UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I
970 BROAD STREET
NEWARK, NEW JERSEY 07102

201 645- 3942

APR 25 1972

E. M. Howard, Senior Reactor Inspector
Region I, Division of Compliance

INSPECTOR'S OPINION AND EVALUATION
METROPOLITAN EDISON COMPANY
THREE MILE ISLAND UNIT 1
CO REPORT NO. 50-289/72-07

Repairs on the 180° North portion of containment building ring girder are now started on areas with combined upper and lower dome tendons, after completion of allrepairs and concrete replacement on areas with single dome tendons. Concrete excavation with "tender loving care" will be needed hereon to avoid damaging rebar and tendon conduits due to more congestion in these areas. In my unannounced inspections during the first phase of repairs I found the repair work, inspection, and QC was progressively improved. A few more unannounced inspections, perhaps at irregular frequency (last five have been at two-week intervals) should ~~very~~ verify continuance of their controls.

My detailed inspection of 180° South ring girder voids shows these deficiencies to be similar to but much less extensive than those in the 180° North, and repairs of the South 180° involves nothing new. Report to DRL by licensee on the North voids stated that changes in the South horizontal construction joints contributed to better consolidation and inspection during construction. Contrary to the above, my inspection of the 180° South disclosed that apparent carelessness and poor inspection in construction joint location (not stopping concrete pour at required elevation) caused difficulties which resulted in missing concrete in some corner pockets caused by mislocation of the joint. Although voids on the 180° South are much less extensive than in the North and repairs should be easier, they will have a lot of explaining (to DRL) to clear the air of doubts and re-instate credibility.

For my part as CO:I inspector, I found conformance to the approved ring girder repair procedure CCP-9 and construction codes committed by the FSAR.

A. A. Varela

A. A. Varela
Reactor Inspector

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U. S. ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I

CO Inspection Report No. 50-289/72-07

Subject: Metropolitan Edison Company

Three Mile Island Unit 1 License No. CPPR-40

Location: Three Mile Island, near Middletown, Pa. Priority

Category B

Type of Licensee: PWR 831 MWe (B&W)

Type of Inspection: Special, Unannounced

Dates of Inspection: April 7, 1972

Dates of Previous Inspection: March 23-24, 1972

Principal Inspector: S G Folsom. 4/25/72
S. A. Folsom, Reactor Inspector Date

Accompanying Inspectors: A. A. Varela April 24, 1972
(Inspection Performed By) A. A. Varela, Reactor Inspector Date

Date

Other Accompanying Personnel: NONE

Date

Reviewed By: for E. M. Howard, Senior Reactor Inspector 4-24-72
Date

Proprietary Information: NONE

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Management Interview

The inspector asked when the first North 180° Segment III concrete replacement was expected to be made. The licensee stated he estimated that the first pour on Segment III would be in about three or four weeks and CO will be notified at least three days in advance.

The inspector inquired when final inspection, evaluation, and report on conditions and repairs for the South 180° section of the ring girder voids would be submitted to DRL. The licensee stated this would be in about three weeks.

It appears to the inspector that second level inspection and documentation on the ring girder repairs conform to the FSAR commitments and the intent of Criteria XVII and XVIII of Appendix B to 10 CFR 50.

2. Voids in Ring Girder South 180° Section

a. Quality Control Action on Ring Girder Deficiency by UE&C

UE&C QC issued Deficiency Report No. 0447 on April 5, 1972. The deficiency is described as follows:

"Pour 3 and 4, elevation 443' to 453'-6" Aximuth 110° to 288° clockwise, this represents the South 180°. Inspection of the concrete in this area revealed poor consolidation and voids around some bearing plates. The worst area appears to be from D101 SW to D124 SW. Other areas have small voids, inclusions and honeycombing. Most of the 300 series bearing plates have small voids around them."

The disposition stated in this report calls for:

"1. Removal of honeycombing, voids and inclusions to be conducted in accordance with guidelines set forth as Attachment 'E' to Construction Procedure CPP-9.

2. Below surface verification of sound concrete to proceed by the taking of core drill samples and evaluation thereof as specified in Construction Procedure CCP-9, Paragraph 4.01.3."

b. Inspection of Condition By Inspector

Segment	Location Azimuth°	Tendons	Observations
I	288/273	225/233	a. No apparent voids, no evidence of unconsolidation. b. Core boring drilled under and parallel to #231, 100% recovery.
III	273/243	101/116 234/249	a. Voids and unconsolidation have been chipped out exposes lower quadrant of spiral 18" ± back of plate. b. Slight voids under lower trumplates due to pocket of "dirt"* left in form. Exposed side of boxed out spiral exhibits unconsolidation.

*"dirt" consists of nails, wire, wood and paper

Segment	Location Aximuth°	Tendons	Observations
III	213/183	134/139 349/334	a. Upper trumplates have no deficiencies at sides and top but ledge beneath is missing concrete as explained in II, 243/213, 117/133, a, above. b. At lower trumplates Lift 2/3 construction joint conforms to A-5, but pocketed "dirt" existed at lower edge of all trumplates.

September 19, 1972

J. B. Henderson, Chief, Reactor Construction
Branch, Regulatory Operations, HQ

METROPOLITAN EDISON COMPANY
THREE MILE ISLAND UNITS 1 AND 2
RO REPORT NO. 50-289/72-12, 50-320/72-04

The subject inspection report is forwarded for your information and referral to Licensing.

The management interview was not held on the day the inspection was concluded because of the unavailability of adequate levels of management at the site. The management meeting was held one week later.

Two items of nonconformance were identified and documented in our letter to the licensee.

We have concerns in the area of electrical cable routing since the applicant has not fully developed a system for independent verification of cable routing, at least one that is readily field auditable by our inspectors. The applicant is considering electronic checking of cable routing.

We recommend that the following questions relating to the reactor control console, identified by our inspectors, be referred to Licensing for review and resolution:

1. The licensee is using a three-light display (only two of which are on at all times) adjacent to a circuit breaker switch mounted on the console to provide information for the control room operator relative to the availability of control dc on vital circuit breakers, which does not appear to meet the intent of IEEE-279.

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OFFICE ▶	RO					
SURNAME ▶	Howard/jd					
DATE ▶	9/19/72					

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2. There is a series of terminal arrays associated with engineered safeguards circuits which are located in the cable spreading room below the console which are to be left open. This action would expose the terminals to hazards remaining to the end of construction and to additional hazards encountered during trouble-shooting and maintenance.

3. The separation criteria to be applied to cabling located beneath the console has not been defined. The licensee has taken the position that the terminal array is an extension of the console even though located in the room below that; therefore, he need not satisfy criteria established for trays.

E. M. Howard, Chief
Reactor Construction Br., RO:I

Enclosure:
Subject Inspection Report

cc: P. A. Morris, RO
H. D. Thornburg, RO
R. H. Engelken, RO
J. G. Keppler, RO
R. Minogue, RS (3)
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D. J. Skovholt, L (3)
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RO Files
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