

ATTACHMENT I TO IPN-97-001

PROPOSED TECHNICAL SPECIFICATION CHANGES
REGARDING QUARTERLY INSERVICE TESTING OF
ASME CODE CLASS 1, 2, AND 3 PUMPS & VALVES

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64

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TABLE 4.1-3 (Sheet 1 of 2)

<u>FREQUENCIES FOR EQUIPMENT TESTS</u>		
	<u>Check</u>	<u>Frequency</u>
1. Control Rods	Rod drop times of all control rods	24M
2. Control Rods	Movement of at least 10 steps in any one direction of all control rods	Every 31 days during reactor critical operations
3. Pressurizer Safety Valves	Set Point	24M'
4. Main Steam Safety Valves	Set Point	24M
5. Containment Isolation System	Automatic actuation	24M
6. Refueling System Interlocks	Functioning	Each refueling, prior to movement of core components
7. Primary System Leakage	Evaluate	5 days/week
8. Diesel Generators Nos. 31, 32 & 33 Fuel Supply	Fuel Inventory	Weekly
9. Turbine Steam Stop Control Valves	Closure	Yearly
10. L.P. Steam Dump System (6 lines)	Closure	Monthly
11. Service Water System	Each pump starts and operates for 15 minutes (unless already operating)	Quarterly
12. City Water Connections to Charging Pumps and Boric Acid Piping	Temporary connections available and valves operable	24M

* Pressurizer Safety Valve setpoint test due no later than May 1996 may be deferred until the next refueling outage but no later than May 31, 1997.

B. Component Tests

1. Pumps

- a. The safety injection pumps, residual heat removal pumps, containment spray pumps and the auxiliary component cooling water pumps shall be started at quarterly intervals. The recirculation pumps shall be started at least once per 24 months.
- b. Acceptable levels of performance shall be that the pumps start, reach their required developed head on recirculation flow, and operate for at least fifteen minutes.

2. Valves

- a. Each spray additive valve shall be cycled by operator action with the pumps shut down at least once per 24 months.
- b. The accumulator check valves shall be checked for operability at least once per 24 months.
- c. The following check valves shall be checked for gross leakage at least once per 24 months:

857A & G	857J	857S & T	897B
857B	857K	857U & W	897C
857C	857L	895A	897D
857D	857M	895B	838A
857E	857N	895C	838B
857F	857P	895D	838C
857H	857Q & R	897A	838D

- d. In addition to 4.5.B.2.c, the following check valves shall be checked for gross leakage every time the plant is shut down and the reactor coolant system has been depressurized to 700 psig or less. This gross leakage test shall also be performed following valve maintenance, repair or other work which could unseat these check valves:

838A	895A	897A
838B	895B	897B
838C	895C	897C
838D	895D	897D

Basis

The Safety Injection System and the Containment Spray System are principal plant safeguards that are normally on standby during reactor operation. Complete systems tests cannot be performed when the reactor is operating because a safety injection signal causes reactor trip, main feedwater isolation and containment isolation, and a Containment Spray System test requires the system to be temporarily disabled. The method of assuring operability of these systems is, therefore, to combine systems tests to be performed during plant shutdowns, with more frequent component tests, which can be performed during reactor operation.

The systems tests demonstrate proper automatic operation of the Safety Injection and Containment Spray Systems. With the pumps blocked from starting, a test signal is applied to initiate automatic action and verification made that the components receive the safety injection signal in the proper sequence. The test demonstrates the operation of the valves, pump circuit breakers, and automatic circuitry⁽¹⁾.

During reactor operation, the instrumentation which is depended on to initiate safety injection and containment spray is generally checked daily and the initiating circuits are tested monthly (in accordance with Specification 4.1). The testing of the analog channel inputs is accomplished in the same manner as for the reactor protection system. The engineered safety features logic system is tested by means of test switches to simulate inputs from the analog channels. The test switches allow actuation of the master relay, while at the same time blocking the slave relays. Verification that the logic is accomplished is indicated by the matrix test light. The slave relay coil circuits are continuously verified by a built-in monitoring circuit. In addition, the active components (pumps and valves) are to be tested in accordance with the Indian Point 3 Inservice Testing Program. The pumps, specified in the Technical Specifications, are tested on a quarterly basis to check the operation of the starting circuits and to verify that the pumps are in satisfactory running order. The exception to this quarterly test are the recirculation pumps which are tested during a refueling outage. The quarterly test interval is based on the judgement that more frequent testing would not significantly increase the reliability (i.e., the probability that the component would operate when required), yet more frequent testing would result in increased wear over a long period of time.

4.8 AUXILIARY FEEDWATER SYSTEM

Applicability

Applies to periodic testing requirements of the Auxiliary Feedwater System.

Objective

To verify the operability of the Auxiliary Feedwater System and its ability to respond properly when required.

Specification

1. a. Each auxiliary feedwater pump will be started manually from the control room at quarterly intervals with full flow established to the steam generators at least once per 24 months.
- b. The auxiliary feedwater pumps discharge valves will be tested by operator action at intervals not greater than six months.
- c. Backup supply valves from the city water system will be tested at least once per 24 months.
2. Acceptance levels of performance shall be that the pumps start, reach their required developed head and operate for at least fifteen minutes.
3. At least once per 24 months,
 - a. Verify that the recirculation valve will actuate to its correct position.
 - b. Verify that each auxiliary feedwater pump will start as designated automatically upon receipt of an auxiliary feedwater actuation test signal.

Basis

The testing of the auxiliary feedwater pumps will verify their operability. The capacity of any one of the three auxiliary feedwater pumps is sufficient to meet decay heat removal requirements.

ATTACHMENT II TO IPN-97-001

**SAFETY EVALUATION OF
PROPOSED TECHNICAL SPECIFICATION CHANGES
REGARDING QUARTERLY INSERVICE TESTING OF
ASME CODE CLASS 1, 2, AND 3 PUMPS & VALVES**

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
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**Safety Evaluation of Proposed Change to Technical Specifications
Regarding Quarterly Inservice Testing of
ASME Code Class 1, 2, and 3 Pumps & Valves**

Section I - Description of Change

The proposed changes to Table 4.1-3, Specification 4.5.B.1.a and associated Bases, and Specification 4.8.1.a will revise Indian Point 3's (IP3) functional testing of its Inservice Inspection (ISI) American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 pumps and valves, with the exception of the recirculation pumps, from a monthly to a quarterly surveillance interval. The proposed changes are based on guidance provided by NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," (Reference 1).

Section II - Evaluation of Change

The ISI Code Class 1, 2, and 3 pumps and valves constitute components of systems provided in the facility to back up the safety provided by the core design, the reactor coolant pressure boundary, and their protection systems. 10CFR50.55a(g) requires that such safety related components be tested according to the requirements of Section XI of the ASME Boiler and Pressure Vessel Code (Code) and applicable addenda (Reference 2). The recirculation pumps are not included here since their functional test interval was previously extended to accommodate operation on a 24 month cycle in Amendment 148 (Reference 3).

The current specifications require that these pumps be started at least once per month and operated for at least 15 minutes at their required developed head in recirculation flow. This monthly requirement was incorporated into the Technical Specifications based on the ASME Code Section XI criteria existent prior to the winter of 1979. Beginning with the 1980 edition of the ASME Code, including the 1983 edition to which IP3 is committed to satisfying, the revised versions of the ASME Code only require functional testing of pumps and their associated valves on a quarterly basis.

In December 1984, the NRC established the Technical Specification Improvement Program (TSIP) to provide a framework for rewriting and improving the Technical Specifications (TS). The recommendations resulting from the TSIP were promulgated in NUREG-1366 with the following opinion:

"The study found that while some testing at power is essential to verify equipment and system operability, safety can be improved, equipment degradation decreased, and unnecessary personnel burden relaxed by reducing the amount of testing at power."

One of the recommendations in NUREG-1366, §3.4, was:

"This report recommends that safety-related pump testing that is done more often (e.g., monthly) than required in the current versions of the ASME Code be performed quarterly."

Considering the NRC's aforementioned position on safety-related pump testing and the benefits of reduced burden while maintaining existing levels of plant safety, the Authority believes that the proposed changes are justifiable. The Authority performed a review of past surveillance results. Of 161 monthly surveillance test packages over a two year review period, there were no unsatisfactory test surveillances as a result of a component failure and

23 surveillances which were conditionally acceptable for reasons other than component degradation. These results provide a level of assurance that the ASME Code Class 1, 2, and 3 pumps, and their associated valves, will perform properly between proposed quarterly surveillances. Based upon these surveillance results, the Authority concludes that the proposed changes are compatible with plant operating experience and are consistent with the guidance provided by NUREG-1366 and as implemented by the NRC in the Standard Technical Specifications (Reference 4).

Section III - No Significant Hazards Evaluation

Consistent with the criteria of 10 CFR 50.92, the enclosed application is judged to involve no significant hazards based on the following information:

- (1) Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously analyzed?

Response: Operation of Indian Point 3 in accordance with the proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes involve no hardware changes, no changes to the operation of any systems or components, and no changes to existing structures. 10CFR50.55a(g) requires that safety related components (e.g. - pumps and valves) be tested according to the requirements of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) and applicable addenda. The revision of functional test frequencies for pumps and valves, which are categorized as Code Class 1, 2, or 3, from a monthly to a quarterly test interval is consistent with NRC guidance provided in NUREG-1366 and in accordance with recommended test intervals in the ASME Code. These changes will reduce component degradation resulting from unnecessary tests and provide better system availability from not having to remove a system/component from operability while performing a surveillance. Such changes will not alter the probability or consequences of any previously analyzed accidents.

- (2) Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes are procedural in nature concerning the functional testing frequencies of pumps and valves that have historically shown a high percentage of successfully meeting surveillance requirements. The methodology of testing these pumps and valves will remain unchanged. The proposed changes, while slightly increasing the possibility of an undetected pump or valve defect, will not create a new or unevaluated accident or operating condition.

- (3) Does the proposed license amendment involve a significant reduction in a margin of safety?

Response: The proposed license amendment does not involve a significant reduction in a margin of safety.

The proposed changes are in accordance with recommendations provided by the NRC regarding the improvement of Technical Specifications. These changes will result in the perpetuation of current safety margins while reducing the testing burden and decreasing equipment degradation.

Section IV - Impact of Change

The proposed changes will not adversely affect the following:

ALARA Program
Security and Fire Protection Programs
Emergency Plan
FSAR or SER Conclusions
Overall Plant Operations and the Environment

Section V - Conclusions

The incorporation of this change: a) will not increase the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Safety Analysis Report; b) will not increase the possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification; d) does not constitute an unreviewed safety question; and e) involves no significant hazards considerations as defined in 10 CFR 50.92.

Section VI - References

1. NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," dated December 1992.
2. 1983 ASME Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," dated October 1983
3. Letter from Mr. N. F. Conicella (NRC) to Mr. W. A. Josiger (NYPA), "Issuance of Amendment and Rescission of Confirmatory Order for Indian Point Nuclear Generating Unit No. 3," dated May 20, 1994.
4. NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 1, dated April 1995.