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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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FROM: E. L. Jordan, Assistant Director
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SUBJECT: CRITERIA FOR EVALUATING OPERABILITY OF SEISMIC DESIGN PIPING SUPPORTS RELATING TO IEB 79-02 AND 79-14

As a byproduct of system operability reviews for Duane Arnold and Crystal River facilities related to results of Bulletin 79-02 testing, we have developed, jointly with NRR, criteria which may be applied to reactor facilities without further headquarters review.

Specifically, the licensees identified problems with piping supports in which the original design margins were not met but some lesser margin was available. The design margins of four or five are intended to be final design and installation objectives but systems may be classed as operable with some lesser margin on an interim basis, along with a program of restoration to the Bulletin factors of safety. Facilities which fall outside this operability criteria will be reviewed on a case by case basis and will probably necessitate a meeting in Headquarters.

The criteria were developed for evaluation of acceptability of operation with less than the design factors of safety for piping supports due to as-built problems, underdesign, base plate flexibility or anchor bolt deficiencies.

1. For overall factor of safety compared to ultimate strengths less than original design but $\geq$ 2, operation may continue or may begin providing systems are upgraded to design margins of safety expeditiously for normally accessible supports and by the next refueling for non-accessible supports. Accessibility is as defined in Bulletin 79-14 where "normally accessible" refers to those areas of the plant which can be entered during reactor operation.

2. For factors of safety less than 2, the support should be classed as inoperable and the Technical Specification action statement met unless it can be shown that the system can function in a seismic event without the support.

3. Repairs to supports should result in return to the design factor of safety.

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4. Operations may be continued while repairs to upgrade the system from a factor of safety $\geq$ 2 to the design are performed. Consideration must be given to the effect of the repair process on support function and system operability. In other words the time a support is not functional should be limited to T.S. action statement times or the support must be determined not to cause the system to be unable to perform its function in a seismic event. The licensee should also exercise care not to take several supports on a given system out of service at the same time or to cause both trains of one safeguards system to be made inoperable at the same time. Control over workmen on safety related system during plant operation requires a high degree of control by the licensee.

The bases of accepting on an interim basis reduced factors of safety are that confidence is still provided that the support will carry load in a seismic event, there is assurance that a common mode failure of a large number of supports is unlikely and the time to restore the factors of safety is reasonable. We have discussed this position with NRR and they agree with our approach.

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