

IMMEDIATE

PRELIMINARY NOTIFICATION

April 5, 1979

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

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 am on 4/5/79.

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

Subject: NUCLEAR INCIDENT AT THREE MILE ISLAND

Plant Status

Reactor pressure remains near 1000 psi with bulk core coolant inlet and outlet temperatures approximately 280 degrees F. Core thermocouple readings are relatively unchanged and indicate a maximum temperature of 462 degrees F which is well below saturation temperature for the present reactor pressure. Three thermocouple readings remain above 400 degrees F. The number of thermocouple readings that are being monitored has been reduced to 30.

Containment atmosphere measurements indicate about 2% hydrogen. One hydrogen recombiner is in operation, with another unit on standby.

A Heise pressure gauge has been installed to provide an alternate method of determining the pressurizer level by monitoring the steam space pressure and water space pressure in the pressurizer. Testing procedures are under review. The pressurizer is being vented to the containment for about 15 minutes every 6-8 hours.

Plans for use of the robot to obtain a primary system sample have been developed.

Environmental Status

Preliminary analysis by FDA of 16 milk and miscellaneous food products collected on April 3, 1979 showed no detectable iodine concentrations in 12 samples and iodine ranging from 12-18 pCi/l in 4 milk samples. The State of Maryland reported on April 4, 1979 the results of analysis of 12 milk samples collected from 3 to 20 miles from the site. All samples were reported as less than the minimum detectable activity (MDA). One process milk sample from Harrisburg also was reported by the State of Maryland as less than MDA. Three water samples, two at Conewago and one from Holtwood Dam, were reported as less than MDA by the State of Maryland.

CONTINUED

FDA collected 5 other milk samples on April 3, 1979, two of which showed iodine concentrations of 12 and 17 pCi/l. One showed no detectable iodine and there are no results for the other two samples. One of these samples showed a cesium concentration of 13 pCi/l; there are no cesium results for the other four. The State of Pennsylvania analysis of 15 milk samples collected on April 3, 1979 showed one with iodine at 19 pCi/l, 13 with no detectable iodine, and 1 with no result. Four showed cesium levels ranging from 10-26 pCi/l and there are no results for the other 11 samples. All of the samples collected by the State and FDA were split samples, i.e., shared to obtain independent results.

Continuous ground level radiation surveys performed on April 4, 1979 by the NRC survey teams on the east and west sides of the Susquehanna River from a distance of 4 miles north to 4 miles south of TMI showed radiation levels averaging less than 0.03 mR/hr on the east side of the river and 0.01 to 0.04 mR/hr on the west side of the river. Prevalent wind direction during the day was from the east.

Six ARMS surveys were performed on April 4, 1979 at: 0001, 0300, 0600, 0900, 1200 and 1522 hours. The flights identified the plume to be in the sections of 200° and 300°. The maximum radiation levels were detected during the 0600 flight during which levels of 1.2 mR/hr were detected using portable survey meters. The 1522 flight used normally installed ARMS instrumentation and measured radiation levels of about 0.1 mR/hr (about 5 times background) at 1 mile distance and about 0.06 mR/hr (about 3 times background) at 2 miles distance.

On April 4, a 40-minute air sample taken about 0100 near York Haven, and a 60-minute sample taken about 1300 in Goldsboro, both indicated less than 1×10^{-10} $\mu\text{Ci/ml}$ I-131 (maximum permissible concentration for unrestricted areas).

Dose rates in populated areas as measured by NRC thermoluminescent dosimeters (TLDs) showed only minor changes from the previous day. Minor fluctuations are expected at these low dose rates. Following are the exposure rates for previously reported locations:

Dose Rate (Milliroentgens per Hour)

	<u>4/1/79</u>	<u>4/2/79</u>	<u>4/3/79</u>	<u>4/4/79</u>
Falmouth	0.15	0.01	0.20	0.04
Middletown	0.04	0.01	0.02	0.01
Goldsboro	0.13	0.05	0.07	0.07
Goldsboro	0.04	0.02	0.05	0.02
Lewisberry	0.05	0.02	0.04	0.03
Pleasant Grove	0.04	0.02	0.06	0.01
York Haven	0.07	0.02	0.10	0.05
Conewago Heights	0.04	0.02	0.07	0.02
Emigsville	0.05	0.02	0.07	0.02

CONTINUED

Occupational Radiation Exposures

Three occupational radiation doses in excess of the regulatory limit of 3 rems per calendar quarter have been confirmed. All three exposures were licensee personnel and were approximately 4 rems (this includes the two exposures reported in PNO-79-67B).

To date on April 4, 1979, there have been 12 individuals with doses greater than 2 rems but less than 3 rems. Three doses are for the period January 1 to April 4, 1979, but it is believed the majority of exposure was received as a result of the incident. More specific occupational exposure data is expected to be available in the near future.

Industrial Waste Treatment System (IWTS)

As of 0500 on April 5, 1979, the IWTS sump was 74% filled with about 100,000 gallons of capacity still available. The State of Pennsylvania approved release of material from the IWTS that does not exceed permissible values. No releases have been made as of 0500.

Other Information

At about 5:00 pm on April 4, 1979, the licensee initiated the shipment of solidified low level waste which was collected from Unit 1 prior to the Unit 2 event of March 28, 1979. Additional shipments will be made twice daily. The waste is being sent to the Chem Nuclear facility in South Carolina.

The attached table of collective doses updated to April 3 was prepared by a joint NRC/HEW/EPA study group.

Contact: DThompson, IE x28487 NCMoseley, IE x28160

Distribution: Transmitted H St 8:40
Chairman Hendrie Commissioner Bradford
Commissioner Kennedy Commissioner Ahearne
Commissioner Gilinsky

S. J. Chilk, SECY
C. C. Kammerer, CA
(For Distribution)

Transmitted: MNBB 8:47
L. V. Gossick, EDO
H. L. Ornstein, EDO
J. J. Fouchard, PA
N. M. Haller, MPA
R. G. Ryan, OSP
H. K. Shapar, ELD
P. Bldg 8:52
H. R. Denton, NRR
R. C. DeYoung, NRR
R. J. Mattson, NRR
V. Stello, NRR
R. S. Boyd, NRR
SS Bldg 8:56
W. J. Dircks, NMSS
Saul Levin, RES

J. G. Davis, IE
Region I
Region II
Region III
Region IV
Region V
(MAIL) 9:05
J. J. Cummings, OIA
R. Minogue, SD

CONTINUED

Distribution:
IE (TMI) Site: 8:45 (Provide copy to STATE)
White House Situation Room 9:50
EPA 11:00
FDA/BRH 11:30
DOE/EOC 9:35
FDDA/FEMA 11:56
BRP (State of PA) 12:02
DCPA 12:20
HEW _____

Handcarry (FAA)

IMMEDIATE

PRELIMINARY NOTIFICATION

COMPARISON OF COLLECTIVE DOSES TO POPULATION
 WITHIN 50 MILES OF THREE MILE ISLAND
 NUCLEAR GENERATING STATION

Source	Whole-Body Collective Dose (man-rem)	Average Dose to Individual (mrem/year)
Natural Background		
One year's exposure (FES) (1970 population)	233,000	125
(1980 population)	270,700	
Normal Operation (FES) (1970 population)		
One year's exposure (all sources)	31	0.017
Gaseous effluents	2.05	0.0011
30-year operation	930	0.017
Preliminary Estimate of Accident Dose		
Cumulative up to noon 4/3/79	2000	1.0
1970 population	1,868,000	
1980 census projections	2,165,651	

Note: 1 mrem (millirem) = 0.001 rem
 FES = Final Environmental Statement