

United States Nuclear Regulatory Commission
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No. 96-133

FOR IMMEDIATE RELEASE
(Tuesday, October 8, 1996)

INDEPENDENT SAFETY ASSESSMENT OF MAINE YANKEE RATES OPERATIONS
ADEQUATE WITH SIGNIFICANT WEAKNESSES AND DEFICIENCIES

A Nuclear Regulatory Commission Independent Safety Assessment team has concluded that operations at the Maine Yankee nuclear power plant are adequate, but identified a number of significant weaknesses and deficiencies that will result in violations. The plant, operated by the Maine Yankee Atomic Power Co., is about 10 miles north of Bath, Maine.

"These weaknesses and deficiencies appear to be related to two root causes: economic pressures to contain costs and poor problem identification as a result of complacency and a lack of a questioning attitude," NRC Chairman Shirley Ann Jackson said in a letter written to the licensee, which accompanies the report.

In its report, the team says adequate safety margins exist to operate the plant at its originally licensed power level of 2440 megawatts thermal (Mwt). But the team did not conclude, and the licensee did not demonstrate, that the plant can be safely operated at its more recently licensed output of 2700 Mwt. Since January, the plant has been restricted to 2440 Mwt by an NRC confirmatory order.

According to the report, economic pressures limited resources and interfered with the utility's ability to complete projects and other efforts that would improve plant safety and testing activities. Examples included a failure to adequately test safety-related components; long-standing deficient design conditions, such as an undersized atmospheric steam dump valve; issues involving environmental qualification of electrical equipment; and the lack of effective improvement programs.

The team said complacency and the failure to identify or promptly correct significant problems were apparent as demonstrated by previously undiscovered deficient conditions of the service water and auxiliary feedwater systems. Other weaknesses cited included inadequacies in ventilation systems, post-trip reviews that lacked rigor and completeness, and emergency operating procedures that may not have adequately addressed an inadequate core cooling event and a steam generator

tube rupture under certain conditions. The report said Maine Yankee Atomic Power Co. lacked a questioning attitude during test performance and evaluation that was not conducive to discovering equipment problems, but rather to accepting equipment performance. Self-assessments, by the utility, the team concluded, occasionally failed to identify weaknesses, or incorrectly characterized the significance of findings.

The 25-member team, headed by Edward L. Jordan, the NRC's Director of the Office of Analysis and Evaluation of Operational Data, began its work in June after concerns were raised by the NRC's Inspector General about the adequacy of the licensee's use of the Relap/5YA computer code and NRC inspection activities at the site. The team was formed at the request of Chairman Jackson. The inspection also was responsive to concerns expressed by Gov. Angus King of Maine. Members included NRC specialists, expert contract support from a national laboratory, independent consultants and three representatives from the State of Maine.

Other findings include the following:

-- Maine Yankee was in general conformance with its licensing basis, although significant items of non-conformance were identified. The plant's licensing basis, although understood by the utility, lacked specificity, contained inconsistencies and had not been well maintained. However, the quality and availability of design-basis information was good overall, the team concluded.

-- Performance in the area of operations was very good, with strengths noted in operator performance during routine and abnormal operating conditions. But some compensatory measures unnecessarily burdened operators or complicated their response to abnormal conditions. Additionally, log-keeping practices were not rigorous.

-- Maintenance was rated as good overall, but testing was weak. The results of the review of equipment reliability for the auxiliary feedwater, emergency feedwater, high pressure safety injection and emergency diesel generator systems showed mixed equipment performance. Although the plant's material condition was good overall, a number of significant material condition deficiencies were noted, along with a decline in material condition following a 1995 shutdown to repair steam generator tubing.

-- The quality of engineering work was mixed but considered good overall. Strengths were noted in the capability and experience of the engineering staff, day-to-day engineering support of maintenance and operations and in the quality of most calculations. However, engineering was stressed by a shortage of resources, and there was a tendency to accept existing

conditions.

A copy of the executive summary of the inspection report is available upon request from the NRC's Office of Public Affairs. The full inspection report has been posted on the Internet at this address: <http://www.nrc.gov/OPA/reports>.

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