

THREE MILE ISLAND NUCLEAR STATION
1988
ANNUAL ENVIRONMENTAL OPERATING REPORT
Part A: Nonradiological
Docket No. 50-320

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SUMMARY

This document along with "An Ecological Study of the Susquehanna River near the Three Mile Island Nuclear Station - Annual Report for 1988," fulfills the requirements for the "Annual Environmental Operating Report - Part A: Nonradiological" as described in the TMI-2 Environmental Technical Specifications (ETS) Section 5.6.1 A.(1). The purpose of the report is to discuss nonradiological environmental effects from activities at Three Mile Island Nuclear Station (TMINS). During 1988, no significant adverse environmental impacts resulted from these activities.

All proposed changes in procedures, station design, or operation for 1988 were reviewed to ensure that there was no potential environmental impact in accordance with ETS and administrative quality assurance procedures. No unusual or important environmental events, resulting from the operations of TMINS, occurred during the year.

During 1988, a total of seven noncompliance reports were submitted to the Pennsylvania Department of Environmental Resources (PaDER) as required by the TMINS National Pollutant Discharge Elimination System (NPDES) Permits PA 0009920 (Industrial) and PA 0081698 (Sewage). No significant adverse impacts to the environment resulted from the noncompliances.

TMINS complied with the requirements of all other relevant permits during 1988. The Industrial NPDES permit was amended on August 3, 1988. The amendment relates to the use of process-control chemicals in the secondary system of TMINS Unit 1.

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Table 1. List Of Abbreviations

ETS - Environmental Technical Specifications

NPDES - National Pollutant Discharge Elimination
System

NRC - Nuclear Regulatory Commission

PaDER - Pennsylvania Department of Environmental
Resources

TMINS - Three Mile Island Nuclear Station

USEPA - United States Environmental Protection Agency

Table 2. Section Reference To TMI-2 ETS

<u>Report Section</u>	<u>Title</u>	<u>TMI-2 ETS</u>
1.	Water Quality Analysis	3.1.1.a(4)
2.	Biotic - Aquatic	3.1.2.a
3.	Unusual or Important Environmental Events	4.6.1
4.	Exceeding Limits of Other Relevant Permits	4.6.2
5.	Environmental Program Description Document	5.5.1
6.	Changes in Procedures, Station Design, or Operation	5.5.4
7.	Changes in Environmental Technical Specifications	5.7.1
8.	Changes in Permits and Certifications	5.7.2

INTRODUCTION

This document and the referenced report fulfill the requirements for the "Annual Environmental Operating Report", as described in the TMINs, Unit 2 ETS. Nonradiological effluents are exclusively regulated by the PaDER through the two TMINs NPDES Permits.

Data collected in 1988 were analyzed and compared to the requirements set forth in the ETS. These data are summarized in the above reports.

1. WATER QUALITY ANALYSIS

Water Quality Analysis is described in "An Ecological Study of the Susquehanna River near the Three Mile Island Nuclear Station - Annual Report for 1988," RMC Environmental Services, March 1989. This report will be submitted to the NRC by May 1, 1989.

2. BIOTIC-AQUATIC

The Aquatic Program is described in "An Ecological Study of the Susquehanna River near the Three Mile Island Nuclear Station - Annual Report for 1988," RMC Environmental Services, March 1989. This report will be submitted to the NRC by May 1, 1989.

3. UNUSUAL OR IMPORTANT ENVIRONMENTAL EVENTS

No unusual or important environmental events resulted from the operation of TMINS during 1988.

4. EXCEEDING LIMITS OF OTHER RELEVANT PERMITS

During 1988, seven noncompliances resulted from violating various requirements set forth in the TMINS NPDES Permits PA 0009920 (Industrial) and PA 0081598 (Sewage). Reports of the noncompliances were submitted to the PaDER and the USEPA as required by the respective NPDES permits. The noncompliances related to the operation of TMINS Unit 1 and were not reportable to the NRC. However, they are included in this report for information. The noncompliances are summarized below.

Noncompliance 88-01 (January 17, 1988 - January 23, 1988) resulted from failing to monitor the Main Station Discharge (DSN 001) for free available chlorine. The Industrial NPDES Permit requires monitoring at DSN 001 for free available chlorine at least once per week during chlorination. Noncompliance corrective action included a better administrative control program.

Noncompliance 88-02 (January 31, 1988 - February 6, 1988) resulted from failing to monitor DSN 001 for free available chlorine. Because of a repeat in this type of noncompliance, a redundant sampling program was implemented to ensure compliance with the minimum NPDES monitoring frequency.

Noncompliance 88-03 (May 1, 1988 - May 31, 1988) occurred at the discharge point of the sewage treatment plant (DSN 101). The noncompliance resulted from the release of 2.1 mg/L phosphorus as a monthly average which exceeded the monthly average permit limit of 2.0 mg/L. The phosphorus limit was exceeded due to the incompatibility between system components and specific chemicals while attempting to increase treatment efficiency. Corrective action involved operator instruction on the compatibility between various chemicals and system components for planning future operational changes.

Noncompliance 88-04 (June 23, 1988) resulted from discharging trace concentrations of total residual chlorine (TRC) from TMINS Unit 1 (DSN 001) for more than a two-hour period. The Industrial NPDES Permit requires that neither free available chlorine nor TRC may be discharged from any one unit for more than two hours in any one day. The release of trace concentrations of TRC resulted from a neutralization process performed during the 1988 refueling outage. Administrative actions were implemented to control similar chemical neutralization reactions which could impact chlorine discharges.

Noncompliance 88-05 (June 20, 1988 - June 23, 1988) occurred at the discharge point of the East Dike Settling Basin (DSN 005). The noncompliance resulted from an average release of 36 mg/L total suspended solids (TSS), exceeding the monthly average permit limit of 30 mg/L. The elevated average TSS concentration was caused by an initial high flow rate from the Natural Draft Cooling Towers (NDCT) while being drained for maintenance. Administrative actions were implemented to better control NDCT drain-down operations.

Noncompliance 88-06 (July 1, 1988 - July 31, 1988) occurred at the discharge point of the Industrial Waste Filter System (DSN 401). The noncompliance resulted from a maximum daily release of 150 mg/L TSS and an average monthly release of 102 mg/L TSS, exceeding the permit limits of 100 mg/L and 30 mg/L, respectively. The elevated TSS concentrations were caused by a torn filter press screen which allowed solids to enter the effluent holding tank. Corrective actions involved replacement of the filter press screen, draining and flushing of the holding tank and the implementation of periodic tank cleaning.

Noncompliance 88-07 (November 2, 1988 and November 6, 1988) resulted from violating EPA holding time and preservation requirements for samples collected at DSN 005 and at the discharge point of the Industrial Waste Treatment System effluent (DSN 701) for oil and grease analyses. The noncompliance was caused by the loss of samples during shipment. Corrective action included the implementation of a better tracking system for NPDES permit required samples and counselling of the responsible supervisors.

Environmental assessment reports were prepared for the above noncompliances. None of the noncompliances during 1988 resulted in significant adverse impacts to the environment.

TMINS complied with the requirements of all other relevant permits during 1988. These permits included:

- o Solid Waste Disposal Permit No. 301029, issued by PaDER for onsite disposal of nonhazardous industrial waste filter cake,
- o Public Drinking Water Supply ID No. 722-0917, issued by the PaDER for operating a non-community public drinking water supply, and
- o Maintenance Dredging Permit No. NABOP-RR75-0083-R, issued by the U.S. Army Corps of Engineers for desilting the TMINS Intake Bays.

5. ENVIRONMENTAL PROGRAM DESCRIPTION DOCUMENT

Section 5.5.1 of the TMI-2 ETS requires that procedures implementing the requirements of Sections 3.1 and 4 of the TMI-2 ETS be compiled into an Environmental Program Description Document. The TMI Environmental Controls Procedures listed in Table 3 satisfy this requirement. No changes were made to these procedures during 1988.

6. CHANGES IN PROCEDURES, STATION DESIGN, OR OPERATIONS

Proposed changes in procedures, station design, or operations during 1988 were reviewed for potential environmental impact in accordance with ETS and administrative quality assurance procedures. The reviews ensured that no changes were performed which could cause an adverse environmental impact, or which could change the findings of the Final Supplement to the Final Environmental Statement.

7. CHANGES IN ENVIRONMENTAL TECHNICAL SPECIFICATIONS

No changes were made to the nonradiological ETS during 1988.

8. CHANGES IN PERMITS AND CERTIFICATIONS

During 1988 the PaDER issued an amendment (Amendment No. 1 dated August 3, 1988) to the TMINS Industrial NPDES Permit (PA 0009920). The amendment allows the use of morpholine and hydrazine for chemical control in the secondary system of TMINS Unit 1. Based on plant uses of these chemicals, there are no additional monitoring requirements for morpholine. However, hydrazine requirements were added to the permit. Hydrazine is limited by the following new requirement: "Hydrazine shall be analyzed for during the discharge on Outfall 001 [Main Station Discharge] following outage (cold shutdowns). The Discharge Limitation is set not to exceed non-detectable using testing Procedure ASTM-D1385-78."

No other changes were made to existing relevant permits nor were any new permits issued relating to the ETS during 1988.

Table 3. Procedures Comprising The TMINs Environmental

Program Description Document (1988)

TMI-Unit 2 Environmental Technical Specification Section	Procedure Title	Procedure Number	Current Revision Number
3.1.1.a.(4)	Water Quality Analysis	9420-IMP-4512.01	1
3.1.2.a.(1)(a)	Benthic Macroinvertebrates	9420-IMP-4511.01	3
3.1.2.a.(1)(b)	Ichthyoplankton	9420-IMP-4511.02	3
3.1.2.a.(1)(c)	Fish	9420-IMP-4511.03	2
3.1.2.a.(1)(c)	Creel Survey	9420-IMP-4511.04	0
4.6.1 and 4.6.2	KRC Nonroutine Reports	9420-ADM-4500.04	0