

DISCHARGE MONITORING REPORT
PERMIT NUMBER NY0001015
NINE MILE POINT NUCLEAR STATION
FEBRUARY 1990

COMMENTS

1. There were no discharges from the Unit 2 Waste Neutralizing Tank to the Sewage Treatment Facility during February 1990.
2. No preprinted DMR form was received for outfall 022 (Security Building Air Conditioning). There were no discharges from this outfall directly to Lake Ontario (receiving water body) during February 1990. Any discharge during February was directed to the sewage treatment facility.
3. On February 16, 1990, the Unit 1 oil spill catchment basin was discharged because the basin was near its maximum design level requiring discharge. In the event the basin was allowed to exceed this level, then there would not be complete assurance that the maximum credible oil spill would be contained. This outfall is presently being added to the SPDES Discharge Permit. Prior to the discharge, an oil and grease sample was obtained and was found to contain 3.8 mg/liter oil and grease. Total suspended solids and pH were 3.0 mg/liter and 7.2 respectively. The volume discharged was approximately 175,000 gallons of water.

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PDR ADOCK 05000220
R PDC



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0.2
0.3
0.4
0.5
0.6
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0.8
0.9
1.0

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4. The following summary comment concerns the discharge of water from the Unit 2 circulating water system. The discharge was initiated on November 2, 1989 under an Emergency Authorization issued by the NYSDEC. Details of the discharge during November and December 1989 are provided in the comment sections of the November and December Discharge Monitoring Reports.

During the months of January and February 1990, the discharge of water continued under the terms and conditions of an amended Emergency Authorization dated December 22, 1989. Details of the discharge during January are provided in the comment section of the January Discharge Monitoring Report. The Amendment basically allows for the discharge of the Unit 2 circulating water system through the normal station blowdown routes and/or through the Unit 1 facility circulating water system. The Amendment also limits the concentration of total copper in the mixing area in Lake Ontario to 17 ppb, and requires a monitoring frequency of twice per week.

Any copper discharged from the circulating water system during February 1990 is believed to have originated from copper precipitated onto the carbon steel and concrete structures within the circulating water system and, to a smaller extent, from normal copper loss from



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the Admiralty brass condenser tubes. Results of online corrosion monitoring indicate that copper loss from the condenser tubes has decreased appreciably as a result of the approved addition of Copper-Trol, an azole based copper corrosion inhibitor, to the circulating water system.

Copper concentrations ranged from 66 to 1229 ppb total copper (862 ppb average) and 58 to 520 ppb soluble copper (363 ppb average). The minimum value of 66 ppb total copper occurred prior to startup of the Unit 2 facility on February 5, 1990. The much greater solubility of copper in warmer water, as the result of plant operation, is reflected in the February 6 1100 ppb total copper concentration. The maximum value of 1229 ppb total copper was on February 20 following the addition of Copper-Trol on February 15. Copper-Trol, in addition to preventing the corrosion of copper from the condenser tubes, also binds with soluble copper to convert it to insoluble copper. This conversion of soluble copper to insoluble copper forced loosely held copper adhering to the carbon steel and concrete structures to enter the water, thereby increasing total copper levels. In addition, as evidenced by sand found in water samples taken from the circulating water system, it is believed that an influx of sand originating from either cooling tower makeup water (Lake Ontario) and/or blown into the tower from on-site road sanding operations caused some scouring



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of the system. This action may have removed precipitated copper from the system walls and piping. The total copper concentration on February 27 was 725 ppb, an approximate 500 ppb decrease from the February 20, 1990 maximum. On both occasions, the Unit 2 facility continued to operate near full power.

The total copper concentration in Lake Ontario during February 1990 was maintained below 17 ppb as a result of the discharge of the Unit 2 circulating water system through both Units 1 and 2. Copper concentrations ranged from 3.8 to 11.3 ppb total copper. The discharge was limited to the Unit 1 pathway during operation of the Unit 2 facility. The normal Unit 2 blowdown pathway was utilized prior to the startup of Unit 2 on February 4.

There was one occurrence when the temporary discharge water pipe from Unit 2 to Unit 1 leaked. On February 6, 1990, a heavy load vehicle accidentally struck the line causing a leak. The discharge pump was shut down within 2 to 5 minutes and it is conservatively estimated that less than 1200 gallons of circulating water leaked to the roadway. The impact of the leak is considered to be insignificant since there are no storm sewers in the immediate vicinity of the leak and the copper concentration of the water was 1100 ppb total copper.



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