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U. S. Nuclear Regulatory Commission
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Subject: Arkansas Nuclear One - Unit 2
Docket No. 50-368
License No. NFP-6
Request for Temporary Waiver of Compliance
ANO-2 Containment Purge Valves

Gentlemen:

This letter provides the written documentation to follow-up Entergy Operations' verbal discussions on April 3 and 4, 1991, regarding a temporary waiver of compliance from the provisions of ANO-2 Limiting Condition for Operation 3.0.4 for the containment purge isolation valves until an amendment to the Technical Specifications can be developed and processed (approximately 120 days). This waiver is to allow an exemption from 3.0.4 for the inside containment purge isolation valves (2CV-8289-1 and 2CV-8291-1) of Table 3.6-1. The Plant Safety Committee has reviewed and approved the proposed actions discussed herein.

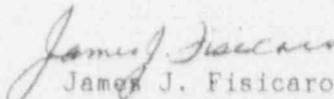
On March 31, 1991, as a follow-up to Information Notice 88-73, Entergy Operations discovered that the sloped valve body seats of the inside containment purge isolation valves (2CV-8289-1 and 2CV-8291-1) were oriented in a direction which is less likely to seal when pressurized from the containment side. Local Leak Rate Testing has previously been conducted by pressurizing the inside valves from a reverse direction. Due to the system design, it is not possible to perform traditional Local Leak Rate Testing (LLRT) of the valves with the pressure applied to the valves' disc from the accident direction. However, leak rate tests of the valves from the accident direction are scheduled to be conducted on April 6, 1991, during performance of a containment Integrated Leak Rate Test (ILRT). Because of the valves' seat orientation, it is possible that the valves will not pass the 10CFR50, Appendix J leak rate test and, therefore, these valves will be inoperable. To reduce the leakage across these valves will require substantial modifications to the system design or complete replacement of the valves. Replacement valves are not currently available. ANO-2 is scheduled to enter Mode 4 operation as early as 4:00 P.M. CST on April 8, 1991. These valves are required to be operable in

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Modes 1, 2, 3, and 4. The ACTIONS required if these valves are INOPERABLE are specified in Technical Specification 3.6.3.1 ACTIONS a through d. Entergy can comply with these ACTIONS (i.e. isolate the affected penetration by deactivating an automatic valve in the isolation position). In fact, a redundant, OPERABLE, isolation valve is available for both affected penetrations. However, the current ANO-2 Limiting Condition for Operation 3.0.4 precludes a mode change unless the conditions of the LCO are met without reliance on provisions contained in the ACTION statements. In Generic Letter 87-09, the NRC Staff has concluded that this is an unnecessary restriction, in the case where the LCO has an ACTION requirement which permits continued operation for an indefinite amount of time. Entry into an operational mode or other specified condition of operation should be permitted in accordance with the ACTION Requirement. This provides an acceptable level of safety for continued operation.

Therefore, to support the timely restart of ANO-2, Entergy Operations requests a waiver from the Arkansas Nuclear One, Unit 2 Technical Specifications Table 3.6-1 to provide an exemption from Limiting Condition for Operation 3.0.4 Requirements for the containment purge inside isolation valves.

Very truly yours,


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JJF:CW:sgw
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ATTACHMENT TO 2CAN049101

DISCUSSION OF REQUIREMENTS FOR WHICH A WAIVER IS REQUESTED

The proposed waiver is from the provisions of Limiting Condition for Operation 3.0.4 for the containment purge inside inlet and outlet isolation valves (i.e., 2CV-8289-1 and 2CV-8291-1) as specified in ANO-2 Technical Specification Table 3.6-1 (page 3/4 6-19).

DISCUSSION OF CIRCUMSTANCES SURROUNDING THE SITUATION

On March 31, 1991, as part of ANO's follow-up actions to NRC's Information Notice 88-73, Direction-Dependent Leak Characteristics of Containment Purge Valves, it was discovered that the tapered seats of both the containment purge inside isolation valves were installed such that they were less likely to seat when pressurized from the containment side. This was only discernable by physically examining the seating surfaces. Due to the system design, the only way to apply pressure to the containment side of the valve is during the Integrated Leak Rate Test (ILRT) of the containment building. The ILRT is scheduled to begin on April 6, 1991. Because of the orientation, it is possible that these valves will not pass their 10CFR50 Appendix J leak rate test.

Prior to conducting the ILRT, the other four containment purge isolation valves (2CV-8283-1 and 2CV-8284-2 on the purge supply and 2CV-8285-1 and 2CV-8286-2 on the purge exhaust) will be Local Leak Rate Tested (LLRT). These valves provide redundant isolation capability for both the containment purge supply and exhaust. The containment purge isolation valves are restricted to operation in Modes 5 & 6 per Technical Specification 3.6.1.6. The attached figure shows the purge supply and exhaust valve configuration.

ANO-2 is currently in Refueling Outage 2R8, with heatup planned as early as April 8, 1991, after completion of the Integrated Leak Rate Test of the containment building. Without NRC approval of this request, ANO-2 will not be permitted to heatup from the current refueling outage until the standard license amendment process can be completed or complete major design changes developed and implemented to address the leakage of the inboard isolation valves. These options present hardships to Entergy Operations, which are outweighed by the approval of the waiver of compliance, especially considering the absence of a significant hazard associated with this proposed change. In particular, each day ANO-2 would be shutdown, Entergy Operations would incur significant replacement power costs.

Currently there are over 5000 Megawatts off line in the Entergy System for maintenance outages. Additionally, several large fossil units are scheduled to come off line in the near term. Delaying the ANO-2 return to power will cost in excess of \$100,000 per day in replacement power costs.

Entergy Operations first discovered the non-conservative orientation of the containment purge inside isolation valves on March 31, 1991. We communicated to the Staff the potential for failure of the valves to pass the leak rate test on April 3, 1991. Accordingly, Entergy Operations has developed this waiver until a request for license amendment pursuant to the provisions of 10CFR50.91 can be processed. Given the recent discovery of the potential problem, we believe this request has been submitted in a timely manner.

DISCUSSION OF COMPENSATORY MEASURES

Because this waiver allows entry into a mode for which compensatory measures are already in place for an INOPERABLE valve pursuant to ACTION b of Specification 3.6.3.1, Entergy Operations need not provide additional compensatory measures. However, it should be noted that each penetration has redundant isolation valves OPERABLE over and above the single isolation valve required by the Technical Specification ACTION statement. These redundant valves will also be closed and deactivated such that two valves will be locked closed and deactivated in each of the purge lines. The second valve outside containment (2CV-8283-1 and 2CV-8285-1) is designed to the same quality standards as the other two valves in each of the lines and, therefore, provides complete redundancy.

PRELIMINARY EVALUATION OF SAFETY SIGNIFICANCE AND POTENTIAL CONSEQUENCES

ANO-2 currently complies with the ACTION requirements of Technical Specification 3.6.3.1 (b), which would, if we were currently in Mode 1, allow operation for an unlimited period of time. This action requires the isolation of the affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position. In fact, two operable isolation valves are currently available on each penetration and will be deactivated in the closed position. However, because of the lack of an exemption from the requirements of Technical Specification 3.0.4, ANO-2 can not enter into an OPERATIONAL MODE unless the conditions of the Limiting Condition for Operation are met without reliance on provisions contained in the ACTION statements. The current application of Specification 3.0.4 in this case unduly restricts ANO-2's operation when conformance with the ACTION requirements provides an acceptable level of safety for continued operation. For an LCO that has ACTION Requirements permitting continued operation for an unlimited period of time, entry into an operational mode or other specified condition of operation should be permitted in accordance with the ACTION requirement. This position was endorsed by the NRC in Generic letter 87-09 dated June 4, 1987.

Specifically, in Generic Letter 87-09, the Staff presented the following position:

"Specification 3.0.4 unduly restricts facility operation when conformance to the Action Requirements provides an acceptable level of safety for continued operation. For an LCO that has Action Requirements permitting continued operation for an unlimited period of time, entry into an operational mode or other specified condition of operation should be permitted in accordance with those action requirements. This is consistent with NRC's regulatory requirements for an LCO. The restriction on a change in operational modes or other specified conditions should apply only where the Action Requirements establish a specified time interval in which the LCO must be met or a shutdown of the facility would be required. However, nothing in this Staff position should be interpreted as endorsing or encouraging plant startup with inoperable equipment. The Staff believes that good practice should dictate that the plant startup should normally be initiated only when all required equipment is operable and that startup with inoperable equipment must be the exception rather than the rule."

Specification 3.6.1.6 of the ANO-2 Technical Specifications requires that the containment purge isolation valves at the penetration be locked closed and the keys removed from the handswitch. The ACTION requirement of Specification 3.6.3.1 allows continued operation with an INOPERABLE valve if the affected penetration is isolated by use of at least one deactivated automatic valve secured in the isolation position or by use of at least one closed manual valve or blind flange. Locked closed and keys removed per Technical Specification 3.6.1.6 meets the intent of Specification 3.6.3.1 (b) for these valves. The application of Generic Letter 87-09 to this situation would allow entry into the applicable mode to take advantage of this alternative for continued operation as an acceptable level of safety is ensured by compliance with ACTION b for this Specification.

JUSTIFICATION FOR DURATION OF THE REQUEST

This temporary waiver is necessary to allow sufficient time to process a change to the ANO-2 Technical Specifications to allow compliance with the Specification 3.6.3.1. To fully evaluate the Technical Specification change and to process the change request will require approximately 120 days.

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

An evaluation of the proposed change has been performed in accordance with 10CFR50.91(a)(1) regarding no significant hazards consideration using the standards in 10CFR50.92(c). A discussion of those standards as they relate to this amendment request follows:

Criterion 1 - Does Not Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated.

The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The containment purge isolation valves are passive components during the Modes of operation required per Technical Specification 3.6.3.1. They have no affect on the probability of an accident occurring. Redundant isolation valves remain OPERABLE for each containment penetration in question, thus ensuring containment integrity, therefore, the consequences of an accident will not be increased by this change.

Criterion 2 - Does Not Create the Possibility of a New or Different Kind of Accident from any Previously Evaluated.

The proposed change does not create the possibility of a new or different kind of accident from any previously analyzed because this change is bounded by current analysis in the ANO-2 SAR and allowed by the ACTIONS currently specified by the Technical Specification during Modes 1, 2, 3, and 4.

Criterion 3 - Does Not Involve a Significant Reduction in the Margin of Safety.

The proposed change does not involve a significant reduction in a margin of safety since the isolation capability is beyond that required by the ACTION statement of Specification 3.6.3.1. The redundant isolation valves available to each penetration have been functionally tested and proven to be acceptable isolation barriers.

The Commission has provided guidance in 51 FR 7750 dated March 6, 1986, concerning the application of the standards for determining whether a significant hazards consideration exists. The proposed amendment most closely matches example: (vii)

"A change to conform a license to changes in the regulations, where the license change results in very minor changes to facility operations clearly in keeping with the regulations."

Therefore, based on the reasoning presented above and the previous discussion of the amendment request, Entergy has determined that the request change does not involve a significant hazards consideration.

BASIS FOR NO ENVIRONMENTAL CONSEQUENCES

This request for a temporary waiver of compliance does not have a significant affect, impact or change on the quality of the human environment at ANO. This request, when implemented, does not impact the ANO-2 Operating License or the Environmental Report. Therefore this request does not significantly involve irreversible environmental consequences.

ANO-2 CONTAINMENT PURGE SUPPLY AND EXHAUST

