

YANKEE ATOMIC ELECTRIC COMPANY



20 Turnpike Road Westborough, Massachusetts 01581

July 30, 1979

Mr. B. H. Grier, Director
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, PA 19406

Subject: Licensee Event Report 50-29/79-18
Exxon Fuel Rod Pre-Pressurization Error

Dear Mr. Grier:

Pursuant to the requirements of Technical Specification Section 6.9.4.a.(8) the following is reported as Reportable Occurrence 59-29/79-18. The occurrence involves "errors discovered in the transient or accident analysis or in the methods used for such analysis as described in the FHSR or in the Bases for the Technical Specifications that have or could have permitted reactor operation in a manner less conservative than assumed in the analysis."

Yankee Atomic Electric Company was informed about a deviation in the fuel pin pressure from its specified value by its fuel manufacturer, Exxon Nuclear, Inc. The nominal value of the pin pressure is 125 ± 5 psig, but a refined measurement of the archived pins showed a pressure of up to a maximum value of 143.1 psig. The pin pressure impacts LOCA calculations in two ways: (1) the average fuel temperature at operating conditions may change and (2) the swelling and rupture response during the accident may alter.

To assess the impact, GAPCON-THERMAL-2 computer calculation was performed for the high (as-built) and low (design) prepressurization levels. It is predicted that at the present operating core average burnup condition of 6867 MWD/MT, the as-built fuel average temperature is about 73°F (3.1%) lower than that of the design case and the pressure is about 1.7 psi or 0.2% higher. It is also predicted that at the end-of-cycle conditions, the as-built fuel average temperature is about 117°F (-6.1%) lower than that of the design case and the pressure is about 74 psi or -6.6% lower. Hence, it is concluded that the pin pressure increase from its specified value of $125 \pm$

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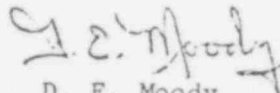
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5 psig should have no adverse affect on Peak Clad Temperature experienced as a result of a LOCA and that the plant may continue to operate without adversely impacting the health and safety of the public.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY



D. E. Moody
Manager of Operations

JKT/sec

cc: Director, Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Director, Office of Management Information & Program
Control
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