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U. S. Nuclear Regulatory Commission  
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Subject: Arkansas Nuclear One - Unit 1  
Docket No. 50-313  
License No. DPR-51  
Response To NRC Unresolved Item 313/9424-02

Gentlemen:

NRC Inspection Report 94-24 cited an Unresolved Item (313/9424-02) regarding the reportability of the failure of both ANO-1 pressurizer code safety valves to pass their 'as-found' set pressure tests during refueling outage 1R11.

As requested, ANO has reviewed this issue utilizing the guidance contained in the referenced Nuclear Reactor Regulation memorandum which was forwarded to ANO by the NRC on December 8, 1993, and is responding in writing with ANO's position regarding the reportability of the issue.

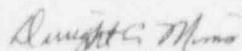
ANO generally agrees with the guidance contained in the memorandum, which is reflective of guidance in Draft 2 of NUREG-1022, Rev. 1. Although the memorandum had not been published at the time this condition occurred, the draft guidance of NUREG-1022, Rev. 1 was considered when determining reportability. The Condition Report documented "time of discovery" as the reason that the condition was not reportable; however, other information was also evaluated which further substantiated that conclusion.

1. An analysis was performed which verified that the valves were capable of performing their specified functions during the worst case accident scenario assuming they lifted at their 'as-found' setpoints. Therefore, the valves remained operable.
2. The ANO-1 Technical Specifications do not stipulate any setpoint limits for the pressurizer code safety valves. Therefore, the condition is not considered to be reportable as operation prohibited by the plant's Technical Specifications.

ANO recognizes that some confusion may have been created during the inspector's review of the Condition Report concerning this issue since it did not clearly document all of the information that was considered when determining reportability of the condition. Therefore, to address the NRC's concerns as stated in the inspection report, the sequence of events surrounding this issue and the rationale used in determining that the condition was not reportable are included in the attachment to this letter.

We believe our actions were consistent with the NRC regulations and guidance in existence at the time of occurrence of this event. ANO also considered draft guidance in determining reportability, that had been distributed for review and comment, which represented the best understanding of such issues based on both NRC and industry input. ANO pursued this issue thoroughly in order to accurately characterize its potential impact on plant safety and report it accordingly. If you have additional questions or need additional information regarding this issue, we would be pleased to discuss it further with you.

Very truly yours,



Dwight C. Mims  
Director, Licensing

DCM/rhs

Attachment

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## PRESSURIZER CODE SAFETY VALVES

### SEQUENCE OF EVENTS

On September 20, 1993, pressurizer code safety valve PSV-1002 failed its 'as-found' lift pressure test at the Wyle Lab facility. The valve lifted at 2578 psig (103.12% of setpoint). A condition report (CR) was initiated at ANO and an engineering evaluation was conducted which concluded that the valve was operable 'as-found'. However, the evaluation did assume that the second code safety valve's setpoint was within tolerance. The CR was evaluated for reportability by Licensing on September 21, 1993, and was determined not to be reportable based on the results of the engineering evaluation.

On September 22, 1993, the second code safety valve (PSV-1001) failed its 'as-found' lift pressure test. The valve lifted at 2613 psig (104.5% of setpoint). Another CR was initiated to document the second occurrence. Operations completed the operability assessment section of the CR and conservatively declared the valve inoperable since it was not required to be operable under the existing plant conditions. Therefore, no immediate reportability concerns were evident. The operability evaluation also stated that a past operability evaluation would be completed. The CR was classified as "Significant" based on the fact that both valves had been found out of tolerance. The ANO corrective action program requires that significant CRs receive a detailed root cause evaluation.

Licensing requested that Maintenance perform a records review of the valves to attempt to identify anything that might have caused them to be out of tolerance. This action was initiated in an attempt to identify any firm evidence indicating that the valve setpoints were out of tolerance prior to the time of discovery. However, since both valves were found out of tolerance, and because guidance contained in Draft 2 of NUREG-1022, Rev. 1 indicated that "time of discovery" might not be an appropriate consideration for this condition, Licensing contacted Design Engineering regarding the ability of the valves to perform their safety function considering their 'as-found' setpoints. Design Engineering personnel stated that the NSSS vendor (BWNT) had given a presentation in May, 1993 stating that they could provide analysis documenting that the valves would maintain peak RCS pressure below 2750 psig during the worst case transient with code safety valve lift pressures higher than the 'as-found' setpoints of the ANO valves. BWNT was contracted to provide an ANO specific analysis.

On September 28, Maintenance personnel completed the review of test reports, repair reports, and removal and replacement job orders. This review did not identify any condition that might have caused the valves' setpoints to change. Consequently, Licensing determined that the condition was not reportable, citing "time of discovery" as discussed in Question 2.3 of NUREG-1022, Supplement 1 as the basis. This determination was also based on the engineering judgment that the valves would have been capable of performing their specified function 'as-found'. However, this information was not documented on the reportability determination form. It was also recognized that if the BWNT analysis did not bound the ANO 'as-found' condition, reportability would have to be revisited.

Preliminary analysis results were communicated to ANO by BWNT on October 12, 1993, indicating that, even if one code safety valve failed to open and the other lifted at 105% of design pressure during the worst case transient, maximum RCS pressure would be limited to less than 2750 psig. Therefore, the code safety valves were operable in their 'as-found' condition. Since the reportability determination conclusion did not change from what was previously documented, a revised determination was not submitted.

## OPERABILITY

The Technical Specifications and Generic Letter 91-18 define operability as the capability of a system, subsystem, train, component, or device to perform its "specified functions." The specified function of the pressurizer code safety valves is defined by Technical Specification 2.2.1 which states that reactor coolant system pressure shall not exceed 2750 psig when there are fuel assemblies in the reactor vessel. Additionally, the Bases for TS 2.2 states, "The settings for the reactor high pressure trip (2355 psig) and the code safety valves (2500 psig  $\pm$  1%) have been established to assure that the reactor coolant system pressure safety limit is not exceeded." The Technical Specifications do not prescribe limits of operability with respect to the setpoints of the code safety valves. Therefore, utilizing the guidance in Generic Letter 91-18 with respect to operability, the valves may be considered operable if they remain capable of performing their "specified functions".

The Bases for specification 2.2 states, "When testing the pressurizer code safety valves, the 'as-found' lift setpoint may be 2500 psig + 1, -3%. However, if found outside of a  $\pm$  1% tolerance band, they shall be reset to 2500 psig  $\pm$  1 %." This guidance describes the actions necessary when the code safety valves are found out of tolerance. However, it does not establish any limits of operability. Generic Letter 91-18 contains guidance in section 6.11 relative to degraded components. It states, "In cases where the required action range limit is more conservative than its corresponding TS limit, the corrective action may not be limited to replacement or repair; it may be an analysis to demonstrate that the specific performance degradation does not impair operability and that that the pump or valve will still fulfill its function..." The applicable ASME code, which is invoked by TS 2.2.2, does not contain any "required action range limits." However, as stated above, the TS Bases do contain these limits. Again utilizing guidance in GL 91-18, if analysis can demonstrate that the valves remained capable of fulfilling their specified function of maintaining RCS pressure less than 2750 psig in their 'as-found' condition, then they may be considered operable. (Second Draft, NUREG-1022, Rev. 1 states that Generic Letter 91-18 guidance is appropriate for reportability determinations)

### CONCLUSION

The ANO-1 Technical Specifications do not contain any prescribed limits regarding the lift setpoints of the pressurizer code safety valves. Therefore, the fact that the valves were found outside of their procedurally required setpoint tolerances does not represent a reportable condition under 10CFR50.73(a)(2)(i)(B).

The BWNT analysis verified that the valves would be capable of performing their design function of maintaining RCS pressure less than 2750 psig during the worst case accident scenario assuming lift setpoints higher than the code safety valves' 'as-found' setpoints. Therefore, the valves would have been operable during previous periods of plant operation even if it is assumed that the 'as-found' condition existed during that time. Considering that the valves were determined to be operable 'as-found', no other reportability criteria of 10CFR50.72 or 50.73 are applicable.

Since the reportability conclusion did not change from what was previously documented, a revised reportability determination form was not submitted.