Consumers Power Company

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Director, Nuclear Reactor Regulation
Att Mr Dennis L Ziemann, Chief
Operating Reactors Branch No 2
US Nuclear Regulatory Commission
Washington, DC 20555

DOCKET 50-255 - LICENSE DPR-20 -
PALISADES PLANT - INFORMATION RELATED TO
IE BULLETIN NO 79-02 AND NO 79-14

References:
(1) IE Bulletin 79-02 Dated March 8, 1979
(2) CP Co Letter to NRC Dated March 29, 1979 (79-02)
(3) NRC Response to CP Co Dated April 26, 1979 (79-02)
(4) IE Bulletin 79-02, Rev 1, Dated June 21, 1979
(5) IE Bulletin 79-14 Dated July 2, 1979
(6) CP Co Letter to NRC Dated July 6, 1979 (79-02)
(7) CP Co Letter to NRC Dated August 1, 1979 (79-14)
(8) IE Bulletin 79-02, Rev 1, Supp 1, Dated August 20, 1979
(9) CP Co Letter to NRC Dated August 31, 1979 (79-14)
(10) NRC IE Inspection Report No 50-255/79-12 Dated September 11, 1979
(11) IE Bulletin 79-02, Rev 2, Dated November 8, 1979
(12) CP Co Letter to NRC Dated November 9, 1979 (79-14)
(13) CP Co Letter to NRC Dated December 11, 1979 (79-02)
(14) NRC IE Inspection Report No 50-255/79-18 Dated December 28, 1979
(15) CP Co Letter to NRC Dated January 25, 1980 (LER 80-01, 79-14)

The scope of Consumers Power Company's activities to satisfy the requirements of the referenced IE Bulletins (No 79-02 and No 79-14 as revised) has been developed into a set of comprehensive evaluation programs that will satisfy the bulletins as well as future Systematic Evaluation Program requirements. Attachments A and B to this letter provide an overview of the program developed for each bulletin. Previous correspondence indicated in the reference list above has provided the required preliminary reports called for in the subject bulletins (previous correspondence was addressed to the Director of the Region III Inspection and Enforcement Office). Licensee Event Report No 80-01 (Ref 15) submitted on January 25, 1980 reported that our

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evaluation program had identified that pipe and pipe support stresses for several lines which did not meet the Palisades Plant FSAR criteria.

On February 7, 1980, Consumers Power Company and Bechtel representatives met with NRC staff representatives from the SEP, Operating Reactors and Engineering Branches, IE Headquarters and the IE Regional Office. The purpose of the meeting was to present a status report on our progress to meet the requirements of the subject bulletins and identify our corrective action to the condition reported in LER 80-01. Attachments A, B and D, plus a portion of Attachment C entitled, "Results of Inspection and Testing Program," Rev 0, were presented and left with the staff for review. Consumers Power Company committed to a transmittal to the NRC that would formally document our reevaluation programs and identify the corrective measures that would be implemented. Our submittal was also to include the rationale used to determine which stress analyses problems needed to be reanalyzed prior to plant start-up and which analyses could be determined acceptable by inspection. That rationale is as follows:

> As shown in Attachment E, 39 stress problems have been completely analyzed and drawings setting forth necessary modifications to comply with the FSAR or interim criteria are being issued. These modifications will be made prior to resuming operation. The remaining 33 stress problems will be reviewed for acceptability. In this review, the effects of decoupling/interaction problems, the number of seismic modes considered in the original analysis and differences between as-built conditions and those used in design stress calculations will be determined.
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> Computer programs for dynamic, seismic analysis used in the original design were limited to 200 degrees of freedom for one stress problem. In terms of linear feet of pipe per stress problem, approximately 70 mass points (or 200 degrees of freedom) will be equivalent to 600 feet of ten-inch diameter and 300 feet of three-inch diameter piping. Based on this general criteria, piping systems exceeding this general length criteria will be reviewed and analyzed to determine if decoupling/interaction problems exist which cause allowable stresses as set forth in the interim criteria to be exceeded.
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> If the natural frequency corresponding to the highest mode in the original analysis falls beyond the peak of the response spectrum curve, the piping system is assumed acceptable for the interim period of operation prior to complete reanalysis. Generally, if the problems were

originally analyzed at or above 11-13 cps, the analysis will be considered acceptable. Those analyzed at lower frequencies will be subject to review and analysis as necessary to assure interim criteria (as a minimum) are complied with.

A review of stress problems, for which stress analyses is incomplete, will be conducted to assure that the as-built conditions do not result in violation of stress limits presented in the interim criteria (as a minimum). This review will consist of a direct comparison of the as-built condition with existing original design calculations. This will provide assurance that a deviation in piping configurations from that used in the assigned design which causes allowable stress limits to be exceeded will be highly unlikely.

CONCLUSION

Consumers Power Company's program to meet the requirements of IE Bulletin No 79-02 and No 79-14 consolidates various analyses to prepare for SEP and ensures consistency with drawings, and as-built conditions has provided analytical results that some seismic Category I piping systems do not meet the implied FSAR requirements.

IE Bulletin 79-02

Prior to start-up, Consumers Power will have completed all necessary testing, inspection and repairs on anchor bolts and base plates on large piping (2-1/2" and larger) in containment and in other areas which are physically inaccessible during operation. Therefore, the intent of IE Bulletin 79-02 for interim operation of the plant with a minimum safety factor of two will be maintained for all pipe support anchor bolts. Any additional modifications to assure higher safety factors will be accomplished as part of the corrective action for IE Bulletin 79-14 and associated work.

IE Bulletin 79-14

The Palisades Plant FSAR involves 1967 B31.1 power piping code which does not contain allowable pipe stress limits for faulted conditions. Also, there are no specific FSAR requirements for allowable stress limits in pipe supports. Consumers Power Company has attempted to quantify allowable stress level and has presented this information in Attachment D. Of the thirty (30) stress analyses problems which have been completely analyzed, six (6) do not meet the implicit FSAR allowable stress criteria. However, five (5) of these systems do meet the allowable stresses in the 1976 Winter Addenda of the 1974 Edition of ASME Section III, Subsection NC. The sixth system will be modified prior to plant start-up to meet this interim criteria.

Consumers Power Company has concluded that all seismic Category I piping systems will meet the interim criteria (most will meet the implied FSAR criteria) prior to start-up. This condition is viewed as an acceptable interim solution because the requirements of the interim criteria assure plant operability in both normal and faulted conditions. Any necessary plant modifications required to upgrade the plant to the FSAR criteria will be completed prior to the end of the next refueling outage.

The Plant Review Committee (PRC) has considered this issue and did not find that an unreviewed safety question, as defined in 10 CFR 50.59, existed. Operability of the Palisades Plant within the interim criteria for allowable pipe and pipe support stresses was considered and found acceptable. PRC considered that the interim criteria provides a margin of safety consistent with current acceptable licensing practices in that the basis for the interim criteria (1974 ASME Section III code) has been used as a licensing basis for allowable pipe and pipe support stresses. Furthermore, no Technical Specifications changes or license amendments are required for plant operation under the interim criteria.

Even though Consumers Power Company has concluded that there are no required license changes to address this issue, we have included as Attachment F a proposed paragraph that may be added to the Palisades Plant License DPR-20 to require that any necessary modifications required to upgrade the plant to the implied FSAR criteria be completed by the end of the next scheduled refueling outage.

David P Hoffman
Nuclear Licensing Administrator

CC JGKeppler, USNRC
Director Office of Inspection
and Enforcement

Attachments A, B, C, D, E and F