

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

## JAN 2 1 1983

MEMORANDUM FOR: Gus C. Lainas, Assistant Director for Operating Reactors, DL

FROM:

James P. Knight, Assistant Director for Components & Structures Engineering, DE

SUBJECT: MEB STAFF POSITIONS CONCERNING OPEN ITEMS IN THE PRAIRIE ISLAND INSERVICE TESTING SER

As requested by the Division of Licensing (D. Dilanni), MEB staff positions are stated in the attachment for those relief requests that remain "under review" in the Safety Evaluation Report transmitted to the Licensee with the January 4, 1982 letter from Dominic C. Dilanni to D. M. Musolf.

James P. Knight, Assistant Director for Components & Structures Engineering Division of Engineering

cc: R. Vollmer T. Sullivan R. Bosnak F. Cherny D. Eisenhut R. Clark S. Varga

J. Page

Mechanical Engineering Branch Staff Positions Concerning Prairie Island Open Items

## SER Paragraph No.

12 12

## MEB Position

2.2

The licensee has developed alert and action ranges for pump vibration testing based on ASME publication 67-PEB-14, <u>Vibration Tolerances for</u> <u>Industry</u> which utilize vibration velocity instead of displacement as currently required by the Code. The staff agrees that the use of vibration velocity measurements is acceptable; however, the licensee's proposed maximum allowable values are too high. The staff's current positions concerning acceptable values of vibration velocity are based on ASME publication 78-WA/NE-5.

2.3

Flowrate instrumentation for four Component Cooling Water pumps and two Diesel Driven Cooling Water pumps has a repeatability of  $\pm 12\%$  and a fluctuation of  $\pm 3\%$ , totalling  $\pm 15\%$ . This amount of instrument inaccuracy makes it impossible to determine the hydraulic condition of these pumps in accordance with ASM<sup>22</sup> Section XI which requires  $\pm 2\%$ . In addition, the instrumentation is not sufficiently accurate to permit verification that the pumps have minimum flow capability for which credit is taken in the plant FSAR analyses.

NSP proposes to not perform any Section XI tests on six fuel cil transfer pumps. The staff position is that vibration measurements can easily be made at some alternate location since the ASME Code specified locations 'bearing housings) are submerged. In addition, acceptable alternative testing is possible for most of the hydraulic tests required by the Code.

> The licensee has proposed to expand the action ranges for hydraulic measurements (inlet pressure, differential pressure, flowrate and rotative speed) from -10%, +3% (those allowed by the Code) to -20%, +6% for two diesel driven cooling water pumps; two of the six pumps discussed in 2.3 above. As previously mentioned in that section, acceptable determination of pump condition is not possible with very inaccurate instrumentation, particularly when combined with expanded or relaxed acceptance criteria.

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2.4

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3.2.5

NSP proposes to not measure stroke times for 19 fast acting valves and proposes to utilize other required system tests rather than component tests to determine the operability of these valves. The proposed system tests can only be used to assess whether a valve has already failed. It is not sufficiently sensitive to detect gradual valve degration or a valve which is inoperable (i.e., would not fulfill its required function under accident conditions). The staff has a practical, coarse and easy to use screening criteria which acceptably determines the operability and degradation of these valves. The MEB position is that the stroke times of these valves be measured using the staff coarse screening criteria. The licensee also states that four additional "active" Containment Isolation Valves (CIVs) are exempted from Section XI testing requirements because they are tested in accordance with Appendix J. Appendix J, although accepted by the staff for testing certain inactive CIVs in lieu of ASME Section XI, does not address operability for active valves. In addition, no valve is exempted from Section XI testing solely because it is tested per Appendix J.

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3.2.15 The licensee proposes to perform a full stroke test of four power operated valves, but requests relief from struke timing the valves. Stroke timing is a valuable tool for the determination of valve operability. No reason is stated as to why it is impractical to stroke time these valves.

3.2.24 NSP proposes to exercise four MOVs each cold shutdown if the system can be flushed, or each refueling cutage if the system cannot be flushed. It is the staff's practice to determine which test is <u>practical</u> and so state it; either each cold shutdown or each refueling outage. It is c clear what frequency of testing is being proposed.

3.2.21 The licensee has requested relief from the stroke timing requirements of the Code for 4 compound cooling and 2 chiller condenser power-operated valves; however, it appears that relief from all code-required inservice testing is being sought (i.e., full stroke exercising quarterly). Continuous monitoring of associated processes served by these valves is stated as satisfactorily establishing the operability of these valves. This proposed alternate method is not sufficiently sensitive to detect gradual valve degradation or a valve which is inoperable (i.e., would not fulfill its required function

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3.2.21 (continuted)

under accident conditions). In addition, it is not apparent that these components are receiving a full stroke exercise as required by the Code nor has any reason been given as to why it is impractical to meet code requirements. It is the staff's position that full stroking and stoke timing be performed on these valves.