

METROPOLITAN EDISON COMPANY  
JERSEY CENTRAL POWER & LIGHT COMPANY

AND

PENNSYLVANIA ELECTRIC COMPANY  
THREE MILE ISLAND NUCLEAR STATION UNIT 1

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Operating License No. DPR-50  
Docket No. 50-289  
Technical Specification Change Request No. 61

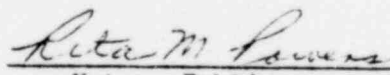
This Technical Specification Change Request is submitted in support of Licensee's request to change Appendix A to Operating License No. DPR-50 for Three Mile Island Nuclear Station Unit 1. As a part of this request, proposed replacement pages for Appendix A are also included.

METROPOLITAN EDISON COMPANY

By

  
Vice President

Sworn and subscribed to me this 7th day of September, 1977.

  
Notary Public

RITA M. POWERS  
Notary Public, Muhlenberg Twp., Berks Co.  
My Commission Expires September 30, 1978

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF

DOCKET NO. 50-289  
LICENSE NO. DPR-50

METROPOLITAN EDISON COMPANY

This is to certify that a copy of Technical Specification Change Request No. 61 to Appendix A of the Operating License for Three Mile Island Nuclear Station Unit 1, has, on the date given below, been filed with the U. S. Nuclear Regulatory Commission and been served on the chief executives of Londonderry Township, Dauphin County, Pennsylvania and Dauphin County, Pennsylvania by deposit in the United States mail, addressed as follows:

Mr. Weldon B. Arehart  
Board of Supervisors of  
Londonderry Township  
R. D. #1, Geyers Church Road  
Middletown, Pennsylvania 17057

Mr. Harry B. Reese, Jr.  
Board of County Commissioners  
of Dauphin County  
Dauphin County Court House  
Harrisburg, Pennsylvania 17120

METROPOLITAN EDISON COMPANY

By

  
Vice President

Dated: September 7, 1977

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Three Mile Island Nuclear Station, Unit 1  
Operating License No. DPR-50  
Docket No. 50-289

Technical Specification Change Request No. 61

The licensee requests that the attached changed pages replace pages 4-41, 4-42 of the Technical Specifications Appendix A.

Reasons for Change Request

The NRC, in their letter dated July 1, 1977, requested all nuclear stations which use HPI and/or LPI throttle valves to propose changes to the technical specifications to incorporate surveillance requirements on the throttle valves.

Safety Analysis Justifying Change

This change request increases the surveillance requirements for the HPI and LPI systems to provide additional assurance that they will function as assumed in the ECCS analyses. The surveillance assures proper flow and flow distribution to all necessary injection points by periodically checking those elements of the HPI and LPI systems which could adversely affect minimum flow and/or correct flow distribution.

Exceptions have been taken to the NRC suggested surveillances in two instances. First, no verification of the position stop is specified for the decay heat throttle valves in that they are manually operated and do not have positive stops. The intent of the suggested surveillance will be fulfilled by verifying that the valves are locked in the correct throttled position by observation of the position indicators. Second, the correct position of the HPI throttle valves is verified by observation of the position indicator lights in lieu of direct observation in that:

- (1) Direct observation of the HPI throttle valve position or position stop is not possible without partial disassembly of the valve operator.
- (2) Due to the valves' small size, only gross changes in the position stop setting could be detected by direct observation, thus meaningful information could not be obtained.
- (3) These throttle valves are frequently stroked and are in a relatively high radiation area, consequently frequent direct observation would result in a significant man-rem dose commitment.

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#### 4.5.2 EMERGENCY CORE COOLING SYSTEM

##### Applicability

Applies to periodic testing requirement for emergency core cooling systems.

##### Objective

To verify that the emergency core cooling systems are operable.

##### Specification

##### 4.5.2.1 High Pressure Injection

- a. During each refueling interval and following maintenance or modification that affects system flow characteristics, system pumps and system high point vents shall be vented, and a system test shall be conducted to demonstrate that the system is operable.

After a satisfactory test of the Emergency loading sequence (4.5.1), the M. U. Pump and its required supporting auxiliaries will be started manually by the operator and a test signal will be applied to the High Pressure injection valves MU-V-16A, B, C, D to demonstrate actuation of the high pressure injection system for emergency core cooling operation.

- b. The test will be considered satisfactory if the valves have completed their travel and the M. U. pumps are running as evidenced by the control board component operating lights. Minimum acceptable flow must be greater than or equal to 200 gpm per injection leg and greater than or equal to 500 gpm per HPI pump.
- c. The correct limit switch setting of MU-V-16A, B, C, D will be verified within four hours of any maintenance on the valve or operator that affects the limit switch setting.

##### 4.5.2.2 Low Pressure Injection

- a. During each refueling period and following maintenance or modification that affects system flow characteristics, system pumps and high point vents shall be vented, and a system test shall be conducted to demonstrate that the system is operable. The auxiliaries required for low pressure injection are all included in the emergency loading sequence specified in 4.5.1.
- b. The test will be considered satisfactory if the decay heat pumps listed in 4.5.1.1b have been successfully started and the decay heat injection valves and the decay heat supply valves have completed their travel as evidenced by the control board component operating lights. Minimum acceptable flow must be greater than or equal to 2700 gpm per injection leg/LPI pump.

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- c. The correct position of DH-V-19A/B shall be verified within four hours of each valve stroking operation or valve maintenance, which affects the position indicator, when the Decay Heat System is required to be operable.

#### 4.5.2.3 Core Flooding

- a. During each refueling period, a system test shall be conducted to demonstrate proper operation of the system. During depressurization of the Reactor Coolant System, verification shall be made that the check and isolation valves in the core flooding tank discharge lines operate properly.
- b. The test will be considered satisfactory if control board indication of core flood tank level verifies that all valves have opened.

#### 4.5.2.4 Component Tests

- a. At intervals not to exceed 3 months, the components required for emergency core cooling will be tested.
- b. The test will be considered satisfactory if the pumps and fans have been successfully started and the valves have completed their travel as evidenced by the control board component operating lights, and either the station computer or pressure/flow indication.

#### Bases

The emergency core cooling systems are the principal reactor safety features in the event of a loss of coolant accident. The removal of heat from the core provided by these systems is designed to limit core damage.

The low pressure injection pumps are tested singularly for operability by opening the borated water storage tank outlet valves and the bypass valves in the borated water storage tank fill line. This allows water to be pumped from the borated water storage tank through each of the injection lines and back to the tank.

The minimum acceptable HPI/LPI flow assures proper flow and flow split between injection legs. Post maintenance inspection of the HPI/LPI injection valves will assure their correct throttled position in the event of Engineered Safeguards actuation.

With the reactor shutdown, the valves in each core flooding line are checked for operability by reducing the reactor coolant system pressure until the indicated level in the core flood tanks verify that the check and isolation valves have opened.

#### Reference

- (1) FSAR, Section 6.

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