UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER AND LIGHT COMPANY
PENNSYLVANIA ELECTRIC COMPANY

DOCKET NO. 50-289

THREE MILE ISLAND NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 5
License No. DPR-50

1. The Nuclear Regulatory Commission (the Commission) having found that:

   A. The application for amendment by Metropolitan Edison Company, Jersey Central Power and Light Company, Pennsylvania Electric Company (the licensees) dated December 13, 1974, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.

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2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.c.(2) of Facility License No. DPR-50 is hereby amended to read as follows:

"(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised are hereby incorporated in the license. The licensees shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 5"

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Karl R. Goller

Karl R. Goller, Assistant Director
for Operating Reactors
Division of Reactor Licensing

Attachment:
Change No. 5 to the
Technical Specifications

Date of Issuance: MAR 21 1975

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ATTACHMENT TO LICENSE AMENDMENT NO. 5

CHANGE NO. 5 TO THE TECHNICAL SPECIFICATION

FACILITY OPERATING LICENSE NO. DPR-50

DOCKET NO. 50-289

Replace pages 3-3, 3-4, and 3-5 with the attached revised pages. Replace page 3-6 with the attached page (no change was made therein but is being replaced for numbering sequence only). Also, replace Figures 3.1-1 and 3.1-2 with the attached revised figures.

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3.1.2 PRESSURIZATION, HEATUP, AND COOLDOWN LIMITATIONS

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Applicability

Applies to pressurization, heatup, and cooldown of the reactor coolant system.

Objective

To assure that temperature and pressure changes in the reactor coolant system do not cause cyclic loads in excess of design for reactor coolant system components.

Specification

3.1.2.1 For the first $1.7 \times 10^6$ thermal megawatt days (approximating two years) the reactor coolant pressure and the system heatup and cooldown rates (with the exception of the pressurizer) shall be limited in accordance with Figure 3.1-1 and Figure 3.1-2 and are as follows:

Heatup:

Allowable combinations of pressure and temperature shall be to the right of and below the limit line in Figure 3.1-1. Heatup rates shall not exceed those shown on Figure 3.1-1.

Cooldown:

Allowable combinations of pressure and temperature for a specific cooldown shall be to the left of and below the limit line in Figure 3.1-2. Cooldown rates shall not exceed those shown on Figure 3.1-2.

Hydro Tests:

For isothermal system hydrotests during the first two years of operations, the system may be pressurized to the limits set forth in Specification 2.2, when there are fuel assemblies in the vessel and to ASME Code Section III limits when no fuel assemblies are present if the system temperature is 215 F or greater. The system may be tested to a pressure of 1150 psig provided system temperature is 175 F or greater. Initial system hydrotests prior to criticality may be conducted if the reactor coolant system temperature is 118 F or greater.

3.1.2.2 The secondary side of the steam generator shall not be pressurized above 200 psig if the temperature of the steam generator shell is below 100 F.

3.1.2.3 The pressurizer heatup and cooldown shall not exceed 100°F in any one hour. The spray shall not be used if the temperature difference between the pressurizer and the spray fluid is greater than 430F. 5

3.1.2.4 Within two years of power operation, Figures 3.1-1 and 3.1-2 shall be updated in accordance with criteria acceptable to the ALB.

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Bases

All reactor coolant system components are designed to withstand the effects of cyclic loads due to system temperature and pressure changes.(1) These cyclic

The pressure limit line on Figure 3.1-1 has been selected such that the reactor vessel stress resulting from internal pressure will not exceed 15 percent yield strength considering the following:

a. A 25 psi error in measured pressure

b. System pressure is measured in either loop

c. Maximum differential pressure between the point of system pressure measurement and reactor vessel inlet for all operating pump combinations

For adequate conservatism, in lieu of portions of the Fracture Toughness Testing Requirements of the proposed Appendix G to 10 CFR 50, a maximum pressure of 550 psig and a maximum heatup rate of 50°F in any one hour has been imposed below 275°F as shown on Figure 3.1-1. |5

The spray temperature difference restriction, based on a stress analysis of the spray line nozzle is imposed to maintain the thermal stresses at the pressurizer spray line nozzle below the design limit. Temperature requirements for the steam generator correspond with the measured NDTT for the shell.

REFERENCES


(1) FSAR, Section 4.1.2.4

(2) ASME Boiler and Pressure Code, Section III, N-415

(3) FSAR, Section 4.3.10.5

(4) FSAR, Section 4.3.3

(5) FSAR, Section 4.4.5

(6) FSAR, Sections 4.1.2.8 and 4.3.3


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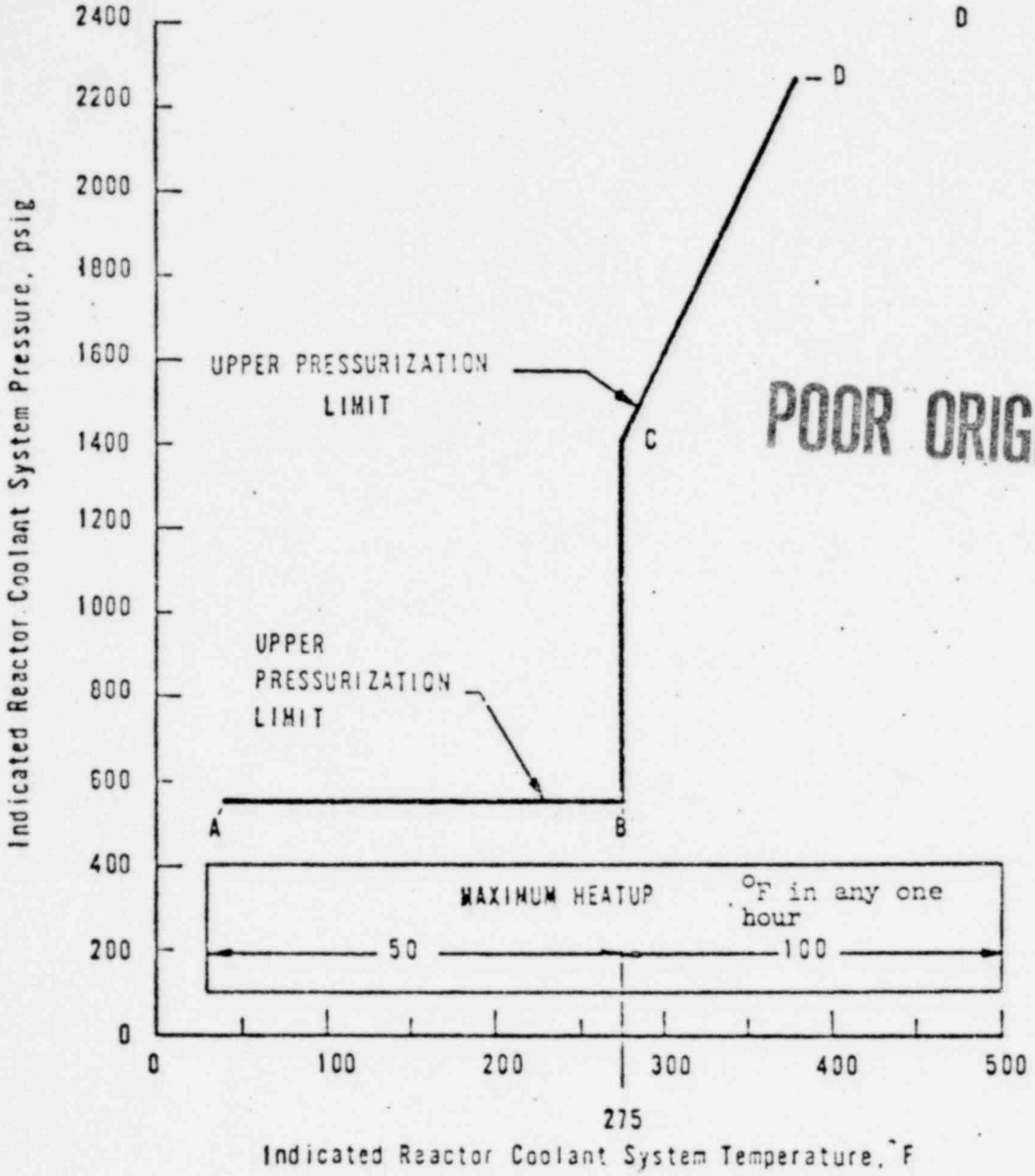
| POINT | TEMP. | PRESS. |
|---|---|---|
| A | 40 | 550 |
| B | 275 | 550 |
| C | 275 | 1400 |
| D | 380 | 2275 |

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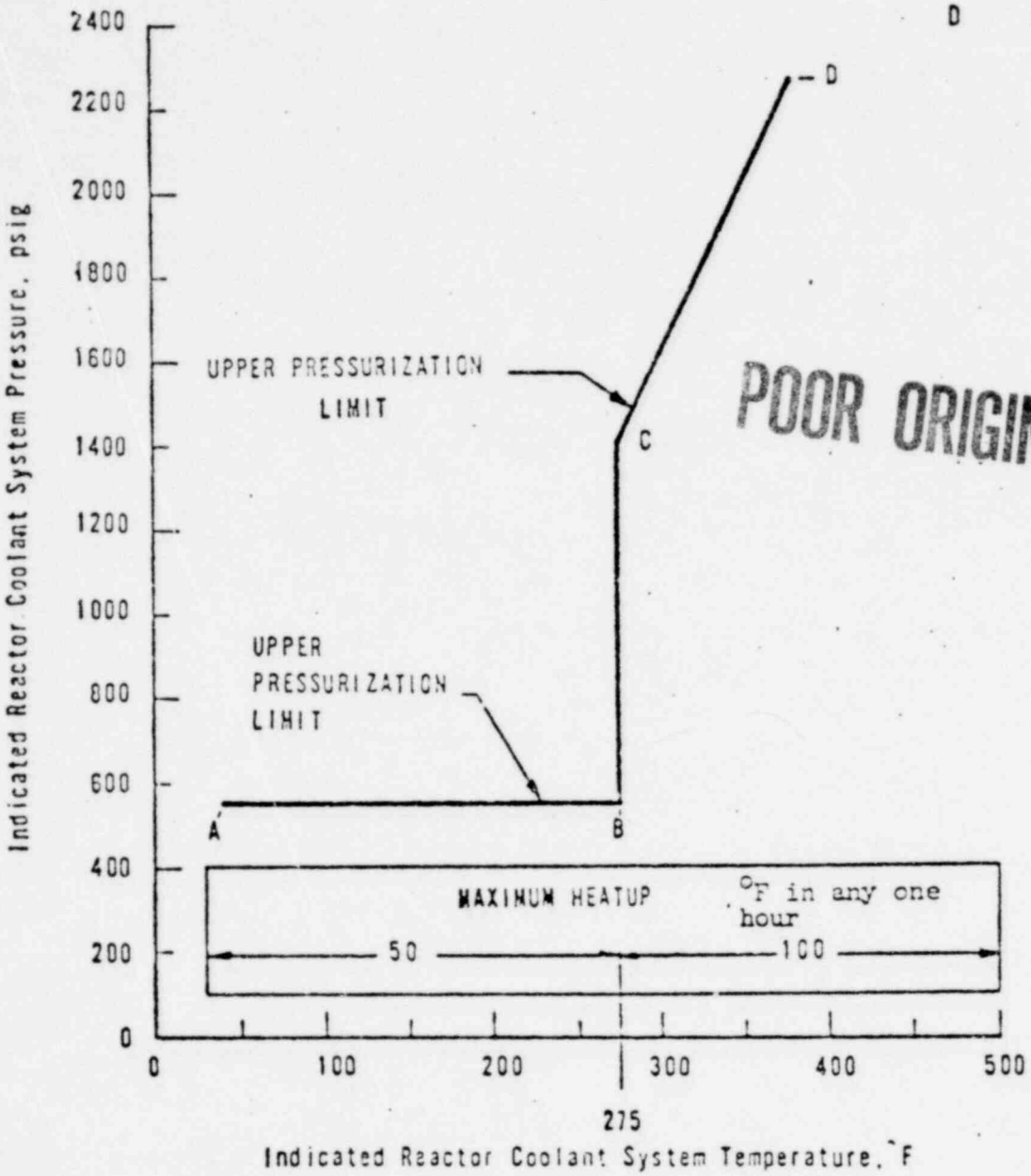
REACTOR COOLANT SYSTEM HEATUP LIMITATIONS
(APPLICABLE UP TO AN INTEGRATED EXPOSURE OF
$1.7 \times 10^{18}$ N/CM$^2$ OR DTT = 154F)
THREE MILE ISLAND NUCLEAR STATION UNIT 1

FIGURE 3.1-1

| POINT | TEMP. | PRESS. |
|---|---|---|
| A | 40 | 550 |
| B | 275 | 550 |
| C | 275 | 1400 |
| D | 380 | 2275 |

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REACTOR COOLANT SYSTEM HEATUP LIMITATIONS
(APPLICABLE UP TO AN INTEGRATED EXPOSURE OF
$1.7 \times 10^{18}$ N/CM$^2$ OR DTT = 154F)
THREE MILE ISLAND NUCLEAR STATION UNIT 1

FIGURE 3.1-1