

**LaSalle Environmental Audit
Response to Request for Additional Information**

Index #: 011 **RAI #: AQ-01** **Category:** Aquatic Ecology

Statement of Question:

Section 3.7.5.1 of the ER (page 3-59) states that since 2001, LSCS has had four reportable fish kills (in July 2001, June 2005, June 2009, and August 2010) in the cooling pond, and one small, unreported (approximately 100 shad) event in 2002. The NRC staff is aware of the fish kill events that occurred in 2001 (ML012330070, ML021330421), 2005 (Event Report Number: 41805), 2009 (ML092040381) and 2010 (ML102371289, ML12285A200).

- a. Provide the date of the unreported fish kill in 2002. In addition, summarize the species of fish that were affected by the fish kill.
- b. Provide the temperature in the cooling pond during the 2005 fish kill event (June 27 28, 2005). In addition, summarize the species of fish that were affected by the fish kill.
- c. Provide a summary of the temperature in the cooling pond (intake at the lake screen house) since 2001. In addition, provide the daily maximum cooling pond blowdown temperatures from the monthly NPDES Discharge Monitoring Reports during July 2001, June 2005, June 2009, and August 2010.
- d. Provide the daily maximum cooling pond blowdown temperatures from the monthly NPDES Discharge Monitoring Reports from the past 5 years (2010 through 2014)
- e. As documented in NPDES Discharge Monitoring Report submittals, during March, July, and August 2012, IEPA granted Exelon provisional variances from its NPDES permitted discharge temperature limits (under Special Condition 3 of the permit). During the variance period(s), Exelon was required in part to continuously monitor both the discharge and receiving water temperatures and visually inspect all discharge areas at least three times each day to assess the impact on aquatic life. Exelon was also required to notify IEPA and the Illinois Department of Natural Resources (IDNR) if aquatic life was shown to be affected. Describe the circumstances surrounding the need for these variances and also whether Exelon observed any affected aquatic life, and if so, please describe any interactions with IEPA or IDNR and actions that were taken to mitigate the impacts on aquatic life.
- f. Describe any mitigation Exelon has implemented to reduce the number of fish kills in the cooling pond.

Response:

- a. The 2002 unreported fish kill mentioned in the ER was recorded in Exelon's Action Tracking system on July 5, 2002. The record indicates that approximately 100 fish were found dead near the shad nets in the vicinity of the Lake Screen House. The species of the dead fish were not described.
- b. Temperature monitoring in the cooling pond occurs in the intake to the Lake Screen House. Data from this location for June 27 to 28, 2005, which is the time period over which the 2005 fish kill event occurred, is provided as Attachment 1 to this RAI response.

As was reported to the NRC in a letter dated July 28, 2005 (NRC ADAMS Accession # ML052200481), on June 28, 2005 at 1245 CST, a fish kill above normal mortality was identified on the station cooling pond. The initial estimate was reported as approximately 300 fish, mostly Striped Bass hybrids. The Illinois Department of Natural Resources (IDNR) was notified and an ENS notification was made pursuant to

10 CFR 50.72 (b)(2)(xi). The IDNR District Biologist arrived onsite and began an official fish count. The final count was 1,515 dead fish, distributed among the various species as follows:

Species Common Name	Count
Striped Bass hybrids	1,439
Smallmouth Bass	36
Walleye	20
Channel Catfish	11
Blue Catfish	4
Yellow Bass	3
Sauger	2
Total	1,515

- c. Attachment 2 to this RAI response contains a summary graph of the LSCS circulating water intake temperatures as measured at the lake screen house. Attachment 3 to this response contains daily maximum cooling pond blowdown temperatures as reported in the monthly NPDES Discharge Monitoring Reports for July 2001, June 2005, June 2009, and August 2010.
- d. Attachment 4 to this RAI response contains daily maximum cooling pond blowdown temperatures as reported in the monthly NPDES Discharge Monitoring Reports for the past 5 years (2010 through 2014).
- e. The circumstances surrounding the need for provisional variances from the LSCS NPDES permitted discharge temperature limits during March, July, and August 2012 are described for each event in the provisional variance order issued by IEPA. Attachment 5 to this RAI response contains copies of the three provisional variance orders. No effects on aquatic life were observed during the provisional variance effective periods.
- f. Measures taken that would have the effect of reducing the frequency of fish kills in the LSCS cooling pond result from implementation of the Extreme Heat Implementation Plan. Such measures are initiated in response to a predicted peak average condenser inlet temperature of greater than 95°F, as forecast by the Lake Thermal Model, and consist of maximizing cooling pond makeup pumping to raise pond level to near 700.0 feet because this action will:
 - Provide maximum cooling capability in the event of a cooling pond makeup or blowdown line rupture.
 - Provide increased cooling pond depth for fish to hide and protect themselves from the sun.
 - Increase the total mass of the cooling pond, making it more resistant to potential temperature swings and thermal transients.

List of Attachments

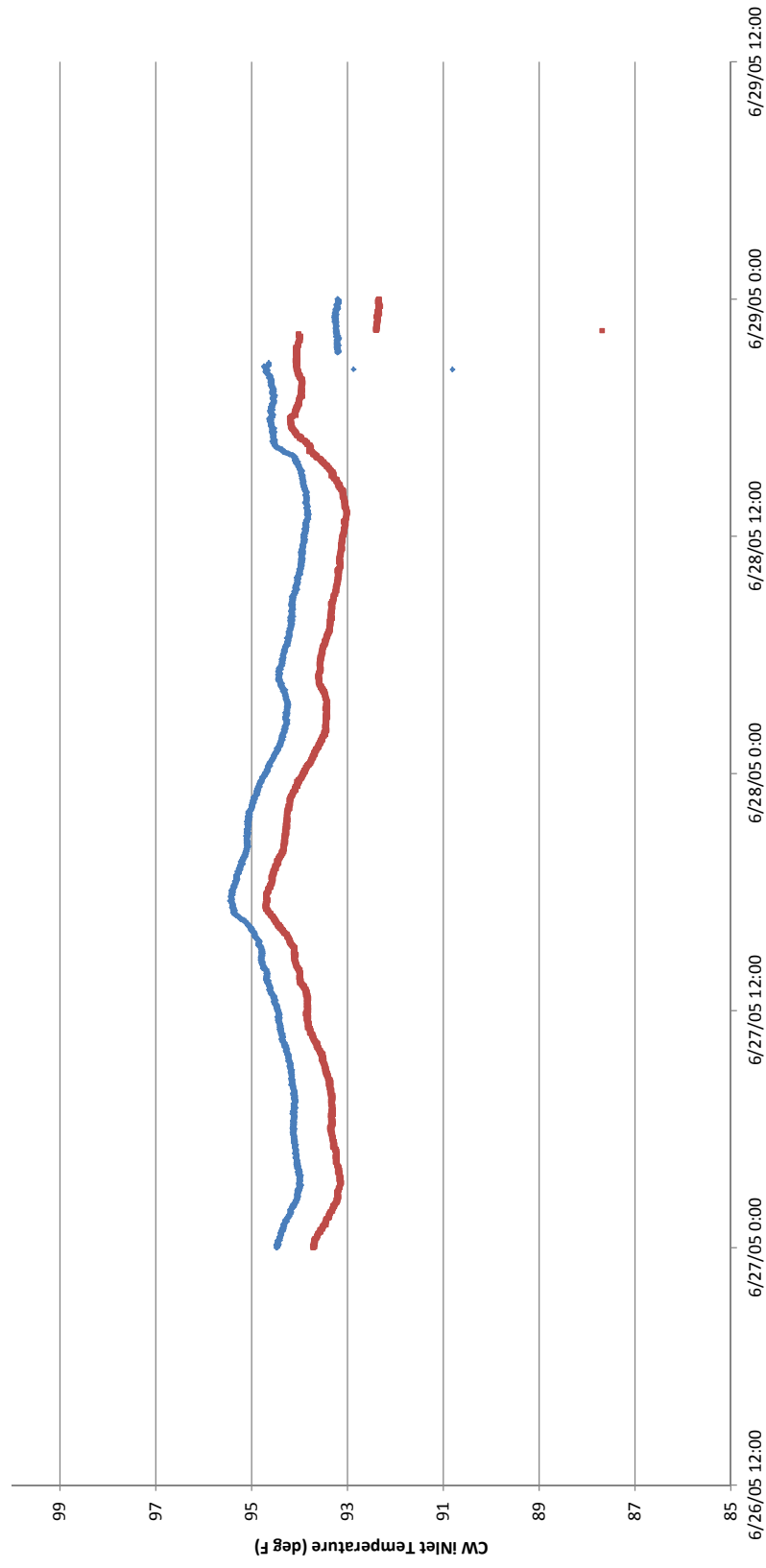
1. Circulating Water Intake Temperature Data - 6/27-28/2005
2. Circulating Water Intake Temperature Summary Graph – 01/01/2001 to 12/31/2014

3. Daily Maximum Cooling Pond Blowdown Temperatures – July 2001, June 2005, June 2009, and August 2010
4. Daily Maximum Cooling Pond Blowdown Temperatures – 2010 through 2014
5. IEPA Provisional Variance Orders 12-15 (3/21/2012), 12-24 (7/19/2012), and 12-24 Extension (8/01/2012)

RAI # AQ-01

ATTACHMENT 1

CW Inlet Temperature - 2005 Fish Kill



Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 0:00	94.48	93.71
6/27/05 0:01	94.46	93.72
6/27/05 0:02	94.48	93.71
6/27/05 0:03	94.47	93.69
6/27/05 0:04	94.48	93.72
6/27/05 0:05	94.46	93.73
6/27/05 0:06	94.45	93.70
6/27/05 0:07	94.49	93.71
6/27/05 0:08	94.45	93.69
6/27/05 0:09	94.49	93.70
6/27/05 0:10	94.46	93.72
6/27/05 0:11	94.44	93.68
6/27/05 0:12	94.47	93.70
6/27/05 0:13	94.46	93.69
6/27/05 0:14	94.46	93.71
6/27/05 0:15	94.47	93.70
6/27/05 0:16	94.46	93.68
6/27/05 0:17	94.45	93.69
6/27/05 0:18	94.45	93.68
6/27/05 0:19	94.46	93.68
6/27/05 0:20	94.46	93.68
6/27/05 0:21	94.44	93.68
6/27/05 0:22	94.46	93.70
6/27/05 0:23	94.41	93.68
6/27/05 0:24	94.42	93.69
6/27/05 0:25	94.43	93.68
6/27/05 0:26	94.44	93.67
6/27/05 0:27	94.42	93.69
6/27/05 0:28	94.43	93.66
6/27/05 0:29	94.42	93.65
6/27/05 0:30	94.41	93.65
6/27/05 0:31	94.41	93.65
6/27/05 0:32	94.43	93.65
6/27/05 0:33	94.42	93.64
6/27/05 0:34	94.40	93.63
6/27/05 0:35	94.40	93.65
6/27/05 0:36	94.40	93.64
6/27/05 0:37	94.40	93.63
6/27/05 0:38	94.40	93.62
6/27/05 0:39	94.39	93.62
6/27/05 0:40	94.40	93.63
6/27/05 0:41	94.38	93.62
6/27/05 0:42	94.39	93.62
6/27/05 0:43	94.39	93.62
6/27/05 0:44	94.40	93.60
6/27/05 0:45	94.41	93.60

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 0:46	94.39	93.58
6/27/05 0:47	94.38	93.59
6/27/05 0:48	94.39	93.56
6/27/05 0:49	94.36	93.56
6/27/05 0:50	94.37	93.56
6/27/05 0:51	94.35	93.56
6/27/05 0:52	94.39	93.56
6/27/05 0:53	94.38	93.58
6/27/05 0:54	94.36	93.57
6/27/05 0:55	94.36	93.56
6/27/05 0:56	94.36	93.53
6/27/05 0:57	94.33	93.54
6/27/05 0:58	94.37	93.54
6/27/05 0:59	94.35	93.52
6/27/05 1:00	94.36	93.53
6/27/05 1:01	94.35	93.52
6/27/05 1:02	94.33	93.51
6/27/05 1:03	94.34	93.53
6/27/05 1:04	94.34	93.52
6/27/05 1:05	94.33	93.50
6/27/05 1:06	94.34	93.50
6/27/05 1:07	94.31	93.51
6/27/05 1:08	94.33	93.49
6/27/05 1:09	94.33	93.48
6/27/05 1:10	94.34	93.45
6/27/05 1:11	94.34	93.48
6/27/05 1:12	94.33	93.46
6/27/05 1:13	94.33	93.47
6/27/05 1:14	94.31	93.48
6/27/05 1:15	94.32	93.46
6/27/05 1:16	94.30	93.46
6/27/05 1:17	94.30	93.46
6/27/05 1:18	94.31	93.46
6/27/05 1:19	94.28	93.46
6/27/05 1:20	94.27	93.44
6/27/05 1:21	94.29	93.45
6/27/05 1:22	94.28	93.45
6/27/05 1:23	94.30	93.45
6/27/05 1:24	94.31	93.45
6/27/05 1:25	94.29	93.45
6/27/05 1:26	94.28	93.45
6/27/05 1:27	94.25	93.44
6/27/05 1:28	94.27	93.44
6/27/05 1:29	94.26	93.42
6/27/05 1:30	94.25	93.41
6/27/05 1:31	94.24	93.40

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 1:32	94.24	93.39
6/27/05 1:33	94.25	93.39
6/27/05 1:34	94.24	93.38
6/27/05 1:35	94.23	93.38
6/27/05 1:36	94.21	93.39
6/27/05 1:37	94.22	93.40
6/27/05 1:38	94.22	93.38
6/27/05 1:39	94.23	93.37
6/27/05 1:40	94.23	93.39
6/27/05 1:41	94.21	93.39
6/27/05 1:42	94.19	93.38
6/27/05 1:43	94.20	93.38
6/27/05 1:44	94.20	93.37
6/27/05 1:45	94.20	93.36
6/27/05 1:46	94.19	93.37
6/27/05 1:47	94.18	93.36
6/27/05 1:48	94.19	93.36
6/27/05 1:49	94.20	93.36
6/27/05 1:50	94.18	93.34
6/27/05 1:51	94.18	93.32
6/27/05 1:52	94.20	93.32
6/27/05 1:53	94.19	93.33
6/27/05 1:54	94.18	93.33
6/27/05 1:55	94.20	93.33
6/27/05 1:56	94.20	93.32
6/27/05 1:57	94.19	93.33
6/27/05 1:58	94.17	93.32
6/27/05 1:59	94.16	93.31
6/27/05 2:00	94.16	93.31
6/27/05 2:01	94.16	93.30
6/27/05 2:02	94.16	93.31
6/27/05 2:03	94.13	93.30
6/27/05 2:04	94.17	93.28
6/27/05 2:05	94.16	93.29
6/27/05 2:06	94.13	93.31
6/27/05 2:07	94.12	93.30
6/27/05 2:08	94.12	93.30
6/27/05 2:09	94.13	93.27
6/27/05 2:10	94.13	93.28
6/27/05 2:11	94.11	93.27
6/27/05 2:12	94.14	93.27
6/27/05 2:13	94.10	93.26
6/27/05 2:14	94.12	93.25
6/27/05 2:15	94.10	93.24
6/27/05 2:16	94.10	93.25
6/27/05 2:17	94.08	93.24

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 2:18	94.08	93.22
6/27/05 2:19	94.08	93.23
6/27/05 2:20	94.09	93.22
6/27/05 2:21	94.08	93.22
6/27/05 2:22	94.08	93.23
6/27/05 2:23	94.07	93.21
6/27/05 2:24	94.09	93.22
6/27/05 2:25	94.07	93.24
6/27/05 2:26	94.05	93.21
6/27/05 2:27	94.07	93.21
6/27/05 2:28	94.06	93.22
6/27/05 2:29	94.06	93.21
6/27/05 2:30	94.06	93.21
6/27/05 2:31	94.05	93.19
6/27/05 2:32	94.05	93.20
6/27/05 2:33	94.06	93.22
6/27/05 2:34	94.04	93.19
6/27/05 2:35	94.04	93.19
6/27/05 2:36	94.03	93.20
6/27/05 2:37	94.05	93.21
6/27/05 2:38	94.06	93.20
6/27/05 2:39	94.04	93.20
6/27/05 2:40	94.05	93.22
6/27/05 2:41	94.06	93.21
6/27/05 2:42	94.06	93.21
6/27/05 2:43	94.04	93.22
6/27/05 2:44	94.04	93.20
6/27/05 2:45	94.05	93.21
6/27/05 2:46	94.04	93.22
6/27/05 2:47	94.05	93.21
6/27/05 2:48	94.03	93.19
6/27/05 2:49	94.04	93.22
6/27/05 2:50	94.05	93.21
6/27/05 2:51	94.04	93.21
6/27/05 2:52	94.02	93.20
6/27/05 2:53	94.05	93.19
6/27/05 2:54	94.01	93.20
6/27/05 2:55	94.05	93.18
6/27/05 2:56	94.02	93.19
6/27/05 2:57	94.01	93.18
6/27/05 2:58	94.03	93.19
6/27/05 2:59	94.04	93.18
6/27/05 3:00	94.02	93.18
6/27/05 3:01	94.00	93.19
6/27/05 3:02	94.02	93.17
6/27/05 3:03	94.01	93.16

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 3:04	94.00	93.17
6/27/05 3:05	93.99	93.16
6/27/05 3:06	94.00	93.16
6/27/05 3:07	93.99	93.17
6/27/05 3:08	94.01	93.16
6/27/05 3:09	93.99	93.16
6/27/05 3:10	93.97	93.16
6/27/05 3:11	94.02	93.17
6/27/05 3:12	93.98	93.16
6/27/05 3:13	93.99	93.14
6/27/05 3:14	94.02	93.16
6/27/05 3:15	94.02	93.14
6/27/05 3:16	94.02	93.14
6/27/05 3:17	94.02	93.13
6/27/05 3:18	94.01	93.13
6/27/05 3:19	94.00	93.16
6/27/05 3:20	93.99	93.16
6/27/05 3:21	94.01	93.17
6/27/05 3:22	94.01	93.14
6/27/05 3:23	93.99	93.15
6/27/05 3:24	94.01	93.15
6/27/05 3:25	94.01	93.17
6/27/05 3:26	94.00	93.16
6/27/05 3:27	94.00	93.18
6/27/05 3:28	93.99	93.18
6/27/05 3:29	94.01	93.15
6/27/05 3:30	94.00	93.17
6/27/05 3:31	94.00	93.14
6/27/05 3:32	94.00	93.16
6/27/05 3:33	94.00	93.16
6/27/05 3:34	93.99	93.15
6/27/05 3:35	93.98	93.17
6/27/05 3:36	94.01	93.15
6/27/05 3:37	94.00	93.17
6/27/05 3:38	94.00	93.16
6/27/05 3:39	94.01	93.18
6/27/05 3:40	93.97	93.17
6/27/05 3:41	93.99	93.17
6/27/05 3:42	94.04	93.17
6/27/05 3:43	94.01	93.17
6/27/05 3:44	94.02	93.17
6/27/05 3:45	94.02	93.17
6/27/05 3:46	94.03	93.16
6/27/05 3:47	94.01	93.18
6/27/05 3:48	94.01	93.20
6/27/05 3:49	94.00	93.17

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 3:50	94.04	93.18
6/27/05 3:51	94.02	93.21
6/27/05 3:52	94.00	93.18
6/27/05 3:53	94.03	93.21
6/27/05 3:54	94.00	93.19
6/27/05 3:55	94.02	93.17
6/27/05 3:56	94.03	93.17
6/27/05 3:57	94.00	93.18
6/27/05 3:58	94.01	93.19
6/27/05 3:59	94.01	93.19
6/27/05 4:00	94.05	93.18
6/27/05 4:01	94.02	93.20
6/27/05 4:02	94.05	93.20
6/27/05 4:03	94.05	93.19
6/27/05 4:04	94.04	93.18
6/27/05 4:05	94.03	93.20
6/27/05 4:06	94.06	93.21
6/27/05 4:07	94.06	93.20
6/27/05 4:08	94.03	93.22
6/27/05 4:09	94.04	93.22
6/27/05 4:10	94.07	93.21
6/27/05 4:11	94.05	93.22
6/27/05 4:12	94.04	93.22
6/27/05 4:13	94.07	93.22
6/27/05 4:14	94.06	93.22
6/27/05 4:15	94.04	93.23
6/27/05 4:16	94.05	93.22
6/27/05 4:17	94.04	93.22
6/27/05 4:18	94.08	93.22
6/27/05 4:19	94.06	93.24
6/27/05 4:20	94.06	93.25
6/27/05 4:21	94.06	93.25
6/27/05 4:22	94.07	93.24
6/27/05 4:23	94.05	93.23
6/27/05 4:24	94.05	93.23
6/27/05 4:25	94.04	93.22
6/27/05 4:26	94.06	93.22
6/27/05 4:27	94.06	93.23
6/27/05 4:28	94.06	93.23
6/27/05 4:29	94.07	93.23
6/27/05 4:30	94.07	93.23
6/27/05 4:31	94.07	93.24
6/27/05 4:32	94.08	93.25
6/27/05 4:33	94.07	93.24
6/27/05 4:34	94.09	93.24
6/27/05 4:35	94.09	93.26

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 4:36	94.07	93.26
6/27/05 4:37	94.07	93.26
6/27/05 4:38	94.07	93.22
6/27/05 4:39	94.07	93.25
6/27/05 4:40	94.07	93.24
6/27/05 4:41	94.06	93.25
6/27/05 4:42	94.08	93.25
6/27/05 4:43	94.07	93.22
6/27/05 4:44	94.08	93.24
6/27/05 4:45	94.08	93.23
6/27/05 4:46	94.07	93.24
6/27/05 4:47	94.10	93.24
6/27/05 4:48	94.08	93.23
6/27/05 4:49	94.09	93.23
6/27/05 4:50	94.08	93.24
6/27/05 4:51	94.08	93.24
6/27/05 4:52	94.08	93.25
6/27/05 4:53	94.09	93.22
6/27/05 4:54	94.07	93.24
6/27/05 4:55	94.09	93.25
6/27/05 4:56	94.08	93.27
6/27/05 4:57	94.08	93.25
6/27/05 4:58	94.08	93.26
6/27/05 4:59	94.07	93.25
6/27/05 5:00	94.09	93.27
6/27/05 5:01	94.10	93.27
6/27/05 5:02	94.09	93.27
6/27/05 5:03	94.11	93.28
6/27/05 5:04	94.11	93.28
6/27/05 5:05	94.11	93.31
6/27/05 5:06	94.10	93.29
6/27/05 5:07	94.10	93.30
6/27/05 5:08	94.09	93.30
6/27/05 5:09	94.11	93.31
6/27/05 5:10	94.09	93.30
6/27/05 5:11	94.09	93.31
6/27/05 5:12	94.10	93.27
6/27/05 5:13	94.07	93.28
6/27/05 5:14	94.09	93.31
6/27/05 5:15	94.10	93.28
6/27/05 5:16	94.11	93.28
6/27/05 5:17	94.11	93.28
6/27/05 5:18	94.11	93.29
6/27/05 5:19	94.12	93.30
6/27/05 5:20	94.10	93.30
6/27/05 5:21	94.10	93.28

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 5:22	94.10	93.30
6/27/05 5:23	94.10	93.31
6/27/05 5:24	94.13	93.31
6/27/05 5:25	94.10	93.30
6/27/05 5:26	94.11	93.31
6/27/05 5:27	94.11	93.31
6/27/05 5:28	94.11	93.31
6/27/05 5:29	94.12	93.31
6/27/05 5:30	94.12	93.32
6/27/05 5:31	94.11	93.31
6/27/05 5:32	94.12	93.32
6/27/05 5:33	94.12	93.31
6/27/05 5:34	94.13	93.30
6/27/05 5:35	94.13	93.31
6/27/05 5:36	94.13	93.31
6/27/05 5:37	94.11	93.34
6/27/05 5:38	94.12	93.33
6/27/05 5:39	94.13	93.32
6/27/05 5:40	94.13	93.32
6/27/05 5:41	94.12	93.32
6/27/05 5:42	94.12	93.32
6/27/05 5:43	94.14	93.33
6/27/05 5:44	94.14	93.33
6/27/05 5:45	94.14	93.34
6/27/05 5:46	94.13	93.35
6/27/05 5:47	94.13	93.32
6/27/05 5:48	94.14	93.33
6/27/05 5:49	94.15	93.35
6/27/05 5:50	94.14	93.35
6/27/05 5:51	94.13	93.34
6/27/05 5:52	94.15	93.34
6/27/05 5:53	94.13	93.35
6/27/05 5:54	94.12	93.35
6/27/05 5:55	94.13	93.34
6/27/05 5:56	94.12	93.34
6/27/05 5:57	94.13	93.34
6/27/05 5:58	94.15	93.33
6/27/05 5:59	94.14	93.37
6/27/05 6:00	94.13	93.36
6/27/05 6:01	94.10	93.34
6/27/05 6:02	94.13	93.35
6/27/05 6:03	94.16	93.37
6/27/05 6:04	94.14	93.37
6/27/05 6:05	94.15	93.37
6/27/05 6:06	94.14	93.36
6/27/05 6:07	94.13	93.34

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 6:08	94.13	93.36
6/27/05 6:09	94.14	93.34
6/27/05 6:10	94.14	93.33
6/27/05 6:11	94.13	93.33
6/27/05 6:12	94.13	93.33
6/27/05 6:13	94.12	93.32
6/27/05 6:14	94.11	93.32
6/27/05 6:15	94.14	93.31
6/27/05 6:16	94.14	93.32
6/27/05 6:17	94.13	93.31
6/27/05 6:18	94.12	93.31
6/27/05 6:19	94.14	93.31
6/27/05 6:20	94.12	93.35
6/27/05 6:21	94.13	93.34
6/27/05 6:22	94.12	93.31
6/27/05 6:23	94.15	93.33
6/27/05 6:24	94.12	93.34
6/27/05 6:25	94.13	93.31
6/27/05 6:26	94.14	93.32
6/27/05 6:27	94.13	93.34
6/27/05 6:28	94.13	93.33
6/27/05 6:29	94.12	93.32
6/27/05 6:30	94.13	93.33
6/27/05 6:31	94.13	93.33
6/27/05 6:32	94.12	93.33
6/27/05 6:33	94.12	93.35
6/27/05 6:34	94.13	93.35
6/27/05 6:35	94.13	93.33
6/27/05 6:36	94.12	93.34
6/27/05 6:37	94.11	93.33
6/27/05 6:38	94.10	93.33
6/27/05 6:39	94.11	93.33
6/27/05 6:40	94.13	93.34
6/27/05 6:41	94.12	93.35
6/27/05 6:42	94.12	93.36
6/27/05 6:43	94.12	93.34
6/27/05 6:44	94.11	93.32
6/27/05 6:45	94.13	93.30
6/27/05 6:46	94.13	93.33
6/27/05 6:47	94.15	93.32
6/27/05 6:48	94.13	93.30
6/27/05 6:49	94.13	93.32
6/27/05 6:50	94.11	93.34
6/27/05 6:51	94.12	93.31
6/27/05 6:52	94.11	93.33
6/27/05 6:53	94.10	93.31

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 6:54	94.15	93.32
6/27/05 6:55	94.13	93.34
6/27/05 6:56	94.13	93.32
6/27/05 6:57	94.13	93.33
6/27/05 6:58	94.12	93.31
6/27/05 6:59	94.11	93.30
6/27/05 7:00	94.12	93.33
6/27/05 7:01	94.13	93.33
6/27/05 7:02	94.13	93.33
6/27/05 7:03	94.12	93.34
6/27/05 7:04	94.12	93.33
6/27/05 7:05	94.09	93.32
6/27/05 7:06	94.12	93.32
6/27/05 7:07	94.10	93.32
6/27/05 7:08	94.12	93.32
6/27/05 7:09	94.13	93.31
6/27/05 7:10	94.12	93.33
6/27/05 7:11	94.12	93.31
6/27/05 7:12	94.11	93.34
6/27/05 7:13	94.12	93.32
6/27/05 7:14	94.12	93.34
6/27/05 7:15	94.12	93.34
6/27/05 7:16	94.13	93.35
6/27/05 7:17	94.11	93.34
6/27/05 7:18	94.13	93.32
6/27/05 7:19	94.11	93.34
6/27/05 7:20	94.11	93.33
6/27/05 7:21	94.09	93.33
6/27/05 7:22	94.10	93.33
6/27/05 7:23	94.09	93.32
6/27/05 7:24	94.10	93.32
6/27/05 7:25	94.10	93.33
6/27/05 7:26	94.09	93.35
6/27/05 7:27	94.11	93.35
6/27/05 7:28	94.09	93.32
6/27/05 7:29	94.12	93.34
6/27/05 7:30	94.10	93.33
6/27/05 7:31	94.09	93.33
6/27/05 7:32	94.10	93.33
6/27/05 7:33	94.13	93.31
6/27/05 7:34	94.11	93.33
6/27/05 7:35	94.11	93.34
6/27/05 7:36	94.13	93.33
6/27/05 7:37	94.09	93.31
6/27/05 7:38	94.10	93.32
6/27/05 7:39	94.10	93.32

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 7:40	94.10	93.32
6/27/05 7:41	94.11	93.33
6/27/05 7:42	94.09	93.32
6/27/05 7:43	94.13	93.31
6/27/05 7:44	94.14	93.36
6/27/05 7:45	94.14	93.34
6/27/05 7:46	94.12	93.34
6/27/05 7:47	94.12	93.34
6/27/05 7:48	94.10	93.33
6/27/05 7:49	94.14	93.36
6/27/05 7:50	94.11	93.35
6/27/05 7:51	94.11	93.36
6/27/05 7:52	94.12	93.35
6/27/05 7:53	94.10	93.37
6/27/05 7:54	94.11	93.34
6/27/05 7:55	94.12	93.34
6/27/05 7:56	94.12	93.34
6/27/05 7:57	94.11	93.37
6/27/05 7:58	94.13	93.36
6/27/05 7:59	94.12	93.34
6/27/05 8:00	94.13	93.36
6/27/05 8:01	94.14	93.36
6/27/05 8:02	94.13	93.36
6/27/05 8:03	94.13	93.36
6/27/05 8:04	94.13	93.36
6/27/05 8:05	94.15	93.38
6/27/05 8:06	94.14	93.37
6/27/05 8:07	94.15	93.37
6/27/05 8:08	94.14	93.36
6/27/05 8:09	94.14	93.37
6/27/05 8:10	94.14	93.35
6/27/05 8:11	94.14	93.38
6/27/05 8:12	94.14	93.36
6/27/05 8:13	94.15	93.36
6/27/05 8:14	94.15	93.39
6/27/05 8:15	94.18	93.38
6/27/05 8:16	94.14	93.40
6/27/05 8:17	94.16	93.37
6/27/05 8:18	94.15	93.36
6/27/05 8:19	94.16	93.36
6/27/05 8:20	94.16	93.37
6/27/05 8:21	94.15	93.37
6/27/05 8:22	94.16	93.35
6/27/05 8:23	94.16	93.39
6/27/05 8:24	94.16	93.40
6/27/05 8:25	94.15	93.37

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 8:26	94.16	93.37
6/27/05 8:27	94.16	93.39
6/27/05 8:28	94.17	93.38
6/27/05 8:29	94.17	93.37
6/27/05 8:30	94.14	93.37
6/27/05 8:31	94.18	93.39
6/27/05 8:32	94.16	93.40
6/27/05 8:33	94.18	93.41
6/27/05 8:34	94.18	93.40
6/27/05 8:35	94.17	93.41
6/27/05 8:36	94.17	93.40
6/27/05 8:37	94.17	93.41
6/27/05 8:38	94.16	93.40
6/27/05 8:39	94.17	93.41
6/27/05 8:40	94.16	93.41
6/27/05 8:41	94.17	93.42
6/27/05 8:42	94.17	93.43
6/27/05 8:43	94.18	93.40
6/27/05 8:44	94.17	93.43
6/27/05 8:45	94.18	93.44
6/27/05 8:46	94.16	93.42
6/27/05 8:47	94.17	93.44
6/27/05 8:48	94.17	93.45
6/27/05 8:49	94.18	93.45
6/27/05 8:50	94.19	93.42
6/27/05 8:51	94.18	93.45
6/27/05 8:52	94.18	93.46
6/27/05 8:53	94.17	93.43
6/27/05 8:54	94.19	93.44
6/27/05 8:55	94.18	93.46
6/27/05 8:56	94.17	93.45
6/27/05 8:57	94.18	93.47
6/27/05 8:58	94.17	93.46
6/27/05 8:59	94.18	93.47
6/27/05 9:00	94.16	93.46
6/27/05 9:01	94.18	93.45
6/27/05 9:02	94.18	93.48
6/27/05 9:03	94.20	93.45
6/27/05 9:04	94.20	93.45
6/27/05 9:05	94.19	93.46
6/27/05 9:06	94.19	93.46
6/27/05 9:07	94.20	93.46
6/27/05 9:08	94.19	93.46
6/27/05 9:09	94.20	93.47
6/27/05 9:10	94.21	93.49
6/27/05 9:11	94.20	93.48

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 9:12	94.22	93.47
6/27/05 9:13	94.18	93.48
6/27/05 9:14	94.20	93.48
6/27/05 9:15	94.20	93.48
6/27/05 9:16	94.20	93.50
6/27/05 9:17	94.20	93.48
6/27/05 9:18	94.21	93.49
6/27/05 9:19	94.18	93.49
6/27/05 9:20	94.20	93.51
6/27/05 9:21	94.20	93.51
6/27/05 9:22	94.21	93.51
6/27/05 9:23	94.20	93.51
6/27/05 9:24	94.21	93.51
6/27/05 9:25	94.21	93.50
6/27/05 9:26	94.21	93.53
6/27/05 9:27	94.24	93.51
6/27/05 9:28	94.21	93.50
6/27/05 9:29	94.22	93.50
6/27/05 9:30	94.22	93.50
6/27/05 9:31	94.22	93.52
6/27/05 9:32	94.22	93.55
6/27/05 9:33	94.23	93.54
6/27/05 9:34	94.23	93.53
6/27/05 9:35	94.24	93.53
6/27/05 9:36	94.24	93.52
6/27/05 9:37	94.24	93.50
6/27/05 9:38	94.23	93.52
6/27/05 9:39	94.23	93.52
6/27/05 9:40	94.24	93.53
6/27/05 9:41	94.24	93.52
6/27/05 9:42	94.23	93.54
6/27/05 9:43	94.23	93.54
6/27/05 9:44	94.24	93.53
6/27/05 9:45	94.24	93.53
6/27/05 9:46	94.26	93.55
6/27/05 9:47	94.23	93.52
6/27/05 9:48	94.24	93.56
6/27/05 9:49	94.25	93.56
6/27/05 9:50	94.25	93.53
6/27/05 9:51	94.25	93.56
6/27/05 9:52	94.26	93.55
6/27/05 9:53	94.27	93.56
6/27/05 9:54	94.27	93.58
6/27/05 9:55	94.28	93.59
6/27/05 9:56	94.26	93.59
6/27/05 9:57	94.29	93.57

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 9:58	94.29	93.57
6/27/05 9:59	94.29	93.58
6/27/05 10:00	94.29	93.59
6/27/05 10:01	94.29	93.60
6/27/05 10:02	94.27	93.61
6/27/05 10:03	94.26	93.61
6/27/05 10:04	94.28	93.62
6/27/05 10:05	94.29	93.62
6/27/05 10:06	94.27	93.61
6/27/05 10:07	94.28	93.60
6/27/05 10:08	94.29	93.64
6/27/05 10:09	94.29	93.64
6/27/05 10:10	94.32	93.62
6/27/05 10:11	94.29	93.63
6/27/05 10:12	94.31	93.62
6/27/05 10:13	94.31	93.62
6/27/05 10:14	94.28	93.66
6/27/05 10:15	94.32	93.64
6/27/05 10:16	94.33	93.64
6/27/05 10:17	94.33	93.64
6/27/05 10:18	94.33	93.63
6/27/05 10:19	94.33	93.63
6/27/05 10:20	94.32	93.63
6/27/05 10:21	94.31	93.64
6/27/05 10:22	94.33	93.67
6/27/05 10:23	94.31	93.65
6/27/05 10:24	94.34	93.68
6/27/05 10:25	94.36	93.67
6/27/05 10:26	94.35	93.68
6/27/05 10:27	94.35	93.69
6/27/05 10:28	94.36	93.67
6/27/05 10:29	94.35	93.69
6/27/05 10:30	94.35	93.70
6/27/05 10:31	94.35	93.70
6/27/05 10:32	94.38	93.70
6/27/05 10:33	94.37	93.72
6/27/05 10:34	94.37	93.72
6/27/05 10:35	94.38	93.71
6/27/05 10:36	94.37	93.71
6/27/05 10:37	94.36	93.72
6/27/05 10:38	94.35	93.72
6/27/05 10:39	94.35	93.73
6/27/05 10:40	94.36	93.72
6/27/05 10:41	94.35	93.73
6/27/05 10:42	94.37	93.72
6/27/05 10:43	94.35	93.75

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 10:44	94.38	93.72
6/27/05 10:45	94.37	93.73
6/27/05 10:46	94.36	93.74
6/27/05 10:47	94.38	93.74
6/27/05 10:48	94.36	93.73
6/27/05 10:49	94.35	93.76
6/27/05 10:50	94.40	93.75
6/27/05 10:51	94.38	93.78
6/27/05 10:52	94.38	93.79
6/27/05 10:53	94.38	93.80
6/27/05 10:54	94.38	93.79
6/27/05 10:55	94.40	93.79
6/27/05 10:56	94.40	93.79
6/27/05 10:57	94.40	93.77
6/27/05 10:58	94.41	93.78
6/27/05 10:59	94.38	93.78
6/27/05 11:00	94.40	93.77
6/27/05 11:01	94.40	93.79
6/27/05 11:02	94.41	93.79
6/27/05 11:03	94.42	93.79
6/27/05 11:04	94.39	93.80
6/27/05 11:05	94.39	93.78
6/27/05 11:06	94.39	93.79
6/27/05 11:07	94.39	93.81
6/27/05 11:08	94.40	93.84
6/27/05 11:09	94.42	93.82
6/27/05 11:10	94.42	93.81
6/27/05 11:11	94.41	93.81
6/27/05 11:12	94.41	93.82
6/27/05 11:13	94.40	93.81
6/27/05 11:14	94.40	93.81
6/27/05 11:15	94.42	93.83
6/27/05 11:16	94.41	93.82
6/27/05 11:17	94.42	93.84
6/27/05 11:18	94.41	93.81
6/27/05 11:19	94.41	93.80
6/27/05 11:20	94.41	93.82
6/27/05 11:21	94.42	93.83
6/27/05 11:22	94.41	93.80
6/27/05 11:23	94.43	93.83
6/27/05 11:24	94.45	93.82
6/27/05 11:25	94.43	93.82
6/27/05 11:26	94.44	93.83
6/27/05 11:27	94.42	93.83
6/27/05 11:28	94.44	93.85
6/27/05 11:29	94.45	93.85

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 11:30	94.43	93.85
6/27/05 11:31	94.46	93.83
6/27/05 11:32	94.43	93.85
6/27/05 11:33	94.44	93.83
6/27/05 11:34	94.45	93.85
6/27/05 11:35	94.45	93.86
6/27/05 11:36	94.42	93.85
6/27/05 11:37	94.44	93.86
6/27/05 11:38	94.41	93.84
6/27/05 11:39	94.44	93.83
6/27/05 11:40	94.45	93.81
6/27/05 11:41	94.47	93.84
6/27/05 11:42	94.43	93.84
6/27/05 11:43	94.43	93.83
6/27/05 11:44	94.45	93.83
6/27/05 11:45	94.44	93.86
6/27/05 11:46	94.43	93.83
6/27/05 11:47	94.44	93.85
6/27/05 11:48	94.42	93.83
6/27/05 11:49	94.43	93.84
6/27/05 11:50	94.43	93.88
6/27/05 11:51	94.44	93.87
6/27/05 11:52	94.44	93.84
6/27/05 11:53	94.43	93.83
6/27/05 11:54	94.43	93.83
6/27/05 11:55	94.45	93.87
6/27/05 11:56	94.44	93.84
6/27/05 11:57	94.46	93.82
6/27/05 11:58	94.46	93.83
6/27/05 11:59	94.44	93.81
6/27/05 12:00	94.45	93.84
6/27/05 12:01	94.48	93.84
6/27/05 12:02	94.44	93.82
6/27/05 12:03	94.46	93.83
6/27/05 12:04	94.46	93.82
6/27/05 12:05	94.48	93.84
6/27/05 12:06	94.47	93.83
6/27/05 12:07	94.46	93.83
6/27/05 12:08	94.49	93.84
6/27/05 12:09	94.48	93.86
6/27/05 12:10	94.47	93.82
6/27/05 12:11	94.47	93.82
6/27/05 12:12	94.48	93.85
6/27/05 12:13	94.50	93.84
6/27/05 12:14	94.47	93.85
6/27/05 12:15	94.49	93.84

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 12:16	94.48	93.86
6/27/05 12:17	94.50	93.82
6/27/05 12:18	94.49	93.84
6/27/05 12:19	94.48	93.83
6/27/05 12:20	94.52	93.85
6/27/05 12:21	94.52	93.82
6/27/05 12:22	94.50	93.82
6/27/05 12:23	94.53	93.84
6/27/05 12:24	94.52	93.84
6/27/05 12:25	94.54	93.86
6/27/05 12:26	94.51	93.83
6/27/05 12:27	94.53	93.82
6/27/05 12:28	94.54	93.84
6/27/05 12:29	94.55	93.84
6/27/05 12:30	94.53	93.84
6/27/05 12:31	94.50	93.85
6/27/05 12:32	94.52	93.83
6/27/05 12:33	94.53	93.85
6/27/05 12:34	94.51	93.84
6/27/05 12:35	94.53	93.83
6/27/05 12:36	94.54	93.81
6/27/05 12:37	94.54	93.83
6/27/05 12:38	94.55	93.82
6/27/05 12:39	94.53	93.83
6/27/05 12:40	94.55	93.84
6/27/05 12:41	94.53	93.85
6/27/05 12:42	94.53	93.83
6/27/05 12:43	94.55	93.85
6/27/05 12:44	94.55	93.84
6/27/05 12:45	94.53	93.83
6/27/05 12:46	94.57	93.86
6/27/05 12:47	94.55	93.87
6/27/05 12:48	94.58	93.86
6/27/05 12:49	94.58	93.84
6/27/05 12:50	94.59	93.85
6/27/05 12:51	94.60	93.86
6/27/05 12:52	94.61	93.86
6/27/05 12:53	94.58	93.88
6/27/05 12:54	94.60	93.86
6/27/05 12:55	94.60	93.85
6/27/05 12:56	94.59	93.85
6/27/05 12:57	94.62	93.85
6/27/05 12:58	94.60	93.87
6/27/05 12:59	94.61	93.89
6/27/05 13:00	94.62	93.87
6/27/05 13:01	94.62	93.88

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 13:02	94.62	93.88
6/27/05 13:03	94.65	93.88
6/27/05 13:04	94.61	93.86
6/27/05 13:05	94.62	93.90
6/27/05 13:06	94.63	93.89
6/27/05 13:07	94.61	93.90
6/27/05 13:08	94.61	93.90
6/27/05 13:09	94.62	93.91
6/27/05 13:10	94.61	93.92
6/27/05 13:11	94.63	93.92
6/27/05 13:12	94.63	93.91
6/27/05 13:13	94.64	93.91
6/27/05 13:14	94.62	93.91
6/27/05 13:15	94.63	93.94
6/27/05 13:16	94.62	93.93
6/27/05 13:17	94.65	93.93
6/27/05 13:18	94.64	93.94
6/27/05 13:19	94.65	93.97
6/27/05 13:20	94.65	93.95
6/27/05 13:21	94.65	93.96
6/27/05 13:22	94.64	93.97
6/27/05 13:23	94.67	93.98
6/27/05 13:24	94.68	94.00
6/27/05 13:25	94.66	94.00
6/27/05 13:26	94.68	93.98
6/27/05 13:27	94.69	94.00
6/27/05 13:28	94.66	93.99
6/27/05 13:29	94.68	94.00
6/27/05 13:30	94.68	93.96
6/27/05 13:31	94.65	93.99
6/27/05 13:32	94.67	94.01
6/27/05 13:33	94.71	94.01
6/27/05 13:34	94.70	94.00
6/27/05 13:35	94.68	93.99
6/27/05 13:36	94.69	93.99
6/27/05 13:37	94.70	93.99
6/27/05 13:38	94.71	93.99
6/27/05 13:39	94.69	93.99
6/27/05 13:40	94.68	94.01
6/27/05 13:41	94.70	94.02
6/27/05 13:42	94.67	93.99
6/27/05 13:43	94.70	93.99
6/27/05 13:44	94.69	94.00
6/27/05 13:45	94.70	94.01
6/27/05 13:46	94.68	94.00
6/27/05 13:47	94.69	94.00

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 13:48	94.69	94.00
6/27/05 13:49	94.68	93.99
6/27/05 13:50	94.68	94.00
6/27/05 13:51	94.68	94.00
6/27/05 13:52	94.67	93.98
6/27/05 13:53	94.70	94.00
6/27/05 13:54	94.68	93.98
6/27/05 13:55	94.68	94.01
6/27/05 13:56	94.69	94.01
6/27/05 13:57	94.68	94.01
6/27/05 13:58	94.69	94.01
6/27/05 13:59	94.69	94.01
6/27/05 14:00	94.69	94.02
6/27/05 14:01	94.70	94.01
6/27/05 14:02	94.70	94.02
6/27/05 14:03	94.70	93.99
6/27/05 14:04	94.71	94.02
6/27/05 14:05	94.69	94.03
6/27/05 14:06	94.73	94.03
6/27/05 14:07	94.74	94.03
6/27/05 14:08	94.77	94.04
6/27/05 14:09	94.75	94.03
6/27/05 14:10	94.77	94.04
6/27/05 14:11	94.76	94.06
6/27/05 14:12	94.76	94.05
6/27/05 14:13	94.75	94.06
6/27/05 14:14	94.77	94.07
6/27/05 14:15	94.76	94.08
6/27/05 14:16	94.76	94.06
6/27/05 14:17	94.76	94.08
6/27/05 14:18	94.77	94.07
6/27/05 14:19	94.78	94.07
6/27/05 14:20	94.79	94.07
6/27/05 14:21	94.79	94.08
6/27/05 14:22	94.78	94.08
6/27/05 14:23	94.78	94.09
6/27/05 14:24	94.78	94.08
6/27/05 14:25	94.81	94.08
6/27/05 14:26	94.80	94.08
6/27/05 14:27	94.78	94.10
6/27/05 14:28	94.79	94.09
6/27/05 14:29	94.78	94.09
6/27/05 14:30	94.79	94.10
6/27/05 14:31	94.79	94.09
6/27/05 14:32	94.80	94.10
6/27/05 14:33	94.81	94.10

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 14:34	94.81	94.11
6/27/05 14:35	94.81	94.11
6/27/05 14:36	94.81	94.12
6/27/05 14:37	94.79	94.11
6/27/05 14:38	94.79	94.12
6/27/05 14:39	94.81	94.09
6/27/05 14:40	94.80	94.10
6/27/05 14:41	94.81	94.10
6/27/05 14:42	94.81	94.12
6/27/05 14:43	94.79	94.10
6/27/05 14:44	94.79	94.10
6/27/05 14:45	94.81	94.12
6/27/05 14:46	94.80	94.10
6/27/05 14:47	94.78	94.10
6/27/05 14:48	94.79	94.08
6/27/05 14:49	94.79	94.11
6/27/05 14:50	94.78	94.10
6/27/05 14:51	94.79	94.08
6/27/05 14:52	94.80	94.12
6/27/05 14:53	94.78	94.11
6/27/05 14:54	94.80	94.12
6/27/05 14:55	94.77	94.13
6/27/05 14:56	94.79	94.13
6/27/05 14:57	94.80	94.13
6/27/05 14:58	94.80	94.10
6/27/05 14:59	94.80	94.13
6/27/05 15:00	94.78	94.11
6/27/05 15:01	94.79	94.13
6/27/05 15:02	94.79	94.12
6/27/05 15:03	94.80	94.10
6/27/05 15:04	94.78	94.11
6/27/05 15:05	94.79	94.10
6/27/05 15:06	94.81	94.11
6/27/05 15:07	94.80	94.12
6/27/05 15:08	94.80	94.12
6/27/05 15:09	94.80	94.10
6/27/05 15:10	94.81	94.10
6/27/05 15:11	94.80	94.11
6/27/05 15:12	94.81	94.12
6/27/05 15:13	94.80	94.13
6/27/05 15:14	94.82	94.14
6/27/05 15:15	94.84	94.14
6/27/05 15:16	94.83	94.15
6/27/05 15:17	94.81	94.15
6/27/05 15:18	94.87	94.15
6/27/05 15:19	94.84	94.16

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 15:20	94.85	94.17
6/27/05 15:21	94.86	94.18
6/27/05 15:22	94.87	94.17
6/27/05 15:23	94.86	94.18
6/27/05 15:24	94.85	94.20
6/27/05 15:25	94.87	94.19
6/27/05 15:26	94.86	94.21
6/27/05 15:27	94.85	94.21
6/27/05 15:28	94.85	94.20
6/27/05 15:29	94.84	94.19
6/27/05 15:30	94.84	94.21
6/27/05 15:31	94.85	94.22
6/27/05 15:32	94.84	94.21
6/27/05 15:33	94.85	94.20
6/27/05 15:34	94.87	94.21
6/27/05 15:35	94.89	94.22
6/27/05 15:36	94.86	94.21
6/27/05 15:37	94.89	94.23
6/27/05 15:38	94.90	94.22
6/27/05 15:39	94.91	94.22
6/27/05 15:40	94.90	94.23
6/27/05 15:41	94.92	94.24
6/27/05 15:42	94.91	94.24
6/27/05 15:43	94.90	94.26
6/27/05 15:44	94.93	94.23
6/27/05 15:45	94.93	94.26
6/27/05 15:46	94.94	94.27
6/27/05 15:47	94.95	94.27
6/27/05 15:48	94.95	94.27
6/27/05 15:49	94.95	94.26
6/27/05 15:50	94.95	94.26
6/27/05 15:51	94.94	94.29
6/27/05 15:52	94.95	94.27
6/27/05 15:53	94.94	94.30
6/27/05 15:54	94.95	94.31
6/27/05 15:55	94.94	94.31
6/27/05 15:56	94.96	94.32
6/27/05 15:57	94.97	94.31
6/27/05 15:58	94.96	94.33
6/27/05 15:59	94.98	94.33
6/27/05 16:00	94.96	94.34
6/27/05 16:01	94.96	94.36
6/27/05 16:02	95.01	94.35
6/27/05 16:03	94.99	94.34
6/27/05 16:04	95.00	94.36
6/27/05 16:05	95.02	94.37

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 16:06	95.03	94.36
6/27/05 16:07	95.00	94.38
6/27/05 16:08	95.01	94.39
6/27/05 16:09	95.00	94.40
6/27/05 16:10	95.01	94.40
6/27/05 16:11	95.03	94.42
6/27/05 16:12	95.03	94.39
6/27/05 16:13	95.01	94.41
6/27/05 16:14	95.04	94.40
6/27/05 16:15	95.04	94.43
6/27/05 16:16	95.06	94.44
6/27/05 16:17	95.07	94.42
6/27/05 16:18	95.07	94.46
6/27/05 16:19	95.09	94.42
6/27/05 16:20	95.08	94.43
6/27/05 16:21	95.08	94.47
6/27/05 16:22	95.08	94.46
6/27/05 16:23	95.09	94.47
6/27/05 16:24	95.09	94.47
6/27/05 16:25	95.09	94.48
6/27/05 16:26	95.11	94.47
6/27/05 16:27	95.12	94.50
6/27/05 16:28	95.12	94.50
6/27/05 16:29	95.14	94.50
6/27/05 16:30	95.14	94.49
6/27/05 16:31	95.14	94.51
6/27/05 16:32	95.13	94.50
6/27/05 16:33	95.16	94.52
6/27/05 16:34	95.16	94.51
6/27/05 16:35	95.17	94.54
6/27/05 16:36	95.20	94.52
6/27/05 16:37	95.23	94.53
6/27/05 16:38	95.23	94.54
6/27/05 16:39	95.24	94.55
6/27/05 16:40	95.24	94.54
6/27/05 16:41	95.25	94.54
6/27/05 16:42	95.26	94.55
6/27/05 16:43	95.25	94.55
6/27/05 16:44	95.28	94.56
6/27/05 16:45	95.27	94.57
6/27/05 16:46	95.28	94.57
6/27/05 16:47	95.29	94.57
6/27/05 16:48	95.30	94.59
6/27/05 16:49	95.32	94.60
6/27/05 16:50	95.33	94.61
6/27/05 16:51	95.33	94.61

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 16:52	95.34	94.61
6/27/05 16:53	95.37	94.61
6/27/05 16:54	95.36	94.61
6/27/05 16:55	95.37	94.63
6/27/05 16:56	95.36	94.61
6/27/05 16:57	95.39	94.64
6/27/05 16:58	95.36	94.64
6/27/05 16:59	95.38	94.65
6/27/05 17:00	95.39	94.67
6/27/05 17:01	95.38	94.65
6/27/05 17:02	95.37	94.67
6/27/05 17:03	95.36	94.65
6/27/05 17:04	95.38	94.67
6/27/05 17:05	95.35	94.67
6/27/05 17:06	95.40	94.68
6/27/05 17:07	95.39	94.69
6/27/05 17:08	95.37	94.67
6/27/05 17:09	95.38	94.71
6/27/05 17:10	95.39	94.70
6/27/05 17:11	95.38	94.70
6/27/05 17:12	95.38	94.70
6/27/05 17:13	95.42	94.72
6/27/05 17:14	95.40	94.70
6/27/05 17:15	95.39	94.71
6/27/05 17:16	95.41	94.72
6/27/05 17:17	95.40	94.71
6/27/05 17:18	95.39	94.72
6/27/05 17:19	95.39	94.72
6/27/05 17:20	95.41	94.71
6/27/05 17:21	95.40	94.71
6/27/05 17:22	95.39	94.71
6/27/05 17:23	95.40	94.71
6/27/05 17:24	95.41	94.69
6/27/05 17:25	95.39	94.72
6/27/05 17:26	95.42	94.68
6/27/05 17:27	95.42	94.69
6/27/05 17:28	95.42	94.69
6/27/05 17:29	95.42	94.68
6/27/05 17:30	95.42	94.69
6/27/05 17:31	95.43	94.70
6/27/05 17:32	95.42	94.68
6/27/05 17:33	95.45	94.67
6/27/05 17:34	95.44	94.68
6/27/05 17:35	95.44	94.66
6/27/05 17:36	95.42	94.67
6/27/05 17:37	95.41	94.69

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 17:38	95.42	94.69
6/27/05 17:39	95.42	94.70
6/27/05 17:40	95.43	94.69
6/27/05 17:41	95.43	94.71
6/27/05 17:42	95.42	94.71
6/27/05 17:43	95.43	94.71
6/27/05 17:44	95.43	94.71
6/27/05 17:45	95.44	94.71
6/27/05 17:46	95.44	94.71
6/27/05 17:47	95.44	94.71
6/27/05 17:48	95.43	94.69
6/27/05 17:49	95.43	94.68
6/27/05 17:50	95.41	94.68
6/27/05 17:51	95.40	94.70
6/27/05 17:52	95.40	94.71
6/27/05 17:53	95.41	94.68
6/27/05 17:54	95.41	94.68
6/27/05 17:55	95.42	94.69
6/27/05 17:56	95.42	94.70
6/27/05 17:57	95.42	94.69
6/27/05 17:58	95.40	94.67
6/27/05 17:59	95.39	94.68
6/27/05 18:00	95.40	94.66
6/27/05 18:01	95.39	94.66
6/27/05 18:02	95.42	94.65
6/27/05 18:03	95.42	94.65
6/27/05 18:04	95.41	94.65
6/27/05 18:05	95.42	94.65
6/27/05 18:06	95.42	94.66
6/27/05 18:07	95.39	94.66
6/27/05 18:08	95.39	94.66
6/27/05 18:09	95.40	94.64
6/27/05 18:10	95.40	94.65
6/27/05 18:11	95.38	94.64
6/27/05 18:12	95.38	94.65
6/27/05 18:13	95.38	94.63
6/27/05 18:14	95.37	94.61
6/27/05 18:15	95.37	94.60
6/27/05 18:16	95.36	94.63
6/27/05 18:17	95.36	94.61
6/27/05 18:18	95.39	94.63
6/27/05 18:19	95.37	94.62
6/27/05 18:20	95.36	94.62
6/27/05 18:21	95.38	94.61
6/27/05 18:22	95.36	94.59
6/27/05 18:23	95.34	94.60

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 18:24	95.36	94.59
6/27/05 18:25	95.36	94.60
6/27/05 18:26	95.36	94.58
6/27/05 18:27	95.34	94.57
6/27/05 18:28	95.34	94.59
6/27/05 18:29	95.34	94.58
6/27/05 18:30	95.34	94.59
6/27/05 18:31	95.33	94.58
6/27/05 18:32	95.34	94.59
6/27/05 18:33	95.36	94.57
6/27/05 18:34	95.32	94.57
6/27/05 18:35	95.32	94.57
6/27/05 18:36	95.31	94.57
6/27/05 18:37	95.31	94.57
6/27/05 18:38	95.31	94.58
6/27/05 18:39	95.30	94.55
6/27/05 18:40	95.31	94.57
6/27/05 18:41	95.30	94.58
6/27/05 18:42	95.33	94.59
6/27/05 18:43	95.31	94.60
6/27/05 18:44	95.31	94.59
6/27/05 18:45	95.32	94.58
6/27/05 18:46	95.32	94.59
6/27/05 18:47	95.31	94.57
6/27/05 18:48	95.32	94.57
6/27/05 18:49	95.33	94.57
6/27/05 18:50	95.32	94.56
6/27/05 18:51	95.33	94.57
6/27/05 18:52	95.32	94.55
6/27/05 18:53	95.32	94.56
6/27/05 18:54	95.30	94.54
6/27/05 18:55	95.30	94.58
6/27/05 18:56	95.27	94.54
6/27/05 18:57	95.29	94.54
6/27/05 18:58	95.26	94.55
6/27/05 18:59	95.28	94.53
6/27/05 19:00	95.29	94.54
6/27/05 19:01	95.28	94.53
6/27/05 19:02	95.27	94.56
6/27/05 19:03	95.30	94.55
6/27/05 19:04	95.28	94.54
6/27/05 19:05	95.27	94.54
6/27/05 19:06	95.25	94.54
6/27/05 19:07	95.25	94.52
6/27/05 19:08	95.26	94.54
6/27/05 19:09	95.24	94.52

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 19:10	95.25	94.52
6/27/05 19:11	95.28	94.49
6/27/05 19:12	95.25	94.51
6/27/05 19:13	95.25	94.52
6/27/05 19:14	95.25	94.51
6/27/05 19:15	95.23	94.52
6/27/05 19:16	95.26	94.51
6/27/05 19:17	95.23	94.50
6/27/05 19:18	95.22	94.51
6/27/05 19:19	95.24	94.52
6/27/05 19:20	95.23	94.50
6/27/05 19:21	95.24	94.48
6/27/05 19:22	95.25	94.49
6/27/05 19:23	95.23	94.47
6/27/05 19:24	95.19	94.47
6/27/05 19:25	95.20	94.46
6/27/05 19:26	95.21	94.46
6/27/05 19:27	95.20	94.45
6/27/05 19:28	95.20	94.45
6/27/05 19:29	95.22	94.44
6/27/05 19:30	95.22	94.46
6/27/05 19:31	95.20	94.46
6/27/05 19:32	95.23	94.48
6/27/05 19:33	95.22	94.48
6/27/05 19:34	95.20	94.45
6/27/05 19:35	95.21	94.48
6/27/05 19:36	95.18	94.47
6/27/05 19:37	95.19	94.45
6/27/05 19:38	95.20	94.44
6/27/05 19:39	95.20	94.44
6/27/05 19:40	95.19	94.44
6/27/05 19:41	95.18	94.42
6/27/05 19:42	95.16	94.45
6/27/05 19:43	95.17	94.44
6/27/05 19:44	95.19	94.41
6/27/05 19:45	95.19	94.41
6/27/05 19:46	95.17	94.42
6/27/05 19:47	95.14	94.42
6/27/05 19:48	95.13	94.42
6/27/05 19:49	95.15	94.40
6/27/05 19:50	95.14	94.41
6/27/05 19:51	95.16	94.38
6/27/05 19:52	95.14	94.40
6/27/05 19:53	95.16	94.39
6/27/05 19:54	95.13	94.38
6/27/05 19:55	95.14	94.37

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 19:56	95.12	94.37
6/27/05 19:57	95.12	94.35
6/27/05 19:58	95.14	94.38
6/27/05 19:59	95.13	94.37
6/27/05 20:00	95.14	94.38
6/27/05 20:01	95.13	94.38
6/27/05 20:02	95.13	94.34
6/27/05 20:03	95.11	94.36
6/27/05 20:04	95.12	94.36
6/27/05 20:05	95.11	94.36
6/27/05 20:06	95.11	94.35
6/27/05 20:07	95.12	94.34
6/27/05 20:08	95.11	94.34
6/27/05 20:09	95.10	94.33
6/27/05 20:10	95.10	94.32
6/27/05 20:11	95.12	94.32
6/27/05 20:12	95.11	94.33
6/27/05 20:13	95.10	94.34
6/27/05 20:14	95.10	94.34
6/27/05 20:15	95.08	94.33
6/27/05 20:16	95.10	94.34
6/27/05 20:17	95.10	94.34
6/27/05 20:18	95.09	94.32
6/27/05 20:19	95.07	94.35
6/27/05 20:20	95.10	94.33
6/27/05 20:21	95.11	94.32
6/27/05 20:22	95.10	94.33
6/27/05 20:23	95.09	94.33
6/27/05 20:24	95.09	94.32
6/27/05 20:25	95.08	94.31
6/27/05 20:26	95.10	94.31
6/27/05 20:27	95.10	94.33
6/27/05 20:28	95.11	94.33
6/27/05 20:29	95.10	94.32
6/27/05 20:30	95.09	94.32
6/27/05 20:31	95.10	94.30
6/27/05 20:32	95.09	94.31
6/27/05 20:33	95.11	94.34
6/27/05 20:34	95.08	94.33
6/27/05 20:35	95.10	94.31
6/27/05 20:36	95.09	94.31
6/27/05 20:37	95.10	94.31
6/27/05 20:38	95.11	94.29
6/27/05 20:39	95.10	94.31
6/27/05 20:40	95.11	94.32
6/27/05 20:41	95.10	94.32

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 20:42	95.10	94.31
6/27/05 20:43	95.11	94.31
6/27/05 20:44	95.10	94.31
6/27/05 20:45	95.10	94.32
6/27/05 20:46	95.10	94.32
6/27/05 20:47	95.10	94.31
6/27/05 20:48	95.10	94.29
6/27/05 20:49	95.09	94.30
6/27/05 20:50	95.12	94.31
6/27/05 20:51	95.09	94.32
6/27/05 20:52	95.10	94.32
6/27/05 20:53	95.09	94.31
6/27/05 20:54	95.08	94.29
6/27/05 20:55	95.09	94.29
6/27/05 20:56	95.07	94.31
6/27/05 20:57	95.09	94.28
6/27/05 20:58	95.09	94.30
6/27/05 20:59	95.11	94.27
6/27/05 21:00	95.07	94.29
6/27/05 21:01	95.09	94.28
6/27/05 21:02	95.09	94.28
6/27/05 21:03	95.10	94.29
6/27/05 21:04	95.10	94.31
6/27/05 21:05	95.09	94.30
6/27/05 21:06	95.09	94.29
6/27/05 21:07	95.10	94.30
6/27/05 21:08	95.10	94.29
6/27/05 21:09	95.07	94.29
6/27/05 21:10	95.11	94.28
6/27/05 21:11	95.10	94.29
6/27/05 21:12	95.09	94.30
6/27/05 21:13	95.08	94.30
6/27/05 21:14	95.08	94.28
6/27/05 21:15	95.08	94.27
6/27/05 21:16	95.08	94.27
6/27/05 21:17	95.08	94.27
6/27/05 21:18	95.08	94.25
6/27/05 21:19	95.07	94.27
6/27/05 21:20	95.09	94.28
6/27/05 21:21	95.08	94.27
6/27/05 21:22	95.07	94.27
6/27/05 21:23	95.06	94.30
6/27/05 21:24	95.07	94.29
6/27/05 21:25	95.10	94.29
6/27/05 21:26	95.09	94.26
6/27/05 21:27	95.10	94.27

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 21:28	95.07	94.28
6/27/05 21:29	95.08	94.27
6/27/05 21:30	95.08	94.28
6/27/05 21:31	95.07	94.28
6/27/05 21:32	95.08	94.25
6/27/05 21:33	95.06	94.27
6/27/05 21:34	95.10	94.28
6/27/05 21:35	95.09	94.26
6/27/05 21:36	95.07	94.28
6/27/05 21:37	95.09	94.26
6/27/05 21:38	95.05	94.25
6/27/05 21:39	95.08	94.27
6/27/05 21:40	95.07	94.28
6/27/05 21:41	95.08	94.27
6/27/05 21:42	95.05	94.28
6/27/05 21:43	95.06	94.27
6/27/05 21:44	95.06	94.27
6/27/05 21:45	95.07	94.25
6/27/05 21:46	95.08	94.27
6/27/05 21:47	95.07	94.27
6/27/05 21:48	95.04	94.27
6/27/05 21:49	95.06	94.27
6/27/05 21:50	95.09	94.25
6/27/05 21:51	95.07	94.26
6/27/05 21:52	95.07	94.26
6/27/05 21:53	95.05	94.27
6/27/05 21:54	95.07	94.26
6/27/05 21:55	95.06	94.26
6/27/05 21:56	95.05	94.26
6/27/05 21:57	95.04	94.26
6/27/05 21:58	95.05	94.27
6/27/05 21:59	95.05	94.26
6/27/05 22:00	95.08	94.27
6/27/05 22:01	95.06	94.27
6/27/05 22:02	95.04	94.25
6/27/05 22:03	95.04	94.25
6/27/05 22:04	95.07	94.25
6/27/05 22:05	95.04	94.26
6/27/05 22:06	95.02	94.25
6/27/05 22:07	95.04	94.24
6/27/05 22:08	95.03	94.26
6/27/05 22:09	95.01	94.26
6/27/05 22:10	95.03	94.23
6/27/05 22:11	95.03	94.25
6/27/05 22:12	95.00	94.23
6/27/05 22:13	95.01	94.22

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 22:14	95.02	94.21
6/27/05 22:15	94.99	94.23
6/27/05 22:16	95.01	94.22
6/27/05 22:17	95.00	94.24
6/27/05 22:18	95.00	94.23
6/27/05 22:19	95.00	94.23
6/27/05 22:20	94.98	94.24
6/27/05 22:21	95.00	94.24
6/27/05 22:22	95.00	94.22
6/27/05 22:23	94.99	94.21
6/27/05 22:24	94.99	94.21
6/27/05 22:25	95.01	94.21
6/27/05 22:26	94.98	94.20
6/27/05 22:27	94.99	94.22
6/27/05 22:28	94.98	94.19
6/27/05 22:29	94.99	94.21
6/27/05 22:30	94.97	94.20
6/27/05 22:31	94.99	94.21
6/27/05 22:32	94.96	94.21
6/27/05 22:33	94.97	94.21
6/27/05 22:34	94.97	94.20
6/27/05 22:35	94.97	94.21
6/27/05 22:36	94.97	94.20
6/27/05 22:37	94.96	94.20
6/27/05 22:38	94.99	94.19
6/27/05 22:39	94.97	94.22
6/27/05 22:40	94.97	94.20
6/27/05 22:41	94.95	94.20
6/27/05 22:42	94.96	94.18
6/27/05 22:43	94.93	94.18
6/27/05 22:44	94.95	94.20
6/27/05 22:45	94.96	94.20
6/27/05 22:46	94.95	94.20
6/27/05 22:47	94.93	94.19
6/27/05 22:48	94.96	94.19
6/27/05 22:49	94.93	94.18
6/27/05 22:50	94.93	94.19
6/27/05 22:51	94.94	94.17
6/27/05 22:52	94.92	94.16
6/27/05 22:53	94.92	94.16
6/27/05 22:54	94.90	94.17
6/27/05 22:55	94.88	94.15
6/27/05 22:56	94.91	94.15
6/27/05 22:57	94.91	94.15
6/27/05 22:58	94.90	94.15
6/27/05 22:59	94.90	94.16

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 23:00	94.91	94.15
6/27/05 23:01	94.89	94.14
6/27/05 23:02	94.89	94.13
6/27/05 23:03	94.89	94.15
6/27/05 23:04	94.88	94.13
6/27/05 23:05	94.88	94.12
6/27/05 23:06	94.90	94.11
6/27/05 23:07	94.88	94.11
6/27/05 23:08	94.89	94.11
6/27/05 23:09	94.89	94.08
6/27/05 23:10	94.87	94.11
6/27/05 23:11	94.88	94.10
6/27/05 23:12	94.86	94.09
6/27/05 23:13	94.89	94.10
6/27/05 23:14	94.89	94.11
6/27/05 23:15	94.87	94.09
6/27/05 23:16	94.86	94.10
6/27/05 23:17	94.86	94.08
6/27/05 23:18	94.84	94.08
6/27/05 23:19	94.87	94.10
6/27/05 23:20	94.84	94.08
6/27/05 23:21	94.86	94.05
6/27/05 23:22	94.85	94.05
6/27/05 23:23	94.85	94.07
6/27/05 23:24	94.84	94.06
6/27/05 23:25	94.85	94.05
6/27/05 23:26	94.85	94.06
6/27/05 23:27	94.83	94.04
6/27/05 23:28	94.84	94.04
6/27/05 23:29	94.84	94.04
6/27/05 23:30	94.84	94.03
6/27/05 23:31	94.83	94.05
6/27/05 23:32	94.80	94.02
6/27/05 23:33	94.83	94.05
6/27/05 23:34	94.83	94.04
6/27/05 23:35	94.80	94.06
6/27/05 23:36	94.83	94.00
6/27/05 23:37	94.81	94.02
6/27/05 23:38	94.79	94.01
6/27/05 23:39	94.80	94.02
6/27/05 23:40	94.80	94.03
6/27/05 23:41	94.80	94.01
6/27/05 23:42	94.79	93.99
6/27/05 23:43	94.79	93.98
6/27/05 23:44	94.78	94.00
6/27/05 23:45	94.78	93.96

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/27/05 23:46	94.78	93.98
6/27/05 23:47	94.77	93.96
6/27/05 23:48	94.76	93.97
6/27/05 23:49	94.77	93.97
6/27/05 23:50	94.78	93.95
6/27/05 23:51	94.73	93.96
6/27/05 23:52	94.74	93.95
6/27/05 23:53	94.73	93.95
6/27/05 23:54	94.74	93.94
6/27/05 23:55	94.74	93.93
6/27/05 23:56	94.74	93.94
6/27/05 23:57	94.72	93.93
6/27/05 23:58	94.70	93.92
6/27/05 23:59	94.71	93.95
6/28/05 0:00	94.71	93.93
6/28/05 0:01	94.70	93.91
6/28/05 0:02	94.73	93.93
6/28/05 0:03	94.71	93.91
6/28/05 0:04	94.69	93.92
6/28/05 0:05	94.68	93.89
6/28/05 0:06	94.67	93.90
6/28/05 0:07	94.69	93.89
6/28/05 0:08	94.67	93.90
6/28/05 0:09	94.67	93.91
6/28/05 0:10	94.68	93.88
6/28/05 0:11	94.67	93.88
6/28/05 0:12	94.70	93.87
6/28/05 0:13	94.67	93.88
6/28/05 0:14	94.67	93.87
6/28/05 0:15	94.67	93.87
6/28/05 0:16	94.66	93.86
6/28/05 0:17	94.66	93.87
6/28/05 0:18	94.65	93.88
6/28/05 0:19	94.66	93.85
6/28/05 0:20	94.65	93.86
6/28/05 0:21	94.64	93.85
6/28/05 0:22	94.67	93.84
6/28/05 0:23	94.62	93.85
6/28/05 0:24	94.64	93.82
6/28/05 0:25	94.64	93.83
6/28/05 0:26	94.65	93.80
6/28/05 0:27	94.63	93.83
6/28/05 0:28	94.63	93.80
6/28/05 0:29	94.64	93.82
6/28/05 0:30	94.63	93.79
6/28/05 0:31	94.61	93.77

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 0:32	94.62	93.79
6/28/05 0:33	94.62	93.78
6/28/05 0:34	94.63	93.78
6/28/05 0:35	94.61	93.78
6/28/05 0:36	94.59	93.76
6/28/05 0:37	94.59	93.75
6/28/05 0:38	94.59	93.76
6/28/05 0:39	94.58	93.76
6/28/05 0:40	94.58	93.76
6/28/05 0:41	94.58	93.77
6/28/05 0:42	94.59	93.75
6/28/05 0:43	94.58	93.76
6/28/05 0:44	94.55	93.75
6/28/05 0:45	94.57	93.74
6/28/05 0:46	94.56	93.74
6/28/05 0:47	94.54	93.72
6/28/05 0:48	94.56	93.72
6/28/05 0:49	94.55	93.71
6/28/05 0:50	94.54	93.73
6/28/05 0:51	94.54	93.73
6/28/05 0:52	94.54	93.72
6/28/05 0:53	94.55	93.71
6/28/05 0:54	94.53	93.73
6/28/05 0:55	94.53	93.72
6/28/05 0:56	94.54	93.69
6/28/05 0:57	94.53	93.69
6/28/05 0:58	94.53	93.68
6/28/05 0:59	94.50	93.69
6/28/05 1:00	94.52	93.70
6/28/05 1:01	94.50	93.67
6/28/05 1:02	94.49	93.70
6/28/05 1:03	94.51	93.70
6/28/05 1:04	94.49	93.69
6/28/05 1:05	94.48	93.68
6/28/05 1:06	94.47	93.68
6/28/05 1:07	94.49	93.67
6/28/05 1:08	94.49	93.67
6/28/05 1:09	94.47	93.67
6/28/05 1:10	94.46	93.65
6/28/05 1:11	94.46	93.65
6/28/05 1:12	94.45	93.65
6/28/05 1:13	94.46	93.67
6/28/05 1:14	94.45	93.65
6/28/05 1:15	94.46	93.65
6/28/05 1:16	94.48	93.63
6/28/05 1:17	94.46	93.63

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 1:18	94.46	93.64
6/28/05 1:19	94.43	93.62
6/28/05 1:20	94.44	93.60
6/28/05 1:21	94.42	93.61
6/28/05 1:22	94.44	93.63
6/28/05 1:23	94.42	93.61
6/28/05 1:24	94.42	93.60
6/28/05 1:25	94.40	93.61
6/28/05 1:26	94.41	93.62
6/28/05 1:27	94.43	93.60
6/28/05 1:28	94.40	93.58
6/28/05 1:29	94.41	93.60
6/28/05 1:30	94.42	93.58
6/28/05 1:31	94.42	93.59
6/28/05 1:32	94.39	93.56
6/28/05 1:33	94.40	93.59
6/28/05 1:34	94.40	93.56
6/28/05 1:35	94.40	93.58
6/28/05 1:36	94.39	93.56
6/28/05 1:37	94.38	93.56
6/28/05 1:38	94.40	93.54
6/28/05 1:39	94.39	93.56
6/28/05 1:40	94.39	93.57
6/28/05 1:41	94.37	93.53
6/28/05 1:42	94.35	93.52
6/28/05 1:43	94.37	93.55
6/28/05 1:44	94.39	93.54
6/28/05 1:45	94.38	93.54
6/28/05 1:46	94.37	93.53
6/28/05 1:47	94.37	93.52
6/28/05 1:48	94.37	93.54
6/28/05 1:49	94.38	93.53
6/28/05 1:50	94.36	93.52
6/28/05 1:51	94.34	93.53
6/28/05 1:52	94.35	93.53
6/28/05 1:53	94.36	93.50
6/28/05 1:54	94.38	93.49
6/28/05 1:55	94.36	93.49
6/28/05 1:56	94.36	93.49
6/28/05 1:57	94.37	93.50
6/28/05 1:58	94.35	93.49
6/28/05 1:59	94.36	93.46
6/28/05 2:00	94.34	93.48
6/28/05 2:01	94.35	93.48
6/28/05 2:02	94.34	93.50
6/28/05 2:03	94.35	93.49

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 2:04	94.32	93.50
6/28/05 2:05	94.32	93.48
6/28/05 2:06	94.34	93.46
6/28/05 2:07	94.31	93.48
6/28/05 2:08	94.32	93.47
6/28/05 2:09	94.33	93.44
6/28/05 2:10	94.33	93.45
6/28/05 2:11	94.32	93.45
6/28/05 2:12	94.31	93.44
6/28/05 2:13	94.33	93.44
6/28/05 2:14	94.33	93.45
6/28/05 2:15	94.29	93.45
6/28/05 2:16	94.30	93.45
6/28/05 2:17	94.31	93.45
6/28/05 2:18	94.30	93.45
6/28/05 2:19	94.30	93.47
6/28/05 2:20	94.32	93.46
6/28/05 2:21	94.31	93.47
6/28/05 2:22	94.30	93.45
6/28/05 2:23	94.32	93.47
6/28/05 2:24	94.31	93.45
6/28/05 2:25	94.29	93.45
6/28/05 2:26	94.29	93.45
6/28/05 2:27	94.30	93.45
6/28/05 2:28	94.27	93.46
6/28/05 2:29	94.28	93.45
6/28/05 2:30	94.27	93.44
6/28/05 2:31	94.27	93.45
6/28/05 2:32	94.26	93.46
6/28/05 2:33	94.28	93.46
6/28/05 2:34	94.28	93.45
6/28/05 2:35	94.27	93.45
6/28/05 2:36	94.27	93.46
6/28/05 2:37	94.28	93.46
6/28/05 2:38	94.27	93.45
6/28/05 2:39	94.27	93.44
6/28/05 2:40	94.26	93.46
6/28/05 2:41	94.28	93.46
6/28/05 2:42	94.27	93.46
6/28/05 2:43	94.27	93.45
6/28/05 2:44	94.30	93.45
6/28/05 2:45	94.30	93.44
6/28/05 2:46	94.30	93.45
6/28/05 2:47	94.29	93.46
6/28/05 2:48	94.30	93.44
6/28/05 2:49	94.28	93.44

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 2:50	94.29	93.43
6/28/05 2:51	94.31	93.46
6/28/05 2:52	94.28	93.42
6/28/05 2:53	94.29	93.45
6/28/05 2:54	94.30	93.46
6/28/05 2:55	94.27	93.43
6/28/05 2:56	94.27	93.46
6/28/05 2:57	94.26	93.42
6/28/05 2:58	94.29	93.43
6/28/05 2:59	94.29	93.44
6/28/05 3:00	94.27	93.44
6/28/05 3:01	94.26	93.46
6/28/05 3:02	94.28	93.45
6/28/05 3:03	94.25	93.45
6/28/05 3:04	94.30	93.43
6/28/05 3:05	94.26	93.44
6/28/05 3:06	94.27	93.44
6/28/05 3:07	94.28	93.43
6/28/05 3:08	94.28	93.43
6/28/05 3:09	94.26	93.43
6/28/05 3:10	94.28	93.45
6/28/05 3:11	94.26	93.43
6/28/05 3:12	94.26	93.44
6/28/05 3:13	94.28	93.45
6/28/05 3:14	94.28	93.44
6/28/05 3:15	94.26	93.45
6/28/05 3:16	94.26	93.47
6/28/05 3:17	94.26	93.44
6/28/05 3:18	94.28	93.44
6/28/05 3:19	94.25	93.43
6/28/05 3:20	94.25	93.42
6/28/05 3:21	94.24	93.43
6/28/05 3:22	94.27	93.45
6/28/05 3:23	94.27	93.43
6/28/05 3:24	94.26	93.43
6/28/05 3:25	94.24	93.44
6/28/05 3:26	94.26	93.44
6/28/05 3:27	94.26	93.44
6/28/05 3:28	94.26	93.46
6/28/05 3:29	94.24	93.43
6/28/05 3:30	94.26	93.44
6/28/05 3:31	94.26	93.44
6/28/05 3:32	94.25	93.44
6/28/05 3:33	94.25	93.45
6/28/05 3:34	94.25	93.45
6/28/05 3:35	94.27	93.45

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 3:36	94.27	93.44
6/28/05 3:37	94.26	93.42
6/28/05 3:38	94.25	93.44
6/28/05 3:39	94.26	93.44
6/28/05 3:40	94.27	93.43
6/28/05 3:41	94.27	93.45
6/28/05 3:42	94.27	93.44
6/28/05 3:43	94.27	93.45
6/28/05 3:44	94.29	93.44
6/28/05 3:45	94.27	93.45
6/28/05 3:46	94.29	93.46
6/28/05 3:47	94.30	93.46
6/28/05 3:48	94.29	93.45
6/28/05 3:49	94.29	93.47
6/28/05 3:50	94.29	93.46
6/28/05 3:51	94.29	93.45
6/28/05 3:52	94.28	93.46
6/28/05 3:53	94.30	93.47
6/28/05 3:54	94.29	93.46
6/28/05 3:55	94.29	93.46
6/28/05 3:56	94.31	93.47
6/28/05 3:57	94.31	93.48
6/28/05 3:58	94.30	93.47
6/28/05 3:59	94.31	93.48
6/28/05 4:00	94.29	93.47
6/28/05 4:01	94.31	93.47
6/28/05 4:02	94.31	93.48
6/28/05 4:03	94.30	93.47
6/28/05 4:04	94.31	93.49
6/28/05 4:05	94.32	93.47
6/28/05 4:06	94.32	93.49
6/28/05 4:07	94.33	93.51
6/28/05 4:08	94.32	93.48
6/28/05 4:09	94.32	93.52
6/28/05 4:10	94.36	93.49
6/28/05 4:11	94.35	93.53
6/28/05 4:12	94.32	93.50
6/28/05 4:13	94.34	93.52
6/28/05 4:14	94.30	93.53
6/28/05 4:15	94.34	93.54
6/28/05 4:16	94.34	93.52
6/28/05 4:17	94.37	93.52
6/28/05 4:18	94.37	93.54
6/28/05 4:19	94.36	93.54
6/28/05 4:20	94.37	93.55
6/28/05 4:21	94.37	93.57

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 4:22	94.38	93.55
6/28/05 4:23	94.37	93.56
6/28/05 4:24	94.36	93.56
6/28/05 4:25	94.40	93.56
6/28/05 4:26	94.37	93.56
6/28/05 4:27	94.39	93.58
6/28/05 4:28	94.40	93.58
6/28/05 4:29	94.38	93.58
6/28/05 4:30	94.41	93.60
6/28/05 4:31	94.39	93.60
6/28/05 4:32	94.37	93.58
6/28/05 4:33	94.38	93.58
6/28/05 4:34	94.38	93.59
6/28/05 4:35	94.41	93.61
6/28/05 4:36	94.39	93.61
6/28/05 4:37	94.40	93.61
6/28/05 4:38	94.40	93.61
6/28/05 4:39	94.42	93.61
6/28/05 4:40	94.41	93.60
6/28/05 4:41	94.44	93.60
6/28/05 4:42	94.44	93.59
6/28/05 4:43	94.43	93.60
6/28/05 4:44	94.41	93.58
6/28/05 4:45	94.45	93.59
6/28/05 4:46	94.42	93.60
6/28/05 4:47	94.42	93.59
6/28/05 4:48	94.45	93.60
6/28/05 4:49	94.44	93.60
6/28/05 4:50	94.44	93.59
6/28/05 4:51	94.42	93.62
6/28/05 4:52	94.43	93.60
6/28/05 4:53	94.44	93.62
6/28/05 4:54	94.44	93.60
6/28/05 4:55	94.44	93.61
6/28/05 4:56	94.42	93.62
6/28/05 4:57	94.42	93.61
6/28/05 4:58	94.42	93.61
6/28/05 4:59	94.43	93.62
6/28/05 5:00	94.46	93.60
6/28/05 5:01	94.43	93.59
6/28/05 5:02	94.41	93.60
6/28/05 5:03	94.42	93.61
6/28/05 5:04	94.41	93.60
6/28/05 5:05	94.42	93.60
6/28/05 5:06	94.42	93.60
6/28/05 5:07	94.44	93.58

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 5:08	94.44	93.58
6/28/05 5:09	94.45	93.59
6/28/05 5:10	94.44	93.57
6/28/05 5:11	94.44	93.56
6/28/05 5:12	94.43	93.57
6/28/05 5:13	94.43	93.57
6/28/05 5:14	94.42	93.57
6/28/05 5:15	94.44	93.56
6/28/05 5:16	94.39	93.57
6/28/05 5:17	94.43	93.55
6/28/05 5:18	94.40	93.59
6/28/05 5:19	94.44	93.57
6/28/05 5:20	94.43	93.58
6/28/05 5:21	94.40	93.58
6/28/05 5:22	94.41	93.58
6/28/05 5:23	94.42	93.59
6/28/05 5:24	94.40	93.59
6/28/05 5:25	94.39	93.59
6/28/05 5:26	94.38	93.58
6/28/05 5:27	94.37	93.58
6/28/05 5:28	94.37	93.58
6/28/05 5:29	94.38	93.57
6/28/05 5:30	94.39	93.58
6/28/05 5:31	94.38	93.57
6/28/05 5:32	94.39	93.59
6/28/05 5:33	94.37	93.59
6/28/05 5:34	94.36	93.57
6/28/05 5:35	94.36	93.58
6/28/05 5:36	94.37	93.57
6/28/05 5:37	94.37	93.56
6/28/05 5:38	94.38	93.56
6/28/05 5:39	94.36	93.57
6/28/05 5:40	94.36	93.57
6/28/05 5:41	94.36	93.57
6/28/05 5:42	94.37	93.59
6/28/05 5:43	94.36	93.56
6/28/05 5:44	94.36	93.56
6/28/05 5:45	94.36	93.56
6/28/05 5:46	94.38	93.58
6/28/05 5:47	94.37	93.55
6/28/05 5:48	94.35	93.57
6/28/05 5:49	94.37	93.57
6/28/05 5:50	94.35	93.57
6/28/05 5:51	94.33	93.56
6/28/05 5:52	94.34	93.55
6/28/05 5:53	94.35	93.58

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 5:54	94.35	93.56
6/28/05 5:55	94.35	93.55
6/28/05 5:56	94.35	93.55
6/28/05 5:57	94.35	93.55
6/28/05 5:58	94.35	93.54
6/28/05 5:59	94.36	93.54
6/28/05 6:00	94.35	93.56
6/28/05 6:01	94.34	93.55
6/28/05 6:02	94.34	93.53
6/28/05 6:03	94.35	93.53
6/28/05 6:04	94.34	93.54
6/28/05 6:05	94.33	93.55
6/28/05 6:06	94.33	93.55
6/28/05 6:07	94.32	93.53
6/28/05 6:08	94.31	93.52
6/28/05 6:09	94.32	93.53
6/28/05 6:10	94.31	93.54
6/28/05 6:11	94.32	93.53
6/28/05 6:12	94.34	93.54
6/28/05 6:13	94.31	93.54
6/28/05 6:14	94.33	93.53
6/28/05 6:15	94.31	93.52
6/28/05 6:16	94.33	93.52
6/28/05 6:17	94.31	93.53
6/28/05 6:18	94.31	93.53
6/28/05 6:19	94.30	93.52
6/28/05 6:20	94.31	93.51
6/28/05 6:21	94.31	93.51
6/28/05 6:22	94.30	93.53
6/28/05 6:23	94.31	93.52
6/28/05 6:24	94.30	93.50
6/28/05 6:25	94.29	93.52
6/28/05 6:26	94.30	93.50
6/28/05 6:27	94.30	93.49
6/28/05 6:28	94.25	93.51
6/28/05 6:29	94.28	93.51
6/28/05 6:30	94.28	93.47
6/28/05 6:31	94.28	93.48
6/28/05 6:32	94.27	93.48
6/28/05 6:33	94.25	93.48
6/28/05 6:34	94.25	93.49
6/28/05 6:35	94.25	93.48
6/28/05 6:36	94.26	93.47
6/28/05 6:37	94.26	93.46
6/28/05 6:38	94.25	93.47
6/28/05 6:39	94.27	93.46

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 6:40	94.25	93.47
6/28/05 6:41	94.25	93.48
6/28/05 6:42	94.26	93.47
6/28/05 6:43	94.24	93.45
6/28/05 6:44	94.23	93.45
6/28/05 6:45	94.24	93.47
6/28/05 6:46	94.24	93.45
6/28/05 6:47	94.24	93.45
6/28/05 6:48	94.24	93.44
6/28/05 6:49	94.23	93.44
6/28/05 6:50	94.24	93.44
6/28/05 6:51	94.27	93.45
6/28/05 6:52	94.23	93.43
6/28/05 6:53	94.24	93.44
6/28/05 6:54	94.22	93.43
6/28/05 6:55	94.22	93.42
6/28/05 6:56	94.23	93.41
6/28/05 6:57	94.23	93.45
6/28/05 6:58	94.21	93.42
6/28/05 6:59	94.21	93.42
6/28/05 7:00	94.22	93.41
6/28/05 7:01	94.21	93.42
6/28/05 7:02	94.22	93.41
6/28/05 7:03	94.23	93.43
6/28/05 7:04	94.22	93.41
6/28/05 7:05	94.21	93.39
6/28/05 7:06	94.23	93.40
6/28/05 7:07	94.22	93.41
6/28/05 7:08	94.22	93.41
6/28/05 7:09	94.24	93.39
6/28/05 7:10	94.23	93.39
6/28/05 7:11	94.23	93.37
6/28/05 7:12	94.22	93.40
6/28/05 7:13	94.20	93.38
6/28/05 7:14	94.20	93.37
6/28/05 7:15	94.21	93.38
6/28/05 7:16	94.21	93.36
6/28/05 7:17	94.19	93.38
6/28/05 7:18	94.20	93.37
6/28/05 7:19	94.19	93.38
6/28/05 7:20	94.22	93.37
6/28/05 7:21	94.19	93.36
6/28/05 7:22	94.19	93.37
6/28/05 7:23	94.19	93.37
6/28/05 7:24	94.18	93.39
6/28/05 7:25	94.19	93.37

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 7:26	94.18	93.38
6/28/05 7:27	94.19	93.37
6/28/05 7:28	94.17	93.36
6/28/05 7:29	94.19	93.38
6/28/05 7:30	94.20	93.36
6/28/05 7:31	94.17	93.36
6/28/05 7:32	94.19	93.35
6/28/05 7:33	94.16	93.37
6/28/05 7:34	94.18	93.36
6/28/05 7:35	94.18	93.35
6/28/05 7:36	94.16	93.36
6/28/05 7:37	94.17	93.36
6/28/05 7:38	94.19	93.35
6/28/05 7:39	94.19	93.36
6/28/05 7:40	94.19	93.36
6/28/05 7:41	94.19	93.38
6/28/05 7:42	94.18	93.37
6/28/05 7:43	94.16	93.35
6/28/05 7:44	94.20	93.36
6/28/05 7:45	94.20	93.37
6/28/05 7:46	94.19	93.37
6/28/05 7:47	94.16	93.35
6/28/05 7:48	94.19	93.34
6/28/05 7:49	94.17	93.34
6/28/05 7:50	94.16	93.34
6/28/05 7:51	94.18	93.32
6/28/05 7:52	94.20	93.34
6/28/05 7:53	94.16	93.34
6/28/05 7:54	94.17	93.34
6/28/05 7:55	94.20	93.36
6/28/05 7:56	94.14	93.35
6/28/05 7:57	94.18	93.37
6/28/05 7:58	94.16	93.34
6/28/05 7:59	94.16	93.34
6/28/05 8:00	94.17	93.34
6/28/05 8:01	94.17	93.34
6/28/05 8:02	94.16	93.36
6/28/05 8:03	94.16	93.33
6/28/05 8:04	94.17	93.35
6/28/05 8:05	94.16	93.35
6/28/05 8:06	94.17	93.34
6/28/05 8:07	94.15	93.35
6/28/05 8:08	94.16	93.35
6/28/05 8:09	94.17	93.35
6/28/05 8:10	94.16	93.34
6/28/05 8:11	94.18	93.32

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 8:12	94.16	93.35
6/28/05 8:13	94.16	93.35
6/28/05 8:14	94.18	93.35
6/28/05 8:15	94.17	93.35
6/28/05 8:16	94.15	93.34
6/28/05 8:17	94.16	93.34
6/28/05 8:18	94.13	93.32
6/28/05 8:19	94.16	93.32
6/28/05 8:20	94.15	93.32
6/28/05 8:21	94.15	93.33
6/28/05 8:22	94.14	93.33
6/28/05 8:23	94.15	93.33
6/28/05 8:24	94.16	93.31
6/28/05 8:25	94.16	93.34
6/28/05 8:26	94.17	93.33
6/28/05 8:27	94.15	93.33
6/28/05 8:28	94.16	93.32
6/28/05 8:29	94.15	93.33
6/28/05 8:30	94.18	93.32
6/28/05 8:31	94.15	93.33
6/28/05 8:32	94.16	93.34
6/28/05 8:33	94.14	93.35
6/28/05 8:34	94.18	93.35
6/28/05 8:35	94.17	93.33
6/28/05 8:36	94.16	93.35
6/28/05 8:37	94.16	93.33
6/28/05 8:38	94.17	93.31
6/28/05 8:39	94.14	93.33
6/28/05 8:40	94.15	93.32
6/28/05 8:41	94.15	93.30
6/28/05 8:42	94.16	93.32
6/28/05 8:43	94.17	93.30
6/28/05 8:44	94.16	93.29
6/28/05 8:45	94.15	93.30
6/28/05 8:46	94.14	93.30
6/28/05 8:47	94.14	93.30
6/28/05 8:48	94.15	93.29
6/28/05 8:49	94.17	93.29
6/28/05 8:50	94.14	93.30
6/28/05 8:51	94.15	93.30
6/28/05 8:52	94.15	93.29
6/28/05 8:53	94.13	93.28
6/28/05 8:54	94.13	93.29
6/28/05 8:55	94.15	93.29
6/28/05 8:56	94.14	93.30
6/28/05 8:57	94.17	93.30

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 8:58	94.14	93.30
6/28/05 8:59	94.15	93.28
6/28/05 9:00	94.15	93.30
6/28/05 9:01	94.12	93.28
6/28/05 9:02	94.12	93.28
6/28/05 9:03	94.12	93.27
6/28/05 9:04	94.12	93.25
6/28/05 9:05	94.12	93.27
6/28/05 9:06	94.12	93.26
6/28/05 9:07	94.09	93.26
6/28/05 9:08	94.09	93.26
6/28/05 9:09	94.10	93.26
6/28/05 9:10	94.11	93.26
6/28/05 9:11	94.10	93.26
6/28/05 9:12	94.11	93.26
6/28/05 9:13	94.12	93.26
6/28/05 9:14	94.09	93.22
6/28/05 9:15	94.08	93.25
6/28/05 9:16	94.09	93.23
6/28/05 9:17	94.08	93.24
6/28/05 9:18	94.05	93.24
6/28/05 9:19	94.09	93.24
6/28/05 9:20	94.08	93.23
6/28/05 9:21	94.09	93.24
6/28/05 9:22	94.06	93.24
6/28/05 9:23	94.10	93.25
6/28/05 9:24	94.09	93.25
6/28/05 9:25	94.07	93.24
6/28/05 9:26	94.09	93.23
6/28/05 9:27	94.09	93.22
6/28/05 9:28	94.08	93.24
6/28/05 9:29	94.06	93.23
6/28/05 9:30	94.10	93.25
6/28/05 9:31	94.08	93.22
6/28/05 9:32	94.05	93.21
6/28/05 9:33	94.08	93.23
6/28/05 9:34	94.05	93.22
6/28/05 9:35	94.07	93.22
6/28/05 9:36	94.07	93.21
6/28/05 9:37	94.06	93.22
6/28/05 9:38	94.06	93.20
6/28/05 9:39	94.04	93.22
6/28/05 9:40	94.05	93.23
6/28/05 9:41	94.04	93.20
6/28/05 9:42	94.05	93.21
6/28/05 9:43	94.04	93.21

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 9:44	94.04	93.21
6/28/05 9:45	94.05	93.20
6/28/05 9:46	94.05	93.19
6/28/05 9:47	94.05	93.20
6/28/05 9:48	94.05	93.19
6/28/05 9:49	94.05	93.22
6/28/05 9:50	94.03	93.20
6/28/05 9:51	94.02	93.22
6/28/05 9:52	94.04	93.19
6/28/05 9:53	94.03	93.20
6/28/05 9:54	94.03	93.20
6/28/05 9:55	94.07	93.19
6/28/05 9:56	94.04	93.20
6/28/05 9:57	94.04	93.20
6/28/05 9:58	94.04	93.19
6/28/05 9:59	94.04	93.20
6/28/05 10:00	94.02	93.21
6/28/05 10:01	94.03	93.20
6/28/05 10:02	94.02	93.19
6/28/05 10:03	94.02	93.17
6/28/05 10:04	93.99	93.19
6/28/05 10:05	94.02	93.21
6/28/05 10:06	93.99	93.21
6/28/05 10:07	94.01	93.20
6/28/05 10:08	94.02	93.20
6/28/05 10:09	94.02	93.21
6/28/05 10:10	94.00	93.19
6/28/05 10:11	93.99	93.21
6/28/05 10:12	94.02	93.18
6/28/05 10:13	94.01	93.18
6/28/05 10:14	94.00	93.17
6/28/05 10:15	93.99	93.22
6/28/05 10:16	94.00	93.20
6/28/05 10:17	94.00	93.19
6/28/05 10:18	94.00	93.18
6/28/05 10:19	93.99	93.21
6/28/05 10:20	94.01	93.19
6/28/05 10:21	93.98	93.17
6/28/05 10:22	93.97	93.19
6/28/05 10:23	93.98	93.17
6/28/05 10:24	93.98	93.17
6/28/05 10:25	93.99	93.17
6/28/05 10:26	93.98	93.15
6/28/05 10:27	93.98	93.16
6/28/05 10:28	93.96	93.15
6/28/05 10:29	93.97	93.15

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 10:30	93.97	93.16
6/28/05 10:31	93.98	93.15
6/28/05 10:32	93.96	93.15
6/28/05 10:33	93.98	93.15
6/28/05 10:34	93.98	93.15
6/28/05 10:35	93.99	93.17
6/28/05 10:36	93.97	93.14
6/28/05 10:37	93.97	93.16
6/28/05 10:38	93.97	93.16
6/28/05 10:39	93.97	93.16
6/28/05 10:40	93.95	93.16
6/28/05 10:41	93.97	93.19
6/28/05 10:42	93.98	93.16
6/28/05 10:43	93.96	93.15
6/28/05 10:44	93.96	93.15
6/28/05 10:45	93.94	93.18
6/28/05 10:46	93.98	93.17
6/28/05 10:47	93.94	93.18
6/28/05 10:48	93.95	93.18
6/28/05 10:49	93.96	93.17
6/28/05 10:50	93.98	93.17
6/28/05 10:51	93.96	93.16
6/28/05 10:52	93.96	93.18
6/28/05 10:53	93.94	93.18
6/28/05 10:54	93.97	93.15
6/28/05 10:55	93.97	93.17
6/28/05 10:56	93.96	93.16
6/28/05 10:57	93.95	93.16
6/28/05 10:58	93.96	93.17
6/28/05 10:59	93.96	93.17
6/28/05 11:00	93.96	93.17
6/28/05 11:01	93.95	93.16
6/28/05 11:02	93.96	93.17
6/28/05 11:03	93.96	93.15
6/28/05 11:04	93.98	93.13
6/28/05 11:05	93.96	93.14
6/28/05 11:06	93.93	93.16
6/28/05 11:07	93.94	93.16
6/28/05 11:08	93.96	93.16
6/28/05 11:09	93.98	93.14
6/28/05 11:10	93.93	93.14
6/28/05 11:11	93.95	93.14
6/28/05 11:12	93.98	93.16
6/28/05 11:13	93.97	93.14
6/28/05 11:14	93.96	93.15
6/28/05 11:15	93.93	93.15

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 11:16	93.94	93.14
6/28/05 11:17	93.95	93.13
6/28/05 11:18	93.97	93.14
6/28/05 11:19	93.97	93.14
6/28/05 11:20	93.97	93.13
6/28/05 11:21	93.96	93.11
6/28/05 11:22	93.94	93.11
6/28/05 11:23	93.95	93.11
6/28/05 11:24	93.95	93.13
6/28/05 11:25	93.93	93.14
6/28/05 11:26	93.95	93.15
6/28/05 11:27	93.93	93.13
6/28/05 11:28	93.94	93.13
6/28/05 11:29	93.93	93.14
6/28/05 11:30	93.92	93.15
6/28/05 11:31	93.95	93.13
6/28/05 11:32	93.95	93.13
6/28/05 11:33	93.94	93.14
6/28/05 11:34	93.95	93.15
6/28/05 11:35	93.93	93.13
6/28/05 11:36	93.94	93.12
6/28/05 11:37	93.92	93.12
6/28/05 11:38	93.92	93.11
6/28/05 11:39	93.92	93.12
6/28/05 11:40	93.91	93.13
6/28/05 11:41	93.93	93.14
6/28/05 11:42	93.90	93.12
6/28/05 11:43	93.91	93.12
6/28/05 11:44	93.90	93.11
6/28/05 11:45	93.93	93.11
6/28/05 11:46	93.90	93.13
6/28/05 11:47	93.91	93.11
6/28/05 11:48	93.90	93.11
6/28/05 11:49	93.92	93.10
6/28/05 11:50	93.89	93.11
6/28/05 11:51	93.88	93.10
6/28/05 11:52	93.92	93.12
6/28/05 11:53	93.91	93.10
6/28/05 11:54	93.91	93.10
6/28/05 11:55	93.91	93.12
6/28/05 11:56	93.91	93.10
6/28/05 11:57	93.92	93.11
6/28/05 11:58	93.91	93.11
6/28/05 11:59	93.92	93.12
6/28/05 12:00	93.89	93.10
6/28/05 12:01	93.91	93.11

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 12:02	93.91	93.09
6/28/05 12:03	93.91	93.09
6/28/05 12:04	93.91	93.08
6/28/05 12:05	93.92	93.09
6/28/05 12:06	93.91	93.08
6/28/05 12:07	93.89	93.10
6/28/05 12:08	93.89	93.10
6/28/05 12:09	93.88	93.08
6/28/05 12:10	93.90	93.07
6/28/05 12:11	93.91	93.09
6/28/05 12:12	93.90	93.08
6/28/05 12:13	93.89	93.07
6/28/05 12:14	93.89	93.07
6/28/05 12:15	93.86	93.06
6/28/05 12:16	93.90	93.06
6/28/05 12:17	93.88	93.07
6/28/05 12:18	93.87	93.07
6/28/05 12:19	93.87	93.08
6/28/05 12:20	93.87	93.07
6/28/05 12:21	93.87	93.06
6/28/05 12:22	93.91	93.09
6/28/05 12:23	93.87	93.07
6/28/05 12:24	93.89	93.07
6/28/05 12:25	93.88	93.07
6/28/05 12:26	93.87	93.07
6/28/05 12:27	93.87	93.07
6/28/05 12:28	93.85	93.07
6/28/05 12:29	93.88	93.05
6/28/05 12:30	93.86	93.05
6/28/05 12:31	93.88	93.06
6/28/05 12:32	93.86	93.05
6/28/05 12:33	93.87	93.06
6/28/05 12:34	93.86	93.06
6/28/05 12:35	93.89	93.05
6/28/05 12:36	93.87	93.06
6/28/05 12:37	93.87	93.04
6/28/05 12:38	93.87	93.06
6/28/05 12:39	93.89	93.07
6/28/05 12:40	93.86	93.06
6/28/05 12:41	93.89	93.06
6/28/05 12:42	93.86	93.05
6/28/05 12:43	93.85	93.09
6/28/05 12:44	93.85	93.06
6/28/05 12:45	93.85	93.08
6/28/05 12:46	93.85	93.07
6/28/05 12:47	93.86	93.07

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 12:48	93.87	93.04
6/28/05 12:49	93.85	93.04
6/28/05 12:50	93.84	93.04
6/28/05 12:51	93.84	93.05
6/28/05 12:52	93.82	93.03
6/28/05 12:53	93.84	93.04
6/28/05 12:54	93.84	93.03
6/28/05 12:55	93.83	93.04
6/28/05 12:56	93.83	93.03
6/28/05 12:57	93.82	93.02
6/28/05 12:58	93.82	93.02
6/28/05 12:59	93.83	93.03
6/28/05 13:00	93.82	93.03
6/28/05 13:01	93.83	93.02
6/28/05 13:02	93.84	93.02
6/28/05 13:03	93.84	93.03
6/28/05 13:04	93.83	93.02
6/28/05 13:05	93.81	93.03
6/28/05 13:06	93.85	93.01
6/28/05 13:07	93.82	93.02
6/28/05 13:08	93.82	93.01
6/28/05 13:09	93.83	93.01
6/28/05 13:10	93.85	93.01
6/28/05 13:11	93.83	93.03
6/28/05 13:12	93.85	93.00
6/28/05 13:13	93.84	93.03
6/28/05 13:14	93.83	93.02
6/28/05 13:15	93.85	93.01
6/28/05 13:16	93.83	93.01
6/28/05 13:17	93.83	93.03
6/28/05 13:18	93.82	93.02
6/28/05 13:19	93.83	93.03
6/28/05 13:20	93.85	93.03
6/28/05 13:21	93.84	93.02
6/28/05 13:22	93.84	93.03
6/28/05 13:23	93.85	93.03
6/28/05 13:24	93.84	93.04
6/28/05 13:25	93.86	93.04
6/28/05 13:26	93.86	93.02
6/28/05 13:27	93.86	93.06
6/28/05 13:28	93.85	93.04
6/28/05 13:29	93.85	93.07
6/28/05 13:30	93.83	93.06
6/28/05 13:31	93.84	93.06
6/28/05 13:32	93.84	93.08
6/28/05 13:33	93.84	93.06

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 13:34	93.85	93.06
6/28/05 13:35	93.85	93.06
6/28/05 13:36	93.84	93.05
6/28/05 13:37	93.84	93.07
6/28/05 13:38	93.85	93.07
6/28/05 13:39	93.86	93.07
6/28/05 13:40	93.87	93.06
6/28/05 13:41	93.88	93.04
6/28/05 13:42	93.89	93.05
6/28/05 13:43	93.88	93.06
6/28/05 13:44	93.86	93.08
6/28/05 13:45	93.86	93.05
6/28/05 13:46	93.87	93.07
6/28/05 13:47	93.86	93.07
6/28/05 13:48	93.86	93.07
6/28/05 13:49	93.85	93.08
6/28/05 13:50	93.86	93.06
6/28/05 13:51	93.86	93.08
6/28/05 13:52	93.85	93.08
6/28/05 13:53	93.86	93.07
6/28/05 13:54	93.85	93.07
6/28/05 13:55	93.87	93.07
6/28/05 13:56	93.84	93.07
6/28/05 13:57	93.87	93.09
6/28/05 13:58	93.86	93.10
6/28/05 13:59	93.86	93.09
6/28/05 14:00	93.86	93.08
6/28/05 14:01	93.86	93.09
6/28/05 14:02	93.88	93.12
6/28/05 14:03	93.85	93.08
6/28/05 14:04	93.87	93.09
6/28/05 14:05	93.89	93.09
6/28/05 14:06	93.86	93.09
6/28/05 14:07	93.86	93.10
6/28/05 14:08	93.86	93.09
6/28/05 14:09	93.86	93.09
6/28/05 14:10	93.87	93.10
6/28/05 14:11	93.86	93.11
6/28/05 14:12	93.85	93.10
6/28/05 14:13	93.86	93.11
6/28/05 14:14	93.87	93.11
6/28/05 14:15	93.85	93.09
6/28/05 14:16	93.87	93.09
6/28/05 14:17	93.89	93.10
6/28/05 14:18	93.88	93.09
6/28/05 14:19	93.88	93.10

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 14:20	93.88	93.13
6/28/05 14:21	93.89	93.11
6/28/05 14:22	93.91	93.15
6/28/05 14:23	93.90	93.13
6/28/05 14:24	93.89	93.13
6/28/05 14:25	93.89	93.15
6/28/05 14:26	93.91	93.15
6/28/05 14:27	93.89	93.14
6/28/05 14:28	93.90	93.18
6/28/05 14:29	93.91	93.16
6/28/05 14:30	93.93	93.16
6/28/05 14:31	93.91	93.16
6/28/05 14:32	93.91	93.20
6/28/05 14:33	93.90	93.18
6/28/05 14:34	93.90	93.15
6/28/05 14:35	93.92	93.16
6/28/05 14:36	93.92	93.16
6/28/05 14:37	93.92	93.21
6/28/05 14:38	93.94	93.20
6/28/05 14:39	93.93	93.18
6/28/05 14:40	93.93	93.20
6/28/05 14:41	93.92	93.20
6/28/05 14:42	93.94	93.21
6/28/05 14:43	93.94	93.21
6/28/05 14:44	93.93	93.21
6/28/05 14:45	93.94	93.23
6/28/05 14:46	93.93	93.23
6/28/05 14:47	93.92	93.24
6/28/05 14:48	93.93	93.23
6/28/05 14:49	93.93	93.24
6/28/05 14:50	93.93	93.22
6/28/05 14:51	93.95	93.22
6/28/05 14:52	93.93	93.23
6/28/05 14:53	93.93	93.26
6/28/05 14:54	93.94	93.27
6/28/05 14:55	93.96	93.29
6/28/05 14:56	93.95	93.28
6/28/05 14:57	93.95	93.29
6/28/05 14:58	93.94	93.29
6/28/05 14:59	93.95	93.29
6/28/05 15:00	93.95	93.30
6/28/05 15:01	93.95	93.31
6/28/05 15:02	93.96	93.30
6/28/05 15:03	93.94	93.34
6/28/05 15:04	93.96	93.33
6/28/05 15:05	93.97	93.30

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 15:06	93.96	93.29
6/28/05 15:07	93.94	93.29
6/28/05 15:08	93.95	93.30
6/28/05 15:09	93.96	93.29
6/28/05 15:10	93.98	93.30
6/28/05 15:11	93.97	93.30
6/28/05 15:12	93.97	93.33
6/28/05 15:13	93.97	93.33
6/28/05 15:14	93.98	93.31
6/28/05 15:15	93.97	93.31
6/28/05 15:16	93.97	93.32
6/28/05 15:17	93.96	93.35
6/28/05 15:18	93.96	93.34
6/28/05 15:19	93.96	93.34
6/28/05 15:20	93.96	93.36
6/28/05 15:21	94.00	93.35
6/28/05 15:22	93.97	93.37
6/28/05 15:23	94.00	93.39
6/28/05 15:24	94.00	93.39
6/28/05 15:25	93.99	93.40
6/28/05 15:26	94.00	93.39
6/28/05 15:27	94.00	93.39
6/28/05 15:28	94.00	93.39
6/28/05 15:29	94.01	93.41
6/28/05 15:30	94.01	93.43
6/28/05 15:31	94.03	93.45
6/28/05 15:32	94.04	93.43
6/28/05 15:33	94.02	93.42
6/28/05 15:34	94.02	93.43
6/28/05 15:35	94.01	93.45
6/28/05 15:36	94.04	93.43
6/28/05 15:37	94.03	93.46
6/28/05 15:38	94.02	93.47
6/28/05 15:39	94.03	93.49
6/28/05 15:40	94.07	93.49
6/28/05 15:41	94.06	93.49
6/28/05 15:42	94.04	93.49
6/28/05 15:43	94.04	93.51
6/28/05 15:44	94.09	93.51
6/28/05 15:45	94.04	93.53
6/28/05 15:46	94.04	93.50
6/28/05 15:47	94.04	93.54
6/28/05 15:48	94.08	93.54
6/28/05 15:49	94.09	93.54
6/28/05 15:50	94.11	93.55
6/28/05 15:51	94.09	93.56

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 15:52	94.10	93.55
6/28/05 15:53	94.08	93.57
6/28/05 15:54	94.08	93.57
6/28/05 15:55	94.08	93.59
6/28/05 15:56	94.10	93.58
6/28/05 15:57	94.11	93.61
6/28/05 15:58	94.11	93.64
6/28/05 15:59	94.11	93.64
6/28/05 16:00	94.13	93.65
6/28/05 16:01	94.09	93.66
6/28/05 16:02	94.10	93.66
6/28/05 16:03	94.12	93.63
6/28/05 16:04	94.14	93.65
6/28/05 16:05	94.14	93.67
6/28/05 16:06	94.15	93.67
6/28/05 16:07	94.17	93.70
6/28/05 16:08	94.21	93.68
6/28/05 16:09	94.21	93.73
6/28/05 16:10	94.23	93.72
6/28/05 16:11	94.23	93.71
6/28/05 16:12	94.27	93.71
6/28/05 16:13	94.29	93.73
6/28/05 16:14	94.31	93.74
6/28/05 16:15	94.33	93.74
6/28/05 16:16	94.33	93.74
6/28/05 16:17	94.31	93.80
6/28/05 16:18	94.32	93.80
6/28/05 16:19	94.35	93.80
6/28/05 16:20	94.37	93.78
6/28/05 16:21	94.37	93.77
6/28/05 16:22	94.35	93.78
6/28/05 16:23	94.39	93.80
6/28/05 16:24	94.37	93.79
6/28/05 16:25	94.41	93.78
6/28/05 16:26	94.43	93.79
6/28/05 16:27	94.43	93.77
6/28/05 16:28	94.47	93.76
6/28/05 16:29	94.49	93.80
6/28/05 16:30	94.46	93.78
6/28/05 16:31	94.46	93.77
6/28/05 16:32	94.48	93.78
6/28/05 16:33	94.51	93.79
6/28/05 16:34	94.52	93.78
6/28/05 16:35	94.53	93.78
6/28/05 16:36	94.51	93.79
6/28/05 16:37	94.51	93.80

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 16:38	94.51	93.84
6/28/05 16:39	94.53	93.83
6/28/05 16:40	94.52	93.85
6/28/05 16:41	94.53	93.84
6/28/05 16:42	94.55	93.85
6/28/05 16:43	94.55	93.87
6/28/05 16:44	94.53	93.84
6/28/05 16:45	94.52	93.85
6/28/05 16:46	94.55	93.87
6/28/05 16:47	94.55	93.89
6/28/05 16:48	94.57	93.88
6/28/05 16:49	94.57	93.89
6/28/05 16:50	94.55	93.89
6/28/05 16:51	94.52	93.92
6/28/05 16:52	94.54	93.93
6/28/05 16:53	94.52	93.96
6/28/05 16:54	94.54	93.95
6/28/05 16:55	94.53	93.96
6/28/05 16:56	94.56	93.96
6/28/05 16:57	94.55	94.01
6/28/05 16:58	94.55	93.97
6/28/05 16:59	94.56	93.96
6/28/05 17:00	94.56	94.00
6/28/05 17:01	94.56	94.00
6/28/05 17:02	94.55	94.00
6/28/05 17:03	94.54	93.99
6/28/05 17:04	94.54	94.01
6/28/05 17:05	94.56	94.05
6/28/05 17:06	94.55	94.07
6/28/05 17:07	94.55	94.06
6/28/05 17:08	94.56	94.06
6/28/05 17:09	94.55	94.07
6/28/05 17:10	94.57	94.07
6/28/05 17:11	94.56	94.06
6/28/05 17:12	94.56	94.10
6/28/05 17:13	94.56	94.07
6/28/05 17:14	94.58	94.08
6/28/05 17:15	94.54	94.09
6/28/05 17:16	94.54	94.11
6/28/05 17:17	94.53	94.12
6/28/05 17:18	94.59	94.09
6/28/05 17:19	94.56	94.12
6/28/05 17:20	94.56	94.12
6/28/05 17:21	94.58	94.12
6/28/05 17:22	94.57	94.12
6/28/05 17:23	94.56	94.13

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 17:24	94.57	94.14
6/28/05 17:25	94.57	94.14
6/28/05 17:26	94.58	94.15
6/28/05 17:27	94.53	94.17
6/28/05 17:28	94.54	94.16
6/28/05 17:29	94.54	94.15
6/28/05 17:30	94.56	94.18
6/28/05 17:31	94.57	94.18
6/28/05 17:32	94.59	94.18
6/28/05 17:33	94.60	94.19
6/28/05 17:34	94.59	94.19
6/28/05 17:35	94.60	94.19
6/28/05 17:36	94.61	94.18
6/28/05 17:37	94.59	94.17
6/28/05 17:38	94.60	94.18
6/28/05 17:39	94.58	94.17
6/28/05 17:40	94.60	94.16
6/28/05 17:41	94.61	94.18
6/28/05 17:42	94.60	94.19
6/28/05 17:43	94.60	94.20
6/28/05 17:44	94.60	94.20
6/28/05 17:45	94.59	94.16
6/28/05 17:46	94.59	94.18
6/28/05 17:47	94.62	94.19
6/28/05 17:48	94.63	94.18
6/28/05 17:49	94.63	94.18
6/28/05 17:50	94.61	94.20
6/28/05 17:51	94.63	94.20
6/28/05 17:52	94.60	94.18
6/28/05 17:53	94.59	94.19
6/28/05 17:54	94.63	94.20
6/28/05 17:55	94.61	94.20
6/28/05 17:56	94.63	94.19
6/28/05 17:57	94.62	94.19
6/28/05 17:58	94.64	94.21
6/28/05 17:59	94.62	94.21
6/28/05 18:00	94.58	94.18
6/28/05 18:01	94.57	94.19
6/28/05 18:02	94.57	94.16
6/28/05 18:03	94.59	94.15
6/28/05 18:04	94.58	94.17
6/28/05 18:05	94.57	94.15
6/28/05 18:06	94.58	94.14
6/28/05 18:07	94.59	94.08
6/28/05 18:08	94.59	94.08
6/28/05 18:09	94.55	94.11

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 18:10	94.58	94.10
6/28/05 18:11	94.58	94.09
6/28/05 18:12	94.58	94.08
6/28/05 18:13	94.57	94.12
6/28/05 18:14	94.61	94.09
6/28/05 18:15	94.60	94.10
6/28/05 18:16	94.60	94.08
6/28/05 18:17	94.59	94.08
6/28/05 18:18	94.62	94.07
6/28/05 18:19	94.61	94.10
6/28/05 18:20	94.61	94.10
6/28/05 18:21	94.62	94.10
6/28/05 18:22	94.60	94.08
6/28/05 18:23	94.59	94.06
6/28/05 18:24	94.56	94.09
6/28/05 18:25	94.59	94.09
6/28/05 18:26	94.59	94.07
6/28/05 18:27	94.61	94.05
6/28/05 18:28	94.61	94.05
6/28/05 18:29	94.58	94.06
6/28/05 18:30	94.60	94.08
6/28/05 18:31	94.57	94.07
6/28/05 18:32	94.60	94.04
6/28/05 18:33	94.61	94.07
6/28/05 18:34	94.60	94.05
6/28/05 18:35	94.58	94.04
6/28/05 18:36	94.57	94.03
6/28/05 18:37	94.57	94.04
6/28/05 18:38	94.56	94.05
6/28/05 18:39	94.57	94.03
6/28/05 18:40	94.58	94.05
6/28/05 18:41	94.56	94.00
6/28/05 18:42	94.59	94.02
6/28/05 18:43	94.55	94.01
6/28/05 18:44	94.54	94.02
6/28/05 18:45	94.54	94.02
6/28/05 18:46	94.55	94.03
6/28/05 18:47	94.53	94.01
6/28/05 18:48	94.55	94.02
6/28/05 18:49	94.54	94.02
6/28/05 18:50	94.54	94.00
6/28/05 18:51	94.55	94.01
6/28/05 18:52	94.53	94.01
6/28/05 18:53	94.55	94.00
6/28/05 18:54	94.55	94.02
6/28/05 18:55	94.56	94.02

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 18:56	94.57	94.01
6/28/05 18:57	94.55	94.00
6/28/05 18:58	94.57	94.00
6/28/05 18:59	94.57	94.01
6/28/05 19:00	94.56	93.99
6/28/05 19:01	94.53	93.99
6/28/05 19:02	94.53	94.00
6/28/05 19:03	94.55	93.99
6/28/05 19:04	94.55	93.97
6/28/05 19:05	94.55	93.94
6/28/05 19:06	94.54	93.98
6/28/05 19:07	94.52	93.99
6/28/05 19:08	94.51	93.99
6/28/05 19:09	94.53	93.97
6/28/05 19:10	94.56	93.96
6/28/05 19:11	94.56	93.97
6/28/05 19:12	94.56	93.98
6/28/05 19:13	94.57	93.98
6/28/05 19:14	94.58	93.97
6/28/05 19:15	94.58	93.96
6/28/05 19:16	94.55	93.95
6/28/05 19:17	94.56	93.98
6/28/05 19:18	94.58	93.96
6/28/05 19:19	94.58	93.97
6/28/05 19:20	94.54	93.96
6/28/05 19:21	94.56	93.95
6/28/05 19:22	94.57	93.98
6/28/05 19:23	94.57	93.95
6/28/05 19:24	94.56	93.95
6/28/05 19:25	94.55	93.95
6/28/05 19:26	94.57	93.95
6/28/05 19:27	94.54	93.97
6/28/05 19:28	94.55	93.96
6/28/05 19:29	94.56	93.97
6/28/05 19:30	94.56	93.98
6/28/05 19:31	94.58	93.98
6/28/05 19:32	94.58	93.96
6/28/05 19:33	94.56	93.97
6/28/05 19:34	94.59	93.96
6/28/05 19:35	94.58	93.96
6/28/05 19:36	94.59	93.97
6/28/05 19:37	94.57	93.96
6/28/05 19:38	94.61	93.96
6/28/05 19:39	94.59	93.96
6/28/05 19:40	94.60	93.96
6/28/05 19:41	94.58	93.94

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 19:42	94.60	93.96
6/28/05 19:43	94.59	93.95
6/28/05 19:44	94.60	93.94
6/28/05 19:45	94.59	93.95
6/28/05 19:46	94.60	93.93
6/28/05 19:47	94.58	93.95
6/28/05 19:48	94.62	93.94
6/28/05 19:49	94.60	93.94
6/28/05 19:50	94.59	93.96
6/28/05 19:51	94.59	93.95
6/28/05 19:52	94.58	93.97
6/28/05 19:53	94.61	93.95
6/28/05 19:54	94.61	93.94
6/28/05 19:55	94.59	93.94
6/28/05 19:56	94.59	93.96
6/28/05 19:57	94.59	93.95
6/28/05 19:58	94.61	93.97
6/28/05 19:59	94.62	93.98
6/28/05 20:00	94.64	94.00
6/28/05 20:01	94.65	94.00
6/28/05 20:02	94.61	93.99
6/28/05 20:03	94.61	94.00
6/28/05 20:04	94.63	94.01
6/28/05 20:05	94.63	94.02
6/28/05 20:06	94.61	94.00
6/28/05 20:07	94.63	93.99
6/28/05 20:08	94.65	94.00
6/28/05 20:09	94.62	94.01
6/28/05 20:10	94.64	94.00
6/28/05 20:11	94.63	94.02
6/28/05 20:12	94.65	94.05
6/28/05 20:13	94.67	94.03
6/28/05 20:14	94.68	94.02
6/28/05 20:15	94.69	94.04
6/28/05 20:16	94.69	94.03
6/28/05 20:17	94.69	94.02
6/28/05 20:18	94.71	94.05
6/28/05 20:19	94.70	94.03
6/28/05 20:20	94.72	94.03
6/28/05 20:21	94.70	94.05
6/28/05 20:22	94.71	94.03
6/28/05 20:23	94.69	94.03
6/28/05 20:24	94.66	94.04
6/28/05 20:25	94.70	94.06
6/28/05 20:26	90.81	94.06
6/28/05 20:27	92.87	94.06

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 20:28	94.69	94.07
6/28/05 20:29	94.70	94.07
6/28/05 20:30	94.71	94.05
6/28/05 20:31	94.72	94.07
6/28/05 20:32	94.74	94.05
6/28/05 20:33	94.73	94.06
6/28/05 20:34	94.72	94.07
6/28/05 20:35	94.73	94.07
6/28/05 20:36	94.74	94.06
6/28/05 20:37	94.66	94.07
6/28/05 20:38	94.64	94.07
6/28/05 20:39	Bad Input	94.07
6/28/05 20:40	0.00	94.09
6/28/05 20:41	94.64	94.05
6/28/05 20:42	94.64	94.06
6/28/05 20:43	94.64	94.07
6/28/05 20:44	94.64	94.06
6/28/05 20:45	94.64	94.07
6/28/05 20:46	94.64	94.07
6/28/05 20:47	38.50	94.08
6/28/05 20:48	-1.60	94.08
6/28/05 20:49	-1.60	94.07
6/28/05 20:50	-1.60	94.08
6/28/05 20:51	-1.60	94.07
6/28/05 20:52	-1.60	94.08
6/28/05 20:53	-1.60	94.10
6/28/05 20:54	-1.60	94.06
6/28/05 20:55	-1.60	94.06
6/28/05 20:56	-1.60	94.04
6/28/05 20:57	-1.60	94.05
6/28/05 20:58	-1.60	94.06
6/28/05 20:59	-1.60	94.05
6/28/05 21:00	-1.60	94.07
6/28/05 21:01	-1.60	94.07
6/28/05 21:02	-1.60	94.07
6/28/05 21:03	-1.60	94.06
6/28/05 21:04	-1.60	94.07
6/28/05 21:05	-1.60	94.07
6/28/05 21:06	-1.60	94.08
6/28/05 21:07	-1.60	94.09
6/28/05 21:08	-1.60	94.05
6/28/05 21:09	-1.60	94.05
6/28/05 21:10	-1.60	94.06
6/28/05 21:11	-1.60	94.06
6/28/05 21:12	-1.60	94.05
6/28/05 21:13	-1.60	94.08

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 21:14	-1.60	94.06
6/28/05 21:15	-1.60	94.07
6/28/05 21:16	65.55	94.09
6/28/05 21:17	93.21	94.08
6/28/05 21:18	93.20	94.09
6/28/05 21:19	93.19	94.08
6/28/05 21:20	93.21	94.07
6/28/05 21:21	93.19	94.05
6/28/05 21:22	93.22	94.07
6/28/05 21:23	93.20	94.05
6/28/05 21:24	93.19	94.08
6/28/05 21:25	93.20	94.08
6/28/05 21:26	93.22	94.06
6/28/05 21:27	93.21	94.08
6/28/05 21:28	93.20	94.06
6/28/05 21:29	93.22	94.09
6/28/05 21:30	93.21	94.07
6/28/05 21:31	93.20	94.05
6/28/05 21:32	93.21	94.06
6/28/05 21:33	93.23	94.09
6/28/05 21:34	93.22	94.05
6/28/05 21:35	93.24	94.04
6/28/05 21:36	93.21	94.04
6/28/05 21:37	93.21	94.04
6/28/05 21:38	93.22	94.03
6/28/05 21:39	93.19	94.04
6/28/05 21:40	93.22	94.03
6/28/05 21:41	93.23	94.03
6/28/05 21:42	93.23	94.03
6/28/05 21:43	93.22	94.04
6/28/05 21:44	93.22	94.03
6/28/05 21:45	93.21	94.04
6/28/05 21:46	93.22	94.02
6/28/05 21:47	93.23	94.03
6/28/05 21:48	93.22	94.03
6/28/05 21:49	93.22	94.02
6/28/05 21:50	93.22	94.03
6/28/05 21:51	93.21	94.02
6/28/05 21:52	93.23	94.01
6/28/05 21:53	93.22	94.00
6/28/05 21:54	93.21	93.99
6/28/05 21:55	93.21	94.02
6/28/05 21:56	93.24	94.00
6/28/05 21:57	93.21	94.01
6/28/05 21:58	93.18	94.01
6/28/05 21:59	93.19	94.00

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 22:00	93.21	94.01
6/28/05 22:01	93.20	94.01
6/28/05 22:02	93.18	93.99
6/28/05 22:03	93.20	93.99
6/28/05 22:04	93.22	94.00
6/28/05 22:05	93.22	93.99
6/28/05 22:06	93.24	93.99
6/28/05 22:07	93.22	93.98
6/28/05 22:08	93.20	94.02
6/28/05 22:09	93.22	94.02
6/28/05 22:10	93.23	94.02
6/28/05 22:11	93.23	0.00
6/28/05 22:12	93.21	94.02
6/28/05 22:13	93.23	94.02
6/28/05 22:14	93.24	94.02
6/28/05 22:15	93.23	46.21
6/28/05 22:16	93.21	-1.60
6/28/05 22:17	93.22	-1.60
6/28/05 22:18	93.25	-1.60
6/28/05 22:19	93.24	-1.60
6/28/05 22:20	93.24	-1.60
6/28/05 22:21	93.25	-1.60
6/28/05 22:22	93.22	-1.60
6/28/05 22:23	93.25	9.36
6/28/05 22:24	93.24	87.69
6/28/05 22:25	93.24	92.40
6/28/05 22:26	93.24	92.42
6/28/05 22:27	93.25	92.41
6/28/05 22:28	93.24	92.39
6/28/05 22:29	93.25	92.39
6/28/05 22:30	93.25	92.41
6/28/05 22:31	93.24	92.40
6/28/05 22:32	93.25	92.39
6/28/05 22:33	93.24	92.39
6/28/05 22:34	93.25	92.39
6/28/05 22:35	93.25	92.41
6/28/05 22:36	93.24	92.38
6/28/05 22:37	93.23	92.40
6/28/05 22:38	93.24	92.38
6/28/05 22:39	93.24	92.39
6/28/05 22:40	93.24	92.41
6/28/05 22:41	93.24	92.38
6/28/05 22:42	93.24	92.40
6/28/05 22:43	93.25	92.39
6/28/05 22:44	93.24	92.40
6/28/05 22:45	93.25	92.38

Circulating Water Intake Temperature - 6/27-28/2005

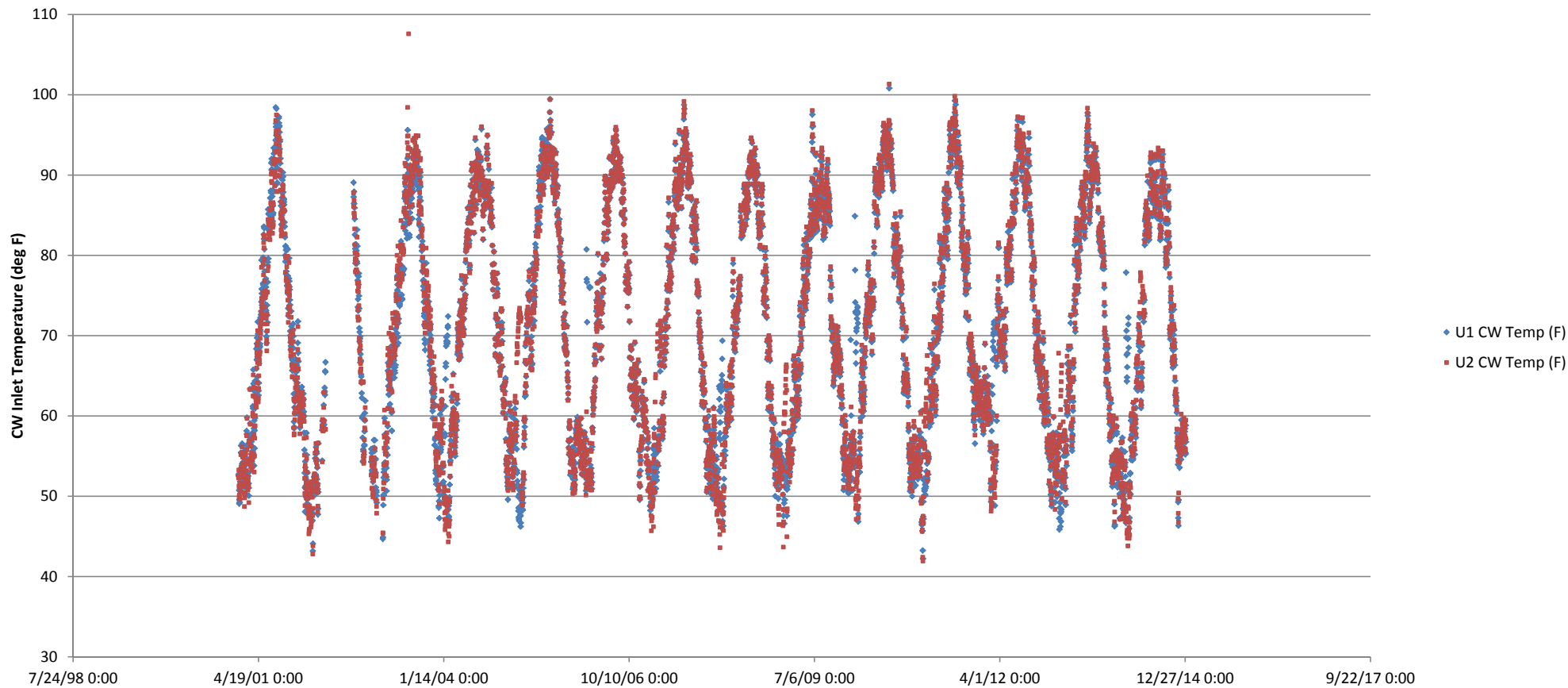
Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 22:46	93.25	92.40
6/28/05 22:47	93.24	92.38
6/28/05 22:48	93.25	92.37
6/28/05 22:49	93.24	92.39
6/28/05 22:50	93.24	92.38
6/28/05 22:51	93.28	92.38
6/28/05 22:52	93.23	92.39
6/28/05 22:53	93.25	92.36
6/28/05 22:54	93.25	92.39
6/28/05 22:55	93.26	92.38
6/28/05 22:56	93.24	92.37
6/28/05 22:57	93.27	92.38
6/28/05 22:58	93.27	92.36
6/28/05 22:59	93.27	92.37
6/28/05 23:00	93.24	92.36
6/28/05 23:01	93.25	92.36
6/28/05 23:02	93.24	92.38
6/28/05 23:03	93.25	92.38
6/28/05 23:04	93.26	92.37
6/28/05 23:05	93.28	92.38
6/28/05 23:06	93.26	92.41
6/28/05 23:07	93.25	92.39
6/28/05 23:08	93.25	92.36
6/28/05 23:09	93.25	92.36
6/28/05 23:10	93.28	92.36
6/28/05 23:11	93.27	92.36
6/28/05 23:12	93.26	92.38
6/28/05 23:13	93.25	92.37
6/28/05 23:14	93.23	92.36
6/28/05 23:15	93.26	92.33
6/28/05 23:16	93.25	92.34
6/28/05 23:17	93.27	92.35
6/28/05 23:18	93.27	92.35
6/28/05 23:19	93.25	92.37
6/28/05 23:20	93.24	92.37
6/28/05 23:21	93.25	92.37
6/28/05 23:22	93.25	92.38
6/28/05 23:23	93.26	92.37
6/28/05 23:24	93.23	92.35
6/28/05 23:25	93.25	92.35
6/28/05 23:26	93.25	92.34
6/28/05 23:27	93.22	92.35
6/28/05 23:28	93.24	92.35
6/28/05 23:29	93.26	92.36
6/28/05 23:30	93.21	92.35
6/28/05 23:31	93.23	92.35

Circulating Water Intake Temperature - 6/27-28/2005

Date	U1 CW Temp (F)	U2 CW Temp (F)
6/28/05 23:32	93.20	92.36
6/28/05 23:33	93.22	92.36
6/28/05 23:34	93.21	92.36
6/28/05 23:35	93.23	92.36
6/28/05 23:36	93.20	92.35
6/28/05 23:37	93.21	92.31
6/28/05 23:38	93.22	92.34
6/28/05 23:39	93.22	92.34
6/28/05 23:40	93.22	92.33
6/28/05 23:41	93.23	92.35
6/28/05 23:42	93.24	92.33
6/28/05 23:43	93.21	92.34
6/28/05 23:44	93.23	92.34
6/28/05 23:45	93.20	92.35
6/28/05 23:46	93.20	92.36
6/28/05 23:47	93.18	92.37
6/28/05 23:48	93.20	92.35
6/28/05 23:49	93.21	92.36
6/28/05 23:50	93.19	92.36
6/28/05 23:51	93.20	92.36
6/28/05 23:52	93.19	92.38
6/28/05 23:53	93.20	92.37
6/28/05 23:54	93.21	92.36
6/28/05 23:55	93.19	92.36
6/28/05 23:56	93.20	92.36
6/28/05 23:57	93.19	92.34
6/28/05 23:58	93.20	92.34
6/28/05 23:59	93.20	92.34
6/29/05 0:00	93.21	92.35

RAI # AQ-01
ATTACHMENT 2

CW Inlet Temperature 2001-2014



RAI # AQ-01
ATTACHMENT 3

..... Discharge Monitoring Report.....
July 2001

B = Back up Blowdown Temp. Monitor

Date - Cooling Pond
Blowdown (F)

1	88	
2	84.5	B
3	81.2	B
4	87	
5	87	
6	86	
7	86.5	
8	91	(79.6)
9	94	(80.2)
10	94	(82.1)
11	93	(83.2)
12	94	(82.7)
13	94.5	(82.1)
14	92	(81.4)
15	93.5	(81.8)
16	93	(81.1)
17	94.5	(83.1)
18	94	(83.7)
19	93.5	(84.0)
20	101	(84.2)
21	99.5	(86.0)
22	100	(87.5)
23	98.5	(87.9)
24	101.5	(88.2)
25	96	(85.6)
26	93	(83.9)
27	89.5	
28	89.5	
29	94.5	(82.2)
30	96	(82.1)
31	97.5	(83.7)

Note: 1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.

Discharge Monitoring Report

June 2005

B = Back up Blowdown Temp. Monitor

Date - Cooling Pond
Blowdown (F)

1	84.0	
2	81.0	
3	81.0	
4	85.0	
5	83.0	
6	84.0	
7	86.0	
8	89.0	
9	90.0	
10	90.0	
11	90.0	
12	89.0	
13	89.5	
14	83.0	
15	83.0	
16	84.0	
17	85.0	
18	86.0	
19	91.0	(76.3)
20	91.5	(77.1)
21	90.0	
22	91.0	(79.3)
23	91.0	(80.0)
24	90.5	(80.9)
25	92.5	(81.8)
26	95.0	(82.6)
27	94.0	(83.2)
28	93.0	(83.3)
29	94.0	(83.4)
30	91.0	(83.6)

- Note:
1. Temperatures reported are maximum for that day.
 2. () Calculated mixing zone temperature.
 3. B = Backup instrumentation used.

Discharge Monitoring Report

June 2009

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

1	83.2		B
2	81.0		B
3	80.3		B
4	83.0		B
5	82.9		B
6	81.9		B
7	80.1		B
8	81.3		B
9	82.7		B
10	84.4		B
11	83.5		B
12	86.0		B
13	84.9		B
14	87.0		B
15	86.6		B
16	83.0		B
17	87.1		B
18	87.5		B
19	86.3		B
20	86.3		B
21	89.8		B
22	94.4	(81.0)	B
23	97.6	(80.1)	B
24	98.0	(80.1)	
25	98.0	(84.1)	
26	97.0	(87.1)	
27	96.0	(88.7)	
28	93.1	(85.8)	B
29	89.3		B
30	83.0		B

MAX = 98.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.

Discharge Monitoring Report

August 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	95.0 (84.4)
2	94.0 (82.3)
3	96.0 (83.4)
4	94.0 (82.8)
5	94.0 (80.2)
6	94.0 (80.9)
7	93.5 (81.7)
8	91.0 (81.8)
9	95.0 (82.2)
10	97.5 (85.1)
11	98.0 (86.8)
12	103.0 (89.1)
13	100.0 (89.5)
14	96.0 (89.5)
15	95.0 (88.6)
16	92.5 (87.3)
17	89.0
18	94.5 (84.7)
19	94.5 (85.5)
20	93.0 (85.8)
21	92.0 (86.0)
22	94.0 (86.7)
23	93.0 (87.1)
24	93.5 (86.2)
25	90.0
26	92.0 (85.6)
27	92.0 (84.4)
28	91.0 (84.1)
29	91.0 (85.1)
30	89.0
31	90.0

MAX = 103.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

RAI # AQ-01

ATTACHMENT 4

Discharge Monitoring Report

January 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	42.5
2	42.0
3	42.0
4	42.0
5	42.0
6	39.0
7	43.0
8	42.0
9	40.0
10	40.0
11	41.0
12	42.0
13	43.0
14	42.5
15	43.0
16	44.0
17	46.0
18	47.0
19	50.0
20	51.0
21	48.0
22	47.0
23	51.0
24	52.0
25	49.0
26	44.0
27	43.0
28	42.5
29	43.0
30	42.0
31	41.5

MAX = 52.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.

Discharge Monitoring Report

February 2010

B = Back up Blowdown Temp. Monitor

**Date -- Cooling Pond
Blowdown (F)**

1	S/D
2	S/D
3	S/D
4	S/D
5	S/D
6	S/D
7	S/D
8	S/D
9	S/D
10	S/D
11	S/D
12	S/D
13	S/D
14	S/D
15	S/D
16	S/D
17	S/D
18	S/D
19	S/D
20	S/D
21	S/D
22	S/D
23	S/D
24	S/D
25	S/D
26	S/D
27	S/D
28	S/D

MAX = S/D

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

March 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	S/D
2	S/D
3	S/D
4	S/D
5	S/D
6	S/D
7	S/D
8	S/D
9	S/D
10	S/D
11	S/D
12	S/D
13	S/D
14	S/D
15	S/D
16	S/D
17	59.0
18	60.0
19	59.5
20	57.0
21	48.0
22	48.0
23	58.0
24	53.5
25	53.0
26	62.5 (50.8)
27	60.0
28	62.0 (50.3)
29	65.0 (51.1)
30	67.5 (52.0)
31	66.5 (52.6)

MAX = 67.5

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

April 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	68.0	
2	68.0	
3	65.0	
4	68.6	B
5	71.7	B
6	73.5	
7	70.0	
8	69.0	
9	71.0	
10	72.0	
11	72.0	
12	73.5	
13	76.0	
14	78.0	
15	76.0	
16	74.5	
17	74.0	
18	75.0	
19	74.5	
20	79.0	
21	79.0	
22	82.0	
23	74.5	
24	74.0	
25	73.0	
26	75.0	
27	73.0	
28	76.0	
29	73.5	
30	74.0	

MAX = 82.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

May 2010

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

1	73.0	
2	77.0	
3	78.5	
4	78.0	
5	75.0	
6	80.0	
7	74.0	
8	69.5	
9	73.4	B
10	74.2	B
11	69.4	B
12	70.2	B
13	70.2	B
14	69.8	B
15	75.0	B
16	75.1	B
17	71.0	
18	73.0	
19	72.0	
20	76.0	
21	77.0	
22	82.0	
23	82.5	B
24	86.6	B
25	89.0	
26	91.0 (77.6)	
27	89.0	
28	88.0	
29	91.0 (78.3)	
30	91.0 (79.3)	
31	88.5	

MAX = 91.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

June 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	94.0 (78.9)	
2	90.0	
3	90.0	
4	86.5	
5	87.0	
6	86.0	
7	90.5 (75.9)	
8	84.5	
9	85.5	
10	89.5	B
11	89.0	
12	87.0	
13	87.0	
14	88.0	
15	87.5	
16	88.5	
17	94.0 (76.9)	
18	92.5 (78.3)	
19	90.0	
20	94.5 (79.3)	
21	91.0 (78.7)	
22	92.0 (79.3)	
23	90.5 (78.8)	
24	90.0	
25	92.5 (78.3)	
26	93.0 (79.1)	
27	91.5 (80.6)	
28	90.0	
29	90.0	
30	93.0 (80.3)	

MAX = 94.5

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

July 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	90.0
2	91.0 (81.2)
3	92.0 (82.2)
4	91.0 (83.5)
5	89.0
6	91.0 (85.4)
7	93.0 (86.3)
8	94.0 (87.8)
9	94.0 (88.9)
10	95.0 (88.7)
11	92.0 (88.0)
12	97.0 (88.1)
13	98.0 (88.4)
14	97.0 (88.7)
15	94.5 (89.1)
16	96.0 (89.1)
17	96.5 (89.3)
18	95.0 (89.5)
19	93.0 (88.8)
20	93.0 (88.6)
21	94.0 (88.4)
22	95.0 (88.9)
23	95.0 (88.8)
24	92.0 (89.1)
25	93.0 (86.2)
26	95.0 (82.2)
27	97.0 (83.4)
28	96.5 (85.2)
29	94.5 (86.0)
30	90.5 (85.5)
31	88.0

MAX = 98.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

August 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	95.0 (84.4)
2	94.0 (82.3)
3	96.0 (83.4)
4	94.0 (82.8)
5	94.0 (80.2)
6	94.0 (80.9)
7	93.5 (81.7)
8	91.0 (81.8)
9	95.0 (82.2)
10	97.5 (85.1)
11	98.0 (86.8)
12	103.0 (89.1)
13	100.0 (89.5)
14	96.0 (89.5)
15	95.0 (88.6)
16	92.5 (87.3)
17	89.0
18	94.5 (84.7)
19	94.5 (85.5)
20	93.0 (85.8)
21	92.0 (86.0)
22	94.0 (86.7)
23	93.0 (87.1)
24	93.5 (86.2)
25	90.0
26	92.0 (85.6)
27	92.0 (84.4)
28	91.0 (84.1)
29	91.0 (85.1)
30	89.0
31	90.0

MAX = 103.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

September 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	88.0
2	89.0
3	85.5
4	82.0
5	83.0
6	79.0
7	78.0
8	78.0
9	81.5
10	81.0
11	81.0
12	81.0
13	83.0
14	85.8 B
15	85.0 B
16	80.0
17	84.0
18	81.0
19	80.0
20	84.0
21	83.5
22	83.0
23	84.0
24	80.0
25	76.5
26	77.5
27	78.5
28	81.0
29	81.5
30	78.5

MAX = 89.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

October 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	80.5
2	78.0
3	74.0
4	75.5
5	76.5
6	77.5
7	76.5
8	77.0
9	76.5
10	75.0
11	74.0
12	74.0
13	71.5
14	68.0
15	66.5
16	66.0
17	77.0 B
18	77.4 B
19	61.5
20	59.0
21	61.0
22	73.0 B
23	72.2 B
24	72.1 B
25	63.5
26	63.0
27	59.5
28	55.0
29	64.4 B
30	63.8 B
31	65.1 B

MAX = 80.5

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

November 2010

B = Back up Blowdown Temp. Monitor

**Date -- Cooling Pond
Blowdown (F)**

1	66.4	B
2	66.7	B
3	66.4	B
4	65.6	B
5	64.9	B
6	64.1	B
7	63.7	B
8	64.4	B
9	66.7	B
10	68.2	B
11	70.2	B
12	60.0	
13	56.0	
14	51.0	
15	49.5	
16	48.0	
17	45.0	
18	44.5	
19	44.0	
20	64.1	B
21	63.9	B
22	55.0	
23	55.0	
24	56.0	
25	56.0	
26	53.0	
27	51.0	
28	54.0	
29	54.0	
30	53.0	

MAX = 70.2

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

December 2010

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	48.0
2	49.0
3	52.5
4	53.0
5	54.8 B
6	53.2 B
7	55.4 B
8	54.9 B
9	55.4 B
10	56.9 B
11	56.9 B
12	55.7 B
13	44.0
14	45.0
15	42.0
16	47.0
17	45.0
18	43.0
19	40.5
20	45.0
21	48.0
22	46.0
23	46.0
24	50.5
25	50.0
26	52.0
27	50.0
28	46.5
29	46.0
30	46.0
31	53.0

MAX = 56.9

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

January 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	53.0
2	45.0
3	46.0
4	45.0
5	45.0
6	45.0
7	45.5
8	47.0
9	45.0
10	48.0
11	46.0
12	46.0
13	46.0
14	43.0
15	43.0
16	44.0
17	47.0
18	47.0
19	48.0
20	47.5
21	45.5
22	43.0
23	42.0
24	44.0
25	44.0
26	43.0
27	46.0
28	48.0
29	48.5
30	51.0
31	50.0

MAX = 53.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

February 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	46.0
2	45.0
3	43.0
4	40.5
5	41.0
6	40.0
7	41.0
8	39.5
9	44.0
10	37.0
11	37.0
12	38.0
13	40.0
14	40.0
15	41.0
16	45.0
17	45.0
18	47.0
19	47.5
20	44.0
21	43.5
22	46.0
23	44.0
24	44.0
25	46.5
26	45.0
27	45.0
28	47.0

MAX = 53.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

March 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	48.5
2	48.0
3	46.5
4	50.0
5	48.0
6	49.0
7	47.0
8	49.0
9	50.0
10	49.0
11	53.0
12	52.5
13	54.0
14	58.0
15	56.0
16	60.5 (45.7)
17	60.0 (47.0)
18	60.0 (50.5)
19	67.0 (50.6)
20	63.5 (52.6)
21	66.5 (53.2)
22	65.0 (54.2)
23	65.0 (54.2)
24	59.0
25	61.0 (51.7)
26	59.0
27	58.0
28	57.0
29	54.0
30	53.5
31	57.0

MAX = 67.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

April 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	52.0
2	51.0
3	55.0
4	55.0
5	54.0
6	54.0
7	53.0
8	52.0
9	67.0
10	68.0
11	66.0
12	63.0
13	70.0
14	63.0
15	59.0
16	56.0
17	54.0
18	53.0
19	51.5
20	49.0
21	53.0
22	51.0
23	56.0
24	63.0
25	57.0
26	60.0
27	58.5
28	56.0
29	69.0
30	62.0

MAX = 70.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

May 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	62.0
2	60.0
3	59.0
4	63.0
5	59.0
6	61.5
7	70.0
8	73.5
9	66.0
10	77.5
11	80.0
12	81.0
13	78.0
14	65.0
15	60.0
16	59.5
17	60.0
18	59.0
19	75.0
20	75.0
21	72.0
22	74.0
23	74.0
24	76.0
25	73.5
26	72.0
27	77.0
28	74.0
29	76.0
30	83.0
31	80.0

MAX = 83 .0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

June 2011

B = Back up Blowdown Temp. Monitor

Date - Cooling Pond
Blowdown (F)

1	79.5
2	82.2 B
3	83.3 B
4	86.0 B
5	90.0
6	92.0 (75.8)
7	90.0
8	89.0
9	86.0
10	87.0
11	85.5
12	85.5
13	85.0
14	82.5
15	79.5
16	84.0
17	88.0
18	87.0
19	91.0 (76.2)
20	88.0
21	88.5
22	83.0
23	81.0
24	78.5
25	86.0
26	86.0
27	86.0
28	85.0
29	92.0 (77.3)
30	93.0 (76.3)

MAX = 93.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

July 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	88.0
2	90.0
3	92.5 (83.4)
4	96.5 (82.9)
5	98.0 (82.9)
6	99.0 (84.5)
7	92.0 (84.3)
8	94.0 (83.4)
9	96.0 (83.4)
10	95.0 (84.1)
11	93.0 (85.7)
12	97.0 (86.1)
13	94.0 (86.3)
14	92.0 (85.3)
15	93.0 (84.6)
16	94.0 (85.0)
17	97.0 (85.0)
18	94.0 (86.9)
19	96.5 (87.1)
20	S/D
21	S/D
22	S/D
23	S/D
24	S/D
25	96.8 (84.3) B
26	98.3 (82.1) B
27	95.0 (83.5)
28	94.0 (84.1)
29	94.0 (84.5)
30	97.0 (84.2)
31	99.0 (85.8)

MAX = 99.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

August 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	101.0 (87.4)
2	99.0 (87.0)
3	96.0 (88.1)
4	97.5 (87.8)
5	99.0 (87.3)
6	99.5 (87.4)
7	99.0 (87.9)
8	96.0 (87.6)
9	94.0 (86.0)
10	92.0 (84.2)
11	95.0 (83.6)
12	93.0 (82.8)
13	91.0 (83.4)
14	90.0 B
15	92.0 (82.4) B
16	93.5 (82.4) B
17	93.2 (82.6) B
18	97.0 (83.5)
19	97.0 (86.3)
20	93.0 (86.6)
21	94.0 (85.6)
22	95.0 (85.4)
23	91.0 (84.1)
24	92.0 (82.4)
25	89.0
26	93.0 (81.9)
27	93.0 (82.7)
28	91.0 (83.0)
29	92.5 (83.2)
30	90.0
31	91.0 (82.6)

MAX = 101.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

September 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	93.0 (83.7)
2	92.0 (84.2)
3	92.0 (85.4)
4	89.0
5	84.5
6	83.0
7	82.5
8	81.5
9	79.5
10	85.0
11	87.0
12	87.5
13	85.0
14	80.0
15	79.5
16	77.0
17	79.0
18	76.0
19	77.5
20	82.0
21	80.0
22	78.0
23	78.5
24	77.0
25	79.0
26	77.0
27	74.5
28	77.0
29	77.0
30	74.0

MAX = 93.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

October 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	72.0
2	75.0
3	77.0
4	82.0
5	81.0
6	81.5
7	80.0
8	77.0
9	76.0
10	73.5
11	72.0
12	72.0
13	70.0
14	67.0
15	62.5
16	59.0
17	58.0
18	55.0
19	52.0
20	51.0
21	50.0
22	53.5
23	55.5
24	58.0
25	56.0
26	56.0
27	53.5
28	53.0
29	51.0
30	49.0
31	49.0

MAX = 82.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

November 2011

B = Back up Blowdown Temp. Monitor .

**Date – Cooling Pond
Blowdown (F)**

1	68.1 (B)
2	67.3 (B)
3	66.9 (B)
4	66.8 (B)
5	66.0 (B)
6	64.7 (B)
7	67.8 (B)
8	68.8 (B)
9	68.0 (B)
10	64.7 (B)
11	60.5 (B)
12	60.0 (B)
13	61.7 (B)
14	62.4 (B)
15	63.9 (B)
16	62.2 (B)
17	61.9 (B)
18	58.6 (B)
19	68.3 (B)
20	65.6 (B)
21	66.9 (B)
22	66.2 (B)
23	65.6 (B)
24	65.1 (B)
25	64.4 (B)
26	63.6 (B)
27	62.8 (B)
28	64.0 (B)
29	64.9 (B)
30	63.3 (B)

MAX = 68.8

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

December 2011

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	38.8 (B)
2	39.5 (B)
3	41.0 (B)
4	42.4 (B)
5	41.7 (B)
6	40.0
7	39.0
8	39.0
9	38.0
10	37.0
11	40.0
12	40.5
13	39.0
14	44.0
15	43.0 (B)
16	49.1 (B)
17	51.8 (B)
18	53.1 (B)
19	55.0
20	55.0
21	55.5
22	54.5
23	54.5
24	54.5
25	51.8 (B)
26	50.5 (B)
27	51.5
28	52.0
29	53.0
30	54.0
31	52.5

MAX = 55.5

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

January 2012

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	53.0
2	49.0
3	48.0
4	47.0
5	48.5
6	50.5
7	49.5
8	56.0
9	54.0
10	54.5
11	57.0
12	55.0
13	47.0
14	46.0
15	45.0
16	48.0
17	48.5
18	50.0
19	45.5
20	44.0
21	45.0
22	45.0
23	45.0
24	44.0
25	51.0
26	51.5
27	50.0
28	49.5
29	47.0
30	49.0
31	50.5

MAX = 57.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

February 2012

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	51.0
2	59.0
3	57.0
4	56.0
5	56.0
6	54.0
7	53.0
8	56.0
9	54.5
10	52.0
11	52.0
12	49.0
13	46.5
14	47.0
15	48.0
16	54.2 B
17	50.5
18	49.0
19	49.5
20	51.0
21	48.0
22	48.0
23	50.0
24	49.0
25	48.5
26	47.5
27	47.5
28	46.5
29	50.0

MAX = 59.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

March 2012

Date	Cooling Pond Blowdown (F)	Calculated Temp Edge of Mixing Zone(F)	Illinois River Temp (Upstream)	Permitted Excursion Hours	Provisional Variance Hours
1	62.1 B	46.2	46.0		
2	61.7 B	45.9	45.8		
3	59.5 B				
4	59.8 B				
5	59.7 B				
6	52.9 B				
7	54.5 B				
8	54.9 B				
9	55.2 B				
10	55.9 B				
11	55.5 B				
12	56.0				
13	68.0	53.8	53.8		
14	69.0	56.7	56.7		
15	70.0	59.6	59.6		
16	75.0	62.5	62.3	12	
17	74.0	61.9	61.8	12	
18	S/D				
19	S/D				
20	S/D				
21	S/D				
22	S/D				
23	74.5	69.5	69.5	6.7	
24	78.5	67.5	67.4	24	
25	82.0	68.1	68.0	24	
26	77.0	66.7	66.6	8.9	15.1
27	69.5	62.7	62.6		24
28	70.0	62.2	61.8		24
29	69.0 B	60.8	60.7		24
30	69.5 B	60.8	60.7		19
31	70.6 B	59.4	59.2		

MAX = 82.0

TOTAL EXCURSION HOURS = 193.7 (106.1 hours per Provisional Variance EPA - 12 -15)

Note:

1. Temperatures reported are maximum for that day.
2. B = Backup instrumentation used.
3. S/D = Shutdown (no discharge)

Discharge Monitoring Report

April 2012

B = Back up Blowdown Temp. Monitor

Date - Cooling Pond
Blowdown (F)

1	74.0
2	72.5
3	77.0
4	71.0
5	70.0
6	69.0
7	70.5
8	70.0 B
9	71.0
10	68.0
11	68.0
12	72.5
13	69.0
14	70.0
15	71.0
16	68.5
17	71.0
18	74.5
19	71.5
20	68.0
21	70.0
22	70.0
23	70.5
24	71.0
25	72.0
26	72.5
27	69.5
28	65.0
29	65.0

MAX = 77.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

May 2012

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

1	69.0	
2	71.0	
3	74.2	B
4	80.6	B
5	80.6	B
6	79.9	B
7	77.0	
8	79.5	
9	78.0	
10	79.5	B
11	78.7	B
12	76.5	
13	79.0	
14	84.0	
15	84.0	
16	80.0	
17	82.0	
18	83.0	
19	85.0	
20	84.5	
21	81.0	
22	84.0	
23	85.0	
24	82.5	
25	86.0	
26	84.0	
27	88.0	
28	84.5	
29	84.5	
30	82.0	
31	75.0	

MAX = 88.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

June 2012

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

1	78.5	
2	78.5	
3	81.0	
4	85.0	
5	85.0	
6	86.0	
7	89.0	
8	91.0 (75.7)	
9	85.0	
10	86.1	B
11	85.3	B
12	85.0	B
13	85.4	B
14	85.4	B
15	85.7	B
16	86.1	B
17	87.5	B
18	88.1	B
19	87.5	B
20	87.1	B
21	85.7	B
22	90.2 (83.3)	B
23	90.8 (83.1)	B
24	91.3 (84.0)	B
25	91.2 (83.8)	B
26	89.6	B
27	89.1	B
28	88.1	B
29	91.9 (85.7)	B
30	91.0 (85.4)	B

MAX = 91.9

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

July 2012

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()
1	94.0 (85.6) B
2	96.0 (88.1) B
3	96.2 (89.1) B
4	S/D
5	S/D
6	S/D
7	S/D
8	S/D
9	S/D
10	S/D
11	84.0
12	S/D
13	S/D
14	S/D
15	S/D
16	S/D
17	S/D
18	S/D
19	S/D
20	S/D
21	91.0 (89.1)
22	93.5 (87.9)
23	92.0 (87.4)
24	95.0 (87.6)
25	95.0 (88.8)
26	91.0 (87.6)
27	90.0 (87.0)
28	91.5 (86.7)
29	91.0 (87.1)
30	96.0 (87.8)
31	96.0 (88.1)

MAX = 96.2

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

August 2012

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()	
1	99.0 (88.5)	
2	97.0 (89.6)	
3	97.0 (89.0)	
4	96.0 (88.6)	
5	93.0 (88.3)	
6	96.0 (88.5)	
7	96.0 (88.8)	
8	92.0 (88.6)	
9	93.0 (87.3)	
10	89.0	
11	88.8	B
12	88.2	B
13	85.0	
14	88.5	
15	91.0 (81.2)	
16	86.0	
17	86.0	
18	89.0	
19	89.5	
20	89.0	
21	91.0 (81.7)	
22	92.0 (83.7)	
23	91.0 (84.0)	
24	91.0 (84.8)	
25	91.0 (85.0)	
26	87.0	
27	90.0	B
28	92.9 (84.9)	B
29	94.0 (84.7)	
30	93.0 (84.9)	
31	90.0	

MAX = 99.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

September 2012

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()
1	89.0
2	90.0
3	92.0 (83.9)
4	97.0 (85.3)
5	93.0 (84.8)
6	91.0 (84.8)
7	90.0
8	87.0
9	85.0
10	87.0
11	85.0
12	85.0
13	83.0
14	85.0
15	85.0
16	85.0
17	85.0
18	80.0
19	79.0
20	77.0
21	74.0
22	74.0
23	75.0
24	74.0
25	75.5
26	78.0
27	77.0
28	77.5
29	78.0
30	76.0

MAX = 97.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

October 2012

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()
1	76.0
2	77.5
3	78.0
4	78.0
5	72.0
6	70.0
7	70.0
8	70.0
9	68.5
10	66.0
11	66.5
12	67.5
13	67.0
14	67.5
15	68.0
16	68.0
17	66.0
18	63.0
19	58.5
20	58.0
21	60.0
22	59.0
23	62.0
24	66.0
25	66.0
26	63.0
27	58.0
28	54.0
29	51.0
30	48.5
31	46.0

MAX = 78.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

November 2012

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()
1	45.5
2	45.5
3	45.0
4	45.5
5	44.5
6	43.0
7	43.0
8	43.0
9	44.0
10	52.0
11	55.0
12	53.0
13	46.0
14	44.5
15	43.5
16	45.5
17	46.0
18	46.5
19	47.0
20	51.5
21	51.0
22	51.0
23	50.5
24	44.0
25	41.0
26	40.0
27	38.5
28	39.5
29	55.5
30	59.0

MAX = 59.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

December 2012

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

		mixing zone ()
1	61.5	(48.2)
2	62.5	(49.7)
3	66.5	(51.1)
4	61.5	(52.5)
5	61.0	(52.0)
6	60.5	(52.0)
7	61.0	(52.5)
8	62.0	(52.0)
9	60.0	
10	59.0	
11	55.0	
12	54.0	
13	53.5	
14	54.0	
15	55.5	
16	55.0	
17	56.0	
18	58.5	
19	57.0	
20	58.0	
21	54.5	
22	51.5	
23	50.5	
24	53.5	
25	52.5	
26	52.0	
27	52.5	
28	52.0	
29	52.5	
30	51.0	
31	48.0	

MAX = 66.5

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

January 2013

B = Back up Blowdown Temp. Monitor

**Date - Cooling Pond
Blowdown (F)**

	mixing zone ()
1	48.0
2	48.0
3	48.5
4	46.0
5	45.0
6	45.0
7	45.0
8	46.0
9	47.5
10	48.5
11	53.0
12	51.0
13	49.0
14	50.0
15	53.0
16	52.0
17	51.0
18	50.0
19	50.0
20	47.0
21	45.0
22	43.0
23	41.0
24	42.0
25	43.0
26	40.0
27	37.0
28	36.0
29	40.0
30	48.0
31	48.0

MAX = 53.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

February 2013

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()
1	35.5
2	35.0
3	35.5
4	37.0
5	38.0
6	40.0
7	40.0
8	38.0
9	38.0
10	38.0
11	39.0
12	37.0
13	40.0
14	40.0
15	40.0
16	38.0
17	38.0
18	40.0
19	39.0
20	35.0
21	37.0
22	36.0
23	37.0
24	39.5
25	40.0
26	40.0
27	38.0
28	38.0

MAX = 40.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

March 2013

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()
1	38.0 B
2	38.0 B
3	40.0
4	40.0
5	40.0
6	39.0
7	40.0
8	43.0
9	41.5
10	43.5
11	42.0
12	42.0
13	41.0
14	40.0
15	44.0
16	42.0
17	43.0
18	41.0
19	40.0
20	38.0
21	39.5
22	39.0 B
23	39.0 B
24	44.0 B
25	41.0
26	42.5
27	43.0
28	50.0
29	56.0
30	53.0
31	54.5

MAX = 56.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

April 2013

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond

Blowdown (F)

		mixing zone ()
1	52.0	
2	52.5	
3--	66.1	B - - - - -
4	65.4	B
5	69.0	B
6	68.5	B
7	65.0	B
8	67.0	B
9	68.3	B
10	66.9	B
11	54.5	
12	52.0	
13	51.0	
14	55.0	
15	64.0	B
16	69.1	B
17	59.5	
18	60.0	
19	60.0	
20	53.0	
21	55.0	
22	59.8	B
23	58.9	B
24	57.2	B
25	54.0	
26	59.0	
27	65.0	
28	61.0	
29	66.0	
30	70.0	

MAX = 74.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

May 2013

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

	mixing zone ()
1	74.0
2	72.5
3	69.0
4	67.0
5	67.0 B
6	67.0 B
7	69.0 B
8	73.0 B
9	75.0 B
10	72.0 B
11	67.0 B
12	64.0 B
13	65.0
14	75.0
15	74.0
16	80.0
17	80.0 B
18	80.0 B
19	80.0 B
20	79.0
21	79.0
22	77.0
23	74.0
24	71.0
25	67.0
26	66.0
27	67.5
28	69.0
29	77.0
30	77.0
31	75.0

MAX = 80.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

June 2013

B = Back up Blowdown Temp. Monitor

Date - Cooling Pond
Blowdown (F)

		mixing zone ()
1	72.0	B
2	68.0	
3	75.0	
4	75.0	
5	76.0	
6	72.5	
7	73.0	
8	78.5	
9	74.0	B
10	73.0	B
11	81.0	
12	83.0	
13	81.0	
14	82.0	
15	78.5	
16	81.0	
17	81.0	
18	78.0	
19	81.5	
20	84.0	
21	80.5	
22	83.5	
23	89.0	
24	87.5	
25	87.5	
26	88.0	
27	89.0	B
28	93.0	B (80.5)
29	83.0	B
30	87.0	

MAX = 93.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

July 2013

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

		mixing zone ()
1	85.0	
2	82.5	
3	83.0	
4	88.0	
5	92.0	(78.0)
6	91.5	(79.5)
7	92.5	(81.5)
8	90.0	
9	87.5	
10	91.0	(84.4)
11	92.0 B	(83.6)
12	94.4 B	(84.0)
13	94.5	(84.5)
14	94.0	(84.8)
15	96.0	(85.7)
16	98.5	(87.3)
17	100.0	(89.1)
18	100.5	(90.3)
19	98.0	(90.7)
20	96.0	(91.6)
21	94.0	(89.9)
22	92.0	(89.7)
23	93.0	(88.9)
24	90.5	(87.3)
25	94.5	(86.6)
26	90.0	
27	85.5	
28	84.0	
29	86.0	
30	83.0	
31	84.0	

MAX = 100.5

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report
August 2013

 COPY

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

		mixing zone ()
1	82.5	
2	83.0	
3	88.0	
4	90.5	(83.0)
5	87.0	
6	88.0	
7	89.0	
8	90.0	
9	91.5	(83.9)
10	94.0	(81.4)
11	94.5	(82.6)
12	92.0	(83.5)
13	89.0	
14	89.0	
15	88.0	
16	92.0	(82.3)
17	91.5	(82.4)
18	94.0	(81.3)
19	95.5	(84.6)
20	94.5	(84.4)
21	93.5	(84.1)
22	90.0	(83.2)
23	92.0	(83.9)
24	92.0	(82.7)
25	92.0	(83.1)
26	91.5	(84.2)
27	93.0	(85.4)
28	92.0	(85.9)
29	94.5	(86.5)
30	96.0	(85.4)
31	92.0	(85.5)

MAX = 96.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

September 2013

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

		mixing zone ()
1	94.0	(86.4)
2	91.5	(85.2)
3	91.0	(85.6)
4	91.5	(84.8)
5	90.0	
6	92.0	(83.3)
7	90.0	
8	91.5	(83.8)
9	93.0	(83.8)
10	91.5	(84.4)
11	91.0	(84.5)
12	89.5	
13	87.0	
14	86.5	
15	82.0	
16	82.0	
17	80.5	
18	83.5	
19	83.8	B
20	83.2	B
21	82.0	
22	84.5	
23	84.0	
24	81.5	
25	81.5	
26	84.0	
27	83.5	
28	81.5	
29	79.5	
30	81.5	

MAX = 94.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

October 2013

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()	
1	80.0	
2	84.0	
3	83.0	
4	86.0	
5	85.0	
6	81.0	
7	79.0	
8	80.0	
9	82.0	
10	81.6	B
11	82.8	B
12	80.3	B
13	79.9	B
14	79.8	B
15	78.5	B
16	76.2	B
17	74.0	B
18	72.7	B
19	No Discharge	
20	No Discharge	
21	No Discharge	
22	No Discharge	
23	No Discharge	
24	No Discharge	
25	No Discharge	
26	No Discharge	
27	No Discharge	
28	No Discharge	
29	No Discharge	
30	No Discharge	
31	No Discharge	

MAX = 86.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report
November 2013

NO DISCHARGE THIS MONTH

Discharge Monitoring Report
December 2013



CC.Y

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

	mixing zone ()
1	S/D
2	S/D
3	59.4 B
4	59.9 B
5	59.8 B
6	54.9 B
7	53.2 B
8	53.6 B
9	53.0 B
10	49.2 B
11	39.0
12	37.0
13	32.0 B
14	38.0 B
15	56.1 B
16	33.0 B
17	33.0 B
18	33.0 B
19	33.0 B
20	47.0 B
21	49.0 B
22	51.0 B
23	46.0 B
24	42.0 B
25	42.0
26	42.0
27	46.5
28	48.0
29	46.0
30	47.0
31	45.0

MAX = 59.9

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

January 2014

B = Back up Blowdown Temp. Monitor

Date - Cooling Pond
Blowdown (F)

	mixing zone ()
1	45.0
2	47.0
3	45.0
4	43.0
5	42.0
6	39.0
7	36.0
8	36.0
9	36.5
10	38.0
11	39.0
12	42.0
13	44.0
14	42.0
15	43.0
16	42.5
17	40.5
18	40.0
19	40.0
20	42.0
21	45.0
22	41.5
23	39.0
24	S/D
25	S/D
26	S/D
27	S/D
28	S/D
29	S/D
30	S/D
31	S/D

MAX = 45.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report
February 2014

NO DISCHARGE THIS MONTH

Discharge Monitoring Report

March 2014

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()
1	S/D
2	S/D
3	S/D
4	S/D
5	S/D
6	S/D
7	S/D
8	S/D
9	S/D
10	S/D
11	S/D
12	S/D
13	S/D
14	S/D
15	S/D
16	S/D
17	S/D
18	43.0
19	43.5
20	43.5
21	50.0
22	50.0
23	43.0
24	41.0
25	39.0
26	42.0
27	42.0
28	44.0
29	43.0
30	47.5
31	50.0

MAX = 50.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

April 2014

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

	mixing zone ()	
1	51.0	
2	55.5	
3	56.0	
4	55.0	
5	63.0	
6	65.0	
7	64.0	
8	65.5	
9	70.0	
10	65.5	
11	72.0	
12	71.0	
13	67.5	
14	66.0	
15	63.0	
16	64.0	
17	65.5	
18	73.0	
19	73.0	
20	72.0	
21	73.0	
22	73.0	
23	74.5	
24	70.0	
25	73.5	
26	73.0	
27	72.5	B
28	71.3	B
29	71.6	B
30	64.0	

MAX = 74.5

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

May 2014

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

	mixing zone ()	
1	62.0	
2	60.0	
3	62.1	B
4	64.3	B
5	64.6	B
6	64.6	B
7	66.2	B
8	68.4	B
9	69.3	B
10	75.7	B
11	77.0	B
12	76.5	B
13	76.3	B
14	75.4	B
15	75.2	B
16	74.8	B
17	72.7	
18	76.0	
19	75.0	
20	80.0	
21	82.0	
22	82.5	
23	88.0	
24	86.0	
25	88.0	
26	88.0	
27	87.0	
28	90.0	
29	87.0	
30	89.0	
31	86.6	B

MAX = 90.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

June 2014

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

	mixing zone ()	
1	87.0	
2	84.5	
3	85.0	
4	82.5	
5	87.0	
6	93.0	
7	89.5	
8	86.0	
9	89.0	
10	85.0	
11	81.5	
12	84.5	
13	83.0	
14	85.0	
15	83.0	
16	88.0	
17	87.0	
18	85.0	
19	90.0	
20	90.0	
21	92.0	(79.1)
22	95.0	(77.8)
23	92.0	(76.1)
24	95.0	(78.2)
25	95.0	(79.5)
26	93.5	(78.3)
27	92.5	(78.4)
28	90.7	(79.0) B
29	90.0	
30	89.5	

MAX = 95.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

July 2014

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond

Blowdown (F)

		mixing zone ()
1	89.0	
2	86.0	
3	88.0	
4	91.5	
5	90.0	
6	90.0	
7	91.0	(79.3)
8	89.5	
9	88.0	
10	94.0	(81.0)
11	93.5	(82.1)
12	89.0	
13	90.0	
14	90.5	(77.0)
15	86.5	
16	86.0	
17	89.5	
18	93.0	(77.4)
19	95.0	(78.9)
20	94.0	(80.2)
21	95.0	(82.0)
22	94.0	(83.9)
23	90.0	
24	90.0	
25	86.5	
26	87.5	
27	90.0	
28	87.0	
29	87.5	
30	87.0	
31	88.5	

MAX = 95.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

August 2014

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

		mixing zone ()
1	93.0	(82.8)
2	95.0	(84.8)
3	95.0	(87.2)
4	95.0	(87.4)
5	92.0	(85.3)
6	93.5	(85.0)
7	89.0	
8	88.0	
9	88.0	
10	87.0	
11	88.0	
12	84.0	
13	86.0	
14	87.0	
15	85.0	
16	83.0	
17	83.0	
18	89.0	
19	87.0	
20	86.5	
21	88.3	B
22	88.1	B
23	90.0	
24	93.0	(79.6)
25	94.0	(81.6)
26	93.0	(82.0)
27	95.0	(81.3)
28	92.5	(81.5)
29	92.0	(82.1)
30	90.0	
31	92.0	(82.4)

MAX = 95.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

September 2014

B = Back up Blowdown Temp. Monitor

Date – Cooling Pond
Blowdown (F)

		mixing zone ()	
1	91.0	(82.1)	
2	91.0	(82.4)	
3	94.0	(81.5)	
4	90.1	(81.3)	B
5	88.3		B
6	87.8		B
7	90.0		
8	91.0	(80.5)	
9	89.0		
10	86.0		
11	81.5		
12	79.0		
13	80.0		
14	81.0		
15	79.0		
16	83.0		
17	85.0		
18	86.0		
19	83.5		
20	81.0		
21	80.0		
22	81.0		
23	84.0		
24	84.0		
25	86.0		
26	86.1		B
27	86.6		B
28	88.0		
29	88.0		
30	84.0		

MAX = 94.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Blowdown Temp

October 2014

mixing zone ()

1	81.0
2	81.0
3	80.0
4	71.5
5	65.0
6	63.5
7	65.0
8	63.5
9	64.5
10	63.0
11	64.0
12	62.0
13	63.5
14	64.5
15	62.0
16	60.0
17	59.0
18	68.7
19	55.0
20	56.5
21	56.0
22	59.0
23	56.0
24	60.5
25	60.0
26	61.5
27	61.5
28	61.0
29	59.0
30	54.0
31	52.0

B

MAX = 81.0

Discharge Monitoring Report

November 2014

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()	
1	47.0	
2	46.0	
3	48.0	
4	49.5	
5	51.0	
6	50.6	B
7	50.7	B
8	49.7	B
9	49.6	B
10	49.6	B
11	49.6	B
12	48.1	B
13	45.6	B
14	44.6	B
15	44.5	B
16	45.7	B
17	43.9	B
18	41.7	B
19	37.3	B
20	35.3	B
21	37.5	B
22	45.4	B
23	44.1	B
24	45.7	B
25	43.1	B
26	42.7	B
27	43.5	B
28	38.0	
29	41.0	
30	41.0	

MAX = 51.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

Discharge Monitoring Report

December 2014

B = Back up Blowdown Temp. Monitor

**Date – Cooling Pond
Blowdown (F)**

	mixing zone ()
1	36.0
2	35.0
3	39.0
4	36.5
5	37.5
6	39.0
7	38.0
8	37.0
9	49.0
10	50.0
11	52.0
12	51.0
13	53.5
14	54.0
15	54.5
16	55.5
17	53.0
18	53.0
19	57.0
20	57.0
21	57.0
22	55.0
23	58.0
24	55.0
25	56.0
26	55.0
27	55.0
28	52.0
29	52.5
30	55.0
31	52.5
MAX =	58.0

Note:

1. Temperatures reported are maximum for that day.
2. () Calculated mixing zone temperature.
3. B = Backup instrumentation used.
4. S/D = Shutdown (no discharge)

NON-EXELON

RAI # AQ-01
ATTACHMENT 5

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

March 21, 2012

IEPA - 12-15 (Provisional Variance-Water)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

March 21, 2012

Exelon Generation Company, L.L.C.)	
LaSalle County Station)	
)	
Petitioner,)	
)	
v.)	IEPA - 12-15
)	(Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

Re: Provisional Variance From Discharge Limits Contained in NPDES Permit
IL0048151

Dear Mr. Karaba:

The Illinois Environmental Protection Agency (Agency) has completed its technical review of the attached provisional variance request, dated March 21, 2012 (Attachment A) for Exelon Generation Company, L.L.C.'s LaSalle County Station (LaSalle Station). LaSalle Station is requesting relief from NPDES Permit Special Condition 3B that requires river temperatures at the edge of the mixing zone for the month of March not to exceed 60° F during non-excursion hours and 63° F when excursion hours are being used. Specifically, LaSalle Station is seeking a provisional variance through March 31, 2012, that would allow the station to cause temperatures at the edge of the mixing zone to increase by no more than 3°F above the ambient river temperature for up to 287.6 hours.

Based on its review, the Agency GRANTS the District a provisional variance subject to the specific conditions set forth below.

Background

The LaSalle Station site is located in the southeastern part of LaSalle County, 6 miles southeast of Marseilles, Illinois, 3 miles west of State Highway 170, and 1/2 mile north of the Grand Ridge-Mazon Road (LaSalle County Highway 6). Condenser water is cooled by means of a cooling pond forming a part of a closed cooling system. The surface area of the cooling pond at its normal pool elevation of 700 feet MSL is 2,058 acres. The cooling pond was created by constructing dikes totaling 37,942 feet in length on three sides.

Makeup water is pumped from the Illinois River using three pumps with a total capacity of 90,000 gpm. The rate of pumping varies depending upon the plant operating load level and the weather conditions with no more than 2 pumps operating at a time. A small part of the cooling pond water is blown down to the Illinois River to prevent dissolved solids from building up to excessive levels. This water flows by gravity through a manual isolation valve at a Valve House and then to the Blowdown Discharge Structure where the flow to the river is controlled by the motor operated blowdown flow control valve. While it is possible for LaSalle Station to cease discharging blow down water from the cooling pond to the Illinois River, it can only do so temporarily, generally for periods not in excess of seven days.

Special Condition No. 3B of LaSalle Station's NPDES Permit requires that water temperature at representative locations in the main river shall not exceed 60°F (in December through March) during more than one (1) percent of the hours (excursion hours) in the 12-month period ending with any month (87.6 hours annually) and that, at no time shall the water temperature at such locations exceed the maximum limits by more than 3°F (63° F). The monthly maximum temperature limit contained in the LaSalle Permit increases to 90 degrees F beginning April 1 (through November).

As a consequence of the record breaking warm weather, the absence of cooling during the evening hours and high ambient river temperatures even at current flow rates, the capacity of the Illinois River to dissipate heat has been drastically reduced beyond its normal capabilities. The river is not cooling off during the evening hours as is typical this time of year. Without nighttime cooling, the river retains the heat introduced to it during the daytime hours, both upstream and downstream.

The upstream river temperature at the Illinois River is continuously monitored via four temperature probes in its River Screen House. The temperature data shows that the river temperature at the intake has been exceeding the monthly maximum temperature standards.

Due to these record breaking conditions, LaSalle Station began using excursion hours on Friday, March 16, 2012 at 12:00pm. As of March 21, 2012, the LaSalle Station had used approximately 24 excursion hours.

When the ambient river temperatures exceed the non-excursion hour limits, and there is a need to blow down water from the cooling pond, LaSalle Station has no option other than to use excursion hours; and once its allotment of excursion hours is depleted, the station must cease operating to maintain compliance with the NPDES Permit. Additionally, LaSalle Station must secure cooling pond blowdown to the river when the river temperature exceeds the non-excursion hour limits by 3°F (63 degrees in March), or it will be in violation of its NPDES permit. The current river temperature is already at this point and cooling pond blowdown has been secured.

LaSalle Station secured cooling pond blowdown on March 17, 2012, at 12:00pm.

The temperature at 3:00pm on March 19 was 66.6° F. That temperature exceeds both the 60° F non-excursion hour monthly maximum standard for March and the 63° F excursion hour limit.

Although LaSalle Station secured blowdown on March 17, re-initiation of blowdown may be required in the near future to maintain cooling pond level within design band. Continued blowdown isolation will cause the cooling pond level to rise. LaSalle Station is challenged to maintain the level within operational design criteria. Severe weather events, such as significant precipitation, can impose additional lake level inputs and additional hydraulic burden on the pond's exterior dikes, which could potentially compromise dike integrity. Partial deratings or adding cooling facilities (such as cooling towers) will not allow the station to achieve compliance with a limit that already is exceeded even before any heat is added as a result of station operations.

Based on current weather forecasts, it is expected that the station will be unable to resume blowdown flow to the Illinois River due to ambient river temperatures exceeding permit thermal limits. Therefore, unless relief is granted by way of this provisional variance request, it is likely that the station will be forced to shut down make-up flow from the river to the cooling pond as well. This will result in undesirable cooling pond chemistry and thermal conditions.

The provisional variance request notes that at no time has the difference between ambient river temperature and the temperature at the edge of the mixing zone exceeded 5 degrees F. In fact, based on modeling, the difference between ambient river temperatures and the temperature at the edge of the mixing zone has not exceeded 0.5 degrees F.

Relief Requested

Due to the unseasonably warm weather, LaSalle Station is requesting relief from NPDES Permit Special Condition 3B that requires river temperatures at the edge of the mixing zone for the month of March not to exceed 60° F during non-excursion hour episodes and 63° F when excursion hours are being used. Specifically, LaSalle Station requests a provisional variance that would allow the station to cause temperatures at the edge of the mixing zone to increase by no more than 3°F above ambient river temperature for up to 287.6 hours. The term of the provisional variance would be effective from the date it is issued through March 31, 2012. The provisional variance request is predicated upon the recent ambient Illinois River water temperatures that exceed the monthly maximum standards for March.

Agency Determinations

The Agency has reviewed the requested provisional variance and has concluded the following:

1. Any environmental impact from the requested relief shall be closely monitored and the Agency shall be immediately notified of any adverse impacts.

2. No reasonable alternatives appear available;
3. No public water supplies should be affected;
4. No federal regulations will preclude the granting of this request; and
5. LaSalle Station will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Agency hereby GRANTS LaSalle Station a provisional variance from Section B of NPDES Permit IL0048151, subject to the following conditions:

- A. The term of this provisional variance shall begin on March 21, 2012, and end no later than March 31, 2012. During this provisional variance term, the water temperature at the edge of the mixing zone provided in NPDES Permit IL0048151 shall not exceed 70°F or 3° F above ambient river temperature, whichever is greater. Further, upon notification to the Agency that LaSalle Station has exhausted its excursion hours, this provisional variance also grants additional excursion hours to LaSalle Station through March 31, 2012. This provisional variance is granted based on the facts and circumstances described in the request dated March 21, 2012. If the facts and circumstances described in the request abate the term of this provisional variance will end.
- B. LaSalle Station shall provide the best operation of its station to produce the best effluent possible at all times. At no time, during the variance period, shall LaSalle Station cause water temperature in the Illinois River at the edge of the mixing zone to exceed 70° or 3° F above ambient river temperature, whatever is greater.
- C. During the variance period, LaSalle Station must continuously monitor intake, discharge and receiving water temperatures and visually inspect intake and discharge areas at least three times daily to assess any mortalities to fish and other aquatic life.
- D. LaSalle Station shall document environmental conditions during the term of the provisional variance, including the activities described in C. above of this Section, and submit the documentation to the Agency and the Department of Natural Resources within 30 days after the provisional variance expires.
- E. LaSalle Station shall immediately notify the Agency and the Department of Natural Resources of any unusual conditions, including mortalities to fish or other aquatic life; immediately take action to remedy the problem; investigate and document the cause and seriousness of the unusual conditions while providing

updates to the Agency and the Department of Natural Resources as changes occur until normal conditions return; notify the Agency and the Department of Natural Resources when normal conditions return; and submit the documentation to the Agency and the Department of Natural Resources within 30 days after normal conditions return.

- F. LaSalle Station shall develop and implement a response and recovery plan to address any adverse environmental impact due to thermal conditions resulting from the provisional variance, including loss and damage to aquatic life.
- G. LaSalle shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when its discharge first causes or contributes to an exceedance of the applicable permitted temperature limit of 70° in March. Written confirmation of each notice shall be sent within five days to the following address:

Illinois Environmental Protection Agency
Bureau of Water - Water Pollution Control
Attention: Roger Callaway
1021 North Grand Avenue East, MC #19
Springfield, Illinois 62794-9276

- H. LaSalle Station shall sign a certificate of acceptance of this provisional variance and forward that certificate to Roger Callaway at the address indicated above within one day of the date of this order. The certification should take the following form:

I (We) _____, hereby accept and agree to be bound by all terms and conditions of the provisional variance granted by the Agency in _____ dated _____.

Petitioner

Authorized Agent

Title

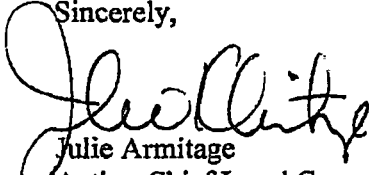
Date

LaSalle Station shall continue to monitor and maintain compliance with all other parameters and conditions specified in its NPDES Permit No. IL0048151.

Conclusion

The Agency grants this provisional variance in accordance with its authority contained in Sections 35(b), 36 (c), and 37(b) of the Illinois Environmental Protection Act (415 ILCS 5/35(b), 36(c), and 37(b) (2004). The decision to grant this provisional variance is not intended to address compliance with any other applicable laws or regulations.

Sincerely,


Julie Armitage
Acting Chief Legal Counsel

cc: Marcia Willhite
Roger Callaway
Vera Herst

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 19, 2012

IEPA - 12-24 (Provisional Variance-Water)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 19, 2012

Exelon Generation Company, L.L.C.)	
LaSalle County Station)	
)	
Petitioner,)	
)	
v.)	IEPA – 12-24
)	(Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

Re: Provisional Variance From Discharge Limits Contained in NPDES Permit
IL0048151

Dear Mr. Karaba:

The Illinois Environmental Protection Agency (Agency) has completed its technical review of the attached provisional variance request, dated July 19, 2012 (Attachment A) for Exelon Generation Company, L.L.C.'s LaSalle County Station (LaSalle Station). LaSalle Station is requesting relief from NPDES Permit Special Condition 3B that requires river temperatures at the edge of the mixing zone for the month of July not to exceed 90° F during non-excursion hours and 93° F when excursion hours are being used. Specifically, LaSalle Station is seeking a provisional variance from July 19, 2012, through August 1, 2012, which would allow the station to exceed the non-excursion hour temperature limit for July and August of 90°F stated in Special Condition 3(b) of NPDES Permit No. IL0048151 (Attachment B) for the period of July 19, 2012, through August 1, 2012, by no more than 5°F (95°F) or 5°F above ambient river temperature, whichever is greater.

Based on its review, the Agency GRANTS the District a provisional variance subject to the specific conditions set forth below.

Background

The LaSalle Station site is located in the southeastern part of LaSalle County, 6 miles southeast of Marseilles, Illinois, 3 miles west of State Highway 170, and 1/2 mile north of the Grand Ridge-Mazon Road (LaSalle County Highway 6). Condenser water is cooled by means of a cooling pond forming a part of a closed cooling system. The surface area of the cooling pond at its normal pool elevation of 700 feet MSL is 2,058 acres. The

cooling pond was created by constructing dikes totaling 37,942 feet in length on three sides.

Makeup water is pumped from the Illinois River using three pumps with a total capacity of 90,000 gpm. The rate of pumping varies depending upon the plant operating load level and the weather conditions with no more than 2 pumps operating at a time. A small part of the cooling pond water is blown down to the Illinois River to prevent dissolved solids from building up to excessive levels. This water flows by gravity through a manual isolation valve at a Valve House and then to the Blowdown Discharge Structure where the flow to the river is controlled by the motor operated blowdown flow control valve. While it is possible for LaSalle Station to cease discharging blow down water from the cooling pond to the Illinois River, it can only do so temporarily, generally for periods not in excess of seven days.

LaSalle Station continuously monitors the upstream river temperature at the Illinois River via four temperature probes in its River Screen House. The temperature data shows that the Illinois River water temperature at the station's intake is approaching or has exceeded the monthly maximum temperature standards. For example, the upstream river temperature of the Illinois River was measured at 89°F on July 3, 2012. As a result of these conditions, LaSalle Station secured blowdown on July 3, 2012, to insure compliance with the NPDES Permit.

LaSalle Station says that it currently has no excursion hours available due to unseasonable temperatures occurring earlier this year. River temperatures continued to rise after blowdown was secured. River temperatures were observed to reach 90°F on July 4, 2012. Temperatures continued to exceed 90°F as presented in the table below:

DATE	TEMPERATURE (°F)
July 5, 2012	91
July 6, 2012	92
July 7, 2012	93.5
July 8, 2012	91
July 9, 2012	92

As a consequence of the unusually warm weather, high ambient river temperatures, and the absence of cooling during the evening hours, the capacity of the Illinois River to dissipate heat has been drastically reduced beyond its normal capabilities. The river is not cooling off during the evening hours as is typical this time of year. Without nighttime cooling, the river retains the heat introduced to it during the daytime hours, both upstream and downstream of the station.

In 2012, LaSalle Station first began using excursion hours on March 16, when Illinois River Temperatures were equal to the station's effluent limitation of 60°F. The permitted excursion hours were subsequently exhausted in March as a result of continued record breaking warm weather recorded throughout the mid-western states. LaSalle Station submitted a request to the Agency on March 20, 2012, for relief from Special Condition 3(b) of NPDES Permit IL0048151 for the period of March 21, 2012 through March 31,

2012. The Agency subsequently issued Provisional Variance (PV) IEPA -12-15 to LaSalle Station on March 21, 2012 allowing the station to exceed the non-excursion hour temperature limit for March of 60°F stated in Special Condition 3(b) of NPDES Permit IL0048151 for the period of March 21, 2012 through March 31, 2012. Specifically, during this provisional variance term, the water temperature limit at the edge of the mixing zone provided in NPDES Permit IL0048151 was increased to 70°F or 3° F above ambient river temperature, whichever is greater. LaSalle Station accumulated a total of 87.6 permitted excursion hours and an additional 106.1 PV excursion hours during March of 2012.

LaSalle Station states that at *no time* has the difference between ambient river temperature and the temperature at the edge of the mixing zone exceeded 5 degree F. In fact, based on modeling, the difference between ambient river temperatures and the temperature at the edge of the mixing zone has *not exceeded 0.5 degrees F*.

Relief Requested

LaSalle Station is requesting a provisional variance from the restriction in Special Condition 3B of the NPDES Permit that limits the number of excursion hours to 1% (87.6 hours) of the hours in a 12-month period ending with any month. Specifically, Special Condition 3B states that the water temperatures in the Illinois River (beyond the mixing zone) may not exceed the maximum limit of 93°F in July and August with use of excursion hours above 90°F.

LaSalle Station requests a provisional variance, from July 19, 2012, through August 1, 2012, to allow the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL0002224 by no more than 5°F (95°F for July) or 5°F above ambient river temperature, whichever is greater.

Necessity for Relief

LaSalle Station says that when the ambient river temperatures approach or exceed the non-excursion hour limits, it has no option other than to use excursion hours and, once its allotment of excursion hours is depleted, it must significantly derate or cease operating altogether to maintain compliance with the NPDES Permit. LaSalle Station exhausted its permitted 87.6 excursion hours on March 26, 2012.

Special Condition 3B of NPDES Permit limits the temperature at the edge of the mixing zone 90°F in July and August, except when the LaSalle Station is using excursion hours, during which time the temperature at the edge of the mixing zone may be 3°F warmer than these limits, i.e., 93°F. LaSalle Station states that as a rule, it has been able to operate well within its permitted thermal limits because the ambient temperatures of the Illinois River (measured upstream of the discharge) generally remain below the non-excursion hour limit. It is only during periods when the ambient river temperatures are very close to or exceed the non-excursion hour limits or during periods of extreme low flows that the station is forced to use its excursion hour allowance.

LaSalle Station has considered derating the units in an attempt to maintain the temperature under 90°F in response to elevated intake temperatures. However, LaSalle Station states that derating the units at this time will not prevent the exceedance of the permitted thermal limit in Special Condition 3B, of the NPDES permit due primarily to the high ambient temperatures of the Illinois River and cooling pond water chemistry.

LaSalle Station secured Cooling Pond blowdown, increasing cooling pond residence time and eliminating the discharge through Outfall 001 on July 3, 2012. The current configuration instills additional thermal challenges on the plant equipment since there will be reduced fresh makeup water and the circulating water temperature will increase. Auxiliary systems (e.g., equipment heat exchangers) that support the nuclear generation process are currently experiencing higher than normal thermal load which challenges plant equipment and thermal cooling capabilities.

According to LaSalle Station, reduced blowdown in summer months will alter cooling pond water chemistry and will result in negative impacts on plant equipment. Lack of blowdown and cooling pond make up will increase temperatures, increase pH, concentrate impurities, and create an environment where algae thrive in its cooling pond. Increased temperatures and the presence of algae causes an algae bloom and increases pH and total alkalinity in the cooling pond and plant cooling systems. These conditions promote scaling of plant equipment, particularly in the main steam condensers and safety related heat exchangers. Scaling ultimately could result in the replacement of multiple condenser tubes and safety related heat exchangers, with corresponding extended plant shut downs for both units to perform these repairs.

Due to these risks, there are technical specifications that LaSalle Station says it must meet pursuant to its operating license issued by the Nuclear Regulatory Commission. If pH values and cooling water environment are not maintained within proper specifications, the plant is required to shut down until cooling water parameters return to specified ranges.

In addition, LaSalle Station says that the use of the blowdown is also critical in regulating lake level. Lake level is currently 699.9'. At 700.25', water from the lake begins backing up into the North and South Stormwater Detention Ponds. 701.0" is the maximum lake level for flood analysis. LaSalle Station notes that this is another reason why it is critical for LaSalle Station to be able to utilize the blowdown from the lake to the Illinois River.

Based on current weather forecasts, LaSalle Station expects it will be unable to resume blowdown flow to the Illinois River due to ambient river temperatures exceeding permit thermal limits. Therefore, unless relief is granted by way of this provisional variance request, LaSalle Station states that it may have no option than derate or shutdown if these adverse operational issues continue.

According to LaSalle Station, shutting down or significantly derating could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region),

particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced. LaSalle Station says that with both units offline and not immediately able to return to service, it would not be available to support the voltage requirements that could occur under changing grid conditions. As of July 11, 2012, PJM grid status does not currently have or project any alerts, warnings, or actions. PJM predicts an anticipated Peak Load >146,000 MW on Thursday 7/19/2012.

Assessment of Environmental Impacts

LaSalle Station has provided details on the environmental impact during the requested variance period from July 19, 2012, through August 1, 2012. LaSalle Station has determined that there should not be any significant environmental impact during the course of this provisional variance.

Additionally, LaSalle Station states that there has been no evidence of biological harm to the environment as a result of provisional variance IEPA-12-15 issued to LaSalle Station on March 21, 2012, through March 31, 2012.

Agency Determinations

The Agency has reviewed the requested provisional variance and has concluded the following:

1. Any environmental impact from the requested relief shall be closely monitored and the Agency shall be immediately notified of any adverse impacts.
2. No reasonable alternatives appear available;
3. No public water supplies should be affected;
4. No federal regulations will preclude the granting of this request; and
5. LaSalle Station will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Agency hereby GRANTS LaSalle Station a provisional variance from Section B of NPDES Permit IL0048151, subject to the following conditions:

- A. The term of this provisional variance shall begin on July 19, 2012, and go through August 1, 2012. During this provisional variance term, the water temperature at the edge of the mixing zone provided in NPDES Permit IL0048151 shall not exceed 95°F or 5° F above ambient river temperature, whichever is greater. This provisional variance is granted based on the facts and circumstances described in

the request dated July 19, 2012. If the facts and circumstances described in the request abate the term of this provisional variance will end.

- B. LaSalle Station shall provide the best operation of its station to produce the best effluent possible at all times. At no time, during the variance period, shall LaSalle Station cause water temperature in the Illinois River at the edge of the mixing zone to exceed 95° or 5° F above ambient river temperature, whatever is greater.
- C. During the variance period, LaSalle Station must continuously monitor intake, discharge and receiving water temperatures and visually inspect intake and discharge areas at least three times daily to assess any mortalities to fish and other aquatic life.
- D. LaSalle Station shall document environmental conditions during the term of the provisional variance, including the activities described in C. above of this Section, and submit the documentation to the Agency and the Department of Natural Resources within 30 days after the provisional variance expires.
- E. LaSalle Station shall immediately notify the Agency and the Department of Natural Resources of any unusual conditions, including mortalities to fish or other aquatic life; immediately take action to remedy the problem; investigate and document the cause and seriousness of the unusual conditions while providing updates to the Agency and the Department of Natural Resources as changes occur until normal conditions return; notify the Agency and the Department of Natural Resources when normal conditions return; and submit the documentation to the Agency and the Department of Natural Resources within 30 days after normal conditions return.
- F. LaSalle Station shall develop and implement a response and recovery plan to address any adverse environmental impact due to thermal conditions resulting from the provisional variance, including loss and damage to aquatic life.
- G. LaSalle shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when its discharge first causes or contributes to an exceedance of the applicable permitted temperature limit of 90° F in July and August. Written confirmation of each notice shall be sent within five days to the following address:

Illinois Environmental Protection Agency
Bureau of Water - Water Pollution Control
Attention: Roger Callaway
1021 North Grand Avenue East, MC #19
Springfield, Illinois 62794-9276

- H. LaSalle Station shall sign a certificate of acceptance of this provisional variance and forward that certificate to Roger Callaway at the address indicated above

within one day of the date of this order. The certification should take the following form:

I (We) _____, hereby accept and agree to be bound by all terms and conditions of the provisional variance granted by the Agency in _____ dated _____.

Petitioner

Authorized Agent

Title

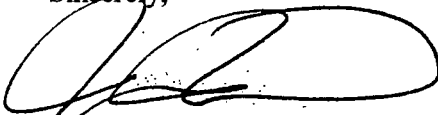
Date

LaSalle Station shall continue to monitor and maintain compliance with all other parameters and conditions specified in its NPDES Permit No. IL0048151.

Conclusion

The Agency grants this provisional variance in accordance with its authority contained in Sections 35(b), 36 (c), and 37(b) of the Illinois Environmental Protection Act (415 ILCS 5/35(b), 36(c), and 37(b) (2010). The decision to grant this provisional variance is not intended to address compliance with any other applicable laws or regulations.

Sincerely,



John J. Kim
Interim Director

cc: Marcia Willhite
Roger Callaway
Sanjay Sofat
Lisa Bonnet
Vera Herst



Exelon Generation

LaSalle Station
2611 North 21st Road
Marseilles, IL 61341
815 415 2000
www.exelengroup.com

July 19, 2012

Mr. Roger Callaway (CAS-19)
Wastewater Compliance Unit Manager
Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section #19
1021 North Grand Avenue East
P. O. Box 19276
Springfield, Illinois 62794-9274

Subject: LaSalle County Station
NPDES Permit No. IL0048151
Request for Provisional Variance

Dear Mr. Callaway:

Exelon Generation Company, L.L.C. ("Exelon") hereby requests that the Illinois Environmental Protection Agency ("IEPA" or "Agency") grant a provisional variance for LaSalle County Station ("LaSalle", "Station", or "Facility"), pursuant to Section 35(b) of the Environmental Protection Act ("Act") 415 ILCS 5/35. Exelon submits this Application for a provisional variance consistent with IEPA procedures at 35 Illinois Administrative Code 104.300. The station discharges Cooling Pond water to the Illinois River pursuant to NPDES Permit No. IL0048151, which was issued by IEPA on March 28, 2007 and modified on April 26, 2010. Exelon requests that a provisional variance be issued to LaSalle Station allowing the station to exceed the non-excursion hour temperature limit for July / August of 90°F stated in Special Condition 3(b) of NPDES Permit No. IL0048151 for the period of July 19 through August 1 by no more than 5°F (95°F) or 5°F above ambient river temperature, whichever is greater. There has been no evidence of biological harm to the environment as a result of provisional variance IEPA-12-15 issued to LaSalle Station on March 21, 2012 through March 31, 2012.

BACKGROUND

LaSalle Station is a base load nuclear-fueled steam electric generating facility located in the southeastern part of LaSalle County, 6 miles southeast of Marseilles, Illinois, 3 miles west of State Highway 170, and 1/2 mile north of the Grand Ridge-Mazon Road (LaSalle County Highway 6). The station operates two boiling water reactors which have a combined maximum generating capacity of 2,280 megawatts thermal. The station is currently operating at 100% capacity.

The station's capacity factor January 1, 2012 through June 30, 2012 was 92.9%. LaSalle Station generation output is transmitted to the PJM Interconnection Grid. PJM Interconnection is a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

The Illinois River (segment D-23) has a 7Q10 flow of 2110 cfs and is a General Use water. The Illinois River is listed on the Illinois Integrated Water Quality Report and Section 303(d) List – 2006 as impaired for fish consumption and primary contact uses. The causes associated with the fish consumption use impairment are mercury and PCBs. The cause associated with the primary contact use impairment is fecal coliform bacteria. The draft 2008 List is identical. The river is not rated as under the Agency's 1996 Biological Stream Characterization (BSC) system. The stream is not listed as a biologically significant stream in the 1992 Illinois Natural History Survey Publication *Biologically Significant Illinois Streams*. The IDNR WIRT system lists no threatened or endangered species as inhabiting the receiving stream.

The Station uses a closed cycle cooling system to supply the circulating water to condense the steam from the generating process. The water for the cooling system is withdrawn from an on-site cooling pond. The surface area of the cooling pond at its normal pool elevation of 700 feet MSL is 2,058 acres. Makeup water for the pond is pumped from the Illinois River using three pumps with a total capacity of 90,000 gpm. The rate of pumping varies depending upon the plant operating load level and the weather conditions with no more than 2 pumps operating at a time. A small portion of the cooling pond water is blowdown to the Illinois River to manage lake chemistry. This water flows by gravity through a manual isolation valve at a Valve House and then to the Blowdown Discharge Structure where the flow to the river is controlled by the motor operated blowdown flow control valve.

The upstream river temperature at the Illinois River is continuously monitored via four temperature probes in its River Screen House. The temperature data shows that the Illinois River water temperature at the station's intake is approaching or has exceeded the monthly maximum temperature standards. For example, the upstream river temperature of the Illinois River was measured at 89°F on July 3, 2012. As a result of these conditions, LaSalle Station secured blowdown on July 3, 2012 to insure compliance with the NPDES Permit. The Station currently has no excursion hours available due to unseasonable temperatures occurring earlier this year. River temperatures continued to rise after blowdown was secured. River temperatures were observed to reach 90°F on July 4, 2012. Temperatures continued to exceed 90°F as presented in the table below:

DATE	TEMPERATURE (°F)
July 5, 2012	91
July 6, 2012	92
July 7, 2012	93.5
July 8, 2012	91
July 9, 2012	92
July 13, 2012	91
July 18, 2012	91

As a consequence of the unusually warm weather, high ambient river temperatures, and the absence of cooling during the evening hours, the capacity of the Illinois River to dissipate heat has been drastically reduced beyond its normal capabilities. The river is not cooling off during the evening hours as is typical this time of year. Without nighttime cooling, the river retains the heat introduced to it during the daytime hours, both upstream and downstream of the station.

In 2012, LaSalle Station first began using excursion hours on March 16 when Illinois River Temperatures were equal to the station's effluent limitation of 60°F. The permitted excursion hours were subsequently exhausted in March as a result of continued record breaking warm weather recorded throughout the mid-western states. LaSalle Station submitted a request to IEPA on March 20, 2012 for relief from Special Condition 3(b) of NPDES Permit IL0048151 for the period of March 21, 2012 through March 31, 2012. IEPA subsequently issued Provisional Variance (PV) IEPA -12-15 to LaSalle Station on March 21, 2012 allowing the station to exceed the non-excursion hour temperature limit for March of 60°F stated in Special Condition 3(b) of NPDES Permit IL0048151 for the period of March 21, 2012 through March 31, 2012. Specifically, during this provisional variance term, the water temperature limit at the edge of the mixing zone provided in NPDES Permit IL0048151 was increased to 70°F or 3° F above ambient river temperature, whichever is greater. A total of 87.6 permitted excursion hours and an additional 106.1 PV excursion hours were accumulated by LaSalle Station during March of 2012.

At *no time* has the difference between ambient river temperature and the temperature at the edge of the mixing zone exceeded 5 degree F. In fact, based on modeling, the difference between ambient river temperatures and the temperature at the edge of the mixing zone has *not exceeded 0.5 degrees F*.

RELIEF REQUESTED

A provisional variance is being requested from the restriction in Special Condition 3B of the NPDES Permit that limits the number of excursion hours to 1% (87.6 hours) of the hours in a 12-month period ending with any month. Specifically, Special Condition 3B states that the water temperatures in the Illinois River (beyond the mixing zone) may not exceed the maximum limit of 93°F in July with use of excursion hours above 90°F.

Exelon requests that a provisional variance be issued to LaSalle Station through August 1, 2012 allowing the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL0002224 by no more than 5°F (95°F for July) or 5°F above ambient river temperature, whichever is greater. This relief shall begin on July 19, 2012, and end on August 1, 2012.

NECESSITY FOR REQUEST

When the ambient river temperatures approach or exceed the non-excursion hour limits, the Station must secure blowdown discharge which will alter cooling pond water chemistry, adversely impacting plant equipment, or use excursion hours. The currently permitted 87.6 excursion hours was exhausted on March 26, 2012.

Special Condition 3B of NPDES Permit limits the temperature at the edge of the mixing zone 90°F in July, except when the Station is using excursion hours, during which time the temperature at the edge of the mixing zone may be 3°F warmer than these limits. As a rule, LaSalle Station has been able to operate well within its permitted thermal limits due to the fact that the ambient temperatures of the Illinois River (measured upstream of the discharge) generally remain below the non-excursion hour limit. It is only during periods when the ambient river temperatures are very close to or exceed the non-excursion hour limits or during periods of extreme low flows that the Station is forced to use its excursion hour allowance.

LaSalle has considered derating the units in an attempt to maintain the temperature under 90°F in response to elevated intake temperatures. However, derating the units at this time will not prevent the exceedance of the permitted thermal limit in Special Condition 3B, of the NPDES permit due primarily to the high ambient temperatures of the Illinois River and cooling pond water chemistry.

LaSalle Station secured Cooling Pond blowdown, increasing cooling pond residence time and eliminating the discharge through Outfall 001 on July 3, 2012. The current configuration instills additional thermal challenges on the plant equipment since there will be reduced fresh makeup water and the circulating water temperature will increase. Auxiliary systems (e.g., equipment heat exchangers) that support the nuclear generation process are currently experiencing higher than normal thermal load which challenges plant equipment and thermal cooling capabilities.

Reduced blowdown in summer months will alter cooling pond water chemistry and will result in negative impacts on plant equipment. Lack of blowdown and cooling pond make up will increase temperatures, increase pH, concentrate impurities, and create an environment where algae thrive in our cooling pond. Increased temperatures and the presence of algae, causes an algae bloom and increases pH and total alkalinity in the cooling pond and plant cooling systems. These conditions promote scaling of plant equipment, particularly in the main steam condensers and safety related heat exchangers. Scaling ultimately could result in the replacement of multiple condenser tubes and safety related heat exchangers, with corresponding extended plant shut downs for both units to perform these repairs.

Due to these risks, there are technical specifications that LaSalle Station must meet pursuant to its operating license issued by the Nuclear Regulatory Commission. If pH values and cooling water environment are not maintained within proper specifications, the plant is required to shut down until cooling water parameters return to specified ranges.

In addition, use of the blowdown is also critical in regulating lake level. Lake level is currently 699.9'. At 700.25', water from the lake begins backing up into the North and South Stormwater Detention Ponds. 701.0' is the maximum lake level for flood analysis. This is another reason why it is critical for LaSalle Station to be able to utilize the blowdown from the lake to the Illinois River.

Based on current weather forecasts, it is expected that the station will be unable to resume blowdown flow to the Illinois River due to ambient river temperatures exceeding permit thermal limits. Therefore, unless relief is granted by way of this provisional variance request, the station may have no option than derate or shutdown if these adverse operational issues continue. Shutting down or significantly derating a base-loaded nuclear power plant such as LaSalle could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced. With both units offline and not immediately able to return to service, LaSalle Station would not be available to support the voltage requirements that could occur under changing grid conditions. As of July 11, 2012, PJM grid status does not currently have or project any alerts, warnings, or actions. PJM predicts an anticipated Peak Load >146,000 MW on Thursday 7/19/2012.

ASSESSMENT OF ENVIRONMENTAL IMPACTS

The thermal impact of the proposed variance with respect to the near-field aquatic community is expected to be minimal. The aquatic community is already experiencing much higher than normal ambient temperatures, with no apparent impact to date. The additional thermal load the plant will place on the aquatic community is expected to be minimal, since there is approximately a 0.5 degrees difference between the ambient river temperatures and the edge of the mixing zone.

Because LaSalle County Station is not proposing to increase cooling water flows or increase the temperature of cooling water discharges, there will be no increase in impingement or entrainment as a result of the issuance of the requested Provisional Variance. Additionally, because the ambient river temperature increase has been gradual, resident fish species have either acclimated to the higher temperature or have found thermal refuge. In addition, the current flows afford a delta T of approximately 1°F between the upstream and downstream temperatures. Therefore, resident fish species will not be subject to any heat shock as a result of increasing the allotment of excursion hours for LaSalle County Station.

The station normally discharges a blowdown flow of warmer cooling pond water to the Illinois River. Thus, fish inhabiting the discharge canal will be acclimated to temperatures above ambient river temperature and should be sufficiently reactive to avoid areas that are out of their desired temperature range.

LaSalle thermal plume has been characterized as buoyant in all previous studies submitted to the IEPA. Therefore, benthic organisms are not likely to be adversely affected by the short-term relief requested. The overall impact of the station's thermal plume on the Illinois River is expected to be minimal.

ALTERNATIVES TO REQUESTED RELIEF

Exelon considered various alternatives to seeking regulatory relief related to the thermal variance currently requested. Exelon is currently operating in closed cycle per the terms of the NPDES permit, thereby limiting thermal impact to the Illinois River. However, as previously stated, the current configuration, instills additional thermal challenges on the plant equipment and the circulating water temperature will increase.

Exelon has also considered shutting down or significantly derating the station. Derating a base-loaded nuclear power plant such as LaSalle, could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced.

MITIGATIVE ACTIONS TO BE TAKEN DURING THE VARIANCE PERIOD

During the period when the Station uses any additional excursion hours authorized by the requested provisional variance, it will: (1) continuously monitor the intake and discharge; (2) on a daily basis, inspect the discharge areas to assess any mortalities to aquatic life, and report the results of these monitoring activities to the Agency within 30 days of the expiration of the provisional variance (or such other time as agreed upon by the Agency); and (3) notify the Agency of any significant adverse environmental conditions observed that might be caused by operations authorized by the provisional variance, including mortalities to fish or other aquatic life, investigate the cause of such conditions, provide the Agency updates regarding the situation, including when normal conditions return, and submit a report to the Agency regarding these matters within 30 days of the expiration of the provisional variance period (or such other time as agreed upon by the Agency).

ADDITIONAL ENVIRONMENTAL MONITORING

The thermal impact of the proposed variance with respect to the near-field aquatic community is expected to be minimal because the aquatic community is presently experiencing higher than normal ambient temperatures for this time of year with no apparent impact to date. The thermal load placed on the biological community will be minimal, since there is approximately a 0.5 degrees difference between the ambient river temperatures and the edge of the mixing zone. LaSalle Station does not plan to do any additional environmental monitoring since the upstream ambient river temperatures are the cause of the >90°F discharge temperature.

SUMMARY

Exelon requests that a provisional variance be issued to the Station allowing the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL00048151 by no more than 5°F (95°F for July) or 5°F above ambient river temperature, whichever is greater. This relief shall begin on July 19, 2012 and will end on August 1, 2012.

It is Exelon's position that not granting this provisional variance would impose an arbitrary and unreasonable hardship due to unseasonably warmer Illinois River Intake temperatures, challenge to base load power generation and electrical grid stability, and additional thermal impacts to plant equipment.

There is no other provisional variance relief in effect at this time for LaSalle County Station.

Should you require any further information in order to expedite the processing of this request or have any questions, please contact William Buinickas of my staff at 815-415-3235.

Sincerely,



Peter J. Karaba
LaSalle Station Plant Manager

CC: K. Lyons
Z. Karpa
W. Buinickas
J. Petro
S. Neal
File



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-2829
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

217/782-0610

ROD R. BLAGOJEVICH, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

April 26, 2010

Exelon Generation Company, LLC
Generation Support
4300 Winfield Road
Warrenville, Illinois 60555

Re: Exelon Generation Company, LLC
LaSalle County Station
NPDES Permit No. IL0048151
Modification of NPDES Permit (After Public Notice)

MAJOR

RECEIVED

MAY 04 2010

IEPA/CAS

Gentlemen:

The Illinois Environmental Protection Agency has reviewed the request for modification of the above-referenced NPDES Permit and issued a public notice based on that request. The final decision of the Agency is to modify the Permit as follows:

The modification was a change in the design maximum flow and load limits for internal outfall, B01-Sewage Treatment Plant Effluent.

Enclosed is a copy of the modified Permit. You have the right to appeal this modification to the Illinois Pollution Control Board within a 35 day period following the modification date shown on the first page of the permit.

Should you have any question or comments regarding the above, please contact Leslie Lowry of my staff.

Sincerely,

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:DEL:LRL:06060701.dlk

Attachment: Final Permit

cc: Records
Compliance Assurance Section
Rockford Region
USEPA
Billing

NPDES Permit No. IL0048151

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Modified (NPDES) Permit

Expiration Date: June 30, 2012

Issue Date: March 28, 2007

Effective Date: July 1, 2007

Modification Date: April 26, 2010

Name and Address of Permittee:

Exelon Generation Company, LLC
Generation Support
4300 Winfield Road
Warrenville, Illinois 60555

Facility Name and Address:

Exelon Generation Company, LLC
LaSalle County Station
2601 N. 21st Street
Marseilles, Illinois 61341
(LaSalle County)

Discharge Number and Name:

001	Cooling Pond Blowdown
A01	Demineralizer Regenerant Wastes
B01	Sewage Treatment Plant Effluent
C01	Wastewater Treatment System Effluent
D01	Cooling Water Intake Screen Backwash (Cooling Pond)
E01	Unit 1 and 2 Radwaste Treatment System Effluent
F01	Auxiliary Reactor Equipment Cooling and Flushing Water
G01	North Site Stormwater Runoff
H01	South Site Stormwater Runoff
I01	Reverse Osmosis System Reject Water & Greensand Filter Backwash
002	Illinois River Make-Up Water Intake

Receiving Waters:

Illinois River

Illinois River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of Ill. Adm. Code, Subtitle C and/or Subtitle D, Chapter 1, and the Clean Water Act (CWA), the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.



Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:DEL:LRL:06060701.dlk

NPDES Permit No. IL0048151

Effluent Limitations and Monitoring

1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
DAF (DMF) LIMITS mg/l						
<u>Outfall 001</u> - Cooling Pond Blowdown*						
(DMF = 67.7 MGD)						
This discharge consists of:						
Main Condenser Cooling Water						
Clean Condensate System Flushing and Maintenance (Alternate Route)						
Demineralizer Regenerant Wastes						
Wastewater Treatment System Effluent						
House Service Water						
Cooling Pond Intake Screen Backwash						
Sewage Treatment Plant Effluent						
Reverse Osmosis System Reject Water						
Radwaste Treatment System Effluent						
Auxiliary Reactor Equipment Cooling Water						
Water Softener Regenerant Waste						
North Site Uncontaminated Stormwater Runoff***						
South Site Uncontaminated Stormwater Runoff***						
North Inlet Canal Stormwater Runoff***						
South Inlet Canal Stormwater Runoff***						
IDNR Fish Hatchery Effluents						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				2/Month	Grab
Total Residual Chlorine**				0.2	2/Month	Grab
Total Residual Oxidant**				0.05	2/Month	Grab
Temperature	See Special Condition 3.				Daily	Continuous
Zinc (Total)			Monitor Only		1/Quarter	Grab

* - See Special Conditions 4.

** - See Special Condition 13.

*** - See Special Condition 8.

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1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day <u>DAF (DMF)</u>		CONCENTRATION <u>LIMITS mg/l</u>		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall A01 - Demineralizer Regenerant Wastes*</u> (DMF = 0.17 MGD)						
This discharge consists of:						
Makeup Demineralizer Regenerant Wastes Off-Specification Demineralized Water Makeup Demineralizer Maintenance Wastewater Unit Waterbox Vacuum Pump Condensate (Lake Water) Radwaste Treatment Acid/Caustic System Drains						
Flow (MGD)	See Special Condition 1.				1/Week	24 Hour Total
Total Suspended Solids			15	30	1/Week	Grab

* - Discharge to the Wastewater Treatment System (C01) is an alternate route.

Outfall B01 - Sewage Treatment Plant Effluent
(DMF = 0.1 MGD)

This discharge consists of:

Sanitary Wastewater Eyewash Station Wastewater						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				2/Month	Grab
CBOD ₅	21	42	25	50	2/Month	24 Hour Composite
Total Suspended Solids	25	50	30	60	2/Month	24 Hour Composite

Modification Date: April 26, 2010

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Effluent Limitations and Monitoring

1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall C01</u> - Wastewater Treatment System Effluent (DMF = 0.082 MGD)						
This discharge consists of:						
Turbine Building Fire and Miscellaneous Nonradioactive Wastewater Sump						
Greensand Filter Backwash (Alternative Route)						
Diesel Fuel Storage and Service Water Building Sump						
Auxiliary Boiler Blowdown						
Water Softener Regenerant Waste						
Demineralizer Regenerant Wastes (Alternate Route)						
Heat Bay Building Roof Area						
Fire Protection System Flushing and Maintenance*						
Service Water System Flushing and Maintenance*						
Domestic Water System Flushing and Maintenance*						
Clean Condensate System Flushing and Maintenance**						
Laboratory Liquid Wastes						
Station Heat System Condensate						
Diesel Generator Cooling Water						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				1/Week	Grab
Total Suspended Solids			15	30	1/Month	24 Hour Composite
Oil & Grease			15	20	1/Month	Grab

* - Discharge to the North Site Stormwater Runoff (G01) and/or South Site Stormwater Runoff (H01) are alternate routes.

** - Discharge to the Cooling Pond (001) via the service water system and resulting Main Condenser Cooling Water is an alternate route.

Outfall D01 - Cooling Water Intake Screen Backwash (Cooling Pond)*
(Intermittent Discharge)

* - This discharge is limited to cooling water intake screen backwash free from other wastewater discharges. Adequate maintenance of the trash basket is required to prevent the discharge of floating debris collected on intake screens back to the cooling pond.

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Effluent Limitations and Monitoring

1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall E01</u> - Radwaste Treatment System Effluent (DAF = 0.011 MGD)						
This discharge consists of:						
Equipment Drains in the Turbine Building, Auxiliary Building, and Reactor Building Floor Drains in the Turbine Building, Auxiliary Building, and Reactor Building Condensate Polisher Waste from the Turbine Building Decontamination and Laundry Waste						
Flow (MGD)	See Special Condition 1.				1/Week	Estimate
Total Suspended Solids			15	30	1/Week	Grab
Oil & Grease			15	20	1/Week	Grab

Outfall F01 - Auxiliary Reactor Equipment Cooling and Flushing Water*
(Intermittent Discharge)

* - This discharge is limited to auxiliary reactor equipment cooling and flushing water free from other wastewater discharges.

Outfall G01 - North Site Stormwater Runoff*
(Intermittent Discharge)

This discharge consists of:

Fire Protection System Flushing and Maintenance (Alternate Route)
Service Water System Flushing and Maintenance (Alternate Route)
Domestic Water System Flushing and Maintenance (Alternate Route)
Clean Condensate System Flushing and Maintenance (Alternate Route)
North Site Uncontaminated Stormwater Runoff

* - See Special Condition 8.

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Effluent Limitations and Monitoring

1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall H01 - South Site Stormwater Runoff*
(Intermittent Discharge)

This discharge consists of:

Fire Protection System Flushing and Maintenance (Alternate Route)
Service Water System Flushing and Maintenance (Alternate Route)
Domestic Water System Flushing and Maintenance (Alternate Route)
Clean Condensate System Flushing and Maintenance (Alternate Route)
South Site Uncontaminated Stormwater Runoff

* - See Special Condition 8.

Outfall 101 - Reverse Osmosis System Reject Water & Greensand Filter Backwash
(DAF = 0.003 MGD)

Flow (MGD)	See Special Condition 1.				1/Week	24 Hour Total
Total Suspended Solids			15	30	1/Month	Grab

Outfall 002 - Illinois River Makeup Water Intake*
(Intermittent Discharge)

This discharge consists of:

River Intake Screen Backwash
Trench Wash Water
Process Sampling Discharge
Lake Make-Up Pump Gland Leakoff, Coolers, Reliefs, and Min Flow
Lake Make-Up Pump Strainer Backwash
Air Compressor Receiver and Prefilter Drainage
Dewatering Pump Discharge
Fire Protection Water
River Screen House Switchyard Stormwater Runoff**
River Screen House Floor Drains and Roof Drains

* - Adequate maintenance of the intake screen system is required to prevent the discharge of floating debris collected on intake screens back to the Illinois River.

** - See Special Condition 8.

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SPECIAL CONDITION 1. Flow shall be measured in units of Million Gallons per Day (MGD) and reported as a monthly average and a daily maximum on the monthly Discharge Monitoring Report.

SPECIAL CONDITION 2. The pH shall be in the range 6.0 to 9.0. The monthly minimum and monthly maximum values shall be reported on the DMR form.

SPECIAL CONDITION 3. Discharge of wastewater from this facility must not alone or in combination with other sources cause the receiving stream to violate the following thermal limitations at the edge of the mixing zone which is defined by Section 302.211, Illinois Administration Code, Title 35, Chapter 1, Subtitle C, as amended:

- A. Maximum temperature rise above natural temperature must not exceed 5 deg. F (2.8 deg. C).
- B. Water temperature at representative locations in the main river shall not exceed the maximum limits in the following table during more than one (1) percent of the hours in the 12-month period ending with any month. Moreover, at no time shall the water temperature at such locations exceed the maximum limits in the following table by more than 3 deg. F (1.7 deg. C). (Main river temperatures are temperatures of those portions of the river essentially similar to and following the same thermal regime as the temperatures of the main flow of the river.)

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
F°	60	60	60	90	90	90	90	90	90	90	90	60
C°	16	16	16	32	32	32	32	32	32	32	32	16

- C. Compliance with the thermal effluent monitoring requirements shall be determined by reporting daily maximum water temperatures of the cooling pond blowdown discharge with monthly DMR's.

SPECIAL CONDITION 4. There shall be no discharge of polychlorinated biphenyl compounds (PCBs).

SPECIAL CONDITION 5. There shall be no discharge of complexed metal bearing wastestreams and associated rinses from chemical metal cleaning unless this permit has been modified to include the new discharge.

SPECIAL CONDITION 6. The permittee shall record monitoring results on Discharge Monitoring Report Forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee may choose to submit electronic DMRs (eDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the eDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/edmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 15th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using eDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

SPECIAL CONDITION 7. The upset defense provisions as defined in 40 CFR 122.41(n) are hereby incorporated by reference.

Special ConditionsSPECIAL CONDITION 8.STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

- A. A storm water pollution prevention plan shall be maintained by the permittee for the storm water associated with industrial activity at this facility. The plan shall identify potential sources of pollution which may be expected to affect the quality of storm water discharges associated with the industrial activity at the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.
- B. The owner or operator of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request.
- C. The permittee may be notified by the Agency at any time that the plan does not meet the requirements of this condition. After such notification, the permittee shall make changes to the plan and shall submit a written certification that the requested changes have been made. Unless otherwise provided, the permittee shall have 30 days after such notification to make the changes.
- D. The discharger shall amend the plan whenever there is a change in construction, operation, or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State or if a facility inspection required by paragraph G of this condition indicates that an amendment is needed. The plan should also be amended if the discharger is in violation of any conditions of this permit, or has not achieved the general objective of controlling pollutants in storm water discharges. Amendments to the plan shall be made within the shortest reasonable period of time, and shall be provided to the Agency for review upon request.
- E. The plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from storm water outfalls at the facility. The plan shall include, at a minimum, the following items:
1. A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate.
 2. A site map showing:
 - I. The storm water conveyance and discharge structures;
 - II. An outline of the storm water drainage areas for each storm water discharge point;
 - III. Paved areas and buildings;
 - IV. Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates.
 - V. Location of existing storm water structural control measures (dikes, coverings, detention facilities, etc.);
 - VI. Surface water locations and/or municipal storm drain locations
 - VII. Areas of existing and potential soil erosion;
 - VIII. Vehicle service areas;
 - IX. Material loading, unloading, and access areas.
 3. A narrative description of the following:
 - I. The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;
 - II. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;

Special Conditions

- iii. Existing structural and non-structural control measures to reduce pollutants in storm water discharges;
 - iv. Industrial storm water discharge treatment facilities;
 - v. Methods of onsite storage and disposal of significant materials;
- 4. A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.
 - 5. An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.
 - 6. A summary of existing sampling data describing pollutants in storm water discharges.

F. The plan shall describe the storm water management controls which will be implemented by the facility. The appropriate controls shall reflect identified existing and potential sources of pollutants at the facility. The description of the storm water management controls shall include:

- 1. Storm Water Pollution Prevention Personnel - Identification by job titles of the individuals who are responsible for developing, implementing, and revising the plan.
- 2. Preventive Maintenance - Procedures for inspection and maintenance of storm water conveyance system devices such as oil/water separators, catch basins, etc., and inspection and testing of plant equipment and systems that could fail and result in discharges of pollutants to storm water.
- 3. Good Housekeeping - Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.
- 4. Spill Prevention and Response - Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, spill clean up equipment and procedures should be identified, as appropriate. Internal notification procedures for spills of significant materials should be established.
- 5. Storm Water Management Practices - Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants, measures to remove pollutants from storm water discharge shall be implemented. In developing the plan, the following management practices shall be considered:
 - i. Containment - Storage within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff;
 - ii. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods to minimize oil contaminated storm water discharges;
 - iii. Debris & Sediment Control - Screens, booms, sediment ponds or other methods to reduce debris and sediment in storm water discharges;
 - iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.
 - v. Storm Water Diversion - Storm water diversion away from materials manufacturing, storage and other areas of potential storm water contamination;
 - vi. Covered Storage or Manufacturing Areas - Covered fueling operations, materials manufacturing and storage areas to prevent contact with storm water.
- 6. Sediment and Erosion Prevention - The plan shall identify areas which due to topography, activities, or other factors, have a high potential for significant soil erosion and describe measures to limit erosion.
- 7. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the

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components and goals of the storm water pollution control plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.

8. Inspection Procedures - Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded.
- G. The permittee shall conduct an annual facility inspection to verify that all elements of the plan, including the site map, potential pollutant sources, and structural and non-structural controls to reduce pollutants in industrial storm water discharges are accurate. Observations that require a response and the appropriate response to the observation shall be retained as part of the plan. Records documenting significant observations made during the site inspection shall be submitted to the Agency in accordance with the reporting requirements of this permit.
- H. This plan should briefly describe the appropriate elements of other program requirements, including Spill Prevention Control and Countermeasures (SPCC) plans required under Section 311 of the CWA and the regulations promulgated thereunder, and Best Management Programs under 40 CFR 125.100.
- I. The plan is considered a report that shall be available to the public under Section 308(b) of the CWA. The permittee may claim portions of the plan as confidential business information, including any portion describing facility security measures.
- J. The plan shall include the signature and title of the person responsible for preparation of the plan and include the date of initial preparation and each amendment thereto.

Construction Authorization

- K. Authorization is hereby granted to construct treatment works and related equipment that may be required by the Storm Water Pollution Prevention Plan developed pursuant to this permit.

This Authorization is issued subject to the following condition(s).

1. If any statement or representation is found to be incorrect, this authorization may be revoked and the permittee there upon waives all rights thereunder.
2. The issuance of this authorization (a) does not release the permittee from any liability for damage to persons or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (b) does not take into consideration the structural stability of any units or part of this project; and (c) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or other applicable local law, regulations or ordinances.
3. Plans and specifications of all treatment equipment being included as part of the stormwater management practice shall be included in the SWPPP.
4. Construction activities which result from treatment equipment installation, including clearing, grading and excavation activities which result in the disturbance of one acre or more of land area, are not covered by this authorization. The permittee shall contact the IEPA regarding the required permit(s).

REPORTING

- L. The facility shall submit an annual inspection report to the Illinois Environmental Protection Agency. The report shall include results of the annual facility inspection which is required by Part G of the Storm Water Pollution Prevention Plan of this permit. The report shall also include documentation of any event (spill, treatment unit malfunction, etc.) Which would require an inspection, results of the inspection, and any subsequent corrective maintenance activity. The report shall be completed and signed by the authorized facility employee(s) who conducted the inspection(s).
- M. The first report shall contain information gathered during the one year time period beginning with the effective date of coverage under this permit and shall be submitted no later than 60 days after this one year period has expired. Each subsequent report shall contain the previous year's information and shall be submitted no later than one year after the previous year's report was due.

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N. Annual inspection reports shall be mailed to the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
Annual Inspection Report
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

O. If the facility performs inspections more frequently than required by this permit, the results shall be included as additional information in the annual report.

SPECIAL CONDITION 9. This permit authorizes the use of water treatment additives that were requested as part of this modification. The use of any new additives, or change in those previously approved by the Agency, or if the permittee increases the feed rate or quantity of the additives used beyond what has been approved by the Agency, the permittee shall request a modification of this permit in accordance with the Standard Conditions - Attachment H.

The permittee shall submit to the Agency on a yearly basis a report summarizing their efforts with water treatment suppliers to find a suitable alternative to phosphorus based additives.

SPECIAL CONDITION 10. This permit may be modified to include different final effluent limitations or requirements which are consistent with applicable laws, regulations, or judicial orders. The Agency will public notice the permit modification.

SPECIAL CONDITION 11. The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.

SPECIAL CONDITION 12. The use or operation of this facility shall be by or under the supervision of a Certified Class K operator.

SPECIAL CONDITION 13. Total Residual Chlorine shall not be discharged from any single generating unit's main condensers for more than two hours per day and no more than one unit in any plant shall discharge Total Residual Chlorine at any one time unless the utility can demonstrate to the Agency that the units in a particular location cannot operate at or below this level of chlorination. The reported maximum concentration of Total Residual Chlorine shall be based on a minimum of three grab samples taken at approximately five minute intervals at Outfall 001. The time samples were collected, the time and duration of the chlorine dosing period plus the amount of chlorine applied shall be reported on the Discharge Monitoring Reports. For reporting purposes, the daily discharge shall be the average of all non-zero values measured in a day and the monthly average shall be the average of all daily discharges.

Total Residual Chlorine and Total Residual Oxidant limits are an instantaneous maximum limit which shall not be exceeded at anytime. The maximum limit when exclusively using chlorine in each unit for two hours or less in anyone day, shall be 0.2 mg/l. Any use of bromine either alone or in combination with chlorine shall be subject to a Total Residual Oxidant limit of 0.05 mg/l. All samples for Total Residual Chlorine/Total Residual Oxidant shall be analyzed by an applicable method contained in 40 CFR 136, equivalent in accuracy to low-level amperometric titration. Any analytical variability of the method used shall be considered when determining the accuracy and precision of the results obtained.

For the purposes of determining compliance, the highest single instantaneous Total Residual Chlorine/Total Residual Oxidant concentration measured during compliance curve sampling on any day will be regarded as the daily maximum concentration. Total residual oxidant concentration shall be measured and reported in terms of total residual chlorine.

Discharge Monitoring Reports shall indicate whether chlorine or bromine compounds were used during the month.

SPECIAL CONDITION 14. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

ATTACHMENT H

Standard Conditions

Definitions

Act means the Illinois Environmental Protection Act Ch. 111 1/2 Ill. Rev. Stat. Sec. 1001.

Agency means the Illinois Environmental Protection Agency

Board means the Illinois Pollution Control Board

Clean Water Act (hereinafter referred to as the Federal Water Pollution Control Act) means Pub. L. 92-500 as amended 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and renewing, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act

USEPA means the United States Environmental Protection Agency

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMP) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control point source runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample. Selected sample means an individual sample of at least 100 milliliters collected at a randomly-

24 Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

8 Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action. permit limitations, revocation and rescission, modification, or denial of a permit renewal application. The permittee shall comply with the effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

Duty to respond. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, the permit shall continue in full force and effect until the final Agency decision on the application has been made.

Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and equipment used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate staffing, adequate operator training and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or standby facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.

Permit actions. This permit may be modified, revoked and resued, or terminated for cause by the Agency pursuant to 40 CFR 122.62. The filing of a request by the permittee for a permit modification, revocation and rescission, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

Duty to provide information. The permittee shall furnish to the Agency within a reasonable time any information which the Agency may request to determine whether cause exists for modifying, revoking and rescinding the permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency, upon request, copies of records required to be kept by this permit.

Inspection and entry. The permittee shall allow an authorized representative of the Agency, upon the presentation of credentials and other documents as may be required by law, to

Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

Inspect at reasonable times any facilities, equipment including monitoring and control equipment, practices, or operations regulated or required under this permit; and

Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.

Monitoring and records. (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original and certified records for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for the permit, for a period of at least 3 years from the date of the permit, measurement, report or application. This period may be extended by request of the Agency at any time.

Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individuals who performed the sampling or measurements;

(3) The data (table) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedures under 40 CFR Part 136 have been approved, the permittee must submit to the Agency a test maintenance approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

Signatory requirements. All applications, reports or information submitted to the Agency shall be signed and certified.

Application. All permit applications shall be signed as follows:

(1) For a corporation: by a principal executive officer of at least the level of vice president or a person or person having overall responsibility for environmental matters for the corporation;

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

Reports. All reports required by permit, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a); and

(2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the person of equivalent responsibility; and

(3) The written authorization is submitted to the Agency

- (c) Changes of Authorization. If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (12) Reporting requirements
- Planned changes. The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility.
 - Anticipated noncompliance. The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
 - Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
 - Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
 - Monitoring results must be reported on a Discharge Monitoring Report (DMR).
 - If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
 - Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.
 - Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The following shall be included as information which must be reported within 24 hours:
 - Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit to be reported within 24 hours.

The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
 - Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (12)(c), (d), or (e), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12)(f).
 - Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.
- (13) Transfer of permits. A permit may be automatically transferred to a new permittee if:
- The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date.
 - The notice includes a written agreement between the existing and new permittees, containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees, and
 - The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit, if this notice is not received, the transfer is effective on the date specified in the agreement.
- (14) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:
- That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not listed in the permit, if that discharge will exceed the highest of the following notification levels:
 - One hundred micrograms per liter (100 ug/l).
 - Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
 - Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
 - The level established by the Agency in this permit.
 - That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.
- (15) All Publicly Owned Treatment Works (POTW) must provide adequate notice to the Agency of the following:
- Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to Sections 301 or 308 of the Clean Water Act if it were directly discharging those pollutants; and
 - Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (16) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
- User charges pursuant to Section 204(b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
 - Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
 - Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.
- (17) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reassued to conform to that effluent standard or limitation.
- (18) Any authorization to construct issued to the permittee pursuant to 35 B. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.
- (19) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.
- (20) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than \$2,500, nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both.
- (21) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (22) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit shall, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (23) Collected screenings, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes or runoff from the wastes into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.
- (24) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.
- (25) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 B. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board.
- (26) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

August 1, 2012

IEPA - 12-24 (Provisional Variance-Water), Extension

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

August 1, 2012

Exelon Generation Company, L.L.C.)	
LaSalle County Station)	
)	
Petitioner,)	
)	
v.)	IEPA – 12-24
)	(Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

Re: Provisional Variance From Discharge Limits Contained in NPDES Permit
IL0048151

Dear Mr. Karaba:

On July 19, the Illinois Environmental Protection Agency (Agency) granted a provisional variance to Exelon Generation Company, L.L.C.'s LaSalle County Station (LaSalle Station) that goes through August 1, 2012. (IEPA-12-24). On August 1, 2012, LaSalle Station requested an extension to its provisional variance (Attachment A).

The Agency has completed its technical review of LaSalle Station's request for an extension. LaSalle Station is requesting relief from NPDES Permit Special Condition 3B that requires river temperatures at the edge of the mixing zone for the month of August not to exceed 90° F during non-excursion hours and 93° F when excursion hours are being used. Specifically, LaSalle Station is seeking a provisional variance extension from August 2, 2012, through August 15, 2012, which would allow the station to exceed the non-excursion hour temperature limit for August of 90°F stated in Special Condition 3(b) of NPDES Permit No. IL0048151 (Attachment B) for the period of August 2, 2012, through August 15, 2012, by no more than 5°F (95°F) or 5°F above ambient river temperature, whichever is greater.

Based on its review, the Agency GRANTS LaSalle Station a provisional variance extension subject to the specific conditions set forth below.

Background

The LaSalle Station site is located in the southeastern part of LaSalle County, 6 miles southeast of Marseilles, Illinois, 3 miles west of State Highway 170, and 1/2 mile north of

the Grand Ridge-Mazon Road (LaSalle County Highway 6). LaSalle Station is currently operating at 100% capacity. The station's capacity factor January 1, 2012 through June 30, 2012 was 92.9%. LaSalle Station generation output is transmitted to the PJM Interconnection Grid. PJM Interconnection is a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

Condenser water is cooled by means of a cooling pond forming a part of a closed cooling system. The surface area of the cooling pond at its normal pool elevation of 700 feet MSL is 2,058 acres. The cooling pond was created by constructing dikes totaling 37,942 feet in length on three sides.

Makeup water is pumped from the Illinois River using three pumps with a total capacity of 90,000 gpm. The rate of pumping varies depending upon the plant operating load level and the weather conditions with no more than 2 pumps operating at a time. A small part of the cooling pond water is blown down to the Illinois River to prevent dissolved solids from building up to excessive levels. This water flows by gravity through a manual isolation valve at a Valve House and then to the Blowdown Discharge Structure where the flow to the river is controlled by the motor operated blowdown flow control valve. While it is possible for LaSalle Station to cease discharging blow down water from the cooling pond to the Illinois River, it can only do so temporarily, generally for periods not in excess of seven days.

LaSalle Station continuously monitors the upstream river temperature at the Illinois River via four temperature probes in its River Screen House. The temperature data shows that the Illinois River water temperature at the station's intake is approaching or has exceeded the monthly maximum temperature standards. For example, the upstream river temperature of the Illinois River was measured at 89°F on July 3, 2012. As a result of these conditions, LaSalle Station secured blowdown on July 3, 2012, to insure compliance with the NPDES Permit.

LaSalle Station says that it currently has no excursion hours available due to unseasonable temperatures occurring earlier this year. River temperatures continued to rise after blowdown was secured. River temperatures were observed to reach 90°F on July 4, 2012. Temperatures continued to exceed 90°F as presented in the table below:

DATE	TEMPERATURE (°F)
July 5, 2012	91
July 6, 2012	92
July 7, 2012	93.5
July 8, 2012	91
July 9, 2012	92
July 13, 2012	91
July 18, 2012	91

As a consequence of the unusually warm weather, high ambient river temperatures, and the absence of cooling during the evening hours, the capacity of the Illinois River to dissipate heat has been drastically reduced beyond its normal capabilities. The river is not cooling off during the evening hours as is typical this time of year. Without nighttime cooling, the river retains the heat introduced to it during the daytime hours, both upstream and downstream of the station.

In 2012, LaSalle Station first began using excursion hours on March 16, when Illinois River Temperatures were equal to the station's effluent limitation of 60°F. The permitted excursion hours were subsequently exhausted in March as a result of continued record breaking warm weather recorded throughout the mid-western states. LaSalle Station submitted a request to the Agency on March 20, 2012, for relief from Special Condition 3(b) of NPDES Permit IL0048151 for the period of March 21, 2012 through March 31, 2012. The Agency subsequently issued Provisional Variance (PV) IEPA -12-15 to LaSalle Station on March 21, 2012 allowing the station to exceed the non-excursion hour temperature limit for March of 60°F stated in Special Condition 3(b) of NPDES Permit IL0048151 for the period of March 21, 2012 through March 31, 2012. Specifically, during this provisional variance term, the water temperature limit at the edge of the mixing zone provided in NPDES Permit IL0048151 was increased to 70°F or 3° F above ambient river temperature, whichever is greater. LaSalle Station accumulated a total of 87.6 permitted excursion hours and an additional 106.1 PV excursion hours during March of 2012.

On July 19, 2012, LaSalle submitted a request to the Agency for relief from Special Condition 3(b) of NPDES Permit IL0048151 for the period of July 19, 2012 through August 1, 2012. Specifically, during this provisional variance term, the water temperature limit at the edge of the mixing zone provided in NPDES Permit IL0048151 was increased to 95°F or 5° F above ambient river temperature, whichever is greater.

LaSalle Station states that at *no time* has the difference between ambient river temperature and the temperature at the edge of the mixing zone exceeded 5 degree F. In fact, based on modeling, the difference between ambient river temperatures and the temperature at the edge of the mixing zone has *not exceeded 0.5 degrees F*.

Relief Requested

LaSalle Station is requesting a provisional variance extension from the restriction in Special Condition 3B of the NPDES Permit that limits the number of excursion hours to 1% (87.6 hours) of the hours in a 12-month period ending with any month. Specifically, Special Condition 3B states that the water temperatures in the Illinois River (beyond the mixing zone) may not exceed the maximum limit of 93°F in August with use of excursion hours above 90°F.

LaSalle Station requests an extension to its provisional variance, from August 2, 2012, through August 15, 2012, to allow the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL0002224 by no more than 5°F (95°F for August) or 5°F above ambient river temperature, whichever is greater.

Necessity for Relief

LaSalle Station says that when the ambient river temperatures approach or exceed the non-excursion hour limits, it has no option other than to use excursion hours and, once its allotment of excursion hours is depleted, it must significantly derate or cease operating altogether to maintain compliance with the NPDES Permit. LaSalle Station exhausted its permitted 87.6 excursion hours on March 26, 2012.

Special Condition 3B of NPDES Permit limits the temperature at the edge of the mixing zone 90°F in August, except when the LaSalle Station is using excursion hours, during which time the temperature at the edge of the mixing zone may be 3°F warmer than these limits, i.e., 93°F. LaSalle Station states that as a rule, it has been able to operate well within its permitted thermal limits because the ambient temperatures of the Illinois River (measured upstream of the discharge) generally remain below the non-excursion hour limit. It is only during periods when the ambient river temperatures are very close to or exceed the non-excursion hour limits or during periods of extreme low flows that the station is forced to use its excursion hour allowance.

LaSalle Station has considered derating the units in an attempt to maintain the temperature under 90°F in response to elevated intake temperatures. However, LaSalle Station states that derating the units at this time will not prevent the exceedance of the permitted thermal limit in Special Condition 3B, of the NPDES permit due primarily to the high ambient temperatures of the Illinois River and cooling pond water chemistry.

LaSalle Station secured Cooling Pond blowdown, increasing cooling pond residence time and eliminating the discharge through Outfall 001 on July 3, 2012. The current configuration instills additional thermal challenges on the plant equipment since there will be reduced fresh makeup water and the circulating water temperature will increase. Auxiliary systems (e.g., equipment heat exchangers) that support the nuclear generation process are currently experiencing higher than normal thermal load which challenges plant equipment and thermal cooling capabilities.

According to LaSalle Station, reduced blowdown in summer months will alter cooling pond water chemistry and will result in negative impacts on plant equipment. Lack of blowdown and cooling pond make up will increase temperatures, increase pH, concentrate impurities, and create an environment where algae thrive in its cooling pond. Increased temperatures and the presence of algae causes an algae bloom and increases pH and total alkalinity in the cooling pond and plant cooling systems. These conditions promote scaling of plant equipment, particularly in the main steam condensers and safety related heat exchangers. Scaling ultimately could result in the replacement of multiple condenser tubes and safety related heat exchangers, with corresponding extended plant shut downs for both units to perform these repairs.

Due to these risks, there are technical specifications that LaSalle Station says it must meet pursuant to its operating license issued by the Nuclear Regulatory Commission. If pH values and cooling water environment are not maintained within proper specifications, the plant is required to shut down until cooling water parameters return to specified ranges.

In addition, LaSalle Station says that the use of the blowdown is also critical in regulating lake level. Lake level is currently 699.9'. At 700.25', water from the lake begins backing up into the North and South Stormwater Detention Ponds. 701.0" is the maximum lake level for flood analysis. LaSalle Station notes that this is another reason why it is critical for LaSalle Station to be able to utilize the blowdown from the lake to the Illinois River.

Based on current weather forecasts, LaSalle Station expects it will be unable to resume blowdown flow to the Illinois River due to ambient river temperatures exceeding permit thermal limits. Therefore, unless relief is granted by way of this provisional variance extension request, LaSalle Station states that it may have no option than derate or shutdown if these adverse operational issues continue.

According to LaSalle Station, shutting down or significantly derating could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced. LaSalle Station says that with both units offline and not immediately able to return to service, it would not be available to support the voltage requirements that could occur under changing grid conditions. As of July 26, 2012, PJM grid status does not currently have or project any alerts, warnings, or actions. PJM predicts an anticipated Peak Load >146,000 MW on Thursday 7/26/2012.

Assessment of Environmental Impacts

LaSalle Station has provided details on the environmental impact during the requested extension period from August 1, 2012, through August 15, 2012. LaSalle Station has determined that there should not be any significant environmental impact during the course of this provisional variance extension.

Additionally, LaSalle Station states that there has been no evidence of biological harm to the environment as a result of provisional variance IEPA-12-24 issued to LaSalle Station on July 19, 2012, and going through August 1, 2012.

Agency Determinations

The Agency has reviewed the requested provisional variance extension and has concluded the following:

1. Any environmental impact from the requested relief shall be closely monitored and the Agency shall be immediately notified of any adverse impacts.

2. No reasonable alternatives appear available;
3. No public water supplies should be affected;
4. No federal regulations will preclude the granting of this request; and
5. LaSalle Station will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Agency hereby GRANTS LaSalle Station a provisional variance extension from Section B of NPDES Permit IL0048151, subject to the following conditions:

- A. The term of this provisional variance extension shall begin on August 2, 2012, and go through August 15, 2012. During this provisional variance term, the water temperature at the edge of the mixing zone provided in NPDES Permit IL0048151 shall not exceed 95°F or 5° F above ambient river temperature, whichever is greater. This provisional variance extension is granted based on the facts and circumstances described in the request dated August 1, 2012. If the facts and circumstances described in the request abate the term of this provisional variance extension will end.
- B. LaSalle Station shall provide the best operation of its station to produce the best effluent possible at all times. At no time, during the variance period, shall LaSalle Station cause water temperature in the Illinois River at the edge of the mixing zone to exceed 95° or 5° F above ambient river temperature, whatever is greater.
- C. During the variance period, LaSalle Station must continuously monitor intake, discharge and receiving water temperatures and visually inspect intake and discharge areas at least three times daily to assess any mortalities to fish and other aquatic life.
- D. LaSalle Station shall document environmental conditions during the term of the provisional variance extension, including the activities described in C. above of this Section, and submit the documentation to the Agency and the Department of Natural Resources within seven (7) days after the provisional variance extension expires.
- E. LaSalle Station shall immediately notify the Agency and the Department of Natural Resources of any unusual conditions, including mortalities to fish or other aquatic life; immediately take action to remedy the problem; investigate and document the cause and seriousness of the unusual conditions while providing updates to the Agency and the Department of Natural Resources as changes occur

until normal conditions return; notify the Agency and the Department of Natural Resources when normal conditions return; and submit the documentation to the Agency and the Department of Natural Resources within seven days after normal conditions return.

- F. LaSalle Station shall develop and implement a response and recovery plan to address any adverse environmental impact due to thermal conditions resulting from the provisional variance extension, including loss and damage to aquatic life.
- G. LaSalle shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when its discharge first causes or contributes to an exceedance of the applicable permitted temperature limit of 90° F in August. Written confirmation of each notice shall be sent within five days to the following address:

Illinois Environmental Protection Agency
Bureau of Water - Water Pollution Control
Attention: Roger Callaway
1021 North Grand Avenue East, MC #19
Springfield, Illinois 62794-9276

- H. LaSalle Station shall sign a certificate of acceptance of this provisional variance extension and forward that certificate to Roger Callaway at the address indicated above within one day of the date of this order. The certification should take the following form:

I (We) _____, hereby accept and agree to be bound by all terms and conditions of the provisional variance extension granted by the Agency in _____ dated _____.

Petitioner

Authorized Agent

Title

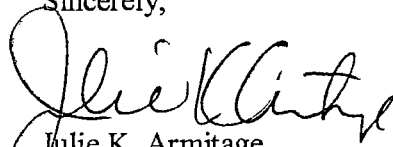
Date

LaSalle Station shall continue to monitor and maintain compliance with all other parameters and conditions specified in its NPDES Permit No. IL0048151.

Conclusion

The Agency grants this provisional variance extension in accordance with its authority contained in Sections 35(b), 36 (c), and 37(b) of the Illinois Environmental Protection Act (415 ILCS 5/35(b), 36(c), and 37(b) (2010). The decision to grant this provisional variance extension is not intended to address compliance with any other applicable laws or regulations.

Sincerely,



Julie K. Armitage
Acting Chief Legal Counsel

cc: Marcia Willhite
Roger Callaway
Sanjay Sofat
Lisa Bonnet
Vera Herst



LaSalle Station

2601 North 21st Road
Marseilles, IL 61341
815 415 2000 Telephone
www.exeloncorp.com

August 1 , 2012

Mr. Roger Callaway (CAS-19)
Wastewater Compliance Unit Manager
Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section #19
1021 North Grand Avenue East
P. O. Box 19276
Springfield, Illinois 62794-9274

Subject: LaSalle County Station
NPDES Permit No. IL0048151
Request for Provisional Variance

Dear Mr. Callaway:

Exelon Generation Company, L.L.C. ("Exelon") hereby requests that the Illinois Environmental Protection Agency ("IEPA" or "Agency") grant an extension to provisional variance IEPA-12-24 issued on July 19, 2012 for LaSalle County Station ("LaSalle", "Station", or "Facility"), pursuant to Section 35(b) of the Environmental Protection Act ("Act") 415 ILCS 5/35. Exelon submits this Application for a provisional variance extension consistent with IEPA procedures at 35 Illinois Administrative Code 104.300. The station discharges Cooling Pond water to the Illinois River pursuant to NPDES Permit No. IL0048151, which was issued by IEPA on March 28, 2007 and modified on April 26, 2010. Exelon requests that the provisional variance be extended 14 days for LaSalle Station allowing the station to exceed the non-excursion hour temperature limit for August of 90°F stated in Special Condition 3(b) of NPDES Permit No. IL0048151 for the period of August 2nd through August 15 by no more than 5°F (95°F) or 5°F above ambient river temperature, whichever is greater. There has been no evidence of biological harm to the environment as a result of provisional variance IEPA-12-24 issued to LaSalle Station on July 19, 2012 through August 1, 2012.

BACKGROUND

LaSalle Station is a base load nuclear-fueled steam electric generating facility located in the southeastern part of LaSalle County, 6 miles southeast of Marseilles, Illinois, 3 miles west of State Highway 170, and 1/2 mile north of the Grand Ridge-Mazon Road (LaSalle County Highway 6). The station operates two boiling water reactors which have a combined nominal generating capacity of 2,400 megawatts electric. The station is currently operating at 100% capacity.

The station's capacity factor January 1, 2012 through June 30, 2012 was 92.9%. LaSalle Station generation output is transmitted to the PJM Interconnection Grid. PJM Interconnection is a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

The Illinois River (segment D-23) has a 7Q10 flow of 2110 cfs and is a General Use water. The Illinois River is listed on the Illinois Integrated Water Quality Report and Section 303(d) List – 2006 as impaired for fish consumption and primary contact uses. The causes associated with the fish consumption use impairment are mercury and PCBs. The cause associated with the primary contact use impairment is fecal coliform bacteria. The draft 2008 List is identical. The river is not rated as under the Agency's 1996 Biological Stream Characterization (BSC) system. The stream is not listed as a biologically significant stream in the 1992 Illinois Natural History Survey Publication *Biologically Significant Illinois Streams*. The IDNR WIRT system lists no threatened or endangered species as inhabiting the receiving stream.

The Station uses a closed cycle cooling system to supply the circulating water to condense the steam from the generating process. The water for the cooling system is withdrawn from an on-site cooling pond. The surface area of the cooling pond at its normal pool elevation of 700 feet MSL is 2,058 acres. Makeup water for the pond is pumped from the Illinois River using three pumps with a total capacity of 90,000 gpm. The rate of pumping varies depending upon the plant operating load level and the weather conditions with no more than 2 pumps operating at a time. A small portion of the cooling pond water is rejected to the Illinois River to manage lake chemistry. This water flows by gravity through a manual isolation valve at a Valve House and then to the Blowdown Discharge Structure where the flow to the river is controlled by the motor operated blowdown flow control valve. While it is possible for the Station to cease discharging blow down water from the cooling pond to the Illinois River, it can only do so temporarily.

The upstream river temperature at the Illinois River is continuously monitored via four temperature probes in its River Screen House. The temperature data shows that the Illinois River water temperature at the station's intake has exceeded the monthly maximum temperature standards. For example, the upstream river temperature of the Illinois River was measured at 89°F on July 3, 2012. As a result of these conditions, LaSalle Station secured blowdown on July 3, 2012 to insure compliance with the NPDES Permit. The Station currently has no excursion hours available due to unseasonable temperatures occurring earlier this year. River temperatures continued to rise after blowdown was secured. River temperatures were observed to reach 90°F on July 4, 2012. Temperatures continued to exceed 90°F as presented in the table below:

DATE	TEMPERATURE (°F)
July 5, 2012	91
July 6, 2012	92
July 7, 2012	93.5
July 8, 2012	91
July 9, 2012	92
July 13, 2012	91
July 18, 2012	91
July 19, 2012	90.7

As a consequence of the unusually warm weather, high ambient river temperatures, and the absence of cooling during the evening hours, the capacity of the Illinois River to dissipate heat has been drastically reduced beyond its normal capabilities. The river is not cooling off during the evening hours as is typical this time of year. Without nighttime cooling, the river retains the heat introduced to it during the daytime hours, both upstream and downstream of the station.

In 2012, LaSalle Station first began using excursion hours on March 16 when Illinois River Temperatures were equal to the station's effluent limitation of 60°F. The permitted excursion hours were subsequently exhausted in March as a result of continued record breaking warm weather recorded throughout the mid-western states. LaSalle Station submitted a request to IEPA on July 19, 2012 for relief from Special Condition 3(b) of NPDES Permit IL0048151 for the period of July 19, 2012 through August 1, 2012. IEPA subsequently issued provisional variance (PV) IEPA -12-24 to LaSalle Station on July 19, 2012 allowing the station to exceed the non-excursion hour temperature limit of 90°F stated in Special Condition 3(b) of NPDES Permit IL0048151 for the period of July 19, 2012 through August 1, 2012. Specifically, during this provisional variance term, the water temperature limit at the edge of the mixing zone provided in NPDES Permit IL0048151 was increased to 90°F or 5° F above ambient river temperature, whichever is greater.

At *no time* has the difference between ambient river temperature and the temperature at the edge of the mixing zone exceeded 5 degree F. In fact, based on modeling, the difference between ambient river temperatures and the temperature at the edge of the mixing zone has *not exceeded 0.5 degrees F*.

RELIEF REQUESTED

A provisional variance extension is being requested from the restriction in Special Condition 3B of the NPDES Permit that limits the number of excursion hours to 1% (87.6 hours) of the hours in a 12-month period ending with any month. Specifically, Special Condition 3B states that the water temperatures in the Illinois River (beyond the mixing zone) may not exceed the maximum limit of 93°F in August with use of excursion hours above 90°F.

Exelon requests that an extension to provisional variance IEPA-12-24 be issued to LaSalle Station August 2, 2012 through August 15, 2012 allowing the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL0002224 by no more than 5°F (95°F for August) or 5°F above ambient river temperature, whichever is greater.

NECESSITY FOR REQUEST

When the ambient river temperatures approach or exceed the non-excursion hour limits, the Station must secure blowdown discharge which will alter cooling pond water chemistry, adversely impacting plant equipment or use excursion hours. The currently permitted 87.6 excursion hours was exhausted on March 26, 2012.

Special Condition 3B of NPDES Permit limits the temperature at the edge of the mixing zone 90°F in August, except when the Station is using excursion hours, during which time the temperature at the edge of the mixing zone may be 3°F warmer than these limits. As a rule, LaSalle Station has been able to operate well within its permitted thermal limits due to the fact that the ambient temperatures of the Illinois River (measured upstream of the discharge) generally remain below the non-excursion hour limit. It is only during periods when the ambient river temperatures are very close to or exceed the non-excursion hour limits or during periods of extreme low flows that the Station is forced to use its excursion hour allowance.

LaSalle has considered derating the units in an attempt to maintain the temperature under 90°F in response to elevated intake temperatures. However, derating the units at this time will not prevent the exceedance of the permitted thermal limit in Special Condition 3B, of the NPDES permit due primarily to the high ambient temperatures of the Illinois River and cooling pond water chemistry.

LaSalle Station secured Cooling Pond blowdown, increasing cooling pond residence time and eliminating the discharge through Outfall 001 on July 3, 2012. This configuration instills additional thermal challenges on the plant equipment since there would be reduced fresh makeup water and the circulating water temperature would increase. Auxiliary systems (e.g., equipment heat exchangers) that support the nuclear generation process are currently experiencing higher than normal thermal load which challenges plant equipment and thermal cooling capabilities.

Reduced blowdown in summer months will alter cooling pond water chemistry and will result in negative impacts on plant equipment. Lack of blowdown and cooling pond make up will increase temperatures, increase pH, concentrate impurities, and create an environment where algae thrive in our cooling pond. Increased temperatures and the presence of algae, causes an algae bloom and increases pH and total alkalinity in the cooling pond and plant cooling systems. These conditions promote scaling of plant equipment, particularly in the main steam condensers and safety related heat exchangers. Scaling ultimately could result in the replacement of multiple condenser tubes and safety related heat exchangers, with corresponding extended plant shut downs for both units to perform these repairs.

If pH values and cooling water environment are not maintained within proper specifications, the plant could be required to shut down until cooling water parameters return to specified ranges.

In addition, use of the blowdown is critical in regulating lake level. Lake level is currently 699.8'. At 700.25', water from the lake begins backing up into the North and South Stormwater Detention Ponds. 701.0' is the maximum lake level for flood analysis. This is another reason why it is critical for LaSalle Station to be able to utilize the blowdown from the lake to the Illinois River.

Based on current weather forecasts, it is expected that the station will be unable to maintain blowdown flow to the Illinois River due to ambient river temperatures exceeding permit thermal limits. Therefore, unless relief is granted by way of this provisional variance extension request, the station may have no option than derate or shutdown if these adverse operational issues occur. Shutting down or significantly derating a base-loaded nuclear power plant such as LaSalle could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced. With both units offline and not immediately able to return to service, LaSalle Station would not be available to support the voltage requirements that could occur under changing grid conditions. PJM predicts an anticipated Peak Load >142,000 MW on Wednesday 8/01/2012 and has issued a hot weather alert for Friday 8/3/2012.

ASSESSMENT OF ENVIRONMENTAL IMPACTS

The thermal impact of the proposed variance extension with respect to the near-field aquatic community is expected to be minimal. The aquatic community is already experiencing much higher than normal ambient temperatures, with no apparent impact to date. The additional thermal load the plant will place on the aquatic community is expected to be minimal, since there is approximately a 0.5 degree difference between the ambient river temperatures and the edge of the mixing zone.

Because LaSalle County Station is not proposing to increase cooling water flows or increase the temperature of cooling water discharges, there will be no increase in impingement or entrainment as a result of the issuance of the requested global provisional variance extension. Additionally, because the ambient river temperature increase has been gradual, resident fish species have either acclimated to the higher temperature or have found thermal refuge. In addition, the current flows afford a delta T of approximately 1°F between the upstream and downstream temperatures. Therefore, resident fish species will not be subject to any heat shock as a result of increasing the allotment of excursion hours for LaSalle County Station.

The station normally discharges a blowdown flow of warmer cooling pond water to the Illinois River. Thus, fish inhabiting the discharge canal will be acclimated to temperatures above ambient river temperature and should be sufficiently reactive to avoid areas that are out of their desired temperature range.

LaSalle thermal plume has been characterized as buoyant in all previous studies submitted to the IEPA. Therefore, benthic organisms are not likely to be adversely affected by the short-term relief requested. The overall impact of the station's thermal plume on the Illinois River is expected to be minimal.

ALTERNATIVES TO REQUESTED RELIEF

Exelon has also considered shutting down or significantly derating the station. Derating a base-loaded nuclear power plant such as LaSalle, could jeopardize the stability of the electrical grid (and availability/reliability of electricity in the region), particularly if other plants are required to shut down or derate due to the unusual weather conditions being experienced.

MITIGATIVE ACTIONS TO BE TAKEN DURING THE VARIANCE PERIOD

During the period when the Station uses any additional excursion hours authorized by the requested provisional variance extension, it will: (1) continuously monitor the intake and discharge; (2) on a daily basis, inspect the discharge areas to assess any mortalities to aquatic life, and report the results of these monitoring activities to the Agency within 30 days of the expiration of the provisional variance (or such other time as agreed upon by the Agency); and (3) notify the Agency of any significant adverse environmental conditions observed that might be caused by operations authorized by the provisional variance extension, including mortalities to fish or other aquatic life, investigate the cause of such conditions, provide the Agency updates regarding the situation, including when normal conditions return, and submit a report to the Agency regarding these matters within 30 days of the expiration of the provisional variance period (or such other time as agreed upon by the Agency).

ADDITIONAL ENVIRONMENTAL MONITORING

The thermal impact of the proposed variance extension with respect to the near-field aquatic community is expected to be minimal because the aquatic community is presently experiencing higher than normal ambient temperatures for this time of year with no apparent impact to date. The thermal load placed on the biological community will be minimal, since there is approximately a 0.5 degrees difference between the ambient river temperatures and the edge of the mixing zone. LaSalle Station does not plan to do any additional environmental monitoring since the upstream ambient river temperatures are the cause of the >90°F discharge temperature.

SUMMARY

Exelon requests that an extension to provisional variance IEPA-12-24 be issued to the Station allowing the station to exceed the maximum temperature limit stated in Special Condition 3B of NPDES Permit No. IL00048151 by no more than 5°F (95°F for August) or 5°F above ambient river temperature, whichever is greater. The term of the requested extension is August 2, 2012 through August 15, 2012.

It is Exelon's position that not granting this provisional variance would impose an arbitrary and unreasonable hardship due to unseasonably warmer Illinois River Intake temperatures, challenge to base load power generation and electrical grid stability, and additional thermal impacts to plant equipment.

Should you require any further information in order to expedite the processing of this request or have any questions, please contact William Buinickas of my staff at 815-415-3235.

Sincerely,



David P. Rhoades
LaSalle Site Vice President

CC: K. Lyons
Z. Karpa
W. Buinickas
J. Petro
S. Neal
File



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-2829
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

217/782-0610

ROD R. BLAGOJEVICH, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

April 26, 2010

Exelon Generation Company, LLC
Generation Support
4300 Winfield Road
Warrenville, Illinois 60555

Re: Exelon Generation Company, LLC
LaSalle County Station
NPDES Permit No. IL0048151
Modification of NPDES Permit (After Public Notice)

MAJOR**RECEIVED**

MAY 04 2010

IEPA/CAS

Gentlemen:

The Illinois Environmental Protection Agency has reviewed the request for modification of the above-referenced NPDES Permit and issued a public notice based on that request. The final decision of the Agency is to modify the Permit as follows:

The modification was a change in the design maximum flow and load limits for internal outfall, B01-Sewage Treatment Plant Effluent.

Enclosed is a copy of the modified Permit. You have the right to appeal this modification to the Illinois Pollution Control Board within a 35 day period following the modification date shown on the first page of the permit.

Should you have any question or comments regarding the above, please contact Leslie Lowry of my staff.

Sincerely,

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:DEL:LRL:06060701.dlk

Attachment: Final Permit

cc: Records
Compliance Assurance Section
Rockford Region
USEPA
Billing

NPDES Permit No. IL0048151

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Modified (NPDES) Permit

Expiration Date: June 30, 2012

Issue Date: March 28, 2007

Effective Date: July 1, 2007

Modification Date: April 26, 2010

Name and Address of Permittee:

Exelon Generation Company, LLC
Generation Support
4300 Winfield Road
Warrenville, Illinois 60555

Facility Name and Address:

Exelon Generation Company, LLC
LaSalle County Station
2601 N. 21st Street
Marseilles, Illinois 61341
(LaSalle County)

Discharge Number and Name:

001	Cooling Pond Blowdown
A01	Demineralizer Regenerant Wastes
B01	Sewage Treatment Plant Effluent
C01	Wastewater Treatment System Effluent
D01	Cooling Water Intake Screen Backwash (Cooling Pond)
E01	Unit 1 and 2 Radwaste Treatment System Effluent
F01	Auxiliary Reactor Equipment Cooling and Flushing Water
G01	North Site Stormwater Runoff
H01	South Site Stormwater Runoff
I01	Reverse Osmosis System Reject Water & Greensand Filter Backwash
002	Illinois River Make-Up Water Intake

Receiving Waters:

Illinois River

Illinois River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of Ill. Adm. Code, Subtitle C and/or Subtitle D, Chapter 1, and the Clean Water Act (CWA), the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.



Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:DEL:LRL:06060701.dlk

NPDES Permit No. IL0048151

Effluent Limitations and Monitoring

1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE	
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM			
<u>DAF (DMF)</u> <u>LIMITS mg/l</u>							
<u>Outfall 001 - Cooling Pond Blowdown*</u> (DMF = 67.7 MGD)							
This discharge consists of:							
Main Condenser Cooling Water							
Clean Condensate System Flushing and Maintenance (Alternate Route)							
Demineralizer Regenerant Wastes							
Wastewater Treatment System Effluent							
House Service Water							
Cooling Pond Intake Screen Backwash							
Sewage Treatment Plant Effluent							
Reverse Osmosis System Reject Water							
Radwaste Treatment System Effluent							
Auxiliary Reactor Equipment Cooling Water							
Water Softener Regenerant Waste							
North Site Uncontaminated Stormwater Runoff***							
South Site Uncontaminated Stormwater Runoff***							
North Inlet Canal Stormwater Runoff***							
South Inlet Canal Stormwater Runoff***							
IDNR Fish Hatchery Effluents							
Flow (MGD)	See Special Condition 1.				Daily	Continuous	
pH	See Special Condition 2.				2/Month	Grab	
Total Residual Chlorine**					0.2	2/Month	Grab
Total Residual Oxidant**					0.05	2/Month	Grab
Temperature	See Special Condition 3.				Daily	Continuous	
Zinc (Total)	Monitor Only				1/Quarter	Grab	

* - See Special Conditions 4.

** - See Special Condition 13.

*** - See Special Condition 8.

NPDES Permit No. IL0048151

Effluent Limitations and Monitoring

1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day <u>DAF (DMF)</u>		CONCENTRATION <u>LIMITS mg/l</u>		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall A01 - Demineralizer Regenerant Wastes*</u> (DMF = 0.17 MGD)						
This discharge consists of:						
Makeup Demineralizer Regenerant Wastes Off-Specification Demineralized Water Makeup Demineralizer Maintenance Wastewater Unit Waterbox Vacuum Pump Condensate (Lake Water) Radwaste Treatment Acid/Caustic System Drains						
Flow (MGD)	See Special Condition 1.				1/Week	24 Hour Total
Total Suspended Solids			15	30	1/Week	Grab

* - Discharge to the Wastewater Treatment System (C01) is an alternate route.

Outfall B01 - Sewage Treatment Plant Effluent
(DMF = 0.1 MGD)

This discharge consists of:

Sanitary Wastewater Eyewash Station Wastewater						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				2/Month	Grab
CBOD ₅	21	42	25	50	2/Month	24 Hour Composite
Total Suspended Solids	25	50	30	60	2/Month	24 Hour Composite

Modification Date: April 26, 2010

NPDES Permit No. IL0048151

Effluent Limitations and Monitoring

1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall C01</u> - Wastewater Treatment System Effluent (DMF = 0.082 MGD)						
This discharge consists of:						
Turbine Building Fire and Miscellaneous Nonradioactive Wastewater Sump						
Greensand Filter Backwash (Alternative Route)						
Diesel Fuel Storage and Service Water Building Sump						
Auxiliary Boiler Blowdown						
Water Softener Regenerant Waste						
Demineralizer Regenerant Wastes (Alternate Route)						
Heat Bay Building Roof Area						
Fire Protection System Flushing and Maintenance*						
Service Water System Flushing and Maintenance*						
Domestic Water System Flushing and Maintenance*						
Clean Condensate System Flushing and Maintenance**						
Laboratory Liquid Wastes						
Station Heat System Condensate						
Diesel Generator Cooling Water						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				1/Week	Grab
Total Suspended Solids			15	30	1/Month	24 Hour Composite
Oil & Grease			15	20	1/Month	Grab

* - Discharge to the North Site Stormwater Runoff (G01) and/or South Site Stormwater Runoff (H01) are alternate routes.

** - Discharge to the Cooling Pond (001) via the service water system and resulting Main Condenser Cooling Water is an alternate route.

Outfall D01 - Cooling Water Intake Screen Backwash (Cooling Pond)*
(Intermittent Discharge)

* - This discharge is limited to cooling water intake screen backwash free from other wastewater discharges. Adequate maintenance of the trash basket is required to prevent the discharge of floating debris collected on intake screens back to the cooling pond.

NPDES Permit No. IL0048151

Effluent Limitations and Monitoring

1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall E01</u> - Radwaste Treatment System Effluent (DAF = 0.011 MGD)						
This discharge consists of:						
Equipment Drains in the Turbine Building, Auxiliary Building, and Reactor Building Floor Drains in the Turbine Building, Auxiliary Building, and Reactor Building Condensate Polisher Waste from the Turbine Building Decontamination and Laundry Waste						
Flow (MGD)	See Special Condition 1.				1/Week	Estimate
Total Suspended Solids			15	30	1/Week	Grab
Oil & Grease			15	20	1/Week	Grab

Outfall F01 - Auxiliary Reactor Equipment Cooling and Flushing Water*
(Intermittent Discharge)

* - This discharge is limited to auxiliary reactor equipment cooling and flushing water free from other wastewater discharges.

Outfall G01 - North Site Stormwater Runoff*
(Intermittent Discharge)

This discharge consists of:

Fire Protection System Flushing and Maintenance (Alternate Route)
Service Water System Flushing and Maintenance (Alternate Route)
Domestic Water System Flushing and Maintenance (Alternate Route)
Clean Condensate System Flushing and Maintenance (Alternate Route)
North Site Uncontaminated Stormwater Runoff

* - See Special Condition 8.

NPDES Permit No. IL0048151

Effluent Limitations and Monitoring

1. From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall H01 - South Site Stormwater Runoff*
(Intermittent Discharge)

This discharge consists of:

Fire Protection System Flushing and Maintenance (Alternate Route)
Service Water System Flushing and Maintenance (Alternate Route)
Domestic Water System Flushing and Maintenance (Alternate Route)
Clean Condensate System Flushing and Maintenance (Alternate Route)
South Site Uncontaminated Stormwater Runoff

* - See Special Condition 8.

Outfall I01 - Reverse Osmosis System Reject Water & Greensand Filter Backwash
(DAF = 0.003 MGD)

Flow (MGD)	See Special Condition 1.		1/Week	24 Hour Total
Total Suspended Solids	15	30	1/Month	Grab

Outfall 002 - Illinois River Makeup Water Intake*
(Intermittent Discharge)

This discharge consists of:

River Intake Screen Backwash
Trench Wash Water
Process Sampling Discharge
Lake Make-Up Pump Gland Leakoff, Coolers, Reliefs, and Min Flow
Lake Make-Up Pump Strainer Backwash
Air Compressor Receiver and Prefilter Drainage
Dewatering Pump Discharge
Fire Protection Water
River Screen House Switchyard Stormwater Runoff**
River Screen House Floor Drains and Roof Drains

* - Adequate maintenance of the intake screen system is required to prevent the discharge of floating debris collected on intake screens back to the Illinois River.

** - See Special Condition 8.

NPDES Permit No. IL0048151

Special Conditions

SPECIAL CONDITION 1. Flow shall be measured in units of Million Gallons per Day (MGD) and reported as a monthly average and a daily maximum on the monthly Discharge Monitoring Report.

SPECIAL CONDITION 2. The pH shall be in the range 6.0 to 9.0. The monthly minimum and monthly maximum values shall be reported on the DMR form.

SPECIAL CONDITION 3. Discharge of wastewater from this facility must not alone or in combination with other sources cause the receiving stream to violate the following thermal limitations at the edge of the mixing zone which is defined by Section 302.211, Illinois Administration Code, Title 35, Chapter 1, Subtitle C, as amended:

- A. Maximum temperature rise above natural temperature must not exceed 5 deg. F (2.8 deg. C).
- B. Water temperature at representative locations in the main river shall not exceed the maximum limits in the following table during more than one (1) percent of the hours in the 12-month period ending with any month. Moreover, at no time shall the water temperature at such locations exceed the maximum limits in the following table by more than 3 deg. F (1.7 deg. C). (Main river temperatures are temperatures of those portions of the river essentially similar to and following the same thermal regime as the temperatures of the main flow of the river.)

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
F°	60	60	60	90	90	90	90	90	90	90	90	60
C°	16	16	16	32	32	32	32	32	32	32	32	16

- C. Compliance with the thermal effluent monitoring requirements shall be determined by reporting daily maximum water temperatures of the cooling pond blowdown discharge with monthly DMR's.

SPECIAL CONDITION 4. There shall be no discharge of polychlorinated biphenyl compounds (PCBs).

SPECIAL CONDITION 5. There shall be no discharge of complexed metal bearing wastestreams and associated rinses from chemical metal cleaning unless this permit has been modified to include the new discharge.

SPECIAL CONDITION 6. The permittee shall record monitoring results on Discharge Monitoring Report Forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee may choose to submit electronic DMRs (eDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the eDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/edmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 15th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using eDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

SPECIAL CONDITION 7. The upset defense provisions as defined in 40 CFR 122.41(n) are hereby incorporated by reference.

Special ConditionsSPECIAL CONDITION 8.STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

- A. A storm water pollution prevention plan shall be maintained by the permittee for the storm water associated with industrial activity at this facility. The plan shall identify potential sources of pollution which may be expected to affect the quality of storm water discharges associated with the industrial activity at the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.
- B. The owner or operator of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request.
- C. The permittee may be notified by the Agency at any time that the plan does not meet the requirements of this condition. After such notification, the permittee shall make changes to the plan and shall submit a written certification that the requested changes have been made. Unless otherwise provided, the permittee shall have 30 days after such notification to make the changes.
- D. The discharger shall amend the plan whenever there is a change in construction, operation, or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State or if a facility inspection required by paragraph G of this condition indicates that an amendment is needed. The plan should also be amended if the discharger is in violation of any conditions of this permit, or has not achieved the general objective of controlling pollutants in storm water discharges. Amendments to the plan shall be made within the shortest reasonable period of time, and shall be provided to the Agency for review upon request.
- E. The plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from storm water outfalls at the facility. The plan shall include, at a minimum, the following items:
1. A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate.
 2. A site map showing:
 - I. The storm water conveyance and discharge structures;
 - II. An outline of the storm water drainage areas for each storm water discharge point;
 - III. Paved areas and buildings;
 - IV. Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates.
 - V. Location of existing storm water structural control measures (dikes, coverings, detention facilities, etc.);
 - VI. Surface water locations and/or municipal storm drain locations
 - VII. Areas of existing and potential soil erosion;
 - VIII. Vehicle service areas;
 - IX. Material loading, unloading, and access areas.
 3. A narrative description of the following:
 - I. The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;
 - II. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;

NPDES Permit No. IL0048151

Special Conditions

- iii. Existing structural and non-structural control measures to reduce pollutants in storm water discharges;
- iv. Industrial storm water discharge treatment facilities;
- v. Methods of onsite storage and disposal of significant materials;

- 4. A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.
- 5. An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.
- 6. A summary of existing sampling data describing pollutants in storm water discharges.

F. The plan shall describe the storm water management controls which will be implemented by the facility. The appropriate controls shall reflect identified existing and potential sources of pollutants at the facility. The description of the storm water management controls shall include:

- 1. Storm Water Pollution Prevention Personnel - Identification by job titles of the individuals who are responsible for developing, implementing, and revising the plan.
- 2. Preventive Maintenance - Procedures for inspection and maintenance of storm water conveyance system devices such as oil/water separators, catch basins, etc., and inspection and testing of plant equipment and systems that could fail and result in discharges of pollutants to storm water.
- 3. Good Housekeeping - Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.
- 4. Spill Prevention and Response - Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, spill clean up equipment and procedures should be identified, as appropriate. Internal notification procedures for spills of significant materials should be established.
- 5. Storm Water Management Practices - Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants, measures to remove pollutants from storm water discharge shall be implemented. In developing the plan, the following management practices shall be considered:
 - i. Containment - Storage within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff;
 - ii. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods to minimize oil contaminated storm water discharges;
 - iii. Debris & Sediment Control - Screens, booms, sediment ponds or other methods to reduce debris and sediment in storm water discharges;
 - iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.
 - v. Storm Water Diversion - Storm water diversion away from materials manufacturing, storage and other areas of potential storm water contamination;
 - vi. Covered Storage or Manufacturing Areas - Covered fueling operations, materials manufacturing and storage areas to prevent contact with storm water.
- 6. Sediment and Erosion Prevention - The plan shall identify areas which due to topography, activities, or other factors, have a high potential for significant soil erosion and describe measures to limit erosion.
- 7. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the

Special Conditions

components and goals of the storm water pollution control plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.

8. Inspection Procedures - Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded.
- G. The permittee shall conduct an annual facility inspection to verify that all elements of the plan, including the site map, potential pollutant sources, and structural and non-structural controls to reduce pollutants in industrial storm water discharges are accurate. Observations that require a response and the appropriate response to the observation shall be retained as part of the plan. Records documenting significant observations made during the site inspection shall be submitted to the Agency in accordance with the reporting requirements of this permit.
- H. This plan should briefly describe the appropriate elements of other program requirements, including Spill Prevention Control and Countermeasures (SPCC) plans required under Section 311 of the CWA and the regulations promulgated thereunder, and Best Management Programs under 40 CFR 125.100.
- I. The plan is considered a report that shall be available to the public under Section 308(b) of the CWA. The permittee may claim portions of the plan as confidential business information, including any portion describing facility security measures.
- J. The plan shall include the signature and title of the person responsible for preparation of the plan and include the date of initial preparation and each amendment thereto.

Construction Authorization

- K. Authorization is hereby granted to construct treatment works and related equipment that may be required by the Storm Water Pollution Prevention Plan developed pursuant to this permit.

This Authorization is issued subject to the following condition(s).

1. If any statement or representation is found to be incorrect, this authorization may be revoked and the permittee there upon waives all rights thereunder.
2. The issuance of this authorization (a) does not release the permittee from any liability for damage to persons or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (b) does not take into consideration the structural stability of any units or part of this project; and (c) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or other applicable local law, regulations or ordinances.
3. Plans and specifications of all treatment equipment being included as part of the stormwater management practice shall be included in the SWPPP.
4. Construction activities which result from treatment equipment installation, including clearing, grading and excavation activities which result in the disturbance of one acre or more of land area, are not covered by this authorization. The permittee shall contact the IEPA regarding the required permit(s).

REPORTING

- L. The facility shall submit an annual inspection report to the Illinois Environmental Protection Agency. The report shall include results of the annual facility inspection which is required by Part G of the Storm Water Pollution Prevention Plan of this permit. The report shall also include documentation of any event (spill, treatment unit malfunction, etc.) Which would require an inspection, results of the inspection, and any subsequent corrective maintenance activity. The report shall be completed and signed by the authorized facility employee(s) who conducted the inspection(s).
- M. The first report shall contain information gathered during the one year time period beginning with the effective date of coverage under this permit and shall be submitted no later than 60 days after this one year period has expired. Each subsequent report shall contain the previous year's information and shall be submitted no later than one year after the previous year's report was due.

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Special Conditions

N. Annual inspection reports shall be mailed to the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
Annual Inspection Report
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

O. If the facility performs inspections more frequently than required by this permit, the results shall be included as additional information in the annual report.

SPECIAL CONDITION 9. This permit authorizes the use of water treatment additives that were requested as part of this modification. The use of any new additives, or change in those previously approved by the Agency, or if the permittee increases the feed rate or quantity of the additives used beyond what has been approved by the Agency, the permittee shall request a modification of this permit in accordance with the Standard Conditions - Attachment H.

The permittee shall submit to the Agency on a yearly basis a report summarizing their efforts with water treatment suppliers to find a suitable alternative to phosphorus based additives.

SPECIAL CONDITION 10. This permit may be modified to include different final effluent limitations or requirements which are consistent with applicable laws, regulations, or judicial orders. The Agency will public notice the permit modification.

SPECIAL CONDITION 11. The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.

SPECIAL CONDITION 12. The use or operation of this facility shall be by or under the supervision of a Certified Class K operator.

SPECIAL CONDITION 13. Total Residual Chlorine shall not be discharged from any single generating unit's main condensers for more than two hours per day and no more than one unit in any plant shall discharge Total Residual Chlorine at any one time unless the utility can demonstrate to the Agency that the units in a particular location cannot operate at or below this level of chlorination. The reported maximum concentration of Total Residual Chlorine shall be based on a minimum of three grab samples taken at approximately five minute intervals at Outfall 001. The time samples were collected, the time and duration of the chlorine dosing period plus the amount of chlorine applied shall be reported on the Discharge Monitoring Reports. For reporting purposes, the daily discharge shall be the average of all non-zero values measured in a day and the monthly average shall be the average of all daily discharges.

Total Residual Chlorine and Total Residual Oxidant limits are an instantaneous maximum limit which shall not be exceeded at anytime. The maximum limit when exclusively using chlorine in each unit for two hours or less in anyone day, shall be 0.2 mg/l. Any use of bromine either alone or in combination with chlorine shall be subject to a Total Residual Oxidant limit of 0.05 mg/l. All samples for Total Residual Chlorine/Total Residual Oxidant shall be analyzed by an applicable method contained in 40 CFR 136, equivalent in accuracy to low-level amperometric titration. Any analytical variability of the method used shall be considered when determining the accuracy and precision of the results obtained.

For the purposes of determining compliance, the highest single instantaneous Total Residual Chlorine/Total Residual Oxidant concentration measured during compliance curve sampling on any day will be regarded as the daily maximum concentration. Total residual oxidant concentration shall be measured and reported in terms of total residual chlorine.

Discharge Monitoring Reports shall indicate whether chlorine or bromine compounds were used during the month.

SPECIAL CONDITION 14. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

ATTACHMENT H

Standard Conditions

Definitions

Act means the Illinois Environmental Protection Act, Ch. 117 1/2 Ill. Rev. Stat., Sec. 1001, 1052 as Amended.

Agency means the Illinois Environmental Protection Agency

Board means the Illinois Pollution Control Board

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L. 92-500 as amended 33 U.S.C. 1261 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act

USEPA means the United States Environmental Protection Agency

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24 Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

8 Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

- (1) **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.
- (3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- (5) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.

- (6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- (7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.
- (8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency, upon request, copies of records required to be kept by this permit.
- (9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency, upon the presentation of credentials and other documents as may be required by law, to
 - (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 - (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - (d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.
- (10) **Monitoring and records.**
 - (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - (b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. This period may be extended by request of the Agency at any time.
 - (c) Records of monitoring information shall include:
 - (1) The date, exact place, and time of sampling or measurements;
 - (2) The individual(s) who performed the sampling or measurements;
 - (3) The data(s) analyses were performed;
 - (4) The individual(s) who performed the analyses;
 - (5) The analytical techniques or methods used; and
 - (6) The results of such analyses.
 - (d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.
- (11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.
 - (a) **Application.** All permit applications shall be signed as follows:
 - (1) For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;
 - (2) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
 - (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
 - (b) **Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - (1) The authorization is made in writing by a person described in paragraph (a); and
 - (2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and
 - (3) The written authorization is submitted to the Agency.

- (c) Changes of Authorization. If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (12) Reporting requirements
- (a) Planned changes. The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility.
- (b) Anticipated noncompliance. The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- (d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
- (2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 138 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
- (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.
- (e) Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The following shall be included as information which must be reported within 24 hours:
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit.
- (2) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit to be reported within 24 hours.
- The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
- (f) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (12)(c), (d), or (e), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12)(e).
- (g) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.
- (13) Transfer of permits. A permit may be automatically transferred to a new permittee if:
- (a) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;
- (b) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees; and
- (c) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit, if this notice is not received, the transfer is effective on the date specified in the agreement.
- (14) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:
- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
- (1) One hundred micrograms per liter (100 ug/l);
- (2) Two hundred micrograms per liter (200 ug/l) for acetone and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
- (3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
- (4) The level established by the Agency in this permit.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.
- (15) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:
- (a) Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to Sections 301 or 308 of the Clean Water Act if it were directly discharging those pollutants; and
- (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- (c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (16) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
- (1) User charges pursuant to Section 204(b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
- (2) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
- (3) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.
- (17) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reassued to conform to that effluent standard or limitation.
- (18) Any authorization to construct issued to the permittee pursuant to 35 B. Adm. Code 309.154 is hereby incorporated by reference as a condition of the permit.
- (19) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.
- (20) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than \$2,500, nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both.
- (21) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (22) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (23) Collected screenings, slimes, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.
- (24) In case of conflict between these standard conditions and any other conditions included in this permit, the other conditions shall govern.
- (25) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 B. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board.
- (26) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.