



SECTION I

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Matters

Not inspected.

Unresolved Items

Not inspected.

Status of Previously Reported Unresolved Items

Not inspected.

Design Changes

None

Unusual Occurrences

Susquehanna River flooding stopped all construction work at the site.\* (Section II, Paragraph 1)

Persons Contacted

Metropolitan Edison Company

M. J. Stromberg, Site QA Supervisor  
B. G. Avers, QA Manager (GPU)  
J. H. Wright, Resident Civil Engineer  
J. Wise, Operating Station Superintendent, Units 1 and 2  
R. Klingerman, Assistant Operating Superintendent, Units 1 and 2  
R. Deakin, Radiation Protection Supervisor, Units 1 and 2  
J. Smith, Operating Foreman

United Engineers and Constructors

R. Hauser, Construction Superintendent, Civil

\*Inquiry Report No. 50-289/72-03, 50-320/72-01

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Management Interview

A brief exit interview was held with Mr. J. Wise on the site at 10:00 am on June 25, 1972.

- A. The inspector stated that on June 24-25, 1972, he had examined the Unit 1 and 2 safety related buildings and equipment at all elevations at the job site from the standpoint of flood damage and had found no evidence of damage beyond those minor items already reported by the applicant. This inspection did not include the condition of equipment and materials in outside storage at the site. The storage area was still under water.

The applicant stated that the present round-the-clock surveillance would be continued, and that an adequate maintenance force was available to perform needed repairs.

- B. The inspector stated that it was unfortunate that the flood protection dike around the nuclear plant area had not been completed prior to the current river flooding.

The applicant stated that procurement delays on the dike drain valve and associated facilities had held up completion of the south portion of the dike.

- C. The inspector requested an explanation for the unavailability of the "North" bridge (connecting Three Mile Island with the mainland) during the flood emergency.

The applicant stated that, while this bridge had been used successfully in the transport of the reactor pressure vessels and the four steam generators, the bridge's designers considered the span to be possibly unsafe at the present time because of the lateral pressure of the large quantities of river-borne trash then lodged against the upstream side. It was recognized that modification of this bridge might be necessary so that this access bridge would be available for use during periods of high river levels.

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SECTION II

Additional Subjects Inspected, Not Identified in Section I, Where  
No Deficiencies or Unresolved Items Were Found

Plant Flooding

The abnormal rainfall in central Pennsylvania during the period June 10-24, 1972 caused the Susquehanna River to exceed previous record flood levels. Following is a summary of the principal observations of this occurrence.

1. Susquehanna River Flows and Levels

The following tabulation covers the basic data on the Susquehanna River flooding, including comparisons with the flows and heights as measured at Harrisburg, and also compared to the previous record flood which occurred on March 19, 1936. River flow and crest readings are recorded back to 1740.

The Corps of Engineers river gaging station at Harrisburg was washed away before the river crested. The available figures indicate that the river height at its crest exceeded the 1936 crest by 3.8 feet, and that the river flow exceeded the 1936 flow by 29%. All figures are unofficial.

The river crested at Three Mile Island about 12 hours prior to the crest at Harrisburg, which is 12 miles upstream of Three Mile Island. This early cresting was reported due to the influence of the river tributaries between Harrisburg and Three Mile Island.

(SEE PAGE 5 FOR TABULATION)

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June 23-24, 1972 Three Mile Island Flood Data Tabulation

	<u>Walnut St. Bridge Harrisburg</u>	<u>Three Mile Island</u>
Time Crest Occurred	12:00 m - 3:00 pm 6/24/72	11:00 pm - 12:00 pm 6/23/72
River Height at Crest*	322.8'	302'
River Height at 1936 Crest*	319'	---
River Flow at 6/23-24/72 Crest (cfs)	970,000	1,100,000
River Flow at 1936 Crest (cfs)	750,000	---
River Height - Design Flood*	---	303' at Screen House
River Flow - Design Flood (FSAR) (cfs)	---	1,100,000
River Height - Probable Max. Flood*	---	309' at Screen House
River Flow - Probable Max. (FSAR) (cfs)	---	1,625,000
Av. Annual River Flow (FSAR) (cfs)	34,000	---
Mean Annual River Flood (FSAR) (cfs)	300,000	---
Probable Max. Flood (Corps of Engineers) (cfs)	1,083,000	1,083,000
Nuclear Plant Area Dike Elev.*	---	306' (North End) 304' (South End)

\*Feet above mean sea level.

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2. Access to Plant Site

Three Mile Island is normally accessible from the mainland by either of two bridges, "North Bridge" or "South Bridge". Each traverses a channel to the east bank of the Susquehanna River.

The South Bridge, a temporary structure, was flooded early and its crossing was prohibited. The bridge was momentarily expected to be washed away because of the lateral pressure of river flotsam (boats, metal drums, etc.) but the span held throughout the emergency.

The North Bridge, a permanent structure, has been used during construction to transport all heavy plant equipment, including both reactor pressure vessels and the four steam generators. The freeboard of this bridge was 62 inches as the river crested. The design engineers for this bridge were informed of the river level and velocity, and the amount of trash on the upstream side. They recommended that the bridge be considered unsafe and crossing was prohibited. This restriction was not always followed. A pickup truck was used occasionally to transport small quantities of supplies across the bridge.

The highways in the general area of Three Mile Island were generally out of commission due to numerous roadblocks on flooded and washed out roads. This included interstate highways and state and local roads.

A two-place helicopter and pilot were secured by the applicant for 24-hour service during the emergency to ferry personnel and supplies from the island to the mainland east of Unit 1. This helicopter was in frequent use.

3. Communications

Telephone service on Three Mile Island was generally unsatisfactory during the emergency period. The entire Harrisburg area telephone system was overloaded and long-distance operators accepted only emergency calls.

Two-way radio communication existed between the Metropolitan Edison Company dispatchers and some of the utility's trucks on the island. The flood control point set up in the main office building on the island was later equipped for this service.

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Walkie-Talkies with line-of-sight power were used by plant personnel to report observations and to direct repairs.

4. Electric Power

Three Mile Island has no onsite electric power at the present time. Electricity is provided to the island by Met Ed's Middletown Junction Line and by its Jackson Line. Electric power adequate for all needs was available on the island during the emergency except for one brief period when the failure of one incoming line necessitated switching over manually to the other line. Lighting, communications, and sump pump power were normal except for this interval.

5. Radioactive Materials

It was report by the Operating Superintendent that no fuel elements had been delivered to the plant site. He further stated that the only significant radioactive material at Three Mile Island was the source used for nondestructive testing by Conam, the testing laboratory subcontractor. This source had been removed from the site by Mr. C. Talbot, the Conam site supervisor, at 2:30 am on June 22, 1972 and taken to a safe location out of the flood area.

The sources are normally stored in a trailer at the jobsite. This trailer was observed to be located on dry ground well above the river crest level.

6. Emergency Control Point and Organization

On June 23 management established an informal organization to provide 24-hour coverage on Three Mile Island for the duration of the emergency. The headquarters was the main office of the Administration Building at the north end of the island. The Station Superintendent and the Assistant Station Superintendent alternated working 24-hour shifts and were in charge. Others available part time at the site included operating supervision, operators, plant security, construction foremen, and mechanics.

There appeared to be no formal organization or surveillance plan in use. Logging or recording of occurrences and observations appeared minimal, except for recording the various river level readings as these were received.

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The group on the island was in frequent telephonic communication with Metropolitan Edison offices at Parsippany, New Jersey, and Reading, Pennsylvania.

7. Equipment and Materials in Storage

Plant equipment, e.g., pumps, tanks, switchgear, was found to be protected from water damage by either the elevation above flood levels or by sump pumps which were adequate to keep the storage locations dry.

A quantity of material such as pipe and lumber was stored in outdoor locations on Three Mile Island. Most of this storage area was flooded, due primarily to the incomplete protective dike. Inspection of these areas was not possible.

Most of the equipment awaiting installation in Units 1 and 2 was stored in warehouses at Middletown Airport. The airport area was flooded during the emergency but plant personnel reported that the warehouses used by the applicant were dry. The inspector did not inspect this area.

8. Drinking Water

The source of the drinking water is a well on the island. Due to the probability of contamination from the flooded river, the use of this drinking water system was abandoned early, and bottled drinking water was brought in from the mainland.

9. Plant Records

The safeguarding of vital records was given full consideration as flood levels were approached. It was determined that, except for radiograph records, no problem would be encountered. The radiographers were moved to another building on higher ground, and no damage was experienced.

10. General

The inspector photographed the site at various ground locations and also from a plane and a helicopter at elevations up to 2,000 feet.

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The presence of a representative of the AEC on the site during an emergency of this type appeared to make a very positive impression on the applicant's management and supervision, in view of the unaccessibility of the plant site and its condition at the time.

Details of Subjects Discussed in Section I

None

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