	24.00			2	20.30	22.00
	7	0.00	24.00			3	0.00	0.45
	8	0.00	0.45			3	5.25	22.50
	8	7.50	13.12			4	0.00	24.00
	8	19.50	24.00			5	7.50	11.15
	9	0.00	0.45			5	19.45	22.00
	9	7.50	13.12			6	0.00	0.45
	9	19.50	24.00			6	5.25	22.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	0.00	0.35			7	0.00	24.00
	10	7.50	24.00			8	7.45	11.10
	11	0.00	0.05			8	20.30	22.30
	11	19.50	24.00			9	6.15	22.30
						10	6.20	11.10
4/26/2004	1	0.00	0.50			10	20.30	22.00
	1	5.55	10.35			11	6.20	22.30
	1	19.20	24.00					
	2	0.00	0.50		5/21/2004	1	6.30	24.00
	2	5.55	10.35			2	7.25	12.30
	2	16.05	24.00			2	20.30	24.00
	3	0.00	24.00			3	6.30	24.00
	4	0.00	10.35			4	0.00	24.00
	4	16.05	24.00			5	7.25	12.30
	5	0.00	24.00			5	20.30	24.00
	6	0.00	0.50			6	7.25	12.30
	6	5.55	24.00			6	20.35	24.00
	7	0.00	24.00			7	0.00	24.00
	8	0.00	1.00			8	7.25	24.00
	8	5.50	10.40			9	6.30	24.00
	8	16.05	24.00			10	6.30	24.00
	9	0.00	1.00			11	6.30	12.30
	9	5.50	10.35			11	20.35	24.00
	9	16.05	24.00					
	10	0.00	24.00		5/22/2004	1	0.00	3.00
	11	0.00	0.50			1	10.10	24.00
	11	5.55	24.00			2	11.05	24.00
						3	0.00	24.00
4/27/2004	1	0.00	24.00			4	3.00	24.00
	2	0.00	24.00			5	11.05	24.00
	3	0.00	24.00			6	11.05	24.00
	4	0.00	24.00			7	0.00	24.00
	5	0.00	24.00			8	11.05	24.00
	6	0.00	13.45			9	10.10	24.00
	6	17.00	24.00			10	10.10	24.00
	7	0.00	24.00			11	10.10	24.00
	8	0.00	24.00					
	9	0.00	24.00		5/23/2004	1	0.00	1.10
	10	0.00	24.00			1	10.10	24.00
	11	0.00	24.00			2	0.00	0.15
						2	13.00	24.00
4/28/2004	1	0.00	24.00			3	0.00	24.00
	2	0.00	24.00			4	0.00	24.00
	3	0.00	24.00			5	0.00	0.15
	4	0.00	24.00			5	13.00	24.00
	5	0.00	24.00			6	0.00	0.15
	6	0.00	24.00			6	10.10	24.00
	7	0.00	24.00			7	0.00	1.05
	8	0.00	24.00			7	13.00	24.00
	9	0.00	24.00			8	0.00	1.10
	10	0.00	24.00			8	10.10	24.00
	11	0.00	24.00			9	0.00	0.15

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
						9	10.20	24.00
4/29/2004	1	0.00	24.00			10	0.00	1.10
	2	0.00	24.00			10	10.20	24.00
	3	0.00	24.00			11	0.00	1.05
	4	0.00	24.00			11	13.00	24.00
	5	0.00	24.00					
	6	0.00	24.00		5/24/2004	1	0.00	24.00
	7	0.00	24.00			2	0.00	24.00
	8	0.00	24.00			3	0.00	24.00
	9	0.00	24.00			4	0.00	24.00
	10	0.00	24.00			5	0.00	24.00
	11	0.00	24.00			6	0.00	24.00
						7	0.00	24.00
						8	0.00	24.00
4/30/2004	1	0.00	24.00			9	0.00	24.00
	2	0.00	24.00			10	0.00	24.00
	3	0.00	24.00			11	0.00	24.00
	4	0.00	24.00					
	5	0.00	24.00		5/25/2004	1	0.00	24.00
	6	0.00	24.00			2	0.00	2.45
	7	0.00	24.00			2	4.00	23.25
	8	0.00	24.00			3	0.00	24.00
	9	0.00	24.00			4	0.00	24.00
	10	0.00	24.00			5	0.00	23.25
	11	0.00	24.00			6	0.00	24.00
						7	0.00	23.30
5/1/2004	1	0.00	2.15			8	0.00	23.40
	1	8.00	24.00			9	0.00	19.55
	2	0.00	2.15			9	20.05	23.35
	2	8.00	24.00			10	0.00	23.35
	3	0.00	24.00			11	0.00	23.35
	4	0.00	24.00					
	5	0.00	24.00		5/26/2004	1	0.00	22.45
	6	0.00	24.00			2	8.50	21.55
	7	0.00	2.15			3	0.00	24.00
	7	8.00	24.00			4	0.00	22.45
	8	0.00	24.00			5	8.50	21.55
	9	0.00	2.15			6	0.00	21.55
	9	8.00	24.00			7	8.50	24.00
	10	0.00	24.00			8	8.50	22.30
	11	0.00	24.00			9	8.30	22.30
						10	8.35	21.55
5/2/2004	1	0.00	1.10			11	8.30	22.30
	1	17.10	24.00					
	2	0.00	24.00		5/27/2004	1	7.10	24.00
	3	0.00	24.00			2	8.55	23.55
	4	0.00	24.00			3	0.00	24.00
	5	0.00	3.25			4	7.10	24.00
	5	17.15	24.00			5	8.55	23.55
	6	0.00	1.15			6	8.55	23.55
	6	17.15	24.00			7	0.00	24.00
	7	0.00	1.15			8	8.55	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	3.25	24.00			9	8.05	24.00
	8	0.00	1.10			10	8.05	24.00
	8	8.35	24.00			11	8.05	24.00
	9	0.00	1.10					
	9	17.10	24.00		5/28/2004	1	0.00	24.00
	10	0.00	1.10			2	7.50	23.50
	10	8.35	23.19			3	0.00	24.00
	11	0.00	1.10			4	0.00	24.00
	11	8.35	24.00			5	7.50	23.50
						6	7.50	23.50
5/3/2004	1	0.00	22.55			7	0.00	24.00
	2	0.00	24.00			8	7.50	24.00
	3	0.00	24.00			9	7.50	24.00
	4	0.00	24.00			10	7.50	24.00
	5	0.00	22.55			11	0.00	24.00
	6	0.00	22.55					
	7	0.00	22.55		5/29/2004	1	0.00	24.00
	8	0.00	22.50			2	8.25	24.00
	9	0.00	22.50			3	0.00	24.00
	10	1.05	13.21			4	0.00	24.00
	11	0.00	22.50			5	8.20	24.00
						6	8.25	24.00
5/4/2004	1	5.20	24.00			7	0.00	24.00
	2	0.00	24.00			8	0.00	0.05
	3	0.00	24.00			8	8.20	24.00
	4	0.00	24.00			9	0.00	24.00
	5	5.20	24.00			10	0.00	0.05
	6	5.25	24.00			10	8.20	24.00
	7	5.25	24.00			11	0.00	24.00
	8	5.25	24.00					
	9	5.20	24.00		5/30/2004	1	0.00	7.40
	10	3.00	3.20			1	12.10	24.00
	10	5.25	24.00			2	0.00	0.05
	11	5.20	24.00			2	17.00	24.00
						3	0.00	24.00
5/5/2004	1	0.00	24.00			4	0.00	7.40
	2	0.00	24.00			4	12.10	24.00
	3	0.00	24.00			5	0.00	0.05
	4	0.00	24.00			5	17.00	24.00
	5	0.00	24.00			6	0.00	0.05
	6	0.00	24.00			6	17.00	24.00
	7	0.00	24.00			7	0.00	24.00
	8	0.00	24.00			8	0.00	0.05
	9	0.00	24.00			8	17.00	24.00
	10	0.00	24.00			9	0.00	0.10
	11	0.00	24.00			9	12.30	24.00
						10	0.00	0.10
5/6/2004	1	0.00	24.00			10	12.30	24.00
	2	0.00	24.00			11	0.00	0.10
	3	0.00	24.00			11	12.35	24.00
	4	0.00	24.00					
	5	0.00	24.00		5/31/2004	1	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	6	0.00	24.00			2	0.00	0.25
	7	0.00	24.00			2	14.05	23.20
	8	0.00	24.00			3	0.00	24.00
	9	0.00	24.00			4	0.00	24.00
	10	0.00	24.00			5	0.00	0.25
	11	0.00	24.00			5	14.00	23.20
						6	0.00	0.25
						6	14.00	23.20
						7	0.00	24.00
						8	0.00	0.35
						8	14.00	23.20
						9	0.00	0.35
						9	10.25	23.20
						10	0.00	0.25
						10	10.25	23.20
						11	0.00	0.35
						11	10.25	23.20

	4/15/2005-6/3/2005							
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/15/2005	1	0:00	0.25		5/10/2005	1	NA	NA
	1	6.00	22.15			2	0.35	24.00
	2	0:00	0.25			3	6.15	18.20
	2	5.35	22.15			4	0.00	0.40
	3	0.00	0.25			4	6.15	24.00
	3	5.15	23.35			5	NA	NA
	4	0.00	0.25			6	18.20	23.30
	4	5.15	23.35			7	0.00	23.30
	5	0.00	0.25			8	8.10	23.25
	5	6.00	22.05			9	20.20	23.25
	6	0.00	24.00			10	12.10	23.30
	7	0.00	24.00			11	NA	NA
	8	0.00	0.25					
	8	5.15	22.15		5/11/2005	1	NA	NA
	9	6.00	22.15			2	0.00	24.00
	10	0.00	0.25			3	8.05	23.40
	10	6.00	23.35			4	0.00	17.35
	11	0.00	0.25			5	NA	NA
	11	6.00	22.15			6	8.05	23.40
						7	20.05	24.00
4/16/2005	1	8.35	22.10			8	12.10	17.35
	2	8.35	24.00			8	20.05	23.25
	3	7.25	24.00			9	20.05	23.25
	4	7.25	24.00			10	8.05	17.35
	5	8.35	22.10			11	NA	NA
	6	0.00	22.10					
	7	0.00	24.00		5/12/2005	1	NA	NA
	8	8.35	22.10			2	0.00	24.00
	9	7.30	22.10			3	8.10	22.15
	10	7.30	24.00			4	8.10	16.05
	11	7.30	22.10			4	20.15	22.15
						5	NA	NA
4/17/2005	1	14.00	16.15			6	NA	NA
	1	19.35	24.00			7	0.00	24.00
	2	0.00	24.00			8	11.05	16.05
	3	0.00	0.30			9	11.05	16.05
	3	13.20	24.00			10	20.15	22.15
	4	0.00	0.30			11	20.15	22.15
	4	13.20	24.00					
	5	14.35	16.15		5/13/2005	1	NA	NA
	5	19.35	24.00			2	0.00	24.00
	6	14.35	16.15			3	6.05	11.45
	6	19.35	24.00			3	19.55	22.00
	7	0.00	24.00			4	6.05	11.45
	8	14.00	16.15			4	19.55	22.00
	8	19.40	24.00			5	NA	NA
	9	13.20	24.00			6	NA	NA
	10	0.00	0.30			7	0.00	24.00
	10	12.15	24.00			8	19.55	22.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	13.20	24.00			9	6.05	11.45
						10	NA	NA
4/18/2005	1	0.00	0.40			11	NA	NA
	1	6.40	21.15					
	2	0.00	24.00		5/14/2005	1		
	3	0.00	22.00			2		
	4	0.00	10.05			3		
	4	13.20	16.00			4		
	4	19.00	22.00			5		
	5	0.00	0.40			6		
	5	6.40	10.05			7		
	5	13.20	16.00			8		
	5	19.00	21.10			9		
	6	0.00	10.05			10		
	6	13.20	16.00			11		
	6	19.00	24.00					
	7	0.00	0.40		5/15/2005	1	NA	NA
	7	6.40	21.15			2	0.00	24.00
	8	0.00	0.40			3	NA	NA
	8	6.40	16.00			4	NA	NA
	8	19.00	21.15			5	NA	NA
	9	0.00	0.40			6	NA	NA
	9	6.40	10.05			7	0.00	24.00
	9	13.20	16.00			8	NA	NA
	9	19.00	21.15			9	NA	NA
	10	0.00	0.40			10	NA	NA
	10	6.40	10.05			11	NA	NA
	10	13.20	21.15					
	11	0.00	0.40		5/16/2006	1	NA	NA
	11	64.00	10.05			2	0.00	24.00
	11	13.20	16.00			3	NA	NA
	11	19.00	21.15			4	6.15	22.10
						5	7.55	19.20
4/19/2005	1	12.10	23.35			6	6.15	22.10
	2	0.00	24.00			7	0.00	7.55
	3	5.25	23.35			7	19.20	24.00
	4	5.25	16.10			8	9.00	14.52
	4	19.00	23.20			8	20.05	22.10
	5	12.10	16.10			9	6.15	17.00
	5	19.00	23.20			9	20.05	22.10
	6	0.00	16.10			10	NA	NA
	6	19.00	23.20			11	NA	NA
	7	12.10	24.00					
	8	12.10	23.35		5/17/2005	1	14.00	22.15
	9	12.10	16.10			2	0.00	24.00
	9	19.00	22.15			3	10.20	22.15
	10	5.25	16.10			4	6.10	14.00
	10	19.15	23.20			5	NA	NA
	11	12.10	16.10			6	6.10	10.20
	11	19.00	23.20			7	0.00	24.00
						8	NA	NA
4/20/2005	1	8.05	22.30			9	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	2	0.00	8.05			10	NA	NA
	3	12.05	22.30			11	NA	NA
	3	6.05	22.30					
	4	6.05	16.15		5/18/2005	1	6.10	7.15
	4	19.20	22.30			1	19.10	22.45
	5	12.05	16.05			2	0.00	24.00
	5	19.20	22.20			3	6.10	15.25
	6	12.05	16.15			3	19.10	22.45
	6	19.20	24.00			4	NA	NA
	7	0.00	24.00			5	7.15	15.25
	8	12.05	16.05			6	NA	NA
	8	19.20	22.30			7	0.00	24.00
	9	12.05	21.00			8	6.10	15.25
	10	6.05	22.20			9	NA	NA
	11	12.05	16.05			10	19.10	22.45
	11	19.20	22.30			11	NA	NA
4/22/2005	1	6.00	11.45		5/19/2005	1	NA	NA
	1	19.25	22.20			2	0.00	24.00
	2	6.00	11.45			3	6.05	16.00
	2	19.25	21.20			3	20.05	22.00
	3	5.35	13.00			4	NA	NA
	3	18.00	22.20			5	NA	NA
	4	5.35	13.00			6	6.05	16.00
	4	18.00	22.20			6	20.05	22.00
	5	6.00	11.45			7	0.00	24.00
	5	19.25	212.00			8	NA	NA
	6	0.00	24.00			9	NA	NA
	7	0.00	24.00			10	6.05	9.15
	8	5.35	11.45			10	20.05	22.00
	8	18.00	22.20			11	NA	NA
	9	5.35	11.45					
	9	19.25	22.20		5/20/2005	1	NA	NA
	10	5.35	11.45			2	0.00	24.00
	10	19.25	22.20			3	7.00	22.25
	11	6.00	11.45			4	NA	NA
	11	19.25	22.20			5	NA	NA
						6	4.40	17.05
4/22/2005	1	6.10	24.00			6	20.00	22.25
	2	6.10	10.55			7	0.00	4.30
	2	19.55	21.30			7	10.00	24.00
	3	5.00	21.30			8	NA	NA
	4	5.00	21.50			9	NA	NA
	5	6.10	10.55			10	10.00	17.05
	5	19.55	21.30			10	20.00	22.25
	6	0.00	24.00			11	NA	NA
	7	0.00	10.55					
	7	19.55	19.55		5/21/2005	1	NA	NA
	8	5.55	10.55			2	0.00	24.00
	8	19.45	21.50			3	9.20	15.00
	9	5.55	10.55			4	NA	NA
	9	19.45	21.40			5	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	5.55	10.55			6	9.20	15.00
	10	19.05	21.40			7	0.00	24.00
	11	6.10	10.55			8	NA	NA
	11	19.05	21.40			9	NA	NA
						10	NA	NA
4/23/2005	1	0.00	22.35			11	NA	NA
	2	19.30	24.00					
	3	8.10	22.15		5/22/2005	1	NA	NA
	4	8.10	22.35			2	0.00	24.00
	5	19.30	22.15			3	NA	NA
	6	0.00	24.00			4	NA	NA
	7	19.30	22.15			5	NA	NA
	8	8.10	14.05			6	NA	NA
	8	19.30	22.35			7	0.00	24.00
	9	8.10	22.35			8	NA	NA
	10	8.10	14.05			9	NA	NA
	10	19.30	22.15			10	NA	NA
	11	19.30	22.15			11	NA	NA
4/24/2005	1	19.15	22.20		5/23/2005	1	NA	NA
	2	0.00	22.20			2	0.00	24.00
	3	15.00	24.00			3	20.25	22.00
	4	15.00	24.00			4	8.15	17.15
	5	19.15	22.20			4	20.25	22.00
	6	0.00	24.00			5	NA	NA
	7	19.15	24.00			6	8.25	17.15
	8	19.00	24.00			7	0.00	24.00
	9	19.00	22.20			8	NA	NA
	10	15.00	22.20			9	NA	NA
	11	19.15	22.20			10	11.05	17.15
						10	20.25	24.00
4/24/2005	1	NA	NA			11	11.15	17.15
	2	NA	NA					
	3	5.05	24.00		5/24/2005	1	9.00	15.25
	4	5.05	24.00			2	0.00	24.00
	5	NA	NA			3	20.05	22.00
	6	0.00	24.00			4	20.05	22.00
	7	0.00	24.00			4	22.25	23.05
	8	6.15	13.05			5	NA	NA
	8	19.30	22.10			6	9.00	15.25
	9	6.15	13.05			7	0.00	24.00
	9	19.30	22.10			8	22.45	22.46
	10	6.15	13.05			9	NA	NA
	10	19.30	22.10			10	9.00	15.25
	11	6.15	13.05			10	20.05	22.00
	11	19.30	22.10			11	NA	NA
4/26/2005	1	NA	NA		5/25/2005	1	NA	NA
	2	NA	NA			2	0.00	24.00
	3	0.00	0.25			3	NA	NA
	3	6.00	21.55			4	8.30	15.05
	4	0.00	0.25			4	20.10	22.20

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	4	6.00	21.55			5	NA	NA
	5	NA	NA			6	8.30	15.05
	6	0.00	24.00			6	20.10	22.20
	7	0.00	24.00			7	0.00	24.00
	8	6.00	21.55			8	NA	NA
	9	6.00	21.55			9	19.40	19.45
	10	6.00	21.55			10	8.30	15.05
	11	6.00	21.55			11	20.10	22.20
4/27/2005	1	19.05	23.20		5/26/2005	1	NA	NA
	2	19.05	23.20			2	0.00	24.00
	3	6.00	23.20			3	8.10	16.25
	4	6.00	23.20			4	8.20	16.25
	5	19.05	23.20			5	NA	NA
	6	0.00	24.00			6	NA	NA
	7	0.00	24.00			7	0.00	24.00
	8	6.00	23.20			8	NA	NA
	9	6.00	23.20			9	NA	NA
	10	6.00	23.20			10	17.20	17.22
	11	6.00	23.20			11	NA	NA
4/28/2005	1	5.55	10.00		5/27/2005	1	10.30	20.55
	1	19.15	22.50			2	0.00	24.00
	2	5.55	22.30			3	10.40	20.55
	3	5.00	10.00			4	NA	NA
	3	19.15	22.50			5	NA	NA
	4	5.00	24.00			6	10.35	24.00
	5	5.55	10.00			7	0.00	10.35
	5	19.15	22.50			8	NA	NA
	6	0.00	24.00			9	NA	NA
	7	0.00	24.00			10	NA	NA
	8	5.55	22.50			11	NA	NA
	9	5.55	10.00					
	9	18.20	22.50		5/28/2005	1	NA	NA
	10	5.00	10.00			2	0.00	24.00
	10	18.20	22.50			3	12.05	18.05
	11	5.55	10.00			4	12.05	18.05
	11	19.15	22.50			5	NA	NA
						6	0.00	24.00
4/29/2005	1	6.00	11.15			7	NA	NA
	1	19.05	23.10			8	NA	NA
	2	6.00	23.10			9	NA	NA
	3	5.05	11.15			10	NA	NA
	3	19.05	23.10			11	NA	NA
	4	0.00	23.10					
	5	6.00	11.15		5/29/2005	1	NA	NA
	5	19.05	23.10			2	0.00	24.00
	6	5.05	24.00			3	13.10	17.10
	7	0.00	24.00			4	13.10	17.10
	8	5.05	23.10			5	NA	NA
	9	6.00	11.15			6	0.00	24.00
	9	19.05	23.10			7	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	6.00	23.10			8	NA	NA
	11	6.00	11.15			9	NA	NA
	11	19.05	23.10			10	NA	NA
						11	NA	NA
4/30/2005	1	8.10	11.15					
	1	17.55	24.00		5/30/2005	1	NA	NA
	2	8.10	24.00			2	0.00	1.09
	3	7.05	12.10			3	1.15	24.00
	3	16.50	22.00			4	NA	NA
	4	7.05	11.20			5	NA	NA
	4	16.50	22.00			6	0.00	24.00
	5	8.10	11.15			7	NA	NA
	5	18.00	22.00			8	NA	NA
	6	0.00	12.10			9	22.00	23.25
	6	16.50	24.00			10	NA	NA
	7	0.00	24.00			11	NA	NA
	8	7.05	11.45					
	8	16.50	22.00		5/31/2005	1	11.00	18.25
	9	8.10	11.45			2	13.00	18.25
	9	17.55	22.00			3	0.00	24.00
	10	8.10	11.35			4	11.00	13.00
	10	17.55	22.00			5	NA	NA
	11	8.10	11.35			6	0.00	24.00
	11	17.55	22.00			7	NA	NA
						8	NA	NA
5/1/2005	1	0.00	0.20			9	NA	NA
	1	20.00	24.00			10	NA	NA
	2	0.00	24.00			11	NA	NA
	3	13.55	24.00					
	4	13.55	23.15		6/1/2005	1	10.05	17.00
	5	20.00	23.15			1	21.05	22.35
	6	0.00	0.20			2	10.25	17.00
	6	20.00	23.15			3	0.00	0.50
	7	0.00	24.00			3	10.05	19.05
	8	13.55	23.25			3	21.05	22.35
	9	20.00	23.25			4	10.05	17.00
	10	20.00	23.15			4	21.05	22.35
	11	20.00	23.15			5	10.25	17.00
						6	0.00	24.00
5/2/2005	1	0.00	0.35			7	NA	NA
	1	6.05	12.15			8	NA	NA
	1	19.05	24.00			9	NA	NA
	2	0.00	19.10			10	NA	NA
	3	0.00	0.35			11	NA	NA
	3	5.15	14.00					
	3	18.10	24.00		6/2/2005	1	12.15	17.00
	4	5.15	14.00			1	20.10	22.10
	4	18.10	24.00			2	NA	NA
	5	6.05	12.15			3	12.15	17.00
	5	19.05	22.30			3	20.10	22.10
	6	6.05	12.15			4	12.15	17.00
	6	19.05	22.30			4	20.10	22.10

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	0.00	24.00			5	NA	NA
	8	6.05	12.15			6	0.00	24.00
	8	18.10	22.30			7	NA	NA
	9	6.05	12.15			8	NA	NA
	9	19.05	22.30			9	NA	NA
	10	6.05	12.15			10	12.15	17.00
	10	19.05	22.30			10	20.10	22.10
	11	6.05	14.00			11	NA	NA
	11	19.05	22.30					
					6/3/2005	1	11.10	11.20
5/3/2005	1	0.00	0.10			1	11.50	24.00
	1	6.20	12.10			2	NA	NA
	1	19.10	22.30			3	NA	NA
	2	6.20	19.15			4	11.10	11.20
	3	0.00	0.10			4	11.50	20.45
	3	5.40	12.10			5	11.50	18.50
	3	17.55	22.30			6	0.00	18.50
	4	0.00	13.15			7	NA	NA
	4	17.55	24.00			8	NA	NA
	5	6.20	12.10			9	NA	NA
	5	19.15	22.20			10	11.18	11.20
	6	5.40	13.15			10	15.15	18.50
	6	19.15	22.30			11	NA	NA
	7	0.00	24.00					
	8	6.20	13.15					
	8	17.55	22.15					
	9	6.20	12.10					
	9	18.50	22.25					
	10	6.20	12.10					
	10	18.50	22.25					
	11	6.20	12.10					
	11	18.50	22.25					
5/4/2005	1	20.10	22.10					
	2	20.30	24.00					
	3	5.10	23.15					
	4	0.00	24.00					
	5	20.30	22.10					
	6	5.10	23.15					
	7	0.00	22.20					
	8	6.15	9.55					
	8	20.25	22.10					
	9	20.10	22.20					
	10	6.15	9.55					
	10	20.25	22.10					
	11	6.15	9.55					
	11	20.10	22.20					
5/5/2005	1	6.25	12.10					
	1	19.40	22.00					
	2	0.00	24.00					
	3	5.20	24.00					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	4	0.00	9.00					
	4	19.40	22.05					
	5	6.25	9.00					
	5	19.40	22.00					
	6	6.25	12.10					
	6	17.55	23.20					
	7	5.20	9.00					
\	7	17.55	23.20					
	8	6.25	9.00					
	8	17.55	23.20					
	9	6.25	12.10					
	9	19.40	22.00					
	10	6.25	12.10					
	10	19.40	22.00					
	11	6.25	12.10					
	11	19.40	22.00					
5/6/2005	1	6.15	11.15					
	1	19.00	21.15					
	2	0.00	24.00					
	3	0.00	11.15					
	3	19.00	23.15					
	4	5.25	12.00					
	4	16.20	23.15					
	5	6.15	11.15					
	5	19.00	21.15					
	6	5.25	12.00					
	6	16.20	21.15					
	7	6.15	24.00					
	8	6.15	12.00					
	8	16.45	21.15					
	9	6.15	11.15					
	9	19.00	21.15					
	10	6.15	12.00					
	10	16.45	23.15					
	11	6.15	11.15					
	11	19.00	21.15					
5/7/2005	1	20.10	21.55					
	2	0.00	24.00					
	3	20.10	23.05					
	4	7.45	23.05					
	5	20.10	21.55					
	6	7.45	21.55					
	7	0.00	24.00					
	8	8.00	12.35					
	8	20.10	23.05					
	9	8.00	12.35					
	9	20.10	21.55					
	10	8.00	12.35					
	10	20.10	21.55					
	11	20.10	21.55					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
5/8/2005	1	19.10	21.45					
	2	0.00	24.00					
	3	19.10	22.50					
	4	14.10	22.50					
	5	19.10	21.45					
	6	14.10	21.45					
	7	0.00	24.00					
	8	19.00	21.45					
	9	19.00	21.50					
	10	19.00	21.45					
	11	19.10	21.50					
5/9/2005	1	20.15	20.20					
	2	0.00	14.05					
	3	6.10	11.20					
	4	17.40	23.05					
	4	6.10	24.00					
	5	NA	NA					
	6	11.20	14.05					
	6	17.40	23.05					
	7	0.00	24.00					
	8	19.00	22.15					
	9	6.10	14.05					
	9	17.40	22.15					
	10	6.10	11.40					
	10	19.00	22.15					
	11	NA	NA					

4/3/2006-6/5/2006								
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/3/2006	1	NA	NA		5/4/2006	1	NA	NA
	2	NA	NA			2	NA	NA
	3	6.00	10.15			3	6.05	22.24
	3	17.30	21.20			4	6.05	22.24
	4	6.00	10.15			5	0.00	24.00
	4	17.30	21.20			6	NA	NA
	5	0.00	24.00			7	0.00	24.00
	6	0.00	24.00			8	6.05	22.24
	7	NA	NA			9	7.00	21.17
	8	NA	NA			10	7.00	10.00
	9	NA	NA			10	17.10	21.17
	10	6.00	10.15			11	17.10	21.17
	11	NA	NA					
					5/5/2006	1	NA	NA
4/4/2006	1	NA	NA			2	NA	NA
	2	NA	NA			3	NA	NA
	3	16.10	24.00			4	6.30	23.25
	4	6.10	21.12			5	0.00	24.00
	5	0.00	24.00			6	6.30	23.45
	6	0.00	10.55			7	0.00	24.00
	6	16.10	21.12			8	18.50	22.15
	7	6.10	10.55			9	7.10	22.15
	8	6.10	10.55			10	7.10	22.15
	9	16.10	21.12			11	17.08	22.15
	10	7.15	10.55					
	10	16.10	21.12		5/6/2006	1	NA	NA
	11	NA	NA			2	NA	NA
						3	NA	NA
4/5/2006	1	NA	NA			4	7.57	12.55
	2	NA	NA			4	14.05	23.10
	3	0.00	11.30			5	0.00	24.00
	4	16.00	24.00			6	7.57	12.55
	5	0.00	24.00			6	14.05	22.15
	6	6.10	21.28			7	0.00	24.00
	7	6.30	11.30			8	18.55	22.15
	7	16.00	21.28			9	18.55	22.15
	8	16.00	21.28			10	14.09	22.10
	9	6.10	11.30			11	18.55	22.10
	10	NA	NA					
	11	NA	NA		5/7/2006	1	NA	NA
						2	NA	NA
4/6/2006	1	NA	NA			3	NA	NA
	2	NA	NA			4	18.17	22.00
	3	NA	NA			5	0.00	24.00
	4	0.00	22.30			6	18.17	22.00
	5	0.00	24.00			7	0.00	24.00
	6	6.05	11.10			8	NA	NA
	6	16.10	24.00			9	NA	NA
	7	6.06	11.10			10	18.17	22.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	16.05	22.30			11	NA	NA
	8	6.05	11.10					
	8	16.05	22.30		5/8/2006	1	NA	NA
	9	NA	NA			2	NA	NA
	10	NA	NA			3	NA	NA
	11	NA	NA			4	5.53	12.02
						4	17.10	22.30
4/7/2006	1	NA	NA			5	0.00	24.00
	2	NA	NA			6	5.53	12.02
	3	NA	NA			6	17.10	22.30
	4	5.12	23.15			7	0.00	24.00
	5	0.00	24.00			8	NA	NA
	6	0.00	12.05			9	17.10	20.10
	6	17.30	24.00			10	5.53	12.02
	7	5.12	12.05			10	17.10	20.10
	7	17.30	23.15			11	NA	NA
	8	6.20	12.05					
	9	17.30	20.18		5/9/2006	1	NA	NA
	10	6.20	12.05			2	NA	NA
	11	173.00	20.18			3	NA	NA
						4	7.00	22.15
4/8/2006	1	NA	NA			5	0.00	24.00
	2	NA	NA			6	7.00	22.15
	3	NA	NA			7	0.00	24.00
	4	7.38	12.05			8	NA	NA
	4	16.10	23.20			9	7.00	22.15
	5	0.00	24.00			10	NA	NA
	6	0.00	24.00			11	NA	NA
	7	7.38	12.05					
	7	16.10	22.05		5/10/2006	1	NA	NA
	8	7.38	12.05			2	17.11	23.08
	8	16.10	22.05			3	NA	NA
	9	16.10	23.20			4	6.05	10.27
	10	19.00	22.05			5	0.00	24.00
	11	19.00	23.20			6	6.05	24.00
						7	0.00	23.08
4/9/2006	1	NA	NA			8	NA	NA
	2	NA	NA			9	6.05	10.27
	3	NA	NA			9	20.10	23.05
	4	7.15	13.05			10	20.10	23.05
	4	17.10	23.35			11	17.11	23.05
	5	0.00	24.00					
	6	0.00	24.00		5/11/2006	1	22.47	24.00
	7	7.15	13.05			2	NA	NA
	7	17.10	23.35			3	22.47	24.00
	8	18.45	22.40			4	6.15	21.00
	9	10.30	13.05			5	0.00	24.00
	9	18.45	22.40			6	0.00	24.00
	10	18.45	22.40			7	6.15	10.00
	11	18.45	22.40			7	17.30	21.00
						8	NA	NA
5/10/2006	1	6.18	9.11			9	6.15	10.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	2	6.18	9.11			9	17.30	21.00
	3	6.18	9.11			10	NA	NA
	4	5.10	12.00			11	6.15	10.00
	4	17.00	24.00					
	5	0.00	24.00		5/12/2006	1	0.00	1.15
	6	0.00	24.00			2	NA	NA
	7	5.10	12.00			3	0.00	1.15
	7	17.00	24.00			4	6.10	24.00
	8	6.08	9.11			5	0.00	24.00
	8	18.20	22.15			6	0.00	24.00
	9	6.08	11.03			7	6.10	24.00
	9	17.00	22.15			8	NA	NA
	10	6.08	11.03			9	16.10	23.35
	10	18.20	22.15			10	11.15	23.35
	11	6.08	11.03			11	16.10	23.35
	11	18.20	24.00					
					5/13/2006	1	NA	NA
5/11/2006	1	NA	NA			2	NA	NA
	2	NA	NA			3	11.00	22.15
	3	NA	NA			4	7,35	22.15
	4	0.00	0.15			5	0.00	11.00
	4	5.10	12.05			6	7.35	24.00
	4	16.19	23.10			7	0.00	24.00
	5	0.00	24.00			8	NA	NA
	6	0.00	24.00			9	NA	NA
	7	0.00	0.15			10	NA	NA
	7	5.10	12.05			11	NA	NA
	7	16.19	23.10					
	8	6.02	10.05		5/14/2006	1	NA	NA
	8	17.23	22.40			2	16.00	23.00
	9	6.02	10.05			3	NA	NA
	9	17.23	22.40			4	NA	NA
	10	6.02	10.05			5	16.00	24.00
	10	17.23	22.40			6	0.00	24.00
	11	0.00	0.15			7	0.00	23.00
	11	6.02	10.05			8	NA	NA
	11	17.23	22.40			9	16.05	23.00
						10	NA	NA
4/12/2006	1	NA	NA			11	16.05	23.00
	2	NA	NA					
	3	NA	NA		5/15/2006	1	NA	NA
	4	5.23	12.00			2	6.00	23.03
	4	16.18	24.00			3	N	N
	5	0.00	24.00			4	11.15	23.03
	6	0.00	24.00			5	0.00	11.15
	7	5.23	24.00			5	19.36	24.00
	8	6.14	10.12			6	0.00	19.36
	8	16.58	21.00			7	6.00	24.00
	9	6.14	10.00			8	NA	NA
	9	16.58	21.00			9	6.00	13.05
	10	6.14	10.00			9	17.00	22.14
	10	16.58	21.00			10	17.00	22.14

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	6.14	10.00			11	6.00	22.14
	11	16.58	21.00					
					5/16/2006	1	NA	NA
4/13/2006	1	NA	NA			2	NA	NA
	2	17.25	22.40			3	NA	NA
	3	0.53	22.40			4	6.10	23.05
	4	0.00	12.04			5	0.00	24.00
	5	0.00	0.53			6	6.10	24.00
	5	17.19	24.00			7	0.00	23.05
	6	0.00	24.00			8	17.08	21.50
	7	0.00	12.04			9	6.10	11.10
	8	18.49	22.00			9	17.05	21.50
	9	7.16	11.03			10	6.10	11.10
	9	18.49	22.08			10	17.08	21.50
	10	7.16	11.03			11	6.10	11.10
	10	18.49	22.00			11	17.05	21.50
	11	7.16	11.03					
	11	18.49	22.08		5/17/2006	1	NA	NA
						2	NA	NA
4/14/2006	1	NA	NA			3	7.45	24.00
	2	NA	NA			4	6.05	24.00
	3	NA	NA			5	0.00	24.00
	4	8.20	14.00			6	0.00	24.00
	4	18.10	22.00			7	6.05	7.45
	5	0.00	24.00			8	6.10	24.00
	6	0.00	24.00			9	NA	NA
	7	8.20	14.00			10	6.10	11.00
	7	18.10	22.00			10	17.00	22.50
	8	18.20	21.10			11	6.10	11.00
	9	18.20	21.10			11	17.00	22.50
	10	8.20	14.00					
	10	18.20	21.10		5/18/2006	1	NA	NA
	11	18.20	21.10			2	NA	NA
						3	0.00	1.05
4/15/2006	1	NA	NA			3	14.15	14.35
	2	NA	NA			4	0.00	1.05
	3	NA	NA			4	6.08	23.22
	4	7.15	12.00			5	0.00	14.16
	4	17.25	22.55			5	14.35	24.00
	5	0.00	24.00			6	0.00	24.00
	6	0.00	24.00			7	6.08	23.22
	7	7.15	12.00			8	0.00	1.08
	7	17.25	22.55			8	6.17	12.47
	8	17.40	21.00			8	17.10	23.22
	9	17.40	21.00			9	NA	NA
	10	7.15	12.00			10	6.17	22.14
	10	17.25	21.00			11	6.17	12.47
	11	17.40	21.00			11	17.10	22.14
4/16/2006	1	NA	NA		5/19/2006	1	NA	NA
	2	NA	NA			2	NA	NA
	3	NA	NA			3	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	4	17.05	24.00			4	6.05	24.00
	5	0.00	24.00			5	0.00	24.00
	6	0.00	24.00			6	0.00	24.00
	7	17.05	24.00			7	6.05	24.00
	8	NA	NA			8	6.10	23.45
	9	17.10	23.20			9	17.45	23.45
	10	17.10	23.20			10	6.10	13.10
	11	17.10	23.20			11	6.10	13.10
						11	17.45	23.45
4/17/2006	1	18.15	21.20					
	2	18.15	21.20		5/20/2006	1	7.12	12.10
	3	18.15	21.20			2	NA	NA
	4	0.00	22.00			3	7.12	11.38
	5	0.00	0.05			4	12.10	24.00
	5	6.30	24.00			5	0.00	24.00
	6	0.00	0.05			6	0.00	24.00
	6	6.30	24.00			7	11.38	24.00
	7	0.00	22.00			8	NA	NA
	8	6.37	11.20			9	17.10	24.00
	8	18.15	21.25			10	17.10	19.54
	9	17.32	21.25			11	17.10	19.54
	10	6.37	11.20					
	10	17.32	21.25		5/21/2006	1	NA	NA
	11	6.37	11.20			2	NA	NA
	11	17.32	21.25			3	NA	NA
]						4	0.00	0.17
4/18/2006	1	NA	NA			4	8.10	23.00
	2	NA	NA			5	0.00	24.00
	3	NA	NA			6	0.00	24.00
	4	6.20	13.35			7	0.00	0.17
	4	16.10	23.55			7	8.10	23.00
	5	0.00	23.55			8	NA	NA
	6	0.00	24.00			9	0.00	0.17
	7	6.20	13.35			9	16.50	21.10
	7	16.10	24.00			10	NA	NA
	8	7.09	9.50			11	16.50	21.10
	8	16.15	22.05					
	9	6.28	9.50		5/22/2006	1	NA	NA
	9	17.44	22.05			2	NA	NA
	10	7.09	9.50			3	14.50	15.30
	10	17.10	22.05			4	6.25	22.14
	11	7.09	9.50			5	0.00	14.50
	11	17.10	22.05			5	15.30	24.00
						6	0.00	24.00
4/19/2006	1	NA	NA			7	6.25	22.14
	2	NA	NA			8	NA	NA
	3	6.45	22.35			9	6.25	22.14
	4	6.45	22.35			10	NA	NA
	5	NA	NA			11	6.25	11.48
	6	0.00	24.00			11	17.10	22.14
	7	0.00	24.00					
	8	NA	NA		5/23/2006	1	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	9	6.45	9.20			2	NA	NA
	9	17.55	21.25			3	9.55	24.00
	10	7.15	12.10			4	6.15	24.00
	10	17.55	21.25			5	0.00	24.00
	11	7.15	12.10			6	0.00	9.55
	11	17.55	21.25			7	6.15	24.00
						8	NA	NA
4/20/2006	1	0.20	1.42			9	6.15	12.30
	2	NA	NA			9	16.50	21.00
	3	7.15	22.00			10	NA	NA
	4	1.42	22.00			11	6.15	12.30
	5	NA	NA			11	16.50	21.00
	6	0.00	24.00					
	7	0.00	0.20		5/24/2006	1	NA	NA
	7	7.15	24.00			2	NA	NA
	8	12.38	18.17			3	0.00	0.05
	9	12.40	18.17			3	5.55	21.55
	10	12.38	18.17			4	0.00	0.05
	11	12.40	18.17			4	5.55	22.00
						5	0.00	24.00
4/21/2006	1	NA	NA			6	22.00	24.00
	2	NA	NA			7	0.00	21.50
	3	7.25	14.00			8	5.55	12.30
	3	18.30	21.48			8	17.18	21.50
	4	7.25	24.00			9	5.55	12.30
	5	NA	NA			9	18.02	21.50
	6	0.00	24.00			10	NA	NA
	7	0.00	21.48			11	NA	NA
	8	7.25	14.00					
	8	18.30	21.48		5/25/2006	1	NA	NA
	9	NA	NA			2	NA	NA
	10	NA	NA			3	8.35	21.55
	11	NA	NA			4	8.35	21.55
						5	0.00	19.50
4/22/2006	1	NA	NA			5	22.00	24.00
	2	18.33	22.18			6	0.00	22.00
	3	7.05	11.10			7	19.50	24.00
	4	0.00	11.10			8	12.25	19.40
	4	18.33	22.18			9	12.25	19.40
	5	NA	NA			10	12.25	19.40
	6	0.00	24.00			11	12.25	19.40
	7	7.05	24.00					
	8	NA	NA		5/26/2006	1	NA	NA
	9	NA	NA			2	NA	NA
	10	NA	NA			3	NA	NA
	11	NA	NA			4	8.10	24.00
						5	0.00	24.00
4/23/2006	1	18.00	22.43			6	8.10	24.00
	2	18.00	22.43			7	0.00	24.00
	3	1.41	24.00			8	NA	NA
	4	1.41	24.00			9	12.12	20.00
	5	18.00	24.00			10	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	6	0.00	22.43			11	12.12	20.00
	7	0.00	24.00					
	8	17.00	22.36		5/27/2006	1	NA	NA
	9	17.00	22.48			2	NA	NA
	10	17.00	22.46			3	NA	NA
	11	18.00	22.46			4	0.00	2.14
						4	12.14	24.00
4/24/2006	1	8.12	11.34			5	0.00	24.00
	1	15.10	22.17			6	0.00	2.14
	2	8.12	11.34			6	12.14	24.00
	2	15.10	22.17			7	0.00	24.00
	3	0.00	22.17			8	12.14	24.00
	4	0.00	24.00			9	NA	NA
	5	0.00	11.34			10	NA	NA
	5	15.10	24.00			11	NA	NA
	6	8.12	24.00					
	7	0.00	24.00		5/28/2006	1	NA	NA
	8	5.50	11.37			2	NA	NA
	8	15.10	22.17			3	14.10	24.00
	9	5.50	11.34			4	0.00	0.22
	9	15.13	24.00			5	0.00	24.00
	10	5.50	24.00			6	0.00	0.22
	11	8.12	24.00			6	14.10	24.00
						7	0.00	24.00
4/25/2006	1	7.12	24.00			8	0.00	0.15
	2	7.12	24.00			9	NA	NA
	3	7.12	24.00			10	14.10	24.00
	4	0.00	0.29			11	NA	NA
	4	5.33	24.00					
	5	0.00	24.00		5/29/2006	1	NA	NA
	6	0.00	24.00			2	NA	NA
	7	0.00	0.29			3	0.00	0.05
	7	5.33	24.00			3	14.30	24.00
	8	7.08	24.00			4	NA	NA
	9	7.08	24.00			5	0.00	24.00
	10	7.08	24.00			6	0.00	0.05
	11	7.08	24.00			6	14.30	24.00
						7	0.00	24.00
4/26/2006	1	0.00	24.00			8	NA	NA
	2	0.00	0.35			9	14.30	24.00
	2	6.22	24.00			10	0.00	0.05
	3	0.00	24.00			11	NA	NA
	4	0.00	24.00					
	5	0.00	0.35		5/30/2006	1	11.20	18.50
	5	6.22	24.00			2	11.20	18.47
	6	0.00	0.35			3	0.00	0.10
	6	6.22	24.00			3	11.20	18.50
	7	0.00	24.00			4	10.00	19.12
	8	0.00	0.35			5	0.00	24.00
	8	6.18	24.00			6	0.00	0.10
	9	0.00	1.15			6	10.00	19.12
	9	6.18	24.00			7	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	0.00	1.15			8	11.10	19.05
	10	6.18	24.00			9	0.00	0.10
	11	0.00	24.00			9	11.10	19.05
						10	10.00	19.05
4/27/2006	1	0.00	24.00			11	11.10	19.05
	2	0.00	0.02					
	2	6.25	24.00		5/31/2006	1	NA	NA
	3	0.00	24.00			2	NA	NA
	4	0.00	24.00			3	16.15	21.15
	5	0.00	0.02			4	12.25	20.10
	5	6.25	24.00			5	0.00	24.00
	6	0.00	24.00			6	12.25	16.15
	7	0.00	0.02			7	0.00	24.00
	7	6.25	24.00			8	12.25	21.15
	8	0.00	0.06			9	12.25	21.15
	8	6.22	24.00			10	12.25	20.10
	9	0.00	0.06			11	NA	NA
	9	6.22	24.00					
	10	0.00	0.06		6/1/2005	1	NA	NA
	10	3.30	24.00			2	NA	NA
	11	0.00	24.00			3	11.55	22.15
						4	11.55	22.15
4/28/2006	1	0.00	22.45			5	0.00	24.00
	2	6.20	22.45			6	NA	NA
	3	0.00	22.45			7	11.55	22.15
	4	0.00	24.00			8	NA	NA
	5	0.00	24.00			9	12.00	22.10
	6	6.20	24.00			10	12.00	22.10
	7	6.20	24.00			11	15.25	22.10
	8	6.20	22.45					
	9	0.00	24.00		6/2/2006	1	NA	NA
	10	0.00	24.00			2	NA	NA
	11	0.00	24.00			3	NA	NA
						4	13.10	21.13
4/29/2006	1	8.15	21.05			5	0.00	24.00
	2	8.15	21.05			6	13.10	21.13
	3	7.20	21.05			7	13.10	21.13
	4	0.00	1.15			8	13.15	19.32
	4	7.20	24.00			9	13.15	21.17
	5	0.00	24.00			10	13.15	21.17
	6	0.00	24.00			11	13.15	21.17
	7	0.00	1.15					
	7	8.05	24.00		6/3/2006	1	12.00	24.00
	8	8.05	21.10			2	NA	NA
	9	7.20	21.10			3	2.10	4.10
	10	8.05	21.10			3	12.00	24.00
	11	8.05	24.00			4	NA	NA
						5	0.00	24.00
4/30/2006	1	18.20	22.17			6	12.00	24.00
	2	18.20	22.17			7	NA	NA
	3	18.20	22.17			8	NA	NA
	4	0.00	0.07			9	12.10	21.12

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	4	11.24	24.00			10	12.10	16.20
	5	0.00	24.00			11	12.10	21.12
	6	0.00	24.00					
	7	0.00	0.07		6/4/2006	1	0.00	0.15
	7	11.24	24.00			2	NA	NA
	8	12.20	22.20			3	0.00	0.15
	9	18.14	22.20			3	11.10	24.00
	10	11.55	22.20			4	8.40	10.25
	11	0.00	0.07			4	11.10	24.00
	11	11.55	24.00			5	0.00	24.00
						6	0.00	0.15
5/1/2006	1	7.30	12.11			6	8.40	10.25
	1	17.10	22.05			6	11.10	24.00
	2	7.30	12.11			7	8.40	10.25
	2	17.10	22.05			8	NA	NA
	3	7.30	12.11			9	11.15	15.35
	3	17.10	22.05			10	NA	NA
	4	5.58	23.30			11	15.35	24.00
	5	0.00	24.00					
	6	0.00	24.00		6/5/2006	1	12.00	24.00
	7	5.58	23.30			2	12.00	21.55
	8	5.58	12.15			3	0.00	8.30
	8	17.00	22.10			3	12.00	24.00
	9	7.20	12.15			4	0.00	0.25
	9	17.00	22.10			4	6.10	24.00
	10	7.20	12.15			5	0.00	24.00
	10	17.00	22.10			6	0.00	0.25
	11	7.20	12.15			6	6.10	21.55
	11	17.10	23.30			7	8.30	21.55
						8	12.00	23.50
5/2/2006	1	7.00	10.55			9	12.00	21.55
	2	7.00	10.55			10	12.00	24.00
	3	7.00	10.55			11	0.00	0.25
	4	6.15	23.50			11	6.10	24.00
	5	0.00	24.00					
	6	0.00	24.00					
	7	6.15	23.50					
	8	6.15	11.00					
	8	17.00	23.50					
	9	6.55	11.00					
	9	17.00	22.00					
	10	6.55	11.00					
	10	17.00	22.00					
	11	6.55	10.55					
	11	17.00	22.00					
5/3/2006	1	NA	NA					
	2	NA	NA					
	3	5.50	23.22					
	4	NA	NA					
	5	0.00	24.00					
	6	0.00	23.22					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	5.50	24.00					
	8	7.30	12.10					
	8	17.30	23.22					
	9	7.30	12.10					
	9	16.52	22.12					
	10	16.52	22.12					
	11	5.50	12.10					
	11	16.52	22.12					

4/23/2007-5/31/2007								
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/23/2007	1	0.00	15.01		5/13/2007	1	NA	NA
	2	0.00	24.00			2	NA	NA
	3	0.00	24.00			3	NA	NA
	4	0.00	24.00			4	0.00	0.11
	5	0.00	24.00			4	16.12	23.45
	6	0.00	24.00			5	0.00	24.00
	7	0.00	24.00			6	0.00	0.11
	8	0.00	24.00			7	0.00	24.00
	9	0.00	24.00			8	NA	NA
	10	0.00	24.00			9	17.20	22.55
	11	0.00	24.00			10	16.12	22.55
						11	0.00	0.11
42/4/07	1	NA	NA			11	16.12	23.45
	2	0.00	24.00					
	3	0.00	24.00		5/14/2007	1	20.25	24.00
	4	0.00	24.00			2	NA	NA
	5	0.00	24.00			3	13.09	18.00
	6	0.00	24.00			4	4.55	20.08
	7	0.00	24.00			5	0.00	24.00
	8	0.00	24.00			6	4.55	20.08
	9	0.00	24.00			7	0.00	20.25
	10	0.00	24.00			8	13.09	18.00
	11	0.00	24.00			9	5.54	18.00
						10	5.54	18.00
4/25/2007	1	18.31	24.00			11	4.55	4.58
	2	0.00	23.15			11	5.54	20.08
	3	0.00	23.15					
	4	0.00	18.58		5/15/2007	1	0.00	19.40
	5	0.00	24.00			2	14.27	19.40
	6	0.00	24.00			3	14.22	19.40
	7	0.00	24.00			4	14.22	20.00
	8	0.00	24.00			5	0.00	24.00
	9	0.00	24.00			6	6.08	24.00
	10	0.00	23.15			7	6.08	20.00
	11	0.00	23.15			8	14.30	19.40
						9	14.15	19.40
4/26/2007	1	0.00	0.25			10	6.08	19.40
	1	5.24	24.00			11	6.08	19.40
	2	5.24	23.22					
	3	5.24	24.00		5/16/2007	1	11.47	17.20
	4	5.24	24.00			2	11.47	17.20
	5	0.00	24.00			3	11.47	17.20
	6	0.00	24.00			4	6.27	21.07
	7	0.00	24.00			5	0.00	24.00
	8	0.00	23.22			6	0.00	21.07
	9	0.00	0.25			7	6.27	24.00
	9	5.24	24.00			8	11.47	17.20
	10	5.24	23.22			9	6.27	17.20
	11	5.24	23.22			10	11.47	17.20

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
						11	6.27	21.07
4/27/2007	1	0.00	24.00					
	2	6.53	24.00		5/17/2007	1	13.15	19.07
	3	0.00	0.25			2	13.15	19.07
	3	6.53	24.00			3	13.15	19.07
	4	0.00	0.25			4	6.12	21.49
	4	6.53	24.00			5	0.00	24.00
	5	0.00	24.00			6	6.12	21.49
	6	0.00	24.00			7	0.00	24.00
	7	0.00	24.00			8	13.15	19.07
	8	6.53	24.00			9	13.15	13.37
	9	0.00	0.25			9	14.00	14.51
	9	6.53	24.00			9	16.19	19.07
	10	6.53	24.00			10	13.15	19.07
	11	6.53	24.00			11	6.12	19.07
4/28/2007	1	0.00	24.00		5/18/2007	1	NA	NA
	2	0.00	0.33			2	NA	NA
	2	11.40	24.00			3	NA	NA
	3	0.00	24.00			4	6.10	22.03
	4	0.00	24.00			5	0.00	24.00
	5	0.00	24.00			6	6.10	22.03
	6	0.00	24.00			7	0.00	24.00
	7	0.00	24.00			8	12.09	18.00
	8	0.00	24.00			9	12.09	18.00
	9	0.00	24.00			10	NA	NA
	10	0.00	24.00			11	6.10	22.03
	11	0.00	0.33					
					5/19/2007	1	NA	NA
4/29/2007	1	0.00	24.00			2	NA	NA
	2	0.00	0.26			3	NA	NA
	2	17.23	24.00			4	18.13	21.00
	3	0.00	24.00			5	0.00	24.00
	4	0.00	24.00			6	18.13	21.00
	5	0.00	24.00			7	0.00	14.00
	6	0.00	24.00			7	18.13	24.00
	7	0.00	24.00			8	13.57	21.00
	8	0.00	12.01			9	NA	NA
	8	17.23	24.00			10	NA	NA
	9	0.00	12.01			11	NA	NA
	9	17.23	24.00					
	10	0.00	0.26		5/20/2007	1	NA	NA
	10	17.23	24.00			2	NA	NA
	11	17.23	24.00			3	NA	NA
						4	18.07	23.05
4/30/2007	1	0.00	22.07			5	0.00	24.00
	2	0.00	0.05			6	18.07	23.05
	2	5.11	20.12			7	0.00	24.00
	3	0.00	22.07			8	NA	NA
	4	0.00	22.07			9	18.07	23.05
	5	0.00	24.00			10	NA	NA
	6	0.00	22.07			11	18.07	23.05

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	0.00	24.00					
	8	0.00	20.12		5/21/2007	1	NA	NA
	9	0.00	22.07			2	NA	NA
	10	0.00	0.05			3	NA	NA
	10	5.11	20.12			4	6.09	22.01
	11	0.00	0.05			5	0.00	24.00
	11	5.11	20.12			6	6.09	22.01
						7	0.00	24.00
5/1/2007	1	5.50	11.05			8	13.17	18.05
	1	14.10	24.00			8	20.02	21.47
	2	5.48	11.05			9	13.17	18.05
	2	14.10	23.31			9	20.02	21.52
	3	2.58	11.05			10	NA	NA
	3	14.10	23.31			11	13.17	21.57
	4	5.48	23.31					
	5	0.00	24.00		5/22/2007	1	NA	NA
	6	5.48	24.00			2	NA	NA
	7	0.00	24.00			3	NA	NA
	8	2.58	23.31			4	6.13	21.52
	9	4.28	11.05			5	0.00	24.00
	9	14.10	23.31			6	6.13	21.52
	10	5.48	23.31			7	0.00	24.00
	11	5.48	11.05			8	13.01	21.00
	11	14.10	23.31			9	13.01	21.05
						10	NA	NA
5/2/2007	1	0.00	11.16			11	13.01	21.10
	1	16.20	24.00					
	2	6.08	22.11		5/23/2007	1	NA	NA
	3	6.08	11.16			2	22.16	24.00
	3	16.20	22.11			3	NA	NA
	4	6.08	22.11			4	12.25	21.00
	5	0.00	24.00			5	0.00	22.18
	6	0.00	24.00			6	12.25	21.00
	7	0.00	11.16			7	0.00	24.00
	7	16.20	24.00			8	13.03	20.16
	8	6.08	22.11			9	13.03	20.16
	9	6.08	11.16			10	NA	NA
	9	16.20	22.11			11	13.03	20.16
	10	6.08	22.11					
	11	6.08	11.16		5/24/2007	1	NA	NA
	11	16.20	22.11			2	0.00	1.02
						3	NA	NA
5/3/2007	1	0.00	10.55			4	13.05	21.08
	1	16.10	24.00			5	1.00	24.00
	2	5.12	24.00			6	13.05	21.08
	3	5.12	10.55			7	0.00	24.00
	3	16.10	24.00			8	14.17	20.43
	4	5.12	24.00			9	14.17	20.43
	5	0.00	24.00			10	NA	NA
	6	0.00	24.00			11	14.17	20.43
	7	0.00	10.55					
	7	16.10	24.00		5/25/2007	1	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	8	5.12	10.55			2	NA	NA
	8	16.10	24.00			3	NA	NA
	9	5.12	10.55			4	13.29	21.20
	9	16.10	24.00			4	23.19	24.00
	10	5.12	10.55			5	0.00	24.00
	10	16.10	24.00			6	13.29	21.20
	11	5.12	10.55			6	22.56	24.00
	11	16.10	24.00			7	0.00	24.00
						8	14.38	20.05
5/4/2007	1	0.00	9.57			9	14.38	20.05
	1	14.03	24.00			10	NA	NA
	2	0.00	1.02			11	13.29	20.05
	2	6.16	9.57					
	2	14.03	24.00		5/26/2007	1	NA	NA
	3	0.00	1.02			2	NA	NA
	3	6.16	9.57			3	NA	NA
	3	14.03	24.00			4	0.00	0.49
	4	0.00	24.00			4	13.22	23.14
	5	0.00	24.00			5	0.00	24.00
	6	0.00	24.00			6	0.00	1.01
	7	0.00	1.02			6	13.22	23.14
	7	6.16	24.00			7	0.00	24.00
	8	0.00	1.02			8	NA	NA
	8	6.16	9.57			9	NA	NA
	8	13.17	24.00			10	19.44	21.10
	9	0.00	1.02			11	19.44	22.01
	9	6.16	9.57					
	9	14.03	16.29		5/27/2007	1	NA	NA
	9	17.05	24.00			2	NA	NA
	10	0.00	1.02			3	NA	NA
	10	6.16	9.57			4	13.06	23.50
	10	14.03	24.00			5	0.00	24.00
	11	0.00	1.02			6	13.06	23.50
	11	6.16	9.57			7	0.00	24.00
	11	14.03	24.00			8	NA	NA
						9	NA	NA
5/5/2007	1	0.00	0.22			10	NA	NA
	2	0.00	0.22			11	13.06	17.50
	3	0.00	0.22					
	4	0.00	24.00		5/28/2007	1	NA	NA
	5	0.00	24.00			2	NA	NA
	6	0.00	24.00			3	21.44	21.47
	7	0.00	24.00			4	13.35	18.05
	8	0.00	24.00			5	0.00	24.00
	9	0.00	0.22			6	NA	NA
	9	6.10	12.05			7	0.00	24.00
	9	15.47	24.00			8	NA	NA
	10	0.00	24.00			9	NA	NA
	11	0.00	0.22			10	13.44	18.05
	11	6.10	12.05			11	13.35	18.05
	11	15.47	24.00					
					5/29/2007	1	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
5/6/2007	1	NA	NA			2	NA	NA
	2	NA	NA			3	NA	NA
	3	NA	NA			4	NA	NA
	4	0.00	24.00			5	0.00	10.50
	5	0.00	24.00			5	16.51	24.00
	6	0.00	24.00			6	NA	NA
	7	0.00	24.00			7	0.00	10.50
	8	0.00	0.20			7	16.51	24.00
	8	16.36	24.00			8	10.50	21.08
	9	0.00	0.20			9	13.05	21.08
	9	6.15	12.46			9	22.55	24.00
	9	16.36	24.00			10	13.05	16.51
	10	0.00	0.20			11	13.05	21.08
	10	6.15	12.46			11	22.55	24.00
	10	16.36	24.00					
	11	0.00	24.00		5/30/2007	1	13.55	14.03
						1	14.20	22.18
5/7/2007	1	6.03	11.10			2	NA	NA
	1	16.28	23.01			3	13.55	14.03
	2	6.03	11.10			3	14.28	22.18
	2	16.24	23.01			4	13.55	14.03
	3	0.27	23.01			4	14.28	22.18
	4	0.00	24.00			5	0.00	24.00
	5	0.00	24.00			6	13.55	14.03
	6	0.00	24.00			6	14.20	22.18
	7	0.00	0.30			7	0.00	24.00
	7	6.03	11.12			8	NA	NA
	7	16.24	23.01			9	NA	NA
	8	0.00	0.15			10	NA	NA
	8	6.03	11.10			11	NA	NA
	8	16.24	23.01					
	9	0.00	0.15		5/31/2007	1	NA	NA
	9	6.03	11.10			2	NA	NA
	9	16.24	23.01			3	NA	NA
	10	0.00	0.15			4	13.11	22.17
	10	6.03	11.10			5	0.00	24.00
	10	16.24	23.01			6	13.11	22.17
	11	0.00	0.15			7	0.00	24.00
	11	6.03	23.01			8	NA	NA
						9	NA	NA
5/8/2007	1	6.10	8.05			10	19.13	22.17
	2	6.10	8.05			11	NA	NA
	3	6.10	8.05					
	3	17.15	22.57					
	4	0.00	23.13					
	5	0.00	24.00					
	6	0.00	23.13					
	7	0.00	24.00					
	8	6.15	8.05					
	9	6.15	11.00					
	9	17.15	22.57					
	10	6.15	11.00					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	17.15	22.57					
	11	6.15	11.00					
	11	17.15	22.57					
5/9/2007	1	20.10	22.12					
	2	6.04	11.02					
	2	16.27	22.12					
	3	6.02	11.02					
	3	16.27	22.12					
	4	5.12	24.00					
	5	0.00	24.00					
	6	5.12	24.00					
	7	0.00	24.00					
	8	6.10	11.02					
	8	16.27	22.12					
	9	6.06	11.05					
	9	16.27	22.12					
	10	6.08	11.05					
	10	16.27	22.12					
	11	5.12	5.14					
	11	6.02	11.02					
	11	16.27	22.12					
5/10/2007	1	6.18	8.00					
	2	6.18	11.09					
	3	6.18	8.00					
	4	5.17	8.00					
	4	11.08	23.00					
	5	0.00	24.00					
	6	5.17	23.00					
	7	0.00	24.00					
	8	6.10	8.00					
	9	6.10	10.56					
	9	16.14	22.05					
	10	6.03	10.56					
	10	16.14	22.05					
	11	6.03	10.56					
	11	16.14	22.05					
5/11/2007	1	16.25	21.16					
	2	16.25	21.16					
	3	16.25	21.16					
	4	5.14	22.20					
	5	0.00	24.00					
	6	5.14	22.20					
	7	0.00	24.00					
	8	6.00	11.00					
	8	16.25	21.16					
	9	6.00	11.00					
	9	16.25	21.16					
	10	6.00	11.00					
	10	16.25	21.16					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	16.25	21.16					
5/12/2007	1	18.20	23.37					
	2	18.20	23.37					
	3	18.20	23.37					
	4	7.11	24.00					
	5	0.00	24.00					
	6	7.11	24.00					
	7	0.00	24.00					
	8	18.20	23.37					
	9	18.20	23.37					
	10	18.20	23.37					
	11	7.11	24.00					

4/16/2008-6/6/2008								
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/16/2008	1	4.11	11.28		5/13/2008	1	5.56	24.00
	1	17.19	23.06			2	5.56	24.00
	2	5.10	11.28			3	5.56	24.00
	2	17.19	22.22			4	5.26	24.00
	3	4.11	11.28			5	0.00	24.00
	3	17.19	22.22			6	5.26	24.00
	4	5.10	23.06			7	0.00	24.00
	5	0.00	24.00			8	5.56	24.00
	6	0.00	24.00			9	5.26	24.00
	7	5.10	22.22			10	5.56	24.00
	8	5.10	11.28			11	5.56	24.00
	8	17.19	22.22					
	9	5.10	11.28		5/14/2008	1	0.00	0.52
	9	17.19	22.22			1	6.11	22.18
	10	5.10	11.28			2	0.00	0.52
	10	17.19	22.22			2	6.11	22.18
	11	4.11	11.28			3	0.00	0.52
	11	17.19	23.06			3	6.11	22.18
						4	0.00	0.52
4/17/2008	1	5.09	11.05			4	5.24	23.19
	2	5.09	11.05			5	0.00	24.00
	3	4.13	11.05			6	0.00	0.52
	3	15.30	23.45			6	5.24	23.19
	4	4.13	23.45			7	0.00	24.00
	5	0.00	24.00			8	0.00	0.52
	6	0.00	23.33			8	6.11	22.18
	7	5.09	15.31			9	0.00	0.52
	8	5.09	11.05			9	5.24	23.19
	8	17.24	24.00			10	0.00	0.52
	9	5.09	11.05			10	6.11	22.18
	9	17.24	23.28			11	0.00	0.52
	10	5.09	11.05			11	6.11	22.18
	11	4.13	11.05					
					5/15/2008	1	6.03	23.15
4/18/2008	1	5.12	11.00			2	6.03	23.15
	1	17.23	22.11			3	6.03	23.15
	2	5.12	11.00			4	5.23	24.00
	2	17.23	22.11			5	0.00	24.00
	3	4.12	23.04			6	5.23	24.00
	4	4.12	23.04			7	0.00	24.00
	5	0.00	24.00			8	6.03	23.15
	6	1.48	24.00			9	5.23	24.00
	7	5.12	11.00			10	6.03	23.15
	7	17.23	22.11			11	6.03	23.15
	8	0.00	0.23					
	8	5.12	11.00		5/16/2008	1	6.14	13.24
	8	17.23	22.11			1	18.03	24.00
	9	5.12	11.00			2	6.14	13.24
	9	17.23	22.11			2	18.03	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	5.12	11.00			3	6.14	13.24
	10	17.23	23.04			3	18.03	24.00
	11	0.22	11.00			4	5.07	24.00
	11	17.23	22.11			5	0.00	24.00
						6	5.07	24.00
4/19/2008	1	NA	NA			7	0.00	24.00
	2	NA	NA			8	6.14	24.00
	3	6.17	12.04			9	5.07	13.24
	3	18.06	23.01			9	18.03	24.00
	4	6.17	12.04			10	6.14	13.24
	4	18.06	23.01			10	18.03	24.00
	5	0.00	24.00			11	6.40	13.24
	6	0.00	24.00			11	18.03	24.00
	7	NA	NA					
	8	6.17	11.18		5/17/2008	1	0.00	0.09
	9	6.17	11.18			1	8.37	22.58
	9	18.06	23.01			2	0.00	0.09
	10	6.17	11.18			2	8.37	22.58
	10	18.06	23.01			3	0.00	0.09
	11	NA	NA			3	8.37	22.58
						4	0.00	1.10
4/20/2008	1	NA	NA			4	7.27	24.00
	2	NA	NA			5	0.00	24.00
	3	14.21	23.00			6	0.00	1.10
	4	14.21	23.00			6	7.27	24.00
	5	0.00	24.00			7	0.00	24.00
	6	0.00	24.00			8	0.00	1.10
	7	NA	NA			8	7.27	24.00
	8	16.54	23.00			9	0.00	0.09
	9	14.21	23.00			9	8.37	22.58
	10	16.54	23.00			10	0.00	0.09
	11	NA	NA			10	8.37	22.58
						11	0.00	0.09
4/21/2008	1	5.05	8.05			11	8.37	22.58
	1	17.48	22.02					
	2	5.05	8.05		5/18/2008	1	17.17	24.00
	2	17.48	22.02			2	17.17	24.00
	3	4.18	15.00			3	17.17	24.00
	3	17.21	23.05			4	0.00	0.29
	4	4.18	15.00			4	11.03	24.00
	4	17.21	23.05			5	0.00	24.00
	5	0.00	24.00			6	0.00	0.29
	6	0.00	24.00			6	11.03	24.00
	7	5.05	8.05			7	0.00	24.00
	7	17.48	22.02			8	0.00	0.29
	8	5.05	15.00			8	11.03	24.00
	8	17.48	22.02			9	11.03	24.00
	9	4.18	15.00			10	11.03	24.00
	9	17.21	23.05			11	11.03	24.00
	10	5.05	15.00					
	10	17.48	22.02		5/19/2008	1	0.00	0.05
	11	5.05	8.05			1	5.09	23.03

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	17.48	22.02			2	0.00	0.05
						2	5.09	23.03
4/22/2008	1	18.21	22.45			3	0.00	0.05
	2	18.21	22.45			3	5.09	24.00
	3	4.11	24.00			4	0.00	24.00
	4	4.11	24.00			5	0.00	24.00
	5	0.00	24.00			6	0.00	24.00
	6	0.00	24.00			7	0.00	24.00
	7	18.21	22.45			8	0.00	0.05
	8	5.13	22.45			8	5.09	23.03
	9	4.11	24.00			9	0.00	24.00
	10	5.13	22.45			10	0.00	0.05
	11	18.21	22.45			10	5.09	23.03
						11	0.00	24.00
4/23/2008	1	19.56	23.30					
	2	19.56	23.30		5/20/2008	1	5.03	22.23
	3	4.12	24.00			2	5.03	22.23
	4	0.00	24.00			3	0.00	24.00
	5	0.00	24.00			4	0.00	24.00
	6	4.12	24.00			5	0.00	24.00
	7	19.56	23.30			6	0.00	24.00
	8	4.56	23.30			7	5.03	22.23
	9	4.12	24.00			8	5.03	22.23
	10	4.56	23.30			9	0.00	22.23
	11	19.56	23.30			10	5.03	22.23
						11	0.00	24.00
4/24/2008	1	14.07	17.53					
	2	14.07	17.53		5/21/2008	1	5.12	22.53
	3	0.00	11.17			2	5.12	22.53
	3	13.13	22.06			3	5.12	22.53
	4	0.00	0.22			4	0.00	0.10
	4	4.26	11.17			4	4.34	24.00
	4	13.13	22.06			5	0.00	24.00
	5	0.00	0.22			6	0.00	0.10
	5	4.26	24.00			6	4.34	24.00
	6	0.00	24.00			7	0.00	24.00
	7	14.07	17.53			8	5.12	22.53
	8	14.07	17.53			9	5.12	22.53
	9	0.00	0.22			10	5.12	22.53
	9	4.26	10.02			11	0.00	0.10
	9	14.07	22.06			11	4.34	24.00
	10	5.00	10.02					
	10	14.07	17.53		5/22/2008	1	5.18	23.17
	11	5.00	10.02			2	5.18	23.17
	11	14.07	17.53			3	5.18	23.17
						4	0.00	24.00
4/25/2008	1	14.04	19.30			5	0.00	24.00
	2	14.04	19.30			6	0.00	24.00
	3	6.00	24.00			7	0.00	24.00
	4	6.00	24.00			8	5.18	23.17
	5	0.00	24.00			9	5.18	23.17
	6	0.00	24.00			10	5.18	23.17

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	14.04	19.30			11	0.00	23.17
	8	14.04	23.21					
	9	12.00	24.00		5/23/2008	1	6.10	11.09
	10	12.00	23.21			1	19.11	23.04
	11	12.00	19.30			2	6.10	11.09
						2	19.11	23.04
4/26/2008	1	17.16	22.00			3	6.10	11.09
	2	17.16	22.00			3	19.11	23.04
	3	0.00	0.31			4	0.00	24.00
	3	5.04	11.02			5	0.00	24.00
	3	15.19	23.04			6	0.00	24.00
	4	0.00	0.31			7	0.00	24.00
	4	5.04	11.02			8	6.10	24.00
	4	15.19	23.04			9	6.10	11.09
	5	0.00	24.00			9	19.11	24.00
	6	0.00	24.00			10	6.10	24.00
	7	17.16	22.00			11	6.10	23.04
	8	17.16	22.00					
	9	0.00	0.31		5/24/2008	1	19.09	24.00
	9	5.04	11.02			2	19.09	24.00
	9	15.19	23.04			3	19.09	24.00
	10	16.48	22.00			4	0.00	0.05
	11	17.16	22.00			4	6.14	24.00
						5	0.00	24.00
4/27/2008	1	18.40	21.56			6	0.00	0.05
	2	18.40	21.56			6	6.14	24.00
	3	14.08	22.18			7	0.00	24.00
	4	14.08	22.17			8	0.00	0.05
	5	0.00	24.00			8	6.14	9.41
	6	0.00	24.00			8	14.44	24.00
	7	NA	NA			9	0.00	0.05
	8	14.45	21.56			9	6.14	24.00
	9	14.08	22.18			10	0.00	0.05
	10	14.45	22.18			10	6.14	8.38
	11	14.45	21.56			10	14.44	24.00
						11	19.09	24.00
4/28/2008	1	5.08	24.00					
	2	5.08	24.00		5/25/2008	1	0.00	0.05
	3	4.10	24.00			2	0.00	0.05
	4	4.10	24.00			3	0.00	0.05
	5	0.00	24.00			4	0.00	1.04
	6	0.00	24.00			4	10.05	24.00
	7	NA	NA			5	0.00	24.00
	8	5.08	24.00			6	0.00	1.04
	9	4.10	24.00			6	10.05	24.00
	10	5.08	24.00			7	0.00	24.00
	11	5.08	24.00			8	0.00	0.05
						8	10.05	22.05
4/29/2008	1	0.00	18.45			9	0.00	0.05
	2	0.00	18.07			9	13.09	22.05
	3	0.00	23.09			10	0.00	0.05
	4	0.00	23.09			10	13.09	22.05

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	5	0.00	24.00			11	0.00	1.04
	6	0.00	24.00			11	13.09	22.05
	7	NA	NA					
	8	0.00	18.45		5/26/2010	1	16.19	23.03
	9	0.00	22.01			2	16.19	23.03
	10	0.00	22.01			3	16.19	23.03
	11	0.00	23.09			4	0.00	24.00
						5	0.00	24.00
4/30/2008	1	5.14	22.00			6	0.00	24.00
	2	5.14	22.00			7	0.00	24.00
	3	4.02	24.00			8	16.19	23.03
	4	4.02	24.00			9	16.19	24.00
	5	0.00	24.00			10	16.19	23.03
	6	0.00	24.00			11	16.19	23.03
	7	NA	NA					
	8	5.14	22.00		5/27/2008	1	11.23	19.57
	9	4.02	22.00			2	11.23	19.57
	10	5.14	22.00			3	11.23	19.57
	11	5.14	24.00			4	0.00	0.03
						4	9.09	23.06
5/1/2008	1	5.27	21.24			5	0.00	24.00
	2	5.27	21.24			6	0.00	0.03
	3	0.00	23.17			6	9.09	24.00
	4	0.00	23.17			7	0.00	24.00
	5	0.00	24.00			8	9.09	23.06
	6	0.00	24.00			9	0.00	0.03
	7	18.04	21.24			9	11.23	24.00
	8	5.27	21.24			10	11.23	19.57
	9	5.27	21.24			11	11.23	23.06
	10	5.27	21.24					
	11	0.00	23.17		5/28/2008	1	10.10	17.40
						2	NA	NA
5/2/2008	1	5.03	11.19			3	9.10	17.40
	1	14.20	20.12			4	10.10	17.40
	1	20.55	24.00			4	19.18	23.31
	2	5.03	11.19			5	0.00	0.19
	2	14.20	20.12			5	19.27	23.31
	2	20.55	23.48			6	0.00	0.19
	3	4.27	11.19			6	10.10	24.00
	3	14.20	20.12			7	0.00	0.19
	3	20.55	23.48			7	9.10	24.00
	4	4.27	23.48			7	20.15	23.31
	5	0.00	24.00			9	0.00	24.00
	6	0.00	24.00			10	10.10	17.40
	7	5.03	24.00			10	20.15	23.31
	8	5.03	11.19			11	20.15	23.31
	8	14.20	20.12					
	8	20.55	23.48		5/29/2008	1	11.25	18.06
	9	4.27	11.19			2	14.15	18.06
	9	14.20	23.48			3	14.15	18.06
	10	5.03	11.19			4	11.25	18.11
	10	14.20	20.12			5	10.09	18.11

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	20.55	23.48			6	0.00	0.30
	11	5.03	20.12			6	10.09	19.27
	11	20.55	24.00			7	0.00	0.30
						7	10.09	19.27
5/3/2008	1	0.00	0.24			8	14.15	24.00
	1	7.30	10.01			9	0.00	18.11
	1	17.06	22.10			10	11.25	18.11
	2	7.30	10.01			11	11.25	18.11
	2	17.06	22.10					
	3	7.30	10.01		5/30/2008	1	12.10	16.03
	3	17.06	22.10			2	12.10	16.03
	4	6.13	11.10			3	12.10	16.03
	4	16.44	24.00			4	9.31	16.59
	5	0.00	24.00			4	22.57	24.00
	6	0.00	11.10			5	9.31	24.00
	6	16.44	24.00			6	9.31	16.59
	7	0.00	0.24			6	22.57	24.00
	7	6.13	24.00			7	9.31	24.00
	8	7.30	10.01			8	0.00	16.03
	8	16.44	22.10			9	9.31	16.03
	9	7.30	11.10			10	9.31	16.03
	9	17.06	24.00			11	12.10	16.03
	10	7.30	10.01					
	10	17.06	22.10		5/31/2008	1	NA	NA
	11	0.00	0.24			2	NA	NA
	11	7.30	10.01			3	NA	
	11	17.06	22.10			4	0.00	3.39
						4	10.55	17.20
5/4/2008	1	16.11	22.50			5	0.00	24.00
	2	16.11	22.50			6	0.00	3.39
	3	16.11	22.50			6	10.55	20.10
	4	0.00	0.24			7	0.00	24.00
	4	12.07	22.50			8	10.55	17.20
	5	0.00	24.00			9	13.01	16.12
	6	0.00	0.24			10	12.11	16.12
	6	12.07	22.50			11	13.09	16.12
	7	0.00	24.00					
	8	16.11	22.50		6/1/2008	1	NA	NA
	9	0.00	0.24			2	NA	NA
	9	12.07	22.50			3	NA	NA
	10	12.07	22.50			4	15.12	21.17
	11	16.11	22.50			5	0.00	24.00
						6	15.12	21.17
5/5/2008	1	7.13	22.28			7	0.00	0.36
	2	7.13	22.28			7	15.12	21.17
	3	7.13	22.28			8	15.12	21.17
	4	6.42	24.00			9	NA	NA
	5	0.00	24.00			10	NA	NA
	6	6.42	24.00			11	NA	NA
	7	0.00	24.00					
	8	7.13	22.28		6/2/2008	1	NA	NA
	9	6.42	22.28			2	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	7.13	22.28			3	NA	NA
	11	7.13	24.00			4	10.19	22.08
						5	0.00	24.00
5/6/2008	1	6.12	21.21			6	10.19	22.08
	2	6.12	21.21			7	10.19	22.08
	3	6.12	21.21			8	10.19	22.08
	4	0.00	0.21			9	11.37	18.01
	4	5.07	22.05			10	11.37	18.01
	5	0.00	24.00			11	11.37	18.10
	6	0.00	0.21					
	6	5.07	22.05		6/3/2008	1	NA	NA
	7	0.00	24.00			2	NA	NA
	8	6.12	21.21			3	13.05	19.17
	9	5.07	21.21			4	11.21	19.07
	10	6.12	21.21			5	0.00	24.00
	11	0.00	0.21			6	11.21	19.17
	11	6.12	22.05			7	NA	NA
						8	14.03	19.07
5/7/2008	1	8.15	21.19			9	14.03	19.07
	2	8.15	21.19			10	14.03	19.07
	3	8.15	21.19			11	14.03	19.07
	4	5.27	22.02					
	5	0.00	24.00		6/4/2008	1	NA	NA
	6	5.27	22.02			2	NA	NA
	7	0.00	24.00			3	13.43	14.23
	8	8.15	21.19			4	12.00	19.03
	9	5.27	21.19			5	0.00	13.43
	10	8.15	21.19			5	14.23	24.00
	11	8.15	21.19			6	11.16	19.03
						7	11.16	20.03
5/8/2008	1	10.15	17.14			8	13.23	19.03
	2	10.15	17.14			9	13.23	18.11
	3	10.15	17.14			10	13.23	18.11
	4	6.01	23.21			11	13.23	18.11
	5	0.00	24.00					
	6	6.01	24.00		6/5/2008	1	NA	NA
	7	0.00	23.21			2	11.15	21.27
	8	8.13	22.23			3	NA	NA
	9	8.13	22.23			4	11.15	21.27
	10	8.13	22.23			5	0.00	24.00
	11	8.13	17.14			6	11.15	21.27
						7	NA	NA
5/9/2008	1	NA	NA			8	11.15	20.07
	2	NA	NA			9	12.30	20.07
	3	7.00	24.00			10	12.30	20.07
	4	7.00	24.00			11	12.30	21.27
	5	0.00	24.00					
	6	0.00	24.00		6/6/2008	1	NA	NA
	7	NA	NA			2	NA	NA
	8	11.10	23.14			3	NA	NA
	9	8.10	23.14			4	10.54	20.02
	10	8.10	23.14			5	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	11.10	23.14			6	10.54	20.02
						7	10.54	21.05
5/10/2008	1	NA	NA			8	10.54	19.28
	2	NA	NA			9	12.30	19.28
	3	0.00	0.30			10	12.30	19.28
	4	0.00	0.30			11	12.30	20.02
	4	6.03	23.03					
	5	0.00	24.00					
	6	0.00	23.03					
	7	6.03	24.00					
	8	8.25	13.30					
	8	18.08	23.03					
	9	6.03	13.30					
	9	18.08	23.03					
	10	8.25	13.30					
	10	18.08	23.03					
	11	NA	NA					
5/11/2008	1	18.13	23.15					
	2	18.13	23.15					
	3	18.13	23.15					
	4	13.10	24.00					
	5	0.00	24.00					
	6	13.10	24.00					
	7	0.00	24.00					
	8	18.13	24.00					
	9	13.10	23.15					
	10	15.55	23.15					
	11	18.13	23.15					
5/12/2008	1	6.02	15.03					
	1	19.29	21.58					
	2	6.02	15.03					
	2	19.29	21.58					
	3	6.02	15.03					
	3	19.29	21.58					
	4	0.00	0.15					
	4	5.04	23.16					
	5	0.00	24.00					
	6	0.00	0.15					
	6	5.04	23.16					
	7	0.00	24.00					
	8	0.00	0.15					
	8	6.02	21.58					
	9	5.04	23.16					
	10	5.04	5.10					
	10	6.02	21.58					
	11	6.02	21.58					

	4/1/2009-6/6/2009							
Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/1/2009	1	0.00	0.06		5/6/2009	1	10.02	23.08
	1	17.13	22.12			2	10.02	23.08
	2	0.00	24			3	10.02	23.08
	3	5.05	11.08			4	9.06	24.00
	3	17.13	22.12			5	0.00	24.00
	4	6.27	11.08			6	9.06	24.00
	4	17.13	22.12			7	0.00	24.00
	5	6.27	11.08			8	10.02	23.08
	5	17.13	22.12			9	10.02	23.08
	6	0.00	0.06			10	9.06	24.00
	6	5.05	11.08			11	10.02	23.08
	6	17.13	22.12					
	7	0.00	24.00		5/7/2009	1	9.16	23.08
	8	6.27	11.08			2	9.16	23.08
	8	17.13	22.12			3	8.11	23.08
	9	6.27	11.08			4	0.00	0.05
	10	NA	NA			4	9.16	24.00
	11	NA	NA			5	0.00	24.00
						6	0.00	0.05
4/2/2009	1	17.15	23.07			6	8.11	24.00
	2	0.00	24.00			7	0.00	24.00
	3	5.07	11.07			8	8.11	23.08
	3	16.12	22.07			9	9.16	23.08
	4	6.32	11.07			10	0.00	0.05
	4	16.12	22.07			10	9.16	24.00
	5	6.32	11.07			11	9.16	23.08
	5	16.12	22.07					
	6	5.07	11.07		5/8/2009	1	8.14	23.24
	6	16.12	23.07			2	8.14	24.00
	7	0.00	24.00			3	8.14	24.00
	8	6.32	11.07			4	0.00	24.00
	9	6.32	11.07			5	0.00	24.00
	9	17.15	22.07			6	0.00	24.00
	10	17.15	22.07			7	0.00	24.00
	11	17.15	22.07			8	8.14	23.24
						9	8.14	23.24
4/3/2009	1	6.14	11.06			10	0.00	23.24
	1	18.07	23.01			11	8.14	23.24
	2	0.00	24.00					
	3	5.01	11.06		5/9/2009	1	17.16	23.10
	3	17.23	22.06			2	0.00	0.50
	4	6.14	11.06			2	17.16	22.11
	4	17.23	22.06			3	0.00	0.50
	5	6.14	12.06			3	17.16	23.10
	5	18.17	22.06			4	0.00	0.50
	6	5.01	12.06			4	8.07	22.11
	6	18.07	23.01			5	0.00	24.00
	7	0.00	24.00			6	0.00	0.50
	8	18.07	22.06			6	8.07	22.11

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	9	6.14	11.06			7	0.00	24.00
	9	18.07	22.06			8	17.16	23.10
	10	6.14	11.06			9	17.16	22.11
	10	18.07	22.06			10	8.07	22.11
	11	NA	NA			11	17.16	22.11
4/4/2009	1	7.05	11.12		5/10/2009	1	19.48	24.00
	1	16.07	22.24			2	19.48	23.04
	2	0.00	24.00			3	19.48	24.00
	3	7.05	11.12			4	8.44	23.04
	3	16.07	24.00			5	0.00	24.00
	4	7.05	24.00			6	8.44	23.04
	5	7.05	11.12			7	0.00	24.00
	5	16.07	24.00			8	11.26	24.00
	6	7.05	24.00			9	11.26	23.04
	7	0.00	24.00			10	8.44	23.04
	8	7.05	11.12			11	19.48	23.04
	8	16.07	22.24					
	9	7.05	22.24		5/11/2009	1	0.00	0.03
	10	16.07	22.24			2	NA	NA
	11	16.07	22.24			3	0.00	0.03
						3	7.15	21.25
4/5/2009	1	10.29	24.00			4	5.13	5.28
	2	0.00	24.00			4	6.05	21.25
	3	0.00	0.03			5	0.00	24.00
	3	10.29	24.00			6	6.05	21.25
	4	0.00	0.03			7	0.00	24.00
	4	7.58	24.00			8	0.00	0.03
	5	0.00	0.03			8	7.15	21.25
	5	10.29	24.00			9	7.15	21.25
	6	0.00	0.03			10	6.05	21.25
	6	7.58	24.00			11	7.15	21.25
	7	0.00	24.00					
	8	10.29	24.00		5/12/2009	1	NA	NA
	9	7.58	24.00			2	NA	NA
	10	7.58	24.00			3	7.56	22.01
	11	10.29	24.00			4	7.12	22.07
						5	0.00	5.45
4/6/2009	1	0.00	0.03			5	7.12	24.00
	1	6.22	24.00			6	5.33	22.07
	2	0.00	24.00			7	0.00	24.00
	3	0.00	24.00			8	7.56	22.01
	4	0.00	24.00			9	7.56	22.07
	5	0.00	0.03			10	7.12	22.01
	5	6.22	24.00			11	7.56	22.01
	6	0.00	0.03					
	6	6.22	24.00		5/13/2009	1	NA	NA
	7	0.00	24.00			2	NA	NA
	8	0.00	11.09			3	NA	NA
	8	11.25	24.00			4	6.15	23.00
	9	0.00	0.03			5	0.00	24.00
	9	6.22	24.00			6	6.15	23.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	0.00	0.03			7	0.00	24.00
	10	6.22	11.09			8	8.10	18.03
	10	11.25	24.00			9	6.15	18.03
	11	0.00	0.03			10	NA	NA
	11	6.22	11.09			11	8.15	18.03
	11	11.25	24.00					
					5/14/2009	1	NA	NA
4/7/2009	1	0.00	0.06			2	NA	NA
	1	5.10	24.00			3	NA	NA
	2	0.00	24.00			4	6.15	22.33
	3	0.00	24.00			5	0.00	2.02
	4	0.00	24.00			5	3.07	4.33
	5	0.00	0.06			5	6.15	24.00
	5	5.10	24.00			6	6.15	22.33
	6	0.00	0.06			7	0.00	2.02
	6	5.10	24.00			7	3.07	4.33
	7	0.00	24.00			7	6.15	24.00
	8	0.00	24.00			8	8.13	20.28
	9	0.00	0.06			9	2.02	3.07
	9	5.10	24.00			9	8.13	20.28
	10	0.00	0.06			10	4.33	20.28
	10	5.10	24.00			11	NA	NA
	11	0.00	0.06					
	11	5.10	24.00		5/15/2009	1	NA	NA
						2	NA	NA
4/8/2009	1	0.00	24.00			3	NA	NA
	2	0.00	24.00			4	4.02	24.00
	3	0.00	24.00			5	0.00	1.05
	4	0.00	24.00			5	4.02	24.00
	5	0.00	0.08			6	7.07	24.00
	5	8.58	24.00			7	0.00	1.05
	6	0.00	24.00			7	7.07	24.00
	7	0.00	23.15			8	2.26	4.02
	8	0.00	23.15			8	8.15	20.01
	9	0.00	24.00			8	21.52	23.03
	10	0.00	0.08			9	7.07	23.03
	10	8.58	23.15			10	7.07	7.10
	11	0.00	23.15			10	8.15	20.01
						10	21.52	23.03
4/9/2009	1	0.00	0.09			11	1.05	2.26
	2	5.19	23.10					
	3	0.00	24.00		5/16/2009	1	1.40	24.00
	4	0.00	0.09			2	NA	NA
	4	5.19	23.10			3	0.17	1.40
	5	0.00	23.10			3	22.26	24.00
	6	0.00	0.09			4	0.00	0.02
	6	5.19	21.57			4	22.26	24.00
	7	5.19	24.00			5	0.00	24.00
	8	6.45	23.10			6	0.00	0.02
	9	0.00	0.09			6	7.37	24.00
	9	6.45	21.57			7	0.00	0.17
	10	6.45	21.57			7	7.37	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	6.52	21.57			8	NA	NA
						9	7.37	24.00
4/10/2009	1	8.10	24.00			10	13.30	24.00
	2	0.00	24.00			11	NA	NA
	3	7.10	24.00					
	4	7.10	23.05		5/17/2009	1	0.00	0.02
	5	7.10	23.05			1	16.21	22.00
	6	7.10	23.05			2	16.21	22.00
	7	0.00	24.00			3	0.00	22.00
	8	8.10	24.00			4	0.00	0.02
	9	8.10	24.00			4	16.21	22.00
	10	8.10	23.05			5	0.00	24.00
	11	7.10	23.05			6	0.00	0.02
						6	13.06	23.03
4/11/2009	1	0.00	24.00			7	0.00	24.00
	2	0.00	24.00			8	16.21	22.00
	3	0.00	0.07			9	0.00	0.02
	3	6.09	24.00			9	13.06	23.03
	4	7.08	24.00			10	0.00	0.02
	5	7.08	24.00			10	13.06	23.03
	6	7.08	23.24			11	16.21	22.00
	7	0.00	24.00					
	8	0.00	0.07		5/18/2009	1	10.06	15.17
	8	6.09	23.24			1	18.14	23.02
	9	0.00	0.07			2	10.06	15.17
	9	7.08	12.03			2	18.14	24.00
	9	16.09	24.00			3	9.02	24.00
	10	7.08	12.03			4	10.06	15.17
	10	16.09	23.24			4	18.14	24.00
	11	6.09	12.03			5	0.00	24.00
	11	16.09	23.24			6	9.02	24.00
						7	0.00	24.00
4/12/2009	1	0.00	0.09			8	10.06	15.17
	1	12.03	22.03			8	18.14	23.02
	2	0.00	24.00			9	9.02	15.17
	3	0.00	0.09			9	18.14	23.02
	3	12.03	24.00			10	10.06	15.17
	4	0.00	0.09			10	18.14	23.02
	4	12.03	24.00			11	10.06	23.02
	5	0.00	0.09					
	5	12.03	22.03		5/19/2009	1	10.21	23.49
	6	12.03	22.03			2	10.21	23.49
	7	0.00	24.00			3	10.21	24.00
	8	12.03	24.00			4	8.10	23.49
	9	0.00	0.09			5	0.00	24.00
	9	18.06	22.03			6	8.10	24.00
	10	18.06	22.03			7	0.00	24.00
	11	18.06	22.03			8	10.21	23.49
						9	8.10	23.49
4/13/2009	1	5.10	11.09			10	10.21	23.49
	1	17.02	24.00			11	10.21	23.49
	2	0.00	24.00					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	3	0.00	0.02		5/20/2009	1	7.07	23.00
	3	5.10	24.00			2	7.07	23.00
	4	0.00	0.02			3	0.00	24.00
	4	6.20	24.00			4	7.07	24.00
	5	6.30	11.09			5	0.00	24.00
	5	17.12	24.00			6	0.00	23.00
	6	6.20	11.09			7	0.00	24.00
	6	17.02	22.00			8	7.07	24.00
	7	0.00	24.00			9	7.07	23.00
	8	0.00	0.02			10	7.07	23.00
	8	6.20	11.09			11	7.07	23.00
	8	17.02	22.00					
	9	6.20	11.09		5/21/2009	1	13.27	21.12
	9	17.02	22.00			2	13.27	21.12
	10	6.20	11.09			3	0.00	0.02
	10	17.02	22.00			4	13.27	24.00
	11	6.20	11.09			4	0.00	0.02
	11	17.02	22.00			4	8.08	24.00
						5	0.00	24.00
4/14/2009	1	0.00	0.02			6	8.08	21.12
	1	6.09	11.20			7	0.00	24.00
	1	16.20	23.03			8	0.00	0.02
	2	0.00	11.20			8	13.27	24.00
	2	16.20	21.54			9	8.08	21.12
	3	0.00	0.02			10	8.08	21.12
	3	5.08	23.03			11	13.27	21.12
	4	0.00	0.02					
	4	6.09	11.20		5/22/2009	1	9.09	16.01
	4	16.20	21.54			2	9.09	24.00
	5	0.00	0.02			3	0.00	0.14
	5	6.09	24.00			3	8.09	24.00
	6	5.08	21.54			4	0.00	0.14
	7	0.00	24.00			4	8.09	24.00
	8	6.09	11.20			5	0.00	24.00
	8	16.20	21.54			6	9.09	24.00
	9	6.09	11.20			7	0.00	24.00
	9	16.20	21.54			8	0.00	0.14
	10	6.09	11.20			9	9.09	16.01
	10	16.20	21.54			10	9.09	16.01
	11	6.09	11.20			11	9.09	16.01
	11	16.20	21.54					
					5/23/2009	1	11.04	23.00
4/15/2009	1	6.13	12.18			2	0.00	0.10
	1	17.17	23.03			2	11.04	23.00
	2	6.13	11.17			3	0.00	0.10
	2	17.17	24.00			3	11.04	23.00
	3	5.10	11.17			4	0.00	0.10
	3	16.21	23.02			4	11.04	23.00
	4	6.13	11.17			5	0.00	24.00
	4	16.21	23.02			6	0.00	0.10
	5	0.00	23.02			6	11.04	23.00
	6	5.10	12.18			7	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	6	17.17	22.02			8	11.04	23.00
	7	0.00	24.00			9	NA	NA
	8	6.13	11.17			10	NA	NA
	8	17.17	22.02			11	NA	NA
	9	6.13	11.17					
	9	17.17	22.02		5/24/2009	1	NA	NA
	10	6.13	11.17			2	NA	NA
	10	17.17	22.02			3	11.07	24.00
	11	6.13	11.17			4	11.07	24.00
	11	17.17	22.02			5	0.00	24.00
						6	NA	NA
4/16/2009	1	6.08	11.21			7	0.00	24.00
	1	17.11	22.14			8	11.07	24.00
	2	0.00	24.00			9	11.07	24.00
	3	5.08	22.14			10	NA	NA
	4	6.08	22.14			11	NA	NA
	5	5.08	11.21					
	5	17.11	22.14		5/25/2009	1	NA	NA
	6	6.08	11.21			2	18.09	22.05
	6	17.11	22.14			3	0.00	0.07
	7	0.00	24.00			3	18.09	22.05
	8	5.08	22.14			4	0.00	0.07
	9	6.08	11.21			4	12.13	23.16
	9	17.11	22.14			5	0.00	24.00
	10	6.08	11.21			6	12.13	23.16
	10	17.11	22.14			7	0.00	24.00
	11	6.08	11.21			8	0.00	0.07
	11	17.11	22.14			8	18.09	22.05
						9	0.00	0.07
4/17/2009	1	5.05	22.37			9	12.13	22.05
	2	0.00	24.00			10	12.13	23.16
	3	5.05	12.00			11	NA	NA
	3	17.11	22.37					
	4	5.05	12.00		5/26/2009	1	NA	NA
	4	17.11	22.37			2	NA	NA
	5	5.05	12.00			3	NA	NA
	5	17.11	22.37			4	10.07	24.00
	6	5.54	22.37			5	0.00	24.00
	7	0.00	24.00			6	10.07	24.00
	8	5.54	12.00			7	0.00	24.00
	8	17.11	22.37			8	NA	NA
	9	5.54	12.00			9	10.07	24.00
	9	17.11	22.37			10	10.07	24.00
	10	5.54	12.00			11	NA	NA
	10	17.11	22.37					
	11	5.54	12.00		5/27/2009	1	NA	NA
	11	17.11	22.37			2	NA	NA
						3	NA	NA
4/18/2009	1	7.26	12.09			4	0.00	24.00
	1	16.15	23.57			5	10.06	22.03
	2	0.00	22.58			6	10.06	22.03
	3	6.16	12.09			7	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	3	16.15	22.58			8	NA	NA
	4	6.16	12.09			9	10.06	22.03
	4	16.15	22.58			10	NA	NA
	5	7.26	12.09			11	NA	NA
	5	16.15	24.00					
	6	7.26	11.03		5/28/2009	1	NA	NA
	6	17.11	23.57			2	NA	NA
	7	0.00	24.00			3	NA	NA
	8	6.16	11.03			4	0.00	24.00
	8	17.11	22.58			5	10.08	23.02
	9	7.26	11.03			6	10.08	23.02
	9	17.11	22.58			7	0.00	24.00
	10	7.26	11.03			8	10.08	10.10
	10	17.11	22.58			9	10.08	23.02
	11	7.26	11.03			10	10.08	23.02
	11	17.11	22.58			11	NA	NA
4/19/2009	1	16.10	22.15		5/29/2009	1	NA	NA
	2	16.10	22.56			2	NA	NA
	3	16.10	22.56			3	11.22	24.00
	4	16.10	22.56			4	0.00	24.00
	5	0.00	24.00			5	10.19	24.00
	6	16.10	22.56			6	10.19	24.00
	7	0.00	24.00			7	0.00	24.00
	8	17.02	22.15			8	11.22	24.00
	9	17.02	22.15			9	11.22	24.00
	10	17.02	22.15			10	11.22	24.00
	11	17.02	22.15			11	11.22	24.00
4/20/2009	1	6.08	24.00		5/30/2009	1	9.12	18.03
	2	5.08	24.00			2	9.12	24.00
	3	5.08	24.00			3	0.00	0.02
	4	5.08	24.00			3	9.12	24.00
	5	0.00	24.00			4	0.00	3.59
	6	5.08	11.02			4	5.16	24.00
	6	17.23	22.00			5	0.00	24.00
	7	0.00	24.00			6	0.00	3.59
	8	6.08	11.02			6	5.16	24.00
	8	17.23	22.00			7	0.00	24.00
	9	6.08	11.02			8	0.00	0.02
	9	17.23	22.00			8	9.12	24.00
	10	6.08	11.02			9	0.00	0.02
	10	17.23	22.00			9	5.16	24.00
	11	6.08	11.02			10	0.00	0.02
	11	17.23	22.00			10	9.12	24.00
						11	0.00	3.59
4/21/2009	1	0.00	0.02			11	9.12	18.03
	1	6.11	23.03					
	2	0.00	0.02		5/31/2009	1	10.06	24.00
	2	6.11	12.06			2	10.06	24.00
	2	17.25	24.00			3	10.06	24.00
	3	0.00	0.02			4	0.00	5.46

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	3	5.03	12.06			4	8.28	24.00
	3	17.25	23.03			5	0.00	24.00
	4	0.00	0.02			6	0.00	5.46
	4	5.03	12.06			6	8.28	24.00
	4	17.25	23.03			7	0.00	24.00
	5	0.00	23.03			8	10.06	24.00
	6	6.11	11.08			9	10.06	24.00
	6	17.25	23.03			10	10.06	24.00
	7	0.00	24.00			11	10.06	24.00
	8	6.11	11.08					
	8	18.10	22.03		6/1/2009	1	10.15	24.00
	9	6.11	11.08			2	10.15	24.00
	9	18.10	22.03			3	10.15	24.00
	10	6.11	11.08			4	0.00	24.00
	10	18.10	22.03			5	0.00	24.00
	11	6.11	11.08			6	0.00	24.00
	11	18.10	22.03			7	0.00	24.00
						8	10.15	21.07
4/22/2009	1	5.10	12.15			9	10.15	21.07
	1	18.38	22.04			10	10.15	21.07
	2	0.00	12.15			11	10.15	21.07
	2	18.38	24.00					
	3	5.10	12.15		6/2/2009	1	11.38	23.11
	3	18.38	22.04			2	0.00	24.00
	4	6.00	23.03			3	10.10	24.00
	5	6.00	22.04			4	10.10	24.00
	6	6.00	23.03			5	11.38	24.00
	7	0.00	24.00			6	11.38	24.00
	8	6.00	23.03			7	10.10	24.00
	9	6.00	12.15			8	10.10	23.11
	9	18.38	22.04			9	11.38	23.11
	10	6.00	12.15			10	11.38	23.11
	10	18.38	22.04			11	11.38	23.11
	11	6.00	12.15					
	11	18.38	22.04		6/3/2009	1	11.15	23.05
						2	0.00	24.00
4/23/2009	1	5.10	11.07			3	0.00	0.10
	1	17.11	22.05			3	10.08	23.05
	2	0.00	11.07			4	0.00	0.10
	2	17.11	24.00			4	10.08	22.18
	3	5.10	11.07			5	0.00	0.10
	3	17.11	23.53			5	11.15	23.05
	4	5.10	12.05			6	0.00	0.10
	4	16.11	23.53			6	11.15	22.18
	5	5.10	23.53			7	0.00	0.10
	6	6.08	23.53			7	10.08	22.18
	7	0.00	24.00			8	10.08	23.05
	8	6.08	12.05			9	11.15	22.18
	8	16.11	22.05			10	NA	NA
	9	6.08	12.05			11	NA	NA
	9	16.11	23.53					
	10	6.08	11.07		6/4/2009	1	11.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	17.11	22.05			2	0.00	24.00
	11	6.08	11.07			3	9.04	24.00
	11	17.11	22.05			4	9.04	24.00
						5	11.00	24.00
4/24/2009	1	6.13	23.05			6	NA	NA
	2	0.00	10.58			7	9.04	24.00
	2	18.20	23.05			8	9.04	23.20
	3	5.08	10.58			9	11.00	23.20
	3	18.20	23.05			10	11.00	23.20
	4	5.08	10.58			11	NA	NA
	4	18.20	23.05					
	5	5.08	24.00		6/5/2009	1	0.00	0.05
	6	5.08	22.04			2	0.00	24.00
	7	0.00	24.00			3	0.00	0.05
	8	6.13	10.58			3	11.10	24.00
	8	18.20	22.04			4	0.00	0.05
	9	6.13	10.58			4	11.10	24.00
	9	18.20	22.04			5	0.00	0.05
	10	6.13	10.58			5	11.10	20.00
	10	18.20	22.04			6	11.10	24.00
	11	6.13	10.58			7	0.00	0.05
	11	18.20	22.04			7	11.10	20.00
						8	11.10	24.00
4/25/2009	1	13.05	24.00			9	11.10	20.00
	2	13.05	24.00			10	NA	NA
	3	13.05	24.00			11	NA	NA
	4	13.05	24.00					
	5	0.00	24.00		6/6/2009	1	11.08	24.00
	6	13.05	24.00			2	0.00	24.00
	7	0.00	24.00			3	0.00	0.14
	8	13.05	24.00			3	10.15	24.00
	9	14.06	23.00			4	0.00	0.14
	10	14.06	23.00			4	10.15	24.00
	11	14.06	23.00			5	11.08	24.00
						6	0.00	0.14
4/26/2009	1	14.09	22.00			6	11.08	24.00
	2	14.09	23.03			7	10.15	24.00
	3	13.29	23.03			8	0.00	0.14
	4	13.29	23.03			8	11.08	24.00
	5	0.00	24.00			9	11.08	24.00
	6	14.09	23.03			10	NA	NA
	7	0.00	24.00			11	NA	NA
	8	13.29	22.00					
	9	14.09	22.00					
	10	14.09	22.00					
	11	14.09	22.00					
4/27/2009	1	12.27	21.26					
	2	12.27	21.26					
	3	11.18	22.01					
	4	12.27	22.01					
	5	0.00	24.00					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	6	11.18	21.26					
	7	0.00	24.00					
	8	12.27	22.01					
	9	12.27	21.26					
	10	12.27	21.26					
	11	11.18	21.26					
4/28/2009	1	12.27	21.26					
	2	12.27	21.26					
	3	11.18	22.01					
	4	12.27	22.01					
	5	0.00	24.00					
	6	11.18	21.26					
	7	0.00	24.00					
	8	12.27	22.01					
	9	12.27	21.26					
	10	12.27	21.26					
	11	11.18	21.26					
4/29/2009	1	14.28	22.03					
	2	14.28	22.03					
	3	14.28	22.03					
	4	6.09	23.02					
	5	0.00	24.00					
	6	6.09	24.00					
	7	0.00	23.02					
	8	14.28	22.03					
	9	14.28	22.03					
	10	6.09	22.03					
	11	14.28	22.03					
4/29/2009	1	NA	NA					
	2	13.13	13.27					
	2	14.18	23.01					
	3	NA	NA					
	4	23.10	24.00					
	5	0.00	23.10					
	6	0.00	23.10					
	7	23.10	24.00					
	8	13.13	23.01					
	9	14.18	22.12					
	10	13.13	22.12					
	11	14.18	22.12					
4/30/2009	1	18.11	24.00					
	2	NA	NA					
	3	18.11	24.00					
	4	0.00	24.00					
	5	NA	NA					
	6	NA	NA					
	7	0.00	24.00					
	8	7.49	11.31					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	8	17.33	22.02					
	9	7.49	11.31					
	9	17.33	22.02					
	10	7.49	11.31					
	10	18.11	22.02					
	11	18.11	22.02					
5/1/2009	1	NA	NA					
	2	NA	NA					
	3	10.15	24.00					
	4	0.00	22.02					
	5	NA	NA					
	6	NA	NA					
	7	0.00	24.00					
	8	9.23	22.02					
	9	9.23	21.16					
	10	10.15	21.16					
	11	10.15	21.16					
5/2/2009	1	NA	NA					
	2	NA	NA					
	3	0.00	24.00					
	4	NA	NA					
	5	13.07	24.00					
	6	13.07	22.00					
	7	0.00	22.00					
	8	NA	NA					
	9	NA	NA					
	10	13.08	22.00					
	11	NA	NA					
5/3/2009	1	NA	NA					
	2	NA	NA					
	3	0.00	7.24					
	4	17.00	23.06					
	5	0.00	24.00					
	6	17.00	23.06					
	7	7.23	24.00					
	8	18.03	23.06					
	9	18.03	23.06					
	10	17.00	23.06					
	11	NA	NA					
5/4/2009	1	NA	NA					
	2	NA	NA					
	3	11.08	18.01					
	3	19.13	24.00					
	4	19.13	24.00					
	5	0.00	24.00					
	6	11.08	18.01					
	7	0.00	24.00					
	8	20.22	23.03					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	9	11.08	18.01					
	9	20.22	23.03					
	10	11.08	18.01					
	10	20.22	23.03					
	11	NA	NA					
5/5/2009	1	11.07	22.05					
	2	11.07	22.05					
	3	10.05	23.05					
	4	11.07	22.05					
	5	0.00	24.00					
	6	10.05	23.05					
	7	0.00	24.00					
	8	11.07	22.05					
	9	11.07	22.05					
	10	10.05	23.05					
	11	11.07	22.05					

4/1/2010-6/30/2010

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/1/2010	1	0.00	24.00		7/1/2010	1	NA	NA
	2	0.00	24.00			2	0.00	24.00
	3	0.00	24.00			3	17.44	19.18
	4	0.00	24.00			4	17.44	19.18
	5	0.00	24.00			5	0.00	24.00
	6	0.00	24.00			6	NA	NA
	7	0.00	24.00			7	NA	NA
	8	0.00	24.00			8	NA	NA
	9	0.00	24.00			9	NA	NA
	10	0.00	24.00			10	NA	NA
	11	0.00	24.00			11	NA	NA
4/2/2010	1	0.00	24.00		7/2/2010	1	NA	NA
	2	0.00	24.00			2	0.00	24.00
	3	0.00	24.00			3	NA	NA
	4	0.00	24.00			4	NA	NA
	5	0.00	24.00			5	0.00	24.00
	6	0.00	24.00			6	NA	NA
	7	0.00	24.00			7	NA	NA
	8	0.00	24.00			8	NA	NA
	9	0.00	24.00			9	NA	NA
	10	0.00	24.00			10	NA	NA
	11	0.00	24.00			11	NA	NA
4/3/2010	1	0.00	24.00		7/3/2010	1	NA	NA
	2	0.00	24.00			2	0.00	24.00
	3	0.00	24.00			3	NA	NA
	4	0.00	24.00			4	NA	NA
	5	0.00	24.00			5	0.00	24.00
	6	0.00	24.00			6	18.50	19.22
	7	0.00	24.00			7	NA	NA
	8	0.00	24.00			8	NA	NA
	9	0.00	24.00			9	NA	NA
	10	0.00	24.00			10	NA	NA
	11	0.00	24.00			11	NA	NA
4/4/2010	1	0.00	24.00		7/4/2010	1	NA	NA
	2	0.00	24.00			2	0.00	24.00
	3	0.00	24.00			3	16.22	18.01
	4	0.00	24.00			4	16.22	18.01
	5	0.00	24.00			5	0.00	24.00
	6	0.00	24.00			6	NA	NA
	7	0.00	24.00			7	NA	NA
	8	0.00	24.00			8	16.22	17.45
	9	0.00	24.00			9	NA	NA
	10	0.00	24.00			10	NA	NA
	11	0.00	24.00			11	NA	NA
4/5/2010	1	0.00	24.00		7/5/2010	1	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	2	0.00	24.00			2	0.00	24.00
	3	0.00	24.00			3	19.23	22.44
	4	0.00	24.00			4	NA	NA
	5	0.00	18.04			5	0.00	24.00
	5	22.27	24.00			6	NA	NA
	6	0.00	24.00			7	NA	NA
	7	0.00	24.00			8	NA	NA
	8	0.00	24.00			9	NA	NA
	9	0.00	24.00			10	NA	NA
	10	0.00	24.00			11	NA	NA
	11	0.00	24.00					
					7/6/2010	1	16.15	17.10
4/6/2010	1	0.00	1.09			2	0.00	24.00
	1	6.08	24.00			3	16.15	18.14
	2	0.00	0.15			4	16.15	17.35
	2	6.08	24.00			5	0.00	24.00
	3	0.00	2.24			6	16.15	17.35
	3	6.08	21.10			7	16.15	18.14
	4	0.00	2.24			8	16.15	17.13
	4	6.08	24.00			9	16.15	17.35
	5	0.00	1.09			10	NA	NA
	5	6.08	24.00			11	16.15	17.10
	6	0.00	24.00					
	7	0.00	24.00		7/7/2010	1	NA	NA
	8	0.00	2.24			2	0.00	24.00
	8	6.08	24.00			3	NA	NA
	9	0.00	2.24			4	NA	NA
	9	6.08	24.00			5	0.00	24.00
	10	0.00	1.09			6	14.16	19.00
	10	8.58	24.00			7	14.16	19.00
	11	0.00	2.24			8	16.07	18.03
	11	6.08	24.00			9	16.07	17.03
						10	NA	NA
4/7/2010	1	0.00	1.39			11	NA	NA
	1	8.00	24.00					
	2	0.00	1.39		7/8/2010	1	NA	NA
	2	8.00	24.00			2	0.00	24.00
	3	13.08	24.00			3	NA	NA
	4	0.00	1.53			4	NA	NA
	4	8.00	24.00			5	0.00	24.00
	5	0.00	1.53			6	NA	NA
	5	13.08	24.00			7	NA	NA
	6	0.00	24.00			8	NA	NA
	7	0.00	24.00			9	NA	NA
	8	0.00	1.39			10	NA	NA
	8	8.00	24.00			11	NA	NA
	9	0.00	1.39					
	9	8.00	24.00		7/9/2010	1	NA	NA
	10	0.00	1.39			2	0.00	24.00
	10	8.00	24.00			3	NA	NA
	11	0.00	1.53			4	NA	NA
	11	8.00	24.00			5	0.00	24.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
						6	NA	NA
4/8/2010	1	0.00	1.15			7	NA	NA
	1	13.03	24.00			8	NA	NA
	2	0.00	1.15			9	NA	NA
	2	8.04	24.00			10	NA	NA
	3	0.00	1.15			11	NA	NA
	3	8.04	24.00					
	4	0.00	1.15		7/10/2010	1	NA	NA
	4	8.04	24.00			2	0.00	24.00
	5	0.00	24.00			3	NA	NA
	6	0.00	24.00			4	NA	NA
	7	0.00	24.00			5	0.00	24.00
	8	0.00	1.15			6	NA	NA
	8	8.04	24.00			7	NA	NA
	9	0.00	1.15			8	NA	NA
	9	8.04	24.00			9	NA	NA
	10	0.00	0.02			10	NA	NA
	10	13.03	24.00			11	NA	NA
	11	0.00	1.15					
	11	13.03	24.00		7/11/2010	1	NA	NA
						2	0.00	24.00
4/9/2010	1	0.00	0.02			3	NA	NA
	1	10.08	22.20			4	NA	NA
	2	0.00	0.02			5	0.00	24.00
	2	8.09	22.20			6	NA	NA
	3	0.00	0.03			7	NA	NA
	3	8.09	22.20			8	NA	NA
	4	0.00	0.02			9	NA	NA
	4	8.09	22.33			10	NA	NA
	5	0.00	24.00			11	NA	NA
	6	0.00	24.00					
	7	0.00	24.00		7/12/2010	1	NA	NA
	8	0.00	0.02			2	0.00	24.00
	8	8.09	22.33			3	NA	NA
	9	0.00	0.02			4	NA	NA
	9	8.09	22.33			5	0.00	24.00
	10	0.00	0.02			6	NA	NA
	10	8.09	22.20			7	NA	NA
	11	0.00	0.02			8	NA	NA
						9	NA	NA
4/10/2010	1	NA	NA			10	NA	NA
	2	15.36	22.51			11	NA	NA
	3	15.36	22.51					
	4	5.59	22.51		7/13/2010	1	NA	NA
	5	0.00	24.00			2	0.00	24.00
	6	0.00	22.51			3	14.03	20.05
	7	0.00	24.00			4	14.03	20.05
	8	15.36	22.51			5	0.00	24.00
	9	15.36	22.51			6	16.04	18.00
	10	15.36	22.51			7	16.04	18.00
	11	15.36	22.51			8	16.04	18.00
						9	16.04	18.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
4/11/2010	1	18.00	22.37			10	NA	NA
	2	18.00	22.37			11	NA	NA
	3	18.00	22.37					
	4	10.03	22.56		7/14/2010	1	11.59	19.00
	5	0.00	24.00			2	0.00	24.00
	6	10.03	24.00			3	11.59	19.00
	7	0.00	24.00			4	11.59	20.17
	8	13.57	22.56			5	0.00	4.41
	9	18.00	22.56			6	11.59	20.17
	10	18.00	22.37			7	4.41	24.00
	11	18.00	22.56			8	11.59	19.00
						9	16.14	19.00
4/12/2010	1	17.11	17.37			10	NA	NA
	1	19.34	24.00			11	14.07	17.45
	2	7.10	11.04					
	2	17.11	17.37		7/15/2010	1	8.38	19.53
	2	19.34	24.00			2	0.00	24.00
	3	7.10	11.04			3	8.38	19.53
	3	17.11	17.37			4	NA	NA
	3	19.34	24.00			5	NA	NA
	4	7.10	24.00			6	NA	NA
	5	0.00	24.00			7	0.00	24.00
	6	0.00	24.00			8	12.20	19.53
	7	0.00	24.00			9	12.20	19.53
	8	7.10	11.04			10	NA	NA
	8	17.11	17.37			11	12.20	19.53
	8	19.34	24.00					
	9	7.10	11.04		7/16/2010	1	13.07	18.01
	9	17.11	17.37			2	0.00	24.00
	9	19.34	24.00			3	12.05	18.01
	10	7.10	11.04			4	13.07	18.01
	10	17.11	17.37			5	NA	NA
	10	19.34	24.00			6	12.05	18.01
	11	7.10	24.00			6	19.07	24.00
						7	0.00	19.08
4/13/2010	1	NA	NA			8	12.05	18.01
	2	7.20	12.05			9	13.07	18.01
	3	7.20	12.05			10	NA	NA
	4	7.20	12.05			11	NA	NA
	4	14.00	24.00					
	5	0.00	24.00		7/17/2010	1	14.06	20.02
	6	7.20	24.00			2	0.00	24.00
	7	0.00	24.00			3	14.06	20.02
	8	7.20	12.05			4	NA	NA
	8	14.00	24.00			5	NA	NA
	9	7.20	12.05			6	0.00	24.00
	10	NA	NA			7	NA	NA
	11	7.20	24.00			8	14.06	19.12
						9	16.04	20.02
4/14/2010	1	NA	NA			10	NA	NA
	2	NA	NA			11	NA	NA
	3	7.09	14.22					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	4	0.00	3.55		7/18/2010	1	14.04	19.08
	4	7.09	23.00			2	0.00	24.00
	5	0.00	7.11			3	14.04	19.08
	5	14.20	24.00			4	NA	NA
	6	0.00	3.55			5	NA	NA
	6	7.09	23.00			6	0.00	24.00
	7	0.00	24.00			7	NA	NA
	8	0.00	3.55			8	15.00	19.08
	8	7.09	23.00			9	16.07	19.08
	9	7.09	23.00			10	NA	NA
	10	NA	NA			11	NA	NA
	11	0.00	3.55					
					7/19/2010	1	14.14	22.11
4/15/2010	1	NA	NA			2	0.00	24.00
	2	NA	NA			3	14.14	22.11
	3	NA	NA			4	NA	NA
	4	7.18	23.00			5	NA	NA
	5	0.00	24.00			6	0.00	24.00
	6	7.18	23.00			7	NA	NA
	7	0.00	24.00			8	NA	NA
	8	7.18	23.00			9	NA	NA
	9	7.18	23.00			10	NA	NA
	10	NA	NA			11	NA	NA
	11	NA	NA					
					7/20/2010	1	14.25	18.58
4/16/2010	1	NA	NA			2	0.00	24.00
	2	NA	NA			3	14.25	18.58
	3	NA	NA			4	NA	NA
	4	9.06	22.07			5	NA	NA
	5	0.00	22.07			6	0.00	24.00
	6	9.06	24.00			7	NA	NA
	7	0.00	24.00			8	16.27	18.58
	8	9.06	22.07			9	NA	NA
	9	9.06	22.07			10	NA	NA
	10	NA	NA			11	NA	NA
	11	NA	NA					
					7/21/2010	1	NA	NA
4/17/2010	1	NA	NA			2	0.00	24.00
	2	NA	NA			3	NA	NA
	3	NA	NA			4	NA	NA
	4	16.26	24.00			5	NA	NA
	5	16.26	24.00			6	0.00	24.00
	6	0.00	24.00			7	NA	NA
	7	0.00	22.05			8	NA	NA
	8	22.05	24.00			9	NA	NA
	9	NA	NA			10	NA	NA
	10	NA	NA			11	NA	NA
	11	NA	NA					
					7/22/2010	1	15.05	17.15
4/18/2010	1	NA	NA			2	0.00	24.00
	2	18.00	22.12			3	15.05	17.15
	3	18.00	22.12			4	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	4	0.00	24.00			5	NA	NA
	5	0.00	24.00			6	0.00	24.00
	6	0.00	24.00			7	NA	NA
	7	18.00	24.00			8	15.05	17.15
	9	0.00	22.12			9	15.05	17.15
	9	18.00	22.12			10	NA	NA
	10	NA	NA			11	NA	NA
	11	NA	NA					
					7/23/2010	1	15.09	17.18
4/19/2010	1	16.53	21.58			2	0.00	24.00
	2	NA	NA			3	15.09	18.00
	3	16.53	21.58			4	15.09	17.18
	4	0.00	21.58			5	NA	NA
	5	0.00	24.00			6	0.00	24.00
	6	0.00	21.58			7	15.09	18.00
	7	0.00	24.00			8	15.09	18.00
	8	16.53	21.58			9	15.09	17.18
	9	16.53	21.58			10	NA	NA
	10	NA	NA			11	NA	NA
	11	16.53	21.58					
					7/24/2010	1	NA	NA
4/20/2010	1	NA	NA			2	0.00	24.00
	2	NA	NA			3	NA	NA
	3	NA	NA			4	15.23	20.54
	4	5.56	12.10			5	NA	NA
	4	17.06	22.05			6	0.00	24.00
	5	0.00	24.00			7	15.23	20.54
	6	5.56	12.10			8	15.23	20.54
	6	17.06	22.05			9	15.29	20.54
	7	0.00	24.00			10	NA	NA
	8	5.56	12.10			11	NA	NA
	8	17.06	22.05					
	9	NA	NA		7/25/2010	1	NA	NA
	10	NA	NA			2	0.00	24.00
	11	NA	NA			3	NA	NA
						4	15.29	18.00
4/21/2010	1	17.02	22.30			5	NA	NA
	2	8.10	22.30			6	0.00	7.39
	3	17.02	22.30			6	15.29	24.00
	4	17.02	22.30			7	7.34	18.00
	5	0.00	12.15			8	15.29	18.00
	5	17.02	24.00			9	NA	NA
	6	8.10	12.15			10	NA	NA
	6	17.02	22.30			11	NA	NA
	7	0.00	24.00					
	8	8.10	12.15		7/26/2010	1	NA	NA
	8	17.02	22.30			2	0.00	24.00
	9	17.02	22.30			3	NA	NA
	10	NA	NA			4	NA	NA
	11	17.02	22.30			5	19.10	24.00
						6	0.00	10.53
4/22/2010	1	NA	NA			7	10.48	19.56

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	2	17.08	22.05			8	NA	NA
	3	17.08	22.05			9	NA	NA
	4	6.03	12.10			10	NA	NA
	4	17.08	22.05			11	NA	NA
	5	0.00	24.00					
	6	6.03	12.10		7/27/2010	1	16.18	18.21
	6	17.08	22.05			2	0.00	18.26
	7	0.00	24.00			3	NA	NA
	8	10.12	12.10			4	16.18	18.21
	8	17.08	22.05			5	0.00	24.00
	9	10.12	12.10			6	NA	NA
	9	17.08	22.05			7	NA	NA
	10	NA	NA			8	NA	NA
	11	17.08	22.05			9	NA	NA
						10	NA	NA
4/23/2010	1	NA	NA			11	NA	NA
	2	NA	NA					
	3	NA	NA		7/28/2010	1	NA	NA
	4	7.03	13.02			2	NA	NA
	4	16.56	22.10			3	13.10	18.07
	5	0.00	24.00			4	13.10	18.07
	6	7.03	13.02			5	0.00	24.00
	6	16.56	22.10			6	13.10	18.07
	7	0.00	24.00			7	NA	NA
	8	7.03	13.02			8	14.59	18.07
	8	16.56	22.10			9	14.59	18.07
	9	7.03	13.02			10	NA	NA
	9	16.56	22.10			11	NA	NA
	10	NA	NA					
	11	NA	NA		7/29/2010	1	14.51	18.29
						2	14.51	18.29
4/24/2010	1	NA	NA			3	NA	NA
	2	NA	NA			4	NA	NA
	3	NA	NA			5	0.00	24.00
	4	19.09	22.05			6	NA	NA
	5	0.00	24.00			7	14.51	18.29
	6	19.09	22.05			8	14.51	18.29
	7	0.00	24.00			9	NA	NA
	8	NA	NA			10	NA	NA
	9	NA	NA			11	NA	NA
	10	NA	NA					
	11	NA	NA		7/30/2010	1	NA	NA
						2	NA	NA
4/25/2010	1	NA	NA			3	13.02	15.04
	2	NA	NA			4	13.02	15.04
	3	NA	NA			5	0.00	24.00
	4	17.01	21.53			6	NA	NA
	5	0.00	24.00			7	13.02	15.04
	6	17.01	21.53			8	13.02	15.04
	7	0.00	24.00			9	NA	NA
	8	NA	NA			10	NA	NA
	9	NA	NA			11	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	NA	NA					
	11	NA	NA		7/31/2010	1	NA	NA
						2	NA	NA
4/26/2010	1	NA	NA			3	15.01	17.38
	2	NA	NA			4	15.01	17.38
	3	NA	NA			5	0.00	24.00
	4	5.04	22.08			6	15.01	17.38
	5	0.00	24.00			7	NA	NA
	6	5.04	22.08			8	NA	NA
	7	0.00	24.00			9	NA	NA
	8	5.04	22.08			10	NA	NA
	9	5.04	22.08			11	NA	NA
	10	NA	NA					
	11	NA	NA		8/1/2010	1	15.04	19.00
						2	15.04	24.00
4/27/2010	1	NA	NA			3	16.02	19.00
	2	16.24	22.14			4	NA	NA
	3	16.24	22.14			5	0.00	24.00
	4	9.08	13.00			6	NA	NA
	4	16.24	24.00			7	NA	NA
	5	0.00	24.00			8	16.02	19.00
	6	9.08	22.14			9	NA	NA
	7	0.00	13.00			10	NA	NA
	7	16.24	22.14			11	NA	NA
	8	16.24	22.14					
	9	16.24	22.14		8/2/2010	1	15.13	15.58
	10	NA	NA			2	0.00	16.54
	11	16.24	22.14			3	NA	NA
						4	NA	NA
4/28/2010	1	NA	NA			5	0.00	24.00
	2	NA	NA			6	NA	NA
	3	23.38	24.00			7	NA	NA
	4	0.00	23.38			8	NA	NA
	5	0.00	24.00			9	NA	NA
	6	9.15	24.00			10	NA	NA
	7	9.15	24.00			11	NA	NA
	8	10.07	23.56					
	9	10.07	23.56		8/3/2010	1	14.17	17.08
	10	NA	NA			2	NA	NA
	11	NA	NA			3	NA	NA
						4	14.17	17.08
4/29/2010	1	13.13	23.07			5	0.00	24.00
	2	13.13	23.07			6	NA	NA
	3	0.00	3.02			7	NA	NA
	3	13.13	23.07			8	NA	NA
	4	13.13	23.07			9	NA	NA
	5	0.00	24.00			10	NA	NA
	6	0.00	3.02			11	NA	NA
	6	13.13	23.07					
	7	0.00	24.00		8/4/2010	1	15.05	18.22
	8	13.13	23.07			2	15.05	24.00
	9	13.13	23.07			3	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	13.13	23.07			4	15.05	18.22
	11	NA	NA			5	0.00	24.00
						6	16.07	18.28
4/30/2010	1	12.10	22.14			7	16.07	17.28
	2	12.10	24.00			8	16.07	17.22
	3	12.10	22.22			9	16.07	18.22
	4	5.47	22.22			10	NA	NA
	5	0.00	24.00			11	NA	NA
	6	5.47	22.22					
	7	0.00	22.22		8/5/2010	1	NA	NA
	8	5.47	22.22			2	0.00	16.03
	9	5.47	22.14			3	NA	NA
	10	NA	NA			4	NA	NA
	11	5.47	22.14			5	0.00	24.00
						6	NA	NA
5/1/2010	1	NA	NA			7	NA	NA
	2	0.00	24.00			8	NA	NA
	3	13.09	23.09			9	NA	NA
	4	13.09	23.09			10	NA	NA
	5	0.00	22.50			11	NA	NA
	6	7.16	22.50					
	7	7.16	24.00		8/6/2010	1	NA	NA
	8	7.16	23.09			2	19.15	24.00
	9	7.16	23.09			3	NA	NA
	10	13.09	22.50			4	NA	NA
	11	13.09	22.50			5	0.00	20.19
						6	NA	NA
5/2/2010	1	NA	NA			7	NA	NA
	2	0.00	24.00			8	NA	NA
	3	14.02	24.00			9	NA	NA
	4	14.02	24.00			10	NA	NA
	5	0.43	24.00			11	NA	NA
	6	10.12	24.00					
	7	0.00	0.51		8/7/2010	1	NA	NA
	7	10.12	24.00			2	0.00	24.00
	8	10.12	24.00			3	NA	NA
	9	10.12	24.00			4	NA	NA
	10	14.02	24.00			5	NA	NA
	11	14.02	24.00			6	NA	NA
						7	NA	NA
5/3/2010	1	12.02	24.00			8	NA	NA
	2	0.00	24.00			9	NA	NA
	3	0.00	0.10			10	NA	NA
	3	12.02	24.00			11	NA	NA
	4	0.00	0.10					
	4	12.02	24.00		8/8/2010	1	NA	NA
	5	0.00	24.00			2	0.00	24.00
	6	0.00	0.10			3	NA	NA
	6	12.02	24.00			4	NA	NA
	7	12.02	24.00			5	NA	NA
	8	0.00	0.10			6	NA	NA
	8	12.15	24.00			7	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	9	0.00	0.10			8	NA	NA
	9	12.15	24.00			9	NA	NA
	10	19.30	24.00			10	NA	NA
	11	12.15	24.00			11	NA	NA
5/4/2010	1	0.00	2.12		8/9/2010	1	NA	NA
	2	0.00	24.00			2	0.00	24.00
	3	0.00	3.05			3	NA	NA
	3	11.56	23.00			4	NA	NA
	4	0.00	3.05			5	NA	NA
	4	11.56	23.00			6	NA	NA
	5	0.00	24.00			7	NA	NA
	6	0.00	3.05			8	NA	NA
	6	8.17	23.00			9	NA	NA
	7	0.00	3.05			10	NA	NA
	7	8.17	23.00			11	NA	NA
	8	0.00	2.12					
	8	11.56	23.00		8/10/2010	1	NA	NA
	9	0.00	2.12			2	0.00	24.00
	9	11.56	23.00			3	NA	NA
	10	0.00	2.12			4	NA	NA
	10	11.56	23.00			5	NA	NA
	11	0.00	2.12			6	NA	NA
	11	11.56	23.00			7	NA	NA
						8	NA	NA
5/5/2010	1	11.12	24.00			9	NA	NA
	2	0.00	24.00			10	NA	NA
	3	11.12	24.00			11	NA	NA
	4	11.12	24.00					
	5	0.00	24.00		8/11/2010	1	NA	NA
	6	11.12	24.00			2	0.00	24.00
	7	11.12	24.00			3	NA	NA
	8	11.16	24.00			4	NA	NA
	9	11.16	24.00			5	NA	NA
	10	NA	NA			6	NA	NA
	11	11.16	24.00			7	NA	NA
						8	NA	NA
5/6/2010	1	0.00	0.03			9	NA	NA
	2	14.00	21.34			10	NA	NA
	3	0.00	24.00			11	NA	NA
	3	14.00	21.39					
	4	0.00	0.03		8/12/2010	1	NA	NA
	4	14.00	21.39			2	0.00	24.00
	5	0.00	24.00			3	NA	NA
	6	0.00	0.03			4	NA	NA
	6	14.00	21.34			5	NA	NA
	7	0.00	0.03			6	NA	NA
	7	14.00	21.34			7	NA	NA
	8	0.00	0.03			8	NA	NA
	8	14.00	21.39			9	NA	NA
	9	0.00	0.03			10	NA	NA
	9	14.00	21.34			11	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	16.12	21.34					
	11	0.00	0.03		8/13/2010	1	NA	NA
	11	14.00	21.39			2	0.00	24.00
						3	NA	NA
5/7/2010	1	NA	NA			4	NA	NA
	2	0.00	24.00			5	NA	NA
	3	14.08	21.35			6	NA	NA
	4	14.08	21.35			7	NA	NA
	5	0.00	24.00			8	NA	NA
	6	8.09	21.35			9	NA	NA
	7	8.09	21.25			10	NA	NA
	8	8.09	21.25			11	NA	NA
	9	14.08	21.25					
	10	NA	NA		8/14/2010	1	16.03	17.05
	11	14.08	21.25			1	17.30	18.32
						2	0.00	24.00
5/8/2010	1	NA	NA			3	16.03	17.05
	2	0.00	24.00			3	17.30	18.32
	3	NA	NA			4	16.03	17.05
	4	NA	NA			4	17.30	18.32
	5	0.00	24.00			5	17.30	21.11
	6	11.10	22.00			6	17.30	18.32
	7	11.10	22.00			7	17.30	18.32
	8	11.10	22.00			8	16.03	17.05
	9	11.10	22.00			8	17.30	18.20
	10	NA	NA			9	16.03	17.05
	11	NA	NA			9	17.30	18.20
						10	NA	NA
5/9/2010	1	NA	NA			11	16.03	17.05
	2	0.00	9.32			11	17.30	18.20
	2	9.39	24.00					
	3	11.07	21.20		8/15/2010	1	NA	NA
	4	11.08	21.20			2	0.00	24.00
	5	0.00	24.00			3	NA	NA
	6	11.07	21.20			4	NA	NA
	7	11.07	21.20			5	NA	NA
	8	11.07	21.20			6	NA	NA
	9	NA	NA			7	NA	NA
	10	NA	NA			8	NA	NA
	11	NA	NA			9	NA	NA
						10	NA	NA
5/10/2010	1	NA	NA			11	NA	NA
	2	0.00	24.00					
	3	NA	NA		8/16/2010	1	NA	NA
	4	NA	NA			2	0.00	23.00
	5	0.00	24.00			3	N	N
	6	6.07	13.00			4	13.05	23.00
	6	18.00	22.05			5	13.05	24.00
	7	6.07	13.00			6	13.05	23.00
	7	18.00	22.05			7	13.05	23.00
	8	6.07	9.58			8	NA	NA
	8	18.00	22.05			9	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	9	18.00	22.05			10	NA	NA
	10	NA	NA			11	NA	NA
	11	NA	NA					
					8/17/2010	1	NA	NA
5/11/2010	1	NA	NA			2	21.25	24.00
	2	0.00	24.00			3	15.32	19.07
	3	18.05	22.24			4	15.18	19.07
	4	18.05	22.24			5	0.00	21.25
	5	0.00	24.00			6	12.27	18.05
	6	6.07	10.03			7	12.27	18.05
	6	18.05	22.24			8	NA	NA
	7	6.07	10.03			9	NA	NA
	7	18.05	22.24			10	NA	NA
	8	6.07	10.03			11	NA	NA
	8	18.05	22.24					
	9	6.07	10.03		8/18/2010	1	NA	NA
	9	18.05	22.24			2	0.00	24.00
	10	NA	NA			3	13.04	19.17
	11	NA	NA			4	13.04	19.17
						5	NA	NA
5/12/2010	1	18.05	24.00			6	NA	NA
	2	0.00	0.31			7	NA	NA
	2	1.47	24.00			8	NA	NA
	3	5.10	10.03			9	NA	NA
	3	18.05	24.00			10	NA	NA
	4	5.10	10.03			11	NA	NA
	4	18.05	24.00					
	5	0.00	24.00		8/19/2010	1	NA	NA
	6	5.10	10.03			2	0.00	24.00
	6	18.05	24.00			3	NA	NA
	7	5.10	24.00			4	NA	NA
	8	5.10	10.03			5	NA	NA
	8	18.05	24.00			6	NA	NA
	9	18.05	24.00			7	NA	NA
	10	0.31	1.47			8	NA	NA
	10	18.05	24.00			9	NA	NA
	11	18.05	24.00			10	NA	NA
						11	NA	NA
5/13/2010	1	0.00	0.21					
	1	17.04	21.24		8/20/2010	1	NA	NA
	2	0.00	24.00			2	0.00	24.00
	3	0.00	1.57			3	14.00	18.00
	3	17.04	21.24			4	14.00	17.16
	4	0.00	1.57			5	NA	NA
	4	17.04	21.24			6	14.00	16.14
	5	0.00	24.00			7	14.00	16.14
	6	0.00	1.57			8	NA	NA
	6	17.04	21.24			9	NA	NA
	7	0.00	1.57			10	NA	NA
	7	17.04	21.24			11	NA	NA
	8	0.00	1.57					
	8	17.04	21.17		8/21/2010	1	NA	NA

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	9	0.00	0.21			2	0.00	24.00
	9	17.04	21.17			3	NA	NA
	10	0.00	0.21			4	NA	NA
	11	0.00	0.21			5	NA	NA
	11	17.04	21.17			6	NA	NA
						7	NA	NA
5/14/2010	1	5.09	11.05			8	NA	NA
	1	13.05	22.44			9	NA	NA
	2	0.00	11.05			10	NA	NA
	2	13.05	24.00			11	NA	NA
	3	5.09	11.05					
	3	13.05	22.44		8/22/2010	1	NA	NA
	4	5.09	22.44			2	0.00	24.00
	5	0.00	24.00			3	NA	NA
	6	5.09	22.44			4	NA	NA
	7	5.09	22.44			5	NA	NA
	8	5.17	22.44			6	NA	NA
	9	5.17	11.05			7	NA	NA
	9	13.05	22.44			8	NA	NA
	10	5.17	11.05			9	NA	NA
	10	13.05	22.44			10	NA	NA
	11	5.17	11.05			11	NA	NA
	11	13.05	22.44					
					8/23/2010	1	NA	NA
5/15/2010	1	14.00	20.11			2	0.00	24.00
	2	0.00	23.42			3	NA	NA
	3	6.15	23.42			4	13.19	18.05
	4	6.15	23.42			5	13.19	18.05
	5	0.00	24.00			6	NA	NA
	6	6.15	23.42			7	NA	NA
	7	6.15	24.00			8	NA	NA
	8	6.15	23.42			9	NA	NA
	9	14.00	20.11			10	NA	NA
	10	14.00	20.11			11	NA	NA
	11	14.00	20.11					
					8/24/2010	1	NA	NA
5/16/2010	1	17.05	21.05			2	0.00	11.13
	2	5.50	23.21			3	NA	NA
	3	5.50	23.21			4	NA	NA
	4	5.50	23.21			5	11.30	24.00
	5	0.00	24.00			6	NA	NA
	6	5.50	23.21			7	NA	NA
	7	0.00	23.21			8	NA	NA
	8	5.50	21.05			9	NA	NA
	9	17.05	21.05			10	NA	NA
	10	17.05	21.05			11	NA	NA
	11	17.05	21.05					
					8/25/2010	1	11.02	20.12
5/17/2010	1	NA	NA			2	11.02	24.00
	2	0.00	24.00			3	11.12	20.12
	3	6.00	24.00			4	NA	NA
	4	6.00	24.00			5	0.00	20.12

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	5	0.00	24.00			6	NA	NA
	6	6.00	24.00			7	NA	NA
	7	6.00	24.00			8	13.00	20.12
	8	6.00	24.00			9	13.00	20.12
	9	10.53	20.59			10	NA	NA
	10	10.53	20.59			11	NA	NA
	11	10.53	20.59					
					8/26/2010	1	NA	NA
5/18/2010	1	13.17	22.25			2	0.00	24.00
	2	0.00	24.00			3	15.18	19.11
	3	0.00	3.05			4	15.18	19.11
	3	13.17	22.25			5	NA	NA
	4	0.00	3.05			6	NA	NA
	4	13.17	22.25			7	15.18	19.11
	5	0.00	24.00			8	16.08	18.00
	6	0.00	3.05			9	16.08	18.00
	6	12.59	24.00			10	NA	NA
	7	0.00	3.05			11	NA	NA
	7	12.59	24.00					
	8	0.00	3.05		8/27/2010	1	NA	NA
	8	12.59	24.00			2	0.00	24.00
	9	12.59	22.25			3	16.02	24.00
	10	13.17	22.25			4	16.02	24.00
	11	13.17	22.25			5	NA	NA
						6	NA	NA
5/19/2010	1	NA	NA			7	NA	NA
	2	0.00	24.00			8	NA	NA
	3	13.05	21.00			9	NA	NA
	4	13.05	21.00			10	19.25	21.15
	5	0.00	24.00			11	NA	NA
	6	0.00	1.05					
	6	8.05	21.00		8/28/2010	1	NA	NA
	7	0.00	1.05			2	0.00	24.00
	7	8.05	21.00			3	0.00	0.12
	8	0.00	1.05			4	0.00	0.12
	8	13.05	21.00			5	NA	NA
	9	13.05	21.00			6	NA	NA
	10	NA	NA			7	NA	NA
	11	13.05	21.00			8	NA	NA
						9	NA	NA
5/20/2010	1	13.16	15.06			10	8.49	11.17
	1	19.25	22.05			10	16.22	24.00
	2	0.00	24.00			11	NA	NA
	3	13.06	15.06					
	3	19.25	22.05		8/29/2010	1	NA	NA
	4	13.06	15.06			2	0.00	24.00
	4	19.25	22.05			3	11.14	20.16
	5	0.00	24.00			4	11.14	20.16
	6	8.09	22.05			5	11.14	20.16
	7	8.09	15.58			6	NA	NA
	7	19.25	22.05			7	NA	NA
	8	8.09	15.58			8	15.04	19.00

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	8	19.25	22.05			9	NA	NA
	9	8.09	15.06			10	0.00	1.48
	9	19.25	22.05			11	NA	NA
	10	13.16	13.18					
	10	16.49	16.56		8/30/2010	1	12.12	19.15
	11	13.06	15.58			2	0.00	24.00
	11	19.25	22.05			3	NA	NA
						4	12.12	19.15
5/21/2010	1	14.07	22.17			5	12.12	19.15
	2	0.00	24.00			6	14.12	18.30
	3	14.07	22.17			7	14.12	18.30
	4	14.07	22.17			8	12.12	19.15
	5	0.00	24.00			9	14.12	19.15
	6	9.10	22.21			10	14.12	18.30
	7	9.10	22.21			11	14.12	18.30
	8	9.10	22.21					
	9	9.10	22.17		8/31/2010	1	14.11	18.02
	10	14.07	22.17			2	0.00	24.00
	11	14.07	22.21			3	NA	NA
						4	14.11	18.02
5/22/2010	1	12.00	21.50			5	14.11	18.02
	2	0.00	24.00			6	NA	NA
	3	12.00	21.50			7	NA	NA
	4	12.00	21.50			8	14.11	18.02
	5	0.00	24.00			9	NA	NA
	6	12.00	21.50			10	NA	NA
	7	NA	NA			11	NA	NA
	8	12.00	21.50					
	9	12.00	21.50					
	10	NA	NA					
	11	NA	NA					
5/23/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	10.00	21.44					
	7	10.00	21.44					
	8	10.00	21.44					
	9	10.00	13.30					
	9	18.12	21.44					
	10	NA	NA					
	11	NA	NA					
5/24/2010	1	NA	NA					
	2	0.00	24.00					
	3	12.05	21.55					
	4	12.05	21.55					
	5	0.00	24.00					
	6	12.05	21.55					
	6	22.22	24.00					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	12.05	21.55					
	7	22.22	24.00					
	8	12.05	21.55					
	8	22.33	24.00					
	9	12.05	21.55					
	10	NA	NA					
	11	12.05	21.55					
5/25/2010	1	20.13	23.52					
	2	0.00	24.00					
	3	12.10	24.00					
	4	12.10	24.00					
	5	0.00	24.00					
	6	0.00	0.01					
	6	8.07	24.00					
	7	0.00	0.01					
	7	8.07	24.00					
	8	0.00	0.01					
	8	12.10	24.00					
	9	12.10	23.52					
	10	NA	NA					
	11	12.10	23.52					
5/26/2010	1	15.32	19.21					
	2	0.00	24.00					
	3	0.00	0.03					
	3	13.10	22.22					
	4	0.00	0.03					
	4	13.10	22.22					
	5	0.00	24.00					
	6	0.00	0.03					
	6	9.34	22.22					
	7	0.00	0.03					
	7	9.34	22.22					
	8	0.00	0.03					
	8	9.34	22.22					
	9	14.09	19.21					
	10	15.32	19.21					
	11	13.10	19.21					
5/27/2010	1	16.11	21.00					
	2	0.00	24.00					
	3	14.06	22.07					
	4	14.06	22.07					
	5	0.00	24.00					
	6	13.57	22.07					
	7	13.57	22.07					
	8	14.06	21.00					
	9	14.06	21.00					
	10	14.06	21.00					
	11	14.06	21.00					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
5/28/2010	1	NA	NA					
	2	0.00	24.00					
	3	15.16	20.38					
	4	15.16	20.38					
	5	0.00	24.00					
	6	11.00	20.38					
	7	11.00	20.38					
	8	11.00	20.38					
	9	15.16	20.38					
	10	NA	NA					
	11	NA	NA					
5/29/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	13.05	21.00					
	7	13.04	21.00					
	8	13.04	21.00					
	9	15.42	18.58					
	10	NA	NA					
	11	NA	NA					
5/30/2010	1	NA	NA					
	2	0.00	24.00					
	3	16.13	19.12					
	4	16.13	19.12					
	5	0.00	24.00					
	6	14.34	19.12					
	7	14.34	19.12					
	8	14.34	19.12					
	9	15.09	19.12					
	10	NA	NA					
	11	15.09	19.12					
5/31/2010	1	15.59	20.02					
	2	0.00	24.00					
	3	15.59	20.02					
	4	15.59	20.02					
	5	0.00	24.00					
	6	14.14	20.02					
	7	14.14	20.02					
	8	14.14	20.02					
	9	15.59	20.02					
	10	NA	NA					
	11	15.59	20.02					
6/1/2010	1	14.10	16.59					
	2	0.00	0.12					
	2	0.36	24.00					
	3	12.38	20.04					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	4	12.38	20.04					
	5	0.00	24.00					
	6	12.29	20.04					
	7	12.29	20.04					
	8	12.38	20.04					
	9	12.38	20.04					
	10	NA	NA					
	11	12.38	20.04					
6/2/2010	1	14.15	17.25					
	2	0.00	24.00					
	3	14.15	17.25					
	4	14.15	17.25					
	5	0.00	24.00					
	6	12.25	19.57					
	7	12.25	19.57					
	8	12.25	19.57					
	9	12.25	19.57					
	10	NA	NA					
	11	14.15	17.25					
6/3/2010	1	NA	NA					
	2	0.00	12.00					
	3	NA	NA					
	4	11.53	19.00					
	5	0.00	24.00					
	6	11.53	24.00					
	7	11.53	19.00					
	8	11.53	19.00					
	9	11.53	19.00					
	10	NA	NA					
	11	11.53	19.00					
6/4/2010	1	NA	NA					
	2	NA	NA					
	3	NA	NA					
	4	14.14	19.01					
	5	0.00	24.00					
	6	0.00	24.00					
	7	14.10	19.01					
	8	14.25	19.01					
	9	14.10	19.01					
	10	NA	NA					
	11	NA	NA					
6/5/2010	1	12.59	19.11					
	2	17.09	24.00					
	3	12.59	19.11					
	4	13.59	19.11					
	5	0.00	24.00					
	6	0.00	0.17					
	6	2.56	19.11					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	7	13.59	19.11					
	8	12.59	19.11					
	9	1.41	2.59					
	9	13.59	19.11					
	10	NA	NA					
	11	0.15	1.42					
	11	17.09	19.11					
6/6/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	12.00	19.00					
	7	12.00	19.00					
	8	12.00	19.00					
	9	15.58	19.00					
	10	NA	NA					
	11	NA	NA					
6/7/2010	1	NA	NA					
	2	0.00	7.33					
	2	16.07	24.00					
	3	16.07	18.00					
	4	12.55	18.00					
	5	0.00	24.00					
	6	7.31	20.00					
	7	12.55	20.00					
	8	14.11	20.00					
	9	14.11	18.00					
	10	NA	NA					
	11	15.24	20.00					
6/8/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	15.31	17.01					
	7	14.00	17.01					
	8	15.31	17.01					
	9	NA	NA					
	10	NA	NA					
	11	NA	NA					
6/9/2010	1	NA	NA					
	2	0.00	24.00					
	3	15.03	21.00					
	4	15.03	21.00					
	5	0.00	24.00					
	6	14.00	21.00					
	7	14.00	21.00					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	8	14.00	20.00					
	9	15.03	20.00					
	10	NA	NA					
	11	NA	NA					
6/10/2010	1	NA	NA					
	2	0.00	24.00					
	3	15.30	22.05					
	4	8.16	9.03					
	4	15.30	22.05					
	5	0.00	24.00					
	6	15.30	22.05					
	7	8.08	9.03					
	7	15.30	22.05					
	8	15.30	22.05					
	9	1.53	22.05					
	10	NA	NA					
	11	NA	NA					
6/11/2010	1	13.53	15.53					
	2	0.00	24.00					
	3	13.53	22.17					
	4	12.57	22.17					
	5	0.00	24.00					
	6	12.57	22.17					
	7	12.57	22.17					
	8	12.57	22.17					
	9	12.57	21.10					
	10	12.57	21.10					
	11	12.57	21.10					
6/12/2010	1	NA	NA					
	2	0.00	24.00					
	3	14.00	20.10					
	4	14.00	20.10					
	5	0.00	24.00					
	6	13.09	20.10					
	7	13.09	20.10					
	8	13.09	18.00					
	9	14.00	18.00					
	10	14.00	18.00					
	11	14.00	18.00					
6/13/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	13.59	22.53					
	5	0.00	24.00					
	6	13.59	21.59					
	7	13.59	21.31					
	8	13.59	21.59					
	9	13.59	21.31					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	13.59	21.29					
	11	13.59	21.29					
6/14/2010	1	NA	NA					
	2	0.00	24.00					
	3	11.08	23.07					
	4	11.08	23.07					
	5	0.00	24.00					
	6	11.08	23.07					
	7	11.08	23.07					
	8	11.08	21.32					
	9	NA	NA					
	10	NA	NA					
	11	NA	NA					
6/15/2010	1	NA	NA					
	2	0.00	24.00					
	3	7.06	20.00					
	4	7.06	20.00					
	5	0.00	24.00					
	6	7.06	20.00					
	7	7.06	20.00					
	8	7.06	19.05					
	9	NA	NA					
	10	NA	NA					
	11	NA	NA					
6/16/2010	1	NA	NA					
	2	0.00	24.00					
	3	7.15	17.30					
	4	7.14	17.30					
	5	0.00	24.00					
	6	NA	NA					
	7	NA	NA					
	8	7.15	17.30					
	9	7.15	17.30					
	10	NA	NA					
	11	NA	NA					
6/17/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	8.06	17.56					
	7	8.06	17.56					
	8	8.06	17.56					
	9	8.06	17.56					
	10	NA	NA					
	11	NA	NA					
6/18/2010	1	16.26	19.01					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	2	0.00	24.00					
	3	13.03	16.17					
	4	13.03	19.01					
	5	0.00	24.00					
	6	13.03	19.01					
	7	13.03	19.01					
	8	NA	NA					
	9	14.57	19.01					
	10	NA	NA					
	11	NA	NA					
6/19/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	12.12	19.02					
	5	0.00	24.00					
	6	NA	NA					
	7	12.07	19.02					
	8	12.07	19.02					
	9	NA	NA					
	10	NA	NA					
	11	NA	NA					
6/20/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	13.50	19.00					
	7	13.50	19.00					
	8	13.50	19.00					
	9	17.17	19.00					
	10	NA	NA					
	11	15.57	19.00					
6/21/2010	1	15.00	19.00					
	2	0.00	24.00					
	3	15.00	19.00					
	4	15.00	19.00					
	5	0.00	24.00					
	6	14.10	20.01					
	7	14.10	20.01					
	8	14.10	20.01					
	9	14.21	19.00					
	10	NA	NA					
	11	14.21	19.00					
6/22/2010	1	15.57	18.00					
	2	0.00	24.00					
	3	15.57	18.00					
	4	15.57	18.00					
	5	0.00	24.00					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	6	15.05	18.00					
	7	15.05	18.00					
	8	15.05	18.00					
	9	15.57	18.00					
	10	NA	NA					
	11	15.57	18.00					
6/23/2010	1	14.55	18.11					
	2	0.00	24.00					
	3	14.55	16.01					
	4	14.55	16.01					
	5	0.00	24.00					
	6	14.55	19.03					
	7	14.55	16.01					
	8	14.55	16.01					
	9	14.55	16.01					
	10	NA	NA					
	11	14.55	18.11					
6/24/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	13.52	19.49					
	7	13.52	19.49					
	8	13.52	19.00					
	9	17.30	19.00					
	10	NA	NA					
	11	17.30	19.00					
6/25/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	14.09	20.00					
	5	0.00	24.00					
	6	NA	NA					
	7	14.09	19.05					
	8	NA	NA					
	9	NA	NA					
	10	NA	NA					
	11	NA	NA					
6/26/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	NA	NA					
	7	15.32	18.02					
	8	NA	NA					
	9	NA	NA					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	10	NA	NA					
	11	NA	NA					
6/27/2010	1	NA	NA					
	2	0.00	24.00					
	3	15.42	20.12					
	4	15.42	20.12					
	5	0.00	24.00					
	6	15.08	19.11					
	6	21.30	22.09					
	7	15.08	19.11					
	7	21.30	22.09					
	8	15.42	19.11					
	8	21.30	22.09					
	9	15.42	19.11					
	10	NA	NA					
	11	15.42	19.11					
6/28/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	14.03	21.10					
	7	14.03	21.10					
	8	15.13	19.17					
	9	NA	NA					
	10	NA	NA					
	11	15.13	16.57					
6/29/2010	1	NA	NA					
	2	0.00	24.00					
	3	15.07	17.56					
	4	15.07	17.56					
	5	0.00	24.00					
	6	NA	NA					
	7	NA	NA					
	8	NA	NA					
	9	NA	NA					
	10	NA	NA					
	11	NA	NA					
6/30/2010	1	NA	NA					
	2	0.00	24.00					
	3	NA	NA					
	4	NA	NA					
	5	0.00	24.00					
	6	15.10	18.03					
	7	15.10	17.02					
	8	15.56	17.02					
	9	NA	NA					
	10	NA	NA					

Date	Unit Number	Turbine Start Time	Turbine End Time		Date	Unit Number	Turbine Start Time	Turbine End Time
	11	NA	NA					