

IMMEDIATE  
PRELIMINARY NOTIFICATION

*BIB*

April 19, 1979

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-79-67Z

This preliminary notification constitutes summary information of an event of safety or public interest significance. The information presented is a summary of information as of 7:00 a.m. on April 19, 1979.

Facility: Three Mile Island Unit 2  
Middletown, Pennsylvania (DN 50-320)

Subject: NUCLEAR INCIDENT AT THREE MILE ISLAND

Plant Status

The average primary coolant temperature is 235 degrees F. Preparations are being made to further decrease coolant temperature by admitting steam to the main condenser through the main turbine. Two of the incore thermocouple readings remain above 300 degrees F with the highest at 329 degrees F.

Replacement of the charcoal filter elements in train A of the Auxiliary Building Ventilation system is expected to be completed this morning. Preoperational tests of train A will then be conducted.

Pressurizer level transmitter LT-2 failed at 11:30 p.m. on April 18. Calibration of an alternate method to be used as a backup pressure level measurement is continuing.

A pressurized primary coolant sample was taken at 9:45 p.m. on April 18, 1979 and sent to B&W, Lynchburg, VA. for analysis via a National Guard Aircraft at 11:35 p.m.

Environment Status

Offsite radiation levels identified by NRC survey teams were consistent with normal background levels (0.02 mR/hr maximum). These results were obtained from routine surveys performed downwind on the east side of the Susquehanna River at distances up to five miles north and south of the site.

By 7:00 p.m. on April 18, 721 local residents had been scanned with the whole body counter located in Middletown. Scan results indicate no radiation levels above normal body levels due to TMI operations. The scanning of local residents has been terminated.

An Aerial Measuring System (AMS) survey was conducted beginning at 6:38 a.m. on April 18, 1979. A plume reading 0.02 mR/hr was identified 0.25 miles SE of the plant and followed to 1.5 miles. Spectral analysis indicated

CONTINUED  
IMMEDIATE PRELIMINARY NOTIFICATION

the presence of Xenon-133. An air sample taken in the plume 200 meters downwind from the stack showed  $8.6 \times 10^{-11}$  microcuries per cubic centimeter of Iodine-131 ( 86 picocuries per cubic meter).

During the period from 0530 April 18 to 0530 April 19 three of four air samples collected around the site showed no activity above the minimum detectable activity (MDA). The meteorological conditions during this period were more favorable than those of the previous day. The fourth sample shows an Iodine-131 concentration of  $2.7 \times 10^{-11}$  uc/cc (27 picocuries per cubic meter). Data from five other samples have not as yet been analyzed. Three soil samples and three grass samples showed no activity above the MDA. The MDA for grass was  $2.4 \times 10^{-4}$  microcuries per square meter (240 picocuries per square meter); the MDA for soil was about  $3.7 \times 10^{-7}$  microcuries per gram (0.37 picocuries per gram). One grass sample taken showed  $5.5 \times 10^{-4}$  microcuries per square meter (550 picocuries per square meter).

Dose rates (47 locations) as measured by NRC thermoluminescent dosimeters (TLD's) for the past 24-hour period are near expected natural background levels.

Iodine concentrations measured in the Unit 2 ventilation stack since PNO-79-67Y (April 18, 1979) are:

<u>Time</u>	<u>Activity (uCi/ml)</u>
4/17 (2357) - 4/18 (0405)	$2.2 \times 10^{-7}$
4/18 (0405) - 4/18 (0550)	$4.5 \times 10^{-7}$
4/18 (0550) - 4/18 (0800)	$2.1 \times 10^{-7}$
4/18 (0805) - 4/18 (0945)	$1.8 \times 10^{-7}$
4/18 (0945) - 4/18 (1200)	$1.4 \times 10^{-7}$
4/18 (1204) - 4/18 (1647)	$7.2 \times 10^{-8}$
4/19 (0001) - 4/19 (0358)*	$7.5 \times 10^{-8}$

\*The stack monitor used for these measurements was out of service from 12:00 a.m. on April 18 to 12:00 p.m. April 18, 1979.

CONTINUED  
IMMEDIATE PRELIMINARY NOTIFICATION

The NRC took the daily air sample near the observation center starting at 1600 on April 17 and ending at 1600 on April 18. Analysis of this sample indicated that the concentration of Iodine-131 during the approximate 24-hour period averaged less than  $2.6 \times 10^{-12}$  microcuries per milliliter (less than 2.6 picocuries per cubic meter).

EPA submitted airborne iodine analyses of air samples collected from 31 stations on April 12 and 13. Nineteen of the samples were reported to have positive measurements of Iodine-131 from  $7.2 \times 10^{-14}$  microcuries per cubic centimeter (0.072 picocuries per cubic meter) for a location 25 miles west of the plant to  $6.6 \times 10^{-13}$  microcuries per cubic centimeters (0.66 picocuries per cubic meter) at a location about 5 miles west of the plant. EPA air samples collected on April 14 showed positive Iodine-131 on 6 of the 31 samples with a range of  $1.5 \times 10^{-13}$  to  $7.9 \times 10^{-13}$  microcuries for cubic centimeter (0.15 to 0.79 picocuries per cubic meter). EPA milk samples collected on April 12, 13 and 14 from 9 locations were less than MDA (10-15 picocuries per liter). Soil and vegetation samples collected on April 11 showed no activity above background.

On April 18, during a tour by NRC personnel of Hill Island, adjacent to TMI, three persons were observed. Two of the persons reported that they had been on Hill Island on March 28-30, 1979. An evaluation of their exposure is in progress. One of the three has already been counted in the whole body counter in Middletown.

The Commonwealth of Pennsylvania has been informed of these results.

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