

June 6, 2003

Mr. Michael R. Kansler, President  
Entergy Nuclear Operations, Inc.  
440 Hamilton Avenue  
White Plains, NY 10601

SUBJECT: INSERVICE TESTING PROGRAM RELIEF REQUEST NO. 46 REGARDING  
RELIEF VALVE TESTING REQUIREMENTS, INDIAN POINT NUCLEAR  
GENERATING UNIT NO. 2 (TAC NO. MB7993)

Dear Mr. Kansler:

In a letter dated March 11, 2003, Entergy Nuclear Operations, Inc. (ENO), submitted Relief Request No. 46 for Indian Point Nuclear Generating Unit No. 2 (IP2). Relief was requested from the requirements of Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) for the Inservice Testing (IST) Program. Specifically, ENO requested a one-time relief from the requirement in Part 1 of the ASME OM Code, "Code for Operation and Maintenance of Nuclear Power Plants," 1987 Edition (OM-1 Code), to test a minimum of 20% of Class 2 pressure relief valves within any 48 months. On the basis of this requirement, ENO should have tested one reactor coolant pump (RCP) thermal barrier outlet pressure relief valve during refueling outage 2R15 that ended in November 2002. Since these valves can only be tested when the reactor coolant pumps are not in service, ENO requested to perform the test during the next refueling outage (2R16), currently scheduled for October 2004.

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the proposed request for one-time relief against the requirements of the 1987 Edition of the OM-1 Code. The results are provided in the enclosed safety evaluation.

The NRC staff finds that compliance with the OM-1 Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Additionally, the licensee's proposed alternative provides reasonable assurance that the IP2 RCP thermal barrier outlet pressure relief valves will perform their intended safety function. Therefore, the NRC staff concludes that the proposed alternative to the IST requirements of the ASME Code is authorized, pursuant to 10 CFR 50.55a(a)(3)(ii), for IP2 until the next refueling outage, currently scheduled for October 2004.

M. Kansler

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This completes the actions under TAC No. MB7993. If you should have any questions, please contact Patrick Milano, Sr. Project Manager, at 301-415-1457.

Sincerely,

***/RA/***

Richard J. Laufer, Chief, Section 1  
Project Directorate 1  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosure: Safety Evaluation

cc w/encl: See next page

M. Kansler

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cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO REQUEST FOR RELIEF REGARDING INSERVICE TESTING  
OF REACTOR COOLANT PUMP THERMAL BARRIER OUTLET RELIEF VALVES  
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2  
DOCKET NO. 50-247

1.0 INTRODUCTION

In a letter dated March 11, 2003, Entergy Nuclear Operations, Inc. (the licensee), submitted a request for relief from certain requirements in the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) for the Indian Point Nuclear Generating Unit No. 2 (IP2). In its Inservice Testing (IST) Relief Request No. 46, the licensee requested the one-time relief from the requirements pertaining to testing of the reactor coolant pump (RCP) thermal barrier outlet pressure relief valves.

The affected components are the following RCP thermal barrier outlet pressure relief valves:

IST Relief Valve Group 21, Relief Valve Nos.: 783A, 783B, 783C, and 783D

These valves are one-inch, Category C, RCP thermal barrier outlet relief valves which open to provide an over-pressure protection path for Containment Penetration O. The valves are installed in the component cooling water lines downstream from each RCP to protect the downstream piping from over-pressure. The licensee states that this over-pressure condition could occur when cooling water return lines from the RCPs are isolated during accident conditions. The set pressure for these relief valves is 2485 psig.

2.0 REGULATORY EVALUATION

Section 50.55a of Part 50 to Title 10 of the *Code of Federal Regulations* (10 CFR 50.55a) requires that the IST of certain ASME Code, Class 1, 2 and 3 pumps and valves be performed in accordance with Section XI of the ASME Code and applicable addenda, except where relief has been requested and granted or proposed alternatives have been authorized by the Commission pursuant to 10 CFR 50.55a(f)(6)(i), (a)(3)(i), or (a)(3)(ii). In proposing alternatives or requesting relief, the licensee must demonstrate that: (1) conformance is impractical for its facility; (2) the proposed alternative provides an acceptable level of quality and safety; or (3) compliance would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety. Pursuant to 10 CFR 50.55a, the Commission may authorize alternatives or grant relief from ASME Code requirements upon making the necessary findings. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable

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Inservice Testing Programs,” provides alternatives to the ASME Code requirements that are acceptable to the NRC staff. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, “Guidelines for Inservice Testing at Nuclear Power Plants.”

For IP2, the regulations in 10 CFR 50.55a require that the IST program meets the requirements of the 1989 Edition of the ASME Code, Section XI, which references the Operation and Maintenance (OM) standard, OM-1987, Part 1 (OM-1). Specifically, OM-1, Section 1.3.4.1(b) states, “All valves of each type and manufacture shall be tested within each subsequent 10-year interval, with a minimum of 20% of the valves tested within any 48 months.” The licensee seeks one-time relief from the OM-1, Section 1.3.4.1(b) requirement, as described below.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Licensee’s Basis for Relief

The licensee provided the following basis for the requested relief:

One valve (783A) from IST Relief Valve Group 21 (Valves 783A, 783B, 783C, 783D) was tested in June 1998. The next valve should have been tested within 48 months (June 2002) to meet the code frequency requirement. This surveillance, which can only be performed in an outage where the cooling water flow to the RCP thermal barrier can be secured, was not performed within the 48 month period. The purpose of this relief is to extend the surveillance to 76 months to coincide with the next scheduled refueling outage. This one-time extension of relief valve testing is acceptable for the following reasons:

1. A review of the as-found setpoint test history for these valves at both Indian Point Units 2 and 3 demonstrates proven relief pressure reliability. There have been 7 setpoint tests performed in the history of the plants with only one setpoint test failure. For the one failure, the valve failed to lift within the required range (2411-2559 psig). This test occurred in May 1997 after approximately 20 years of plant operation. The valve was subsequently refurbished and successfully retested. The proposed one-time extension of the test frequency from 48 months to 76 months is not expected to affect the proven relief pressure reliability of these valves. No corrective maintenance work orders were found in the history files for the subject valves.
2. These four (4) reactor coolant pump thermal barrier cooling outlet relief valves were added to the inservice testing program scope in 1998 in response to NRC Generic Letter 96-06 evaluations regarding overpressure protection of piping penetrating containment. Operation of any one of the four valves would perform the function of depressurizing the thermal barrier cooling water piping inside containment. Prior to that, these original plant design valves were not tested because they had no

identified safety function under OM-10, 1.1, Scope. The same valves serve a similar function at Indian Point Unit 3.

Given the proven test reliability and redundancy for these relief valves, there is no compensating increase in the level of quality and safety gained by requiring the plant to shutdown to perform a relief valve test.

### 3.2 Proposed Alternative Testing

As an alternative to the above requirement described OM-1, Section 1.3.4.1(b), the licensee proposed to test one untested valve from IST Relief Valve Group 21 at the next opportunity, but no later than refueling outage 2R16, currently scheduled for October 2004.

### 3.3 Evaluation

The staff has reviewed the licensee's alternative and finds that performing the testing required by OM-1, Section 1.3.4.1(b) would result in unusual hardship without a compensating increase in quality or safety. The requirement to test 20% of the valves within any 48-month would necessitate that the plant be shut down so that the cooling water flow through the RCP thermal barrier could be secured. The proposed period of additional time (i.e., from when these valves were required to be tested to meet OM-1 requirements until the next outage in October 2004) is approximately 28 months. In reviewing the licensee's operating experience with these valves and general industry experience with similar valves, significant additional degradation of these components would not be expected to occur during this additional period. Furthermore, there is reasonable assurance that the thermal barrier cooling water piping system would be protected from over-pressurization because any one of the four valves would perform this function. It is also noted that all of the relief valves in this IST group will be tested within the 10-year period, as required by OM-1. Therefore, the staff finds that the licensee's alternative to perform the testing of these valves during the next opportunity, but no later than refueling outage 2R16, currently scheduled for October 2004, provides reasonable assurance of operational readiness.

## 4.0 CONCLUSION

The staff concludes that compliance with these requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Additionally, the licensee's proposed testing provides reasonable assurance that the IP2 RCP thermal barrier outlet pressure relief valves will perform their intended safety function. Therefore, pursuant to 10 CFR 50.55a(a)(3)(ii), the staff authorizes the licensee's request for a one-time relief from the ASME Code testing requirements as an alternative to the testing interval in ASME Code, OM-1.

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Date: June 6, 2003

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