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An Exelon Company

Technical Specification, Appendix B
Section 3.5.1.A.1)

March 18, 2003
2130-04-2066

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

Oyster Creek Generating Station
Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Addendum to Annual Environmental Operating Report for 2002

References: 1) Letter from E. J. Harkness (AmerGen Energy Company, LLC) to U. S. NRC Document Control Desk, dated March 31, 2003

Reference 1 forwarded the Annual Environmental Operating Report for 2002. Part of the information to be included is a summary of all Non-Routine Environmental Operating Reports (NREOR) and the corrective action taken to remedy them. A subsequent internal audit noted the report included a summary of a NREOR reporting an event which happened on September 23, 2002 but did not include the subsequent corrective actions.

Enclosed are two copies of the revised attachment I to the original Annual Environmental Operating Report for 2002. The revised attachment includes corrective action taken in response to the event of September 23, 2002.

If any further information or assistance is needed, please contact William Stewart at 609-971-4775.

Sincerely,

C. N. Swenson
Vice President, Oyster Creek Generating Station

CNS/WVS
Enclosure

cc: H. J. Miller, Administrator, USNRC Region I
P. S. Tam, USNRC Senior Project Manager, Oyster Creek
R. J. Summers, USNRC Senior Resident Inspector, Oyster Creek
File No.03049

IE25

**ENCLOSURE I**
**ATTACHMENT I**

DOCKET 50-219

# FISH KILL MONITORING REPORT FOR SEPTEMBER 2002
(Revised March 2003)

## OYSTER CREEK GENERATING STATION

### Thermal Exceedance and Fish Kill event of September 23, 2002

A reportable fish kill event occurred at the OCGS subsequent to a maintenance activity conducted September 23, 2002. On the morning of September 23, 2002, the OCGS was operating at 100% power. The dilution plant, which is energized by the Bank 5 Transformer, had been secured to facilitate taking the Bank 5 Transformer out of service for maintenance. This maintenance would not only increase the level of safety during the upcoming refueling outage, but also improve the reliability of a transformer and associated electrical equipment which tie the OCGS to the offsite electrical grid. The dilution pumps were secured and the Bank 5 Transformer was taken out of service by 2:37 AM. This resulted in a condition which is not allowed by the OCGS New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Surface Water (DSW) Permit. Upon discovery of the non-compliance, immediate and uninterrupted actions were taken to restore the dilution plant to service. Notifications were made to the USNRC and NJDEP (Attachment I, References 1, 2, and 3). Subsequently, an Administrative Order and Notice of Civil Administrative Penalty Assessment dated December 11, 2002 was issued to AmerGen Energy citing the permit violations which occurred on September 23, 2002 and the natural resources damages which resulted from these permit violations (Reference 4).

Prior to the shutdown of the dilution pumps, water temperatures at the Main Condenser Discharge and Route 9 Bridge were approximately 38.9 °C (102 °F) and 32.7 °C (90.9 °F), respectively. These temperatures remained relatively constant for approximately 45 minutes. However, in the absence of thermal mixing from dilution pump operation, downstream water temperatures within the discharge canal began rising rapidly beginning at 3:25 AM. Route 9 Bridge temperature reached 36.1 °C (97 °F) by 3:43 AM and 37.8 °C (100 °F) by 4:13 AM.

A maximum Route 9 Bridge temperature of 38.3 °C (101.0 °F) occurred approximately three hours after shutdown of the dilution pumps. Route 9 Bridge temperatures remained about 37.8 °C (100 °F) for several hours until dilution pump operation was restored, which reduced temperatures at Route 9 Bridge to under 30.6 °C (87 °F). Figures 1 & 2 document these changes in water temperatures subsequent to the cessation of dilution pump operation.

Approximately one hour after the dilution pumps were shut off, a Plant Equipment Operator notified the Control Room that about 50 to 100 dead or stressed fish were observed in the discharge canal near the dilution pump discharge. In order to document this fish kill event, a fish sampling program was conducted by AmerGen Energy on the day of the dilution pump shutdown and the days immediately following the shutdown. The results of that monitoring effort indicated that several species of fish were affected, and that a total of approximately 5876 fish and invertebrates died due to thermal shock. The majority of the fish which died as a result of the dilution pump shutdown suffered lethal heat shock relatively rapidly.

Nearly three-quarters of the fish collected from the discharge canal and Oyster Creek were striped bass, Atlantic menhaden and white perch. Spot and American eel each comprised about an additional five percent of the fish collected. Although 17 other fish

species and two invertebrate species were also involved in the fish kill, most of these species comprised less than one percent of the total number collected (Attachment I, Table 1).

Immediate corrective actions taken included restoring the Bank 5 transformer to service and restarting the Dilution Plant. Interim corrective actions were taken to schedule a review of the NJPDES permit with Senior Site Management (Managers and Directors) and Licensed Senior Reactor Operator personnel to increase environmental awareness. Long term corrective actions to preclude repetition include creating a site policy to formalize interactions with the State of New Jersey and provide more effective communications for activities which could potentially challenge the NJPDES permit. Internal communications sessions were held and procedures were revised to emphasize compliance with the permit. The process for scheduling work will be modified to emphasize the months when the dilution plant cannot be removed from service.

## References

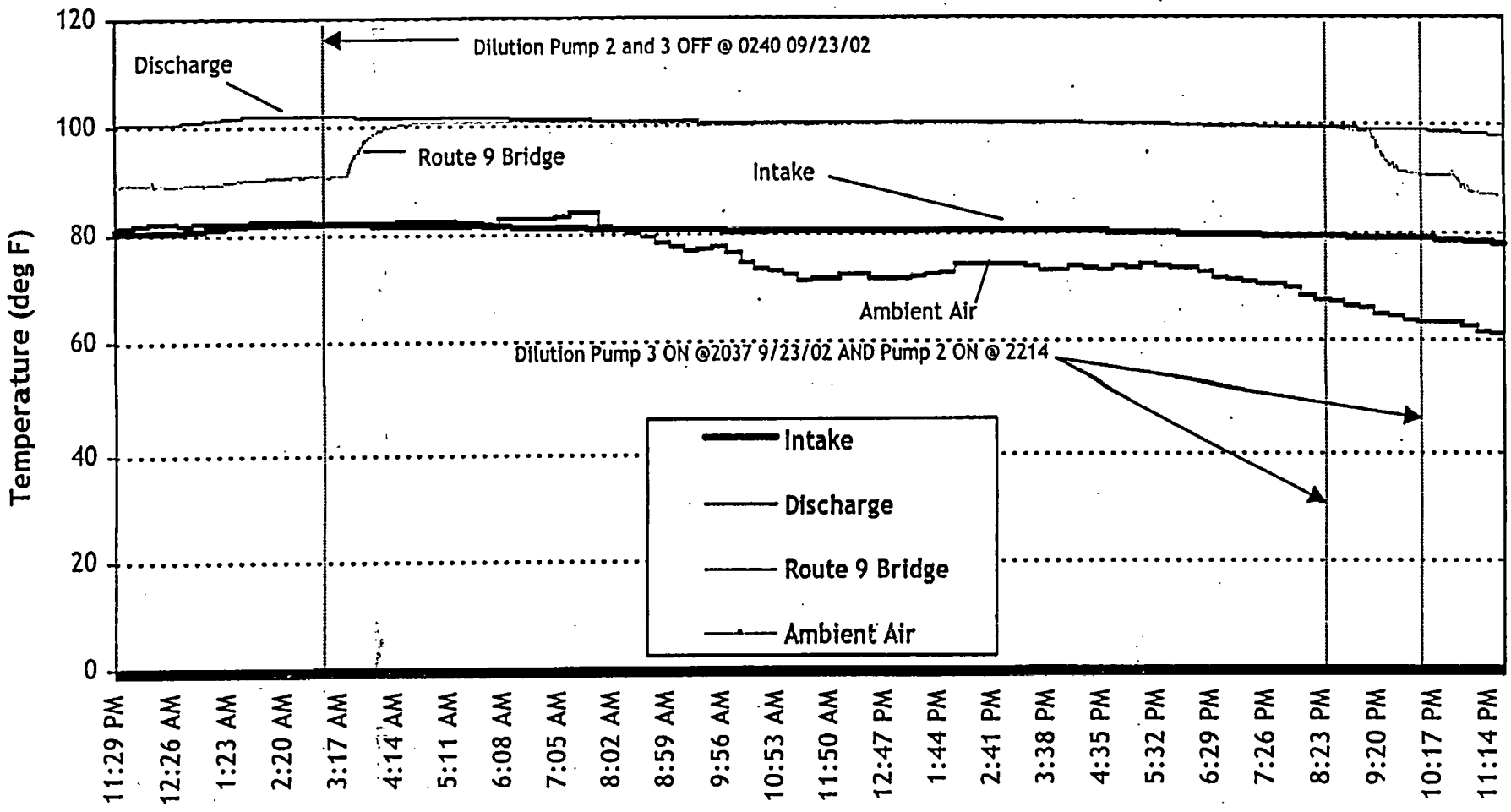

1. Letter 2130-02-20270, Harkness (AmerGen) to Van Sciver (NJDEP), dated September 23, 2002.

2. Letter 2130-02-20289, Harkness (AmerGen) to Hoffman (NJDEP), dated October 4, 2002.

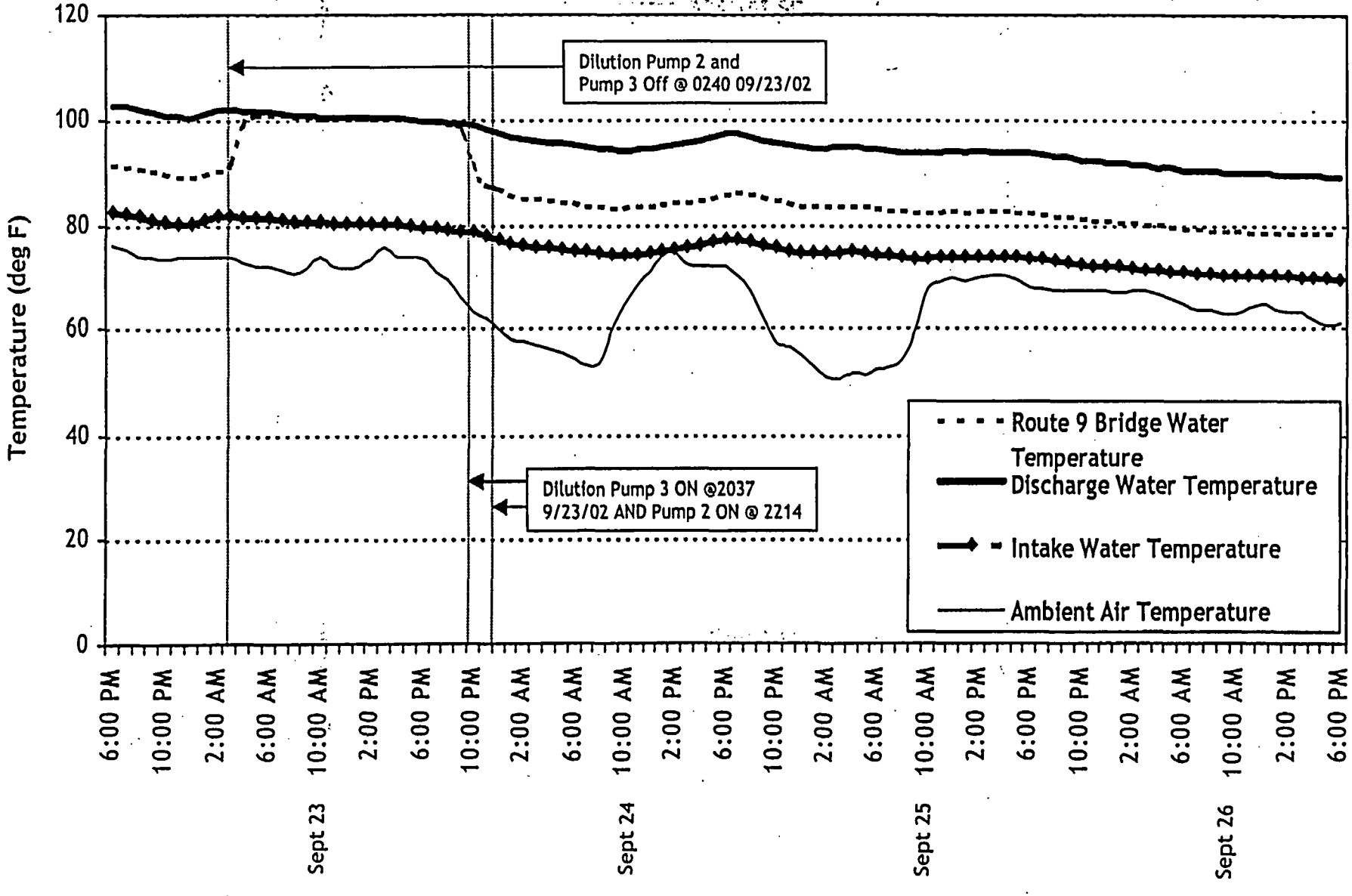
3. Letter 2130-02-20299, DeGregorio (AmerGen) to NJ Assistant Director of Water and Hazardous Waste Enforcement, dated October 21, 2002.

4. Letter, Jackson (NJDEP) to DeGregorio, dated December 11, 2002.

# Figure 1
# Oyster Creek Generating Station
# Water and Air Temperatures - 23Sep2002



# Figure 2
# Oyster Creek Generating Station
# Water and Air Temperatures
# 22Sep2002 Through 26Sep2002



# Table 1

## FISH COLLECTED AND MEASURED FROM THE SEPTEMBER 2002 OYSTER CREEK FISH KILL EVENT

| Species of Dead/Stressed Fish and Invertebrates Collected | Species Common Name | Total Count Per Species | Percentage of Total (%) | Minimum Length (mm) | Maximum Length (mm) |
|---|---|---|---|---|---|
| *Morone saxatilis* | Striped bass | **2720** | 46.29% | 230 | 960 |
| *Brevoortia tyrannus* | Atlantic menhaden | **999** | 17.00% | 110 | 165 |
| *Morone americanus* | White perch | **664** | 11.30% | 130 | 285 |
| *Leiostomus xanthurus* | Spot | **315** | 5.36% | unknown | 162 |
| *Anguilla rostrata* | American eel | **287** | 4.88% | 232 | 720 |
| *Opsanus tau* | Oyster toadfish | **254** | 4.32% | 162 | 246 |
| *Micropogonias undulatus* | Atlantic croaker | **230** | 3.91% | 191 | 195 |
| *Dorosoma cepedianum* | Gizzard shad | **130** | 2.21% | 350 | 424 |
| *Pomatomus saltatrix* | Bluefish | **112** | 1.91% | 412 | 895 |
| *Libinia emarginata* | Spider crab | **69** | 1.17% | unknown | unknown |
| *Pogonias cromis* | Black drum | **30** | 0.51% | unknown | 520 |
| *Callinectes sapidus* | Blue crab | **22** | 0.37% | unknown | unknown |
| N/A | Unidentified | **16** | 0.27% | unknown | unknown |
| *Cynoscion regalis* | Weakfish. | **9** | 0.15% | unknown | 603 |
| *Fundulus heteroclitus* | Mummichog | **4** | 0.07% | 33 | 56 |
| *Trinectes maculatus* | Hogchoker | **4** | 0.07% | 109 | 179 |
| Scaridae (?) | Parrotfish (?) | **2** | 0.03% | unknown | unknown |
| *Scaienops ocellatus* | Red drum | **2** | 0.03% | 481 | 1150 |
| *Dasyatis sabina* | Atlantic stingray | **2** | 0.03% | unknown | 446 |
| *Strongylura marina* | Atlantic needlefish | **1** | 0.02% | 293 | 293 |
| *Menidia menidia* | Atlantic silverside | **1** | 0.02% | 87 | 87 |
| *Sphoeroides maculatus* | Northern puffer | **1** | 0.02% | 238 | 238 |
| *Mugil cephalus* | Striped mullet | **1** | 0.02% | 450 | 450 |
| *Paralichthys dentatus* | Summer flounder | **1** | 0.02% | 300 | 300 |

| Total | **5876** | 100.00% |
|---|---|---|