

Indian Point 3  
Nuclear Power Plant  
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**New York Power  
Authority**

November 12, 1992  
IP3-NRC-92-090

Indian Point Unit No. 3  
License No. 50-286  
Docket No. DPR-64

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

**Subject: Safety Evaluation of Second Ten Year Interval  
Inservice Testing Program**

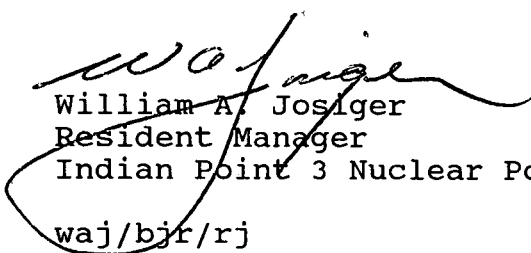
Dear Sir:

Your correspondence, dated August 10, 1992, associated with the Indian Point 3 Inservice Testing Program requested information regarding anomalies in TER No. EGG-NTA-10200 and relief request VR-29.

Attachment I describes the information regarding anomalies requested in the 90 day period, plus information for PR-12.

If you have any questions, please contact Mr. Charles Caputo of my staff at (914) 736-8301.

Very truly yours,

  
William A. Josiger  
Resident Manager  
Indian Point 3 Nuclear Power Plant

waj/bjr/rj

cc: IP3 Resident Inspector  
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- Anomaly 1. This applies to PR-1 which requests relief from the Code requirement to test pumps at a reference value. PR-1 proposes to test pumps by comparing the measured flow and differential pressure with the pump's curve. The relief request was written to be applicable to all pumps therefore it was requested that the relief request be revised. Response to this concern is required by November 10.

Response

PR-1 will be revised during the next IST Program revision which is presently being developed. After the revision, PR-1 will apply only to the Component Cooling Water (CCW), Service Water (SW) and Residual Heat Removal (RHR) pumps. The CCW and SW pumps are on-line cooling systems where throttling for testing results can lead to undesirable thermal transients on critical operating equipment. The RHR pumps will still require this relief but only during periods when the plant is in cold shutdown. Throttling RHR flow during plant shutdown for testing creates complications that are unacceptable due to core cooling and mixing requirements. When the plant is not in a shutdown condition, RHR pump testing is performed through a miniflow path at a fixed reference point. Presently, all IST pump surveillance testing is consistent with this response and PR-1 requires revision to reflect this.

- Anomaly 2. This applies to PR-12 which requests relief from measuring recirculation pump flowrate. Interim relief was granted for one year or until the next refueling outage which ever is longer.

Response

Flowrate measurement for these pumps is presently being taken by non-intrusive methods at refueling frequencies with relief from the code required test frequency in PR-9. Relief PR-12 will be deleted in the next IST Program revision which is presently being developed. While this anomaly has no 90 day response requirement it appears appropriate to provide an early response.

- Anomaly 4. This applies to PR-14 which requests relief from increasing the test frequency of monthly tests that are performed when an alert condition is observed. It was requested that the relief be withdrawn since it is unnecessary.

Response

This relief will be deleted in the upcoming IST Program revision currently being developed.

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Anomaly 5. This applies to VR-9 and VR-28 which request relief from quarterly closure testing of Service Water and Auxiliary Coolant pump discharge check valves respectively. Neither relief specifies a maximum test interval except that it will be quarterly unless deferred when plant or system conditions warrant it. It was requested that these reliefs be revised to specify that the valves be exercised to the closed position at a schedule as close as practicable to the Code frequency, but at least once each refueling outage. Response is required by November 10.

Response

Relief requests VR-9 and VR-28 will be revised during the next IST Program revision which is presently being developed. This will add the requirement for a maximum test interval such that the valves are tested for closure at least once each refueling.

Anomaly 7. This applies to VR-29 which requests relief from leak testing those 857 check valves which are installed in a series combination of three check valves. It proposes that the outer 2 check valves act as a single barrier and can be tested as a single valve. The inner valve is tested as a single valve as required by the code. This relief request has been denied. A revised relief request is allowed to be submitted by November 10.

Response

It was apparent during a review of concerns addressed under Anomaly 7, that the wording used in relief request VR-29 led to some confusion. Contrary to the statements made in Anomaly 7, VR-29 never intended to request relief that would effectively allow the testing of three check valves in series as a single check valve. Rather than the typical pressure boundary design of two check valves in series, the IP3 design incorporates three check valves in a series combination. Presently, the inner valve is leak tested individually and the outer 2 valves (of the 3 in series) are leak tested as a pair since they are considered to be the outer pressure barrier. This method of testing (one test for the inner valve and one test for the outer two) is necessary as a matter of practicality in limiting man-rem exposure due to the difficulties involved with making and breaking connections to jumper pressure over check valves in high radiation/heat environments.

VR-29 presently is subject to misinterpretation, but the conclusion in Section 3.2.1.4.2 of the Technical Evaluation Report EGG-NTA-10200 that the proposed alternate test method being requested is "to test three category A/C valves as one" does not reflect present

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testing philosophy and methodology. Since an IST Program revision is currently being developed, VR-29 has been revised to clearly indicate that the inner valve is individually tested and that only the outer two are tested as a pair. Additionally the impracticality due to man rem exposure is provided in the bases for the relief, which is attached.

- Anomaly 8. This applies to VR-30 which requests relief from the monthly testing requirement for power operated valves found to be in the alert region if the test is performed on a cold shutdown or refueling basis. Without this relief, a plant shutdown would be required to perform these tests (which can not be performed during power operation) on the increased monthly frequency. The relief is general in nature and was denied. Response is required by November 10.

### Response

This relief will be revised during the next IST Program revision which is presently being developed and is expected to be submitted by December 31, 1992. The revised relief request will be specific and detailed in its applicability, scope, and justification. VR-30 will be applicable only to air operated valves. A trend into the stroke time alert range for motor operated or solenoid valves is often an accurate indication of a concern that should be addressed during the plant shutdown when the trend was identified. Air operated valves that are tested during plant shutdowns are often not tested under identical circumstances. AOV stroke times on a given air operated valve that is tested under a range of system configurations and conditions during plant shutdowns can vary measurably with no valve degradation (especially in cold shutdown or refueling periods when a valve stroke time is influenced by many unrelated factors). The point of unacceptable degradation where valve performance reaches "A Required Action Range" is specified in the stroke time test. Routine valve repair or unit shutdowns to address stroke time variations for air operated valves tested at cold shutdown frequencies and have entered the Alert Range but have not exceeded the procedures required action value, would only unnecessarily increase the outage duration.

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Anomaly 10. This applies to VR-37 which requests relief from the Code stroke test requirements for valves MS-41 and 42. The relief proposes to stroke test MS-41 and 42 by full stroke testing one valve on an alternating basis each refueling and part stroking one valve nominally each quarter. It was requested that either information be developed which justifies the full stroke test frequency or that both valves be full stroke tested at least every refueling. Response is required by November 10.

Response

VR-37 will be revised during the next IST Program revision, which is presently being developed, to require a full stroke test of both valves (MS-41 and MS-42) during each refueling outage.

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RELIEF REQUEST NO. VR-29

SYSTEM:

Safety Injection (Dwg. No. ISI-27353)

VALVE:

857 A and G, Q and R, S and T, U and W

CATEGORY:

A/C

FUNCTIONS:

These valves provide a flow path for the high-head safety injection system to the reactor coolant loops and prevent overpressurization of the safety injection system piping and components.

REQUIREMENTS:

Category A valves shall be leak tested per IWV-3420.

BASIS FOR RELIEF:

The Indian Point 3 Technical Specifications, Section 4.5.B.2.C, requires leak testing of these check valves due to the potential of overpressurization of the safety injection system (Event V scenario). To ensure that this does not occur, and in accordance with NRC letter dated February 1980, Subject: Event V Scenario, only two valves in series require testing. Due to difficulties with testing a single valve in these cases, it has been decided to test the inner valve individually and the outer two valves as a pair (considering the inner valve as a barrier and the outer two as a barrier). This relief applies only to the outer two valves which will be tested as a pair due to the man rem exposure levels associated with performing the test. The valves, which are in a high heat and radiation environment, require a difficult series of making and breaking connections to "jumper" high pressures over the inner check valve(s). The two barriers (one inner check valve and two outer check valves) are to be provided with individual leak tests.

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ALTERNATE TESTING:

These valve pairs will be leak tested as a pair with the resulting leakrate evaluated as if a single valve were tested. The inner check valves in each of the four flow paths from the reactor coolant system (897A, 897B, 897C, and 897D) will be individually leak tested.