

IMMEDIATE
PRELIMINARY NOTIFICATION

March 31, 1979

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

This immediate preliminary notification constitutes an update of event of safety and public interest significance. The information presented is as initially received without verification or evaluation and is basically all that is known by NRC staff at this time.

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

Subject: NUCLEAR INCIDENT AT THREE MILE ISLAND

Plant Status

Reactor cooling continues using the 1A main reactor coolant pump with steam generator A steaming to the main condenser. Changes to this cooling method are not planned for the near term. An operability status of equipment is being compiled for use as backup in the event of failure of existing operating equipment.

The hydrogen recombiner is in an operable status; however, shielding of its piping and components is not fully installed and is presently considered inadequate. Lead for shielding has been located and will be moved to the site on an expedited basis. Calculations of hydrogen in containment show that the present concentration is less than 4%, the staff's limit on allowed concentration to ensure an explosive mixture is not obtained. Attempts are being made to obtain a containment atmosphere sample.

The waste gas decay tank pressures were 80 psi at 10:15 p.m. on March 30 and had been relatively constant for about five hours. The tank is set to relieve pressure at 100 - 110 psi. The radiation field (60 R/hr at contact) prevents resetting relief points.

Reactor coolant temperatures measured by incore thermocouples at 52 locations presently show only one location above saturation temperature. Temperatures in the core as measured from outlet thermocouples are gradually decreasing. Other system parameters are remaining stable.

Environmental Status

Three ARMS flights of one-hour length were conducted beginning at 9:30 p.m. on March 30, and at midnight and 3:00 a.m. on March 31. At a

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distance of one mile from the plant, maximum readings ranged from 0.5 milliroentgens per hour (mr/hr) to 1.5 mr/hr. At the 18 mile point, readings of 0.1 to 0.2 mr/hr were obtained during the two earlier surveys and 0.5 mr/hr during the latest. Flights are being made at approximately three hour intervals.

Offsite ground level gamma surveys in the Middletown area and north, between 9:30 p.m. on March 30 and 1:00 a.m. on March 31, indicated levels from 0.2 to 0.5 mr/hr. These measurements were taken in the general direction of the plume measured in aerial surveys.

At 3:00 p.m. on March 29, (prior to the releases of March 30) the licensee pulled thermoluminescent dosimeters from 17 fixed positions located within a 15 mile radius of the site. The dosimeters had been in place for three months and had been exposed for about 32 hours after the incident. Only two dosimeters showed elevated exposures above normal levels. The highest reading observed was on Three Mile Island, 0.4 miles north of the reactor at the North Weather Station. At this location, the quarterly accumulated exposure was 81 mr, approximately 65 mr above the normal quarterly exposure rate. The other high exposure was observed at North Bridge, 0.7 miles NNE of the reactor at the entrance to the site. At this location, the total quarterly accumulated exposure was 37 mr or approximately 22 mr above the normal quarterly exposure rate.

During the evening milking hours on March 30, milk samples were collected by the Pennsylvania Department of Environmental Resources at the following locations:

Harrisburg (2 sites)
York
Middletown
Bainbridge
Etters

Analyses showed no detectable radioiodine. The cows had been fed on stored feed but had been outside for exercise.

The Pennsylvania Department of Environmental Resources also collected water samples at filtration plants at Columbia, PA (for the City of Lancaster) and Wrightsville on March 30 in the morning and early afternoon. Both sample points are downstream of Three Mile Island. No detectable activity was found.

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Distribution: Transmitted H St 9:04
Chairman Hendrie Commissioner Bradford
Commissioner Kennedy Commissioner Ahearne
Commissioner Gilinsky

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

Transmitted: MNBB 9:08 P. Bldg 9:15
L. V. Gossick, EDO H. R. Denton, NRR
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H. K. Shapar, ELD SS Bldg 9:20
W. J. Dircks, NMSS

J. G. Davis, IE
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(MAIL)
J. J. Cummings, OIA
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White House Situation Room _____
EPA 10:15
FDA/BRH _____
DOE/EOC 10:01

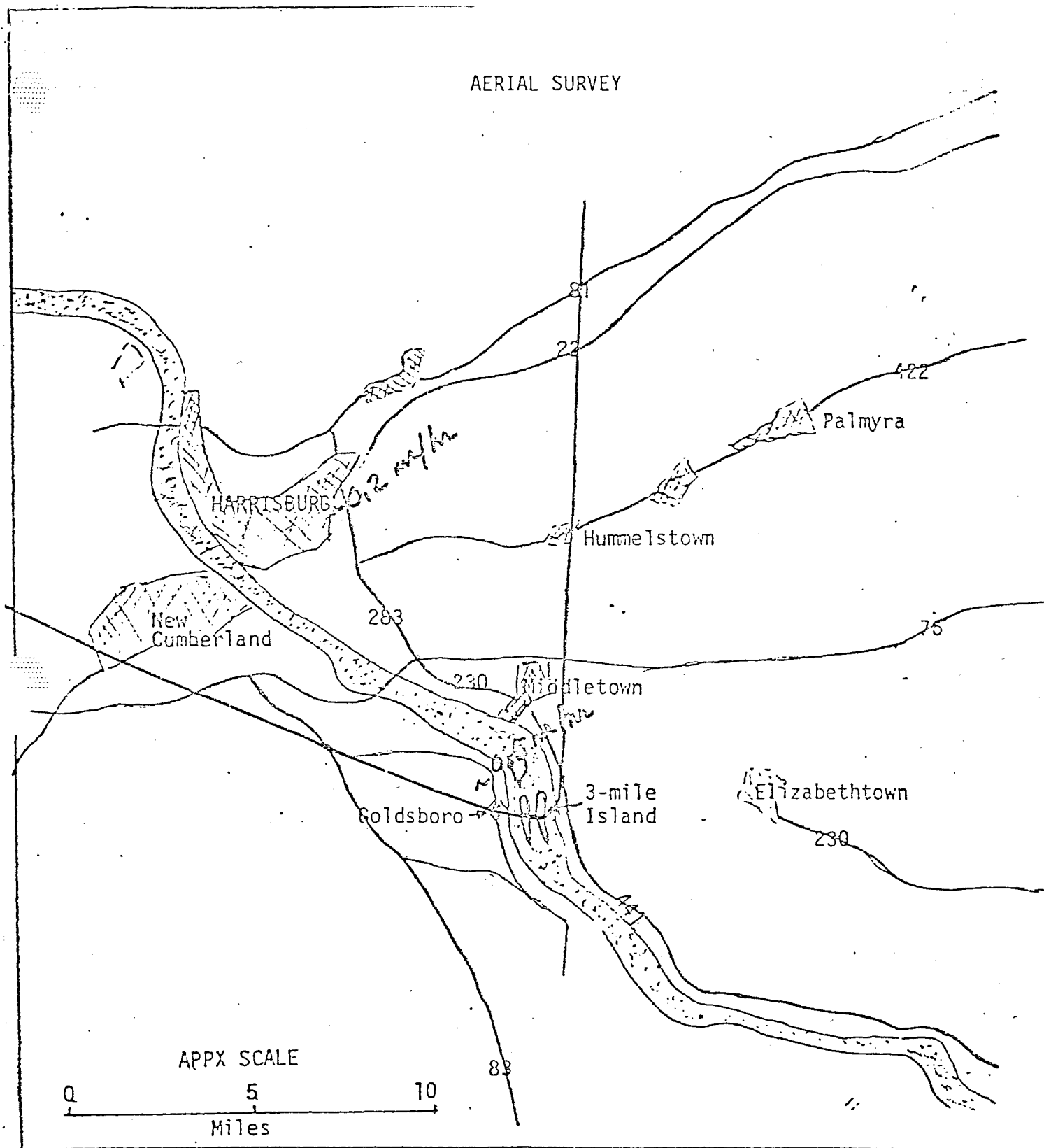
2II - 9:32
2III - 9:40
2IV - 9:48
2V - ~~9:50~~
3:07

Attachment (1)
Radiation Survey Map

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AERIAL SURVEY



March 29, 1979 10:45 a.m.

Plume in a N to NW direction. Primarily Xe-133.
Radiation measurements in the plume at about 10 miles
from plant in centerline of plume were 0.2 mr/hr; at
1 mile from plant, about 0.5 mr/hr maximum.