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10CFR50.55a(b)(2)(xxiii) - IWA-4461.4.2

I object to the proposed limitation on use of IWA-4461.4.2, Evaluation of Thermally Cut Surfaces. The proposed rule states that it is unclear if the provisions are intended to be mandatory or optional. I don't know how the words could be clearer. They state, "The evaluation shall consider adverse effects associated with elimination of mechanical processing, including: [(1) through (5)]." It clearly requires (1) through (5) to be evaluated. There is no need for the limitation to reinforce that requirement. If the NRC Staff has any question about the interpretation of this requirement, they should submit an inquiry to ASME. Additional regulatory requirements are completely unnecessary. If the item is to be thermally cut, the qualification provisions of IWA-4461.4.1 or the evaluation provisions of IWA-4461.4.2, including (a)(1)-(5), are mandatory. In addition, the proposed limitation appears to inadvertently prohibit use of IWA-4461.4.1. IWA-4461.4 permits use of either IWA-4461.4.1 or IWA-4461.4.2, as alternatives to mechanical processing. In other words, elimination of mechanical processing may be justified by either qualification or evaluation. The proposed limitation appears to inadvertently prohibit use of the qualification approach. This is not consistent with the justification in the proposed rule.

10CFR50.55a(b)(2)(xxv) - IWA-4340

I object to the proposed limitation on IWA-4340, Mitigation of Defects by Modification. The proposed rule states that such modifications could result in "unusual and unforeseeable design configurations." This is not the first time that the NRC Staff has tried to restrict the engineer from using his expertise in determining appropriate design details. The last time such a limitation was proposed, it was not published in the final rule. I hope this will be a repeat of the last time. The ASME Code has always specifically allowed the engineer to develop design details appropriate to the function of the SSC. There have been many cases of design details that might have been considered "unusual" by some and "unforeseeable" by others. That does not mean that they are not safe. In fact, many of the designs that were usual and foreseeable have turned out to be undesirable and are being replaced.

The Foreword to Section XI (and every other Section on the ASME Boiler and Pressure Vessel Code) specifically states, "The Code is not a handbook and cannot replace education, experience, and the use of engineering judgment. The phrase engineering judgment refers to technical judgments made by knowledgeable engineers experienced in the application of the Code. Engineering judgments must be consistent with Code philosophy and such judgments must never be used to overrule mandatory requirements or specific prohibitions of the Code." The NRC Staff has previously communicated, to ASME and the public, its acceptance of these provisions and this philosophy. Now it appears, once again, that the Staff is trying to force use of the ASME Code as a handbook. Mandating that the Code be used as a handbook will seriously handicap the ability of the Owner to keep the plant operating in a safe condition.

The NRC Staff should stop trying to limit the ability of the engineer/designer to develop

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safe and appropriate solutions to current operational issues. The NRC has never approved each and every design detail in a nuclear power plant. The NRC has always relied on the Owner and the plant design engineers, in satisfying the design provisions of the ASME Code, to "maintain safety and ensure the protection of the health public health and safety." The NRC has provided no basis in this proposed rule to change that approach for this specific paragraph. Does this mean that the NRC now wants to approve every specific design detail prior to implementation by an Owner? Why aren't similar limitations imposed on Section III, which allows the designer as much latitude as does IWA-4340?

I will assume that the reference to IWA-4520(b)(2) was intended to be to IWA-4540(b)(3). I believe that the NRC Staff's assertion that no pressure test would be required for a weld forming part of a new pressure boundary is absurd. If an attachment to the pressure boundary becomes the new pressure boundary, the attachment weld is by definition, pressure-retaining. It must, by definition, penetrate the pressure boundary. Therefore, IWA-4540(b)(2) would require a pressure test.

"IWA-4340(c) does not define an examination process which would require examinations at a frequency, based on flaw propagation rate, that would require a licensee to identify in advance when a flaw is projected to propagate outside the physical configuration of the "modification." This is because the design requirements of IWA-4340 are intended to obviate the need for any such examinations. The additional examinations required by IWA-4340 are intended to provide detection of flaw propagation beyond that which is predictable. This provides defense in depth. The phrase, "beyond the limits of the modification," is not ambiguous. The modification has a physical boundary, such as the surface of an attached fitting. If the flaw grows beyond that surface, such that the conditions assumed in the design of the modification are no longer valid, the existing condition will then be unacceptable. I don't know how it could be clearer.

In addition, the NRC Staff's evaluation of the cost of this limitation is irresponsible. To state that the cost is negligible because the need for this provision seldom occurs completely ignores the fact that Owners will only choose this path if the cost of not using this provision is very significant. The cost to an Owner of applying these provisions includes significant costs for fracture mechanics analysis, design evaluation, and ongoing nondestructive examinations. If the alternative of replacing the flawed equipment were readily available, the Owner would much rather pursue that option. No, this option will be pursued only to avoid costly shutdowns or outage extensions. If each such occurrence necessitated shutting down the plant to replace a component, the magnitude of the cost would be in the millions of dollars per year. The only other alternative is to submit relief requests, requiring NRC approval in a matter of hours. The impact of the proposed modification is absolutely not negligible.

10CFR50.55a(b)(2)(xvi) - IWA-4540

The proposed rule states, "there is no justification for eliminating the requirements for

pressure testing Class 1, 2, and 3 mechanical joints. Pressure testing of mechanical joints affected by repair and replacement activities is necessary to ensure and verify structural and leakage integrity of the pressure boundary." I appreciate that the NRC Staff has requested additional information that can be used to justify this change. I am happy to offer such information.

Section III requires a pressure test of all new components. Section III requires examination of all welds for leakage. However, Section III does not prohibit leakage at mechanical connections. Section III, NB/NC/ND-6224 requires only that mechanical joint leakage not mask leakage from other joints and not be so great as to prevent maintenance of the required test pressure during the test. Therefore, this proposed limitation is more restrictive than the requirements for new equipment and for new nuclear power plants.

Mechanical joint leakage is not prohibited by the ASME Code. Therefore, even if the pressure test requirement of the 1998 Edition were imposed by rule, there would be no leakage limit specified by Section XI for this test. Therefore, acceptance of such leakage would be entirely at the discretion of the Owner. In addition, the pressure test required by the 1998 Edition of Section XI was a system leakage test, not a hydrostatic test. The purpose of this test, and the only conclusion available from such a test, is to determine that the joint does not leak. Such a test provides no assurance of structural integrity and does nothing to enhance the safety of the nuclear power plant. Leakage at mechanical joints is not a safety issue. The Committee eliminated the requirement, because the Committee believed that the nuclear power plant Owner was perfectly capable of dealing with leakage at mechanical connections without the necessity for any ASME Code requirements.

10CFR50.55a(b)(2)(xxviii) - IWA-4226.1

IWA-4226.1 addresses reconciliation of changes in design requirements. These provisions are intended to be used when an Owner changes the design of materials, parts, or components. These provisions ensure that the revisions to the design remain consistent with the hardware.

This provision has nothing to do with fabrication or procurement of components. IWA-4221(b) requires that replacement materials, parts, and components meet a Construction Code. It permits use of the original Construction Code, a later Edition or Addenda of the Construction Code, or Section III (with an occasional exception for B31.7 or the Draft Code for Pumps and Valves). The quality assurance requirements of one of these Construction Codes is required to be met. The only case in which Section XI does not specify Construction Code quality assurance requirements for the item being constructed is when the original item was constructed without such requirements. However, IWA-4142 requires that the Owner implement a quality assurance program for all repair/replacement activities that meets the requirements of IWA-1400(n), which requires that the quality assurance program comply with 10CFR50 Appendix B or

ANSI/ASME NQA-1, Parts II and III, Basic Requirements and Supplements. Even without such a reference in Section XI, 10CFR50 Appendix B applies to all Owners. Section XI has never and cannot exempt any Owner from 10CFR50 requirements. Unless the NRC waives their own quality assurance requirements, all Code equipment must be constructed using an NRC-approved quality assurance program. Therefore, "a component manufactured in a commercial shop that does not have a quality assurance program," would not be permitted in an application within the jurisdiction of ASME Section XI, unless that practice were permitted by the original Construction Code. For example, if the original component were fabricated in accordance with Section VIII or B31.1, in the late 1960's, it may have been fabricated in a commercial shop without a quality assurance program. In this Case, the Owner may currently purchase replacement material, parts, or components from a commercial vendor and dedicate them for use in a nuclear power plant in accordance with 10CFR21. The proposed limitation would appear, inappropriately, to prohibit such long-accepted practices.

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