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August 11, 2005
NMP1L 1974

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Nine Mile Point Unit 1
Docket No. 50-220
Facility Operating License No. DPR-63

Emergency License Amendment Request Pursuant to 10 CFR 50.90:
Revision of Lake Water (Ultimate Heat Sink) Temperature Limit – Technical Specification 3.3.7 (TAC No. MC8061)

Gentlemen:

Nine Mile Point Nuclear Station, LLC (NMPNS) hereby transmits supplemental information requested by the NRC in support of a previously submitted application for amendment to Nine Mile Point Unit 1 Operating License DPR-63. The initial application, dated August 8, 2005, proposed a revision to Technical Specification 3.3.7, "Containment Spray System," to increase the maximum lake water temperature limit from 81°F to 83°F. The supplemental information, provided in Attachments 1 and 2 to this letter, responds to a NRC staff verbal request for additional information as discussed in a telephone conference call conducted on August 10, 2005. This information does not affect the No Significant Hazards Consideration analysis provided in NMPNS's August 8, 2005 letter.

This letter contains no new regulatory commitments. Pursuant to 10 CFR 50.91(b)(1), NMPNS has provided a copy of this supplemental information to the appropriate state representative.

A001

If you have any questions regarding this submittal, please contact James A. Hutton, Director-Licensing, at (315) 349-1041.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 11, 2005.

Very truly yours,

JMH/DEV/

Attachments:
1. Responses to NRC Request for Additional Information (RAI) Discussed in a Telephone Conference Call on August 10, 2005
2. Supplemented Explanation of the Emergency and Why the Situation Could Not Have Been Avoided

cc: Mr. S. J. Collins, NRC Regional Administrator, Region I
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Mr. T. G. Colburn, Senior Project Manager, NRR (2 copies)
Mr. John P. Spath, NYSERDA

ATTACHMENT 1

RESPONSES TO NRC REQUEST FOR ADDITIONAL INFORMATION (RAI) DISCUSSED IN A TELEPHONE CONFERENCE CALL ON AUGUST 10, 2005

RAI No. 1

Provide a description of the performance testing methodology for the containment spray system heat exchangers.

Response:

The containment spray heat exchanger heat capacity test is performed concurrent with Technical Specification surveillance testing of the containment spray and raw water system pumps and valves. The procedure runs a containment spray train in the torus cooling mode. As noted in Updated Final Safety Analysis Report (UFSAR) Section XV-C.5.3 and confirmed by the reanalysis submitted in Nine Mile Point Nuclear Station, LLC (NMPNS) letter NMP1L 1971 dated August 8, 2005, the torus cooling mode (i.e., the case using assumptions based on operation in accordance with the emergency operating procedures) is the limiting post-loss of coolant accident (LOCA) containment cooling scenario. The procedure was developed using the guidance provided in Electric Power Research Institute (EPRI) TR-107397, "Service Water Heat Exchanger Testing Guidelines." The test procedure has initial condition requirements to ensure ideal test conditions within the accuracy of the test measuring equipment. Ideal conditions exist when the temperature difference between the torus water (shell side) and the raw (lake) water intake (tube side) are maximized. The shell and tube side tested flow rates closely simulate the flow rates used in the EOP torus cooling mode containment heatup analysis.

The data is collected and evaluated as follows: heat exchanger inlet and outlet temperatures and flow rate data are obtained for both fluid systems. The raw data is evaluated, reduced, and analyzed, including an uncertainty analysis. The analysis methodology was benchmarked against the heat exchanger manufacturer's analysis code and the manufacturer reviewed and concurred with the NMPNS analysis tool calculations. First, a fouling factor is derived from the test data and then the fouling factor is used to extrapolate to design temperature and flow rate conditions. The analysis tool then calculates the heat removal rate and subtracts the overall test uncertainty from the heat removal rate. Finally, the calculated heat removal rate with test uncertainty applied is compared to the design basis heat removal rate documented in the GE SHEX containment heat-up analysis.

The heat exchanger tubes have been hydro-lased during each of the last three refueling outages, with the latest cleaning performed during the refuel outage in April 2005. In one instance, the as-found testing, which occurred approximately two years after hydro-lasing, resulted in the lowest heat removal rate observed (i.e., highest predicted fouling).

Comparing this highest as-tested fouling to the overall design fouling factor assumed for the limiting EOP mode for the proposed 83°F lake water temperature results in a fouling margin of approximately 34%. This margin is sufficient to conclude that the containment spray heat exchanger design fouling factors used to derive the heat transfer rate (K-value) used in the GE SHEX containment heat-up analysis is sufficient to support a 2-year cleaning frequency. Periodic testing is performed to validate effectiveness of the cleaning method used.

RAI No. 2

For the 10 CFR 50 Appendix R safe shutdown analysis, provide the actual number of hours required to achieve cold shutdown under the most limiting conditions. Include discussion of the sequence of events and the recovery actions credited in making this determination.

Response:

The limiting decay heat removal condition for the scenarios that credit the shutdown cooling, reactor building closed loop cooling (RBCLC), and emergency service water (ESW) systems occurs for the case when emergency diesel generator (EDG) 103 is the recovered diesel generator, since only one of the three shutdown cooling pumps is powered from EDG 103. This limits the heat removal to one shutdown cooling pump and heat exchanger. The RBCLC flow and ESW flow are sufficient to maintain heat removal rates via the shutdown cooling heat exchanger within the analysis assumptions. This limiting case, before and after the change in lake water temperature from 81 to 83°F, results in achieving cold shutdown within 72 hours. The 72-hour duration consists of an 8-hour repair time for the affected equipment, and the remaining time to cool to 212°F.

RAI No. 3

Regarding the NMPNS request for approval of the license amendment request on an emergency basis, provide additional information to justify why the situation could not have been avoided.

Response:

The explanation of the emergency and why the situation could not have been avoided, which was provided in Attachment 3 of NMPNS letter NMP1L 1971 dated August 8, 2005, has been supplemented to provide the requested information. See Attachment 2 to this letter.

RAI No. 4

Confirm that periodic containment spray heat exchanger performance testing is being performed consistent with the Nine Mile Point Unit 1 response to NRC Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment."

Response:

The Nine Mile Point Unit 1 (NMP1) response to Generic Letter 89-13 was provided in letter NMP1L 0553 dated December 10, 1990. In that response, it was stated that a task force had been assigned to evaluate heat exchanger performance monitoring requirements in order to establish a heat exchanger performance monitoring program. For the containment spray heat exchangers, the program uses the Preventative Maintenance (PM) Program to document the PM interval. The PM interval is for the heat exchangers to be cleaned every refueling outage (a 2-year cycle). NMP1 is using the performance testing of the containment spray heat exchangers to validate that the cleaning interval is effective in maintaining the heat exchangers such that they meet their design basis heat removal requirements.

RAI No. 5

The NMPNS submittal identifies that the required containment spray heat exchanger performance coefficient (K) has been reduced from 256 Btu/sec-°F to 241 Btu/sec-°F. Identify any other changes that affect the heat exchanger capacity margin (e.g., allowable tube plugging).

Response:

The change in the performance coefficient (K) for the containment spray heat exchangers (from 256 Btu/sec-°F to 241 Btu/sec-°F) incorporates both an increase in the assumed fouling and an assumption of 10 plugged tubes per heat exchanger. The lake water temperature is the only other analysis input associated with the containment spray heat exchangers that was changed.

ATTACHMENT 2

SUPPLEMENTED EXPLANATION OF THE EMERGENCY AND WHY THE SITUATION COULD NOT HAVE BEEN AVOIDED

NMPNS letter NMP1L 1971 dated August 8, 2005 provided the following discussion:

> The reason for the emergency is that unusually prolonged hot weather in the area has resulted in elevated Lake Ontario temperatures. High temperatures during the daytime, in conjunction with little cooling at night, have resulted in elevated Lake Ontario temperatures. The recent weather conditions have resulted in lake temperatures exceeding the anticipated temperature trends based upon lake temperature measurements from previous years. On August 4, 2005, the lake temperature peaked within 2°F of the limit. We foresee the possibility that the lake water temperature may exceed the current 81°F limit during periods of sustained hot weather conditions over the next seven days and the remaining summer months. In addition, there are no controllable measures that can be taken to immediately reduce the temperature of the lake.
>
> These recent meteorological conditions have caused an elevated lake water temperature beyond the control of the plant and the opportunity to make a timely application does not exist, therefore an emergency situation exists.

The following supplemental information is provided to justify why the situation could not have been avoided.

- Lake water temperature is routinely monitored in accordance with the requirements of the NMP1 Technical Specifications.
- Review of data from previous years indicates that the previous highest peak of 77.9°F was recorded on August 1, 1999 and was below the current TS limit of 81°F. (Graph 1)
- Comparison of the data in 2005 versus 1999 showed similar trends through July. (Graph 1)
- At the beginning of August, the 1999 daily peak lake temperature showed a gradual decreasing trend. However, the 2005 lake temperature has not shown a similar decreasing trend. At this point NMPNS began investigating the possibility of increasing the NMP1 ultimate heat sink maximum temperature above 81°F. (Graph 1)

- On August 4, the 2005 peak lake water temperature exceeded the 1999 peak value, reaching 79°F. *This departure from previous experience could not have been* anticipated or avoided. (Graph 1)

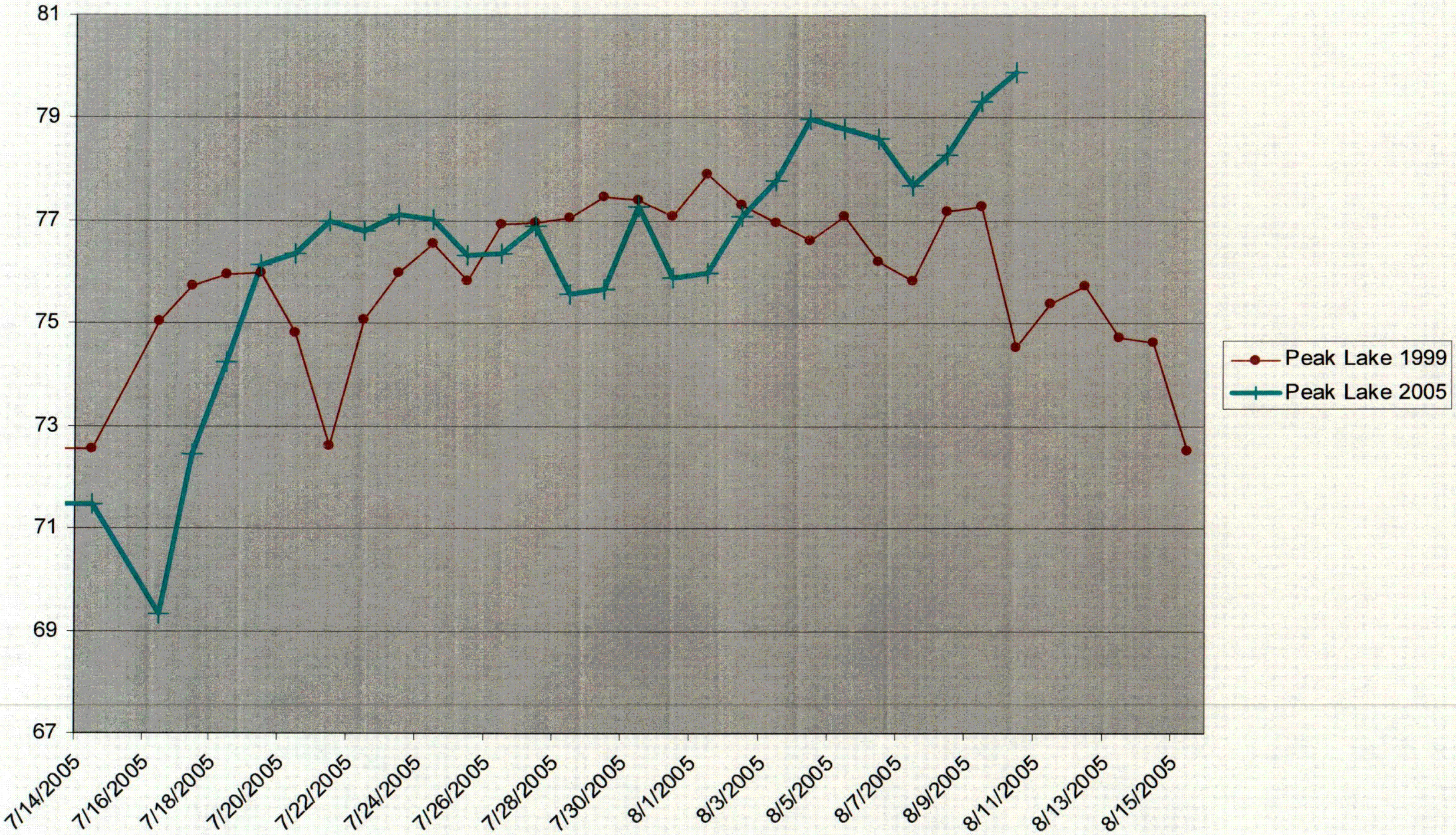
- Predicted maximum and minimum air temperatures in the site area through August 15 of this year exceed those that were recorded during the same period in 1999. Thus, there is a distinct possibility that the lake temperature will continue to rise. (Graphs 2 and 3)

- Lake water daily maximum temperature remains above previously observed values. (Graph 4)

Based on the above, the emergency situation could not have been avoided and the criteria for issuance of an emergency license amendment containing in 10 CFR 50.91(a)(5) have been fulfilled.

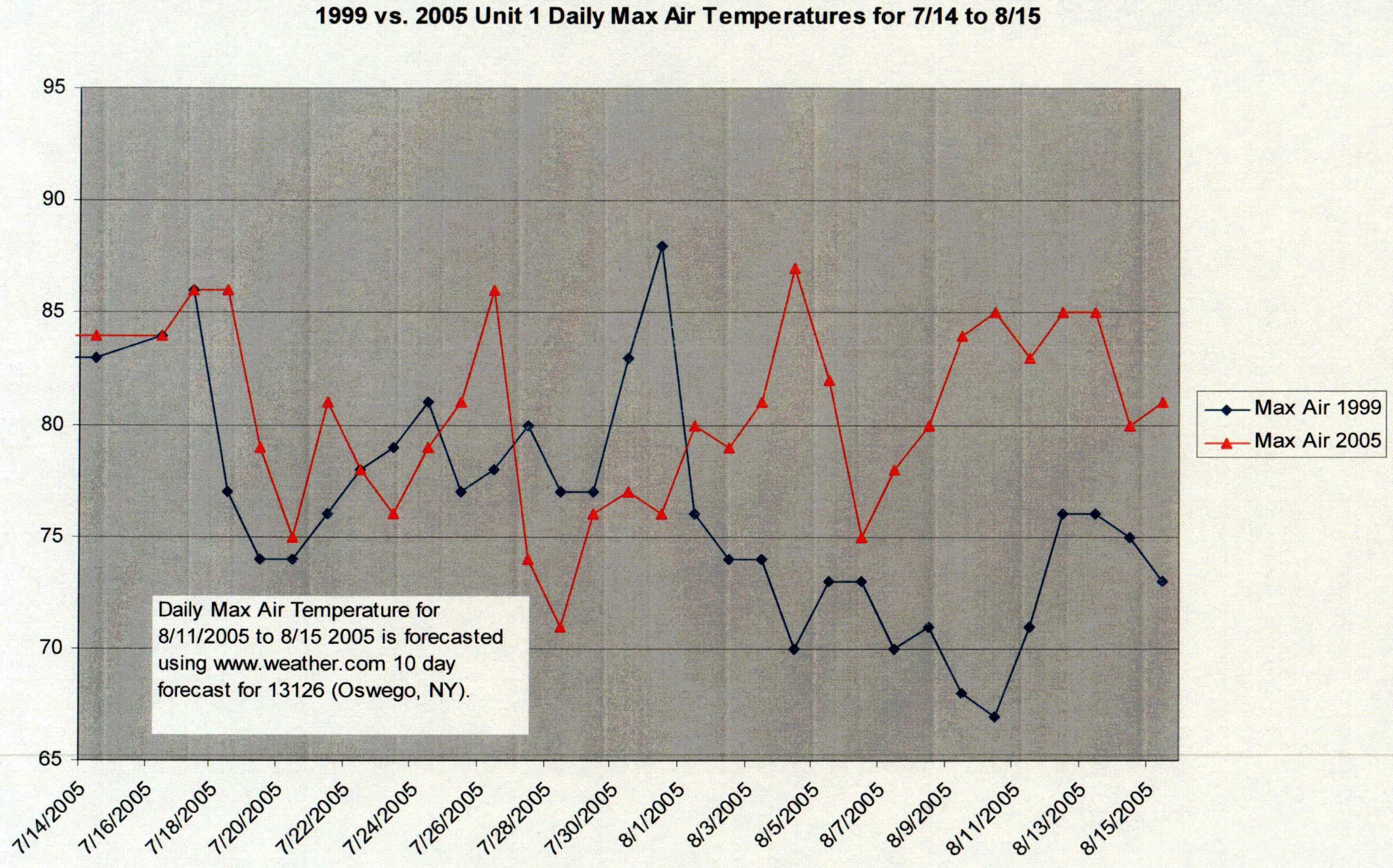
Graph 1

1999 vs. 2005 Unit 1 Daily Peak Lake Temperatures for 7/14 to 8/15



C01

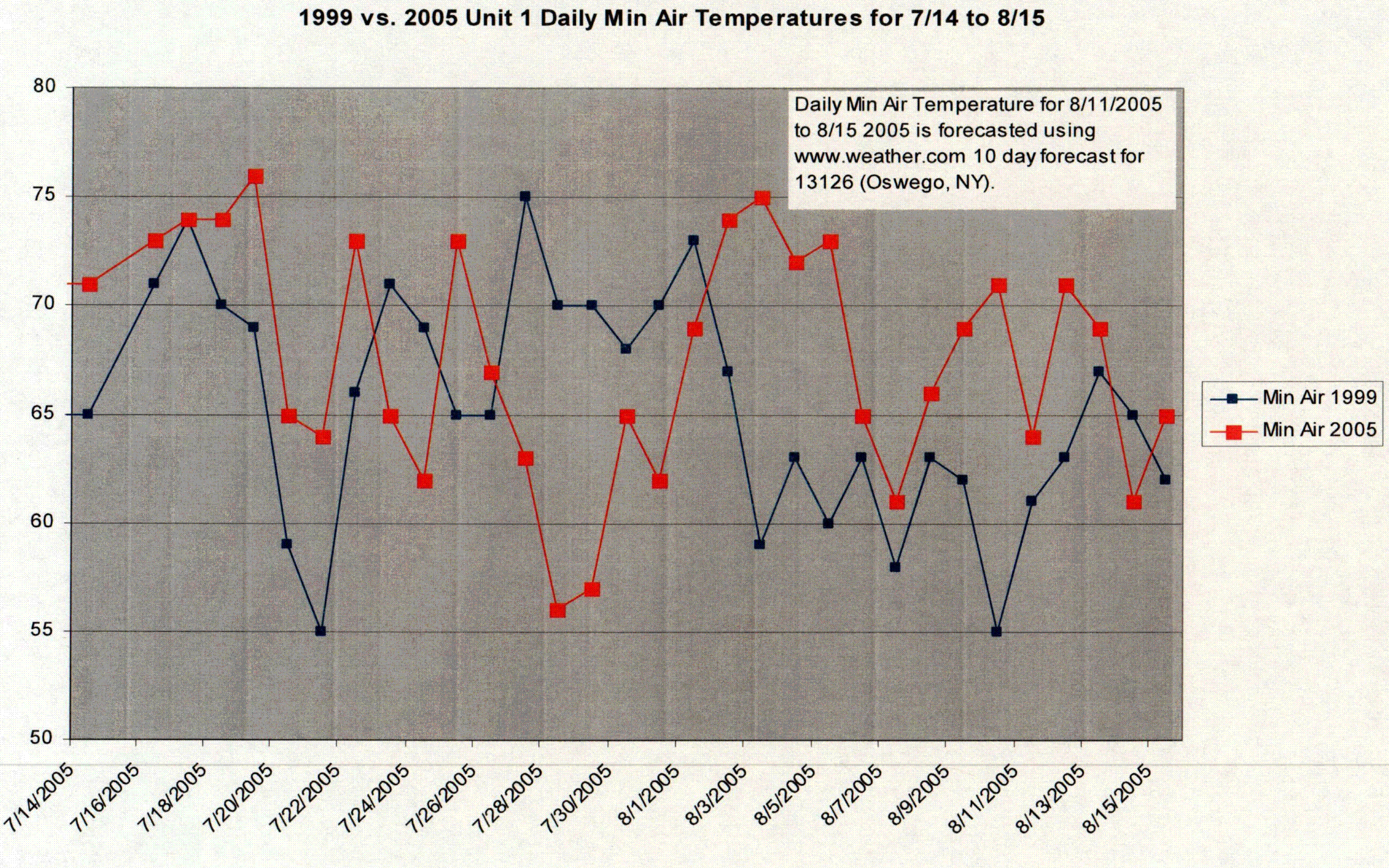
Graph 2



1999 vs. 2005 Unit 1 Daily Max Air Temperatures for 7/14 to 8/15
95
90
85
80
75
70
65
7/14/2005
7/16/2005
7/18/2005
7/20/2005
7/22/2005
7/24/2005
7/26/2005
7/28/2005
7/30/2005
8/1/2005
8/3/2005
8/5/2005
8/7/2005
8/9/2005
8/11/2005
8/13/2005
8/15/2005
Max Air 1999
Max Air 2005
Daily Max Air Temperature for 8/11/2005 to 8/15 2005 is forecasted using www.weather.com 10 day forecast for 13126 (Oswego, NY).

C02

Graph 3

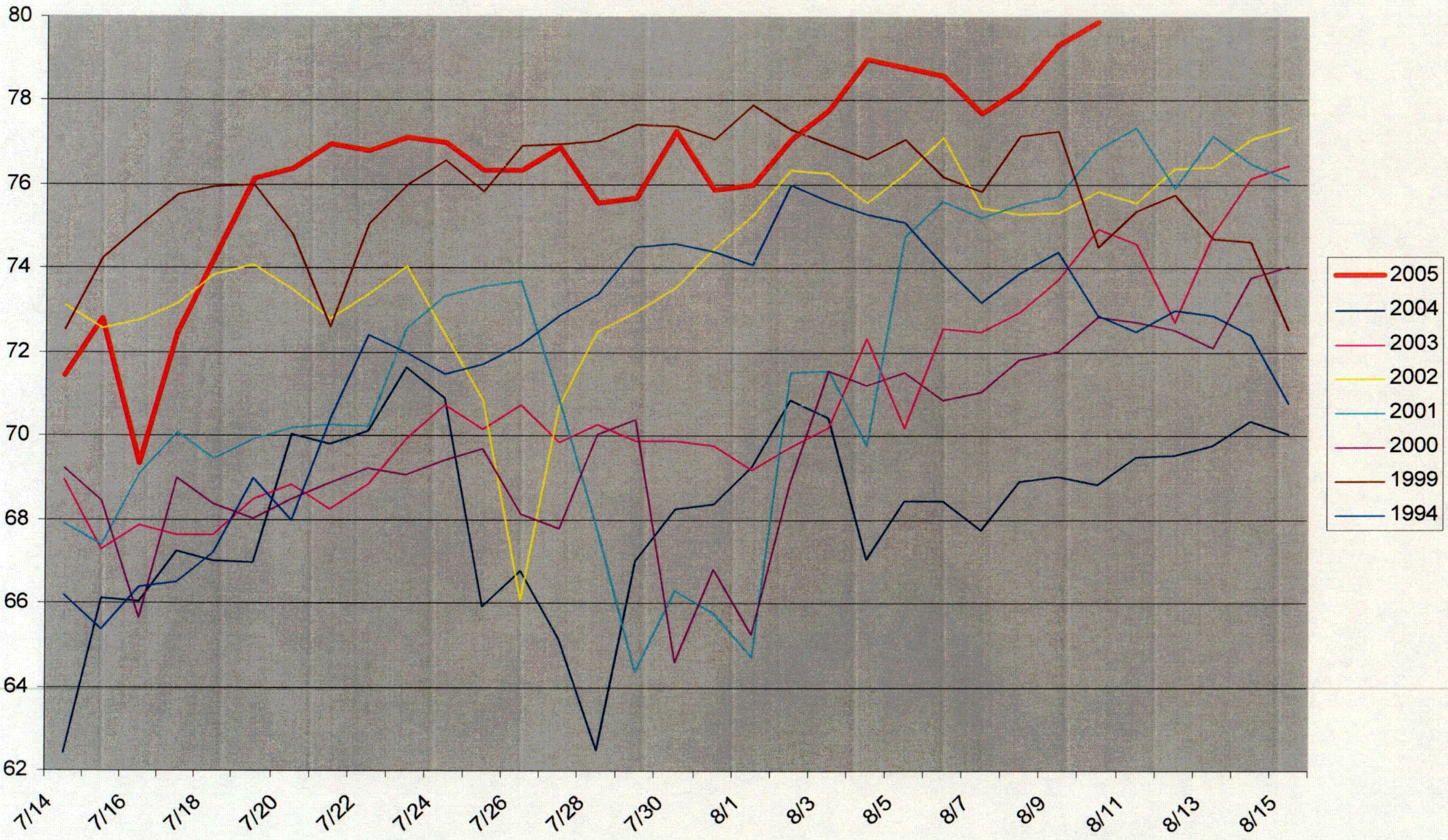


1999 vs. 2005 Unit 1 Daily Min Air Temperatures for 7/14 to 8/15
Daily Min Air Temperature for 8/11/2005 to 8/15 2005 is forecasted using www.weather.com 10 day forecast for 13126 (Oswego, NY).
80
75
70
65
60
55
50
7/14/2005
7/16/2005
7/18/2005
7/20/2005
7/22/2005
7/24/2005
7/26/2005
7/28/2005
7/30/2005
8/1/2005
8/3/2005
8/5/2005
8/7/2005
8/9/2005
8/11/2005
8/13/2005
8/15/2005
Min Air 1999
Min Air 2005

C03

Graph 4

Intake max temperature (July 14 to August 15)



C04