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(66FR 40626)

BWRVIP

BWR Vessel & Internals Project _____ 2001-360

October 17, 2001

DOCKETED
USNRC

TO: Secretary,
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attention: Rulemaking and Adjudications Staff

October 24, 2001 (2:47PM)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF



FROM: Carl D. Terry, BWRVIP Chairman

SUBJECT: BWRVIP Comments on Proposed Amendments to 10CFR50.55a

The BWR Vessel and Internals Project (BWRVIP) has solicited comments from its member utilities regarding the NRC's proposed changes to 10CFR50.55a (Ref.: Federal Register, Vol. 66, No. 150, pages 40626 ff.). Comments received are shown in the attached Table 1.

The BWRVIP has a particular concern regarding our comment Number 1. The proposed modification in 10CFR50.55.a(b)(2)(xxiii) would require that, when performing weld repairs to irradiated material, the *"acceptability of the welding method must include demonstration on a mockup using a material with similar neutron fluence levels to verify that adequate crack prevention measures were used."*

The BWRVIP recognizes that the weldability of irradiated material is an important issue to be considered when contemplating a welded repair to reactor internals. However, we do not believe that it can be addressed by requiring the use of irradiated mockups. While it would seem desirable to demonstrate the weldability of irradiated materials in a mockup of similar configuration and fluence, it is not feasible to do so. The lead-time required for fabricating and irradiating such a mock-up, together with the high cost and excessive time associated with the required hot-cell work, clearly make this an unattractive alternative.

Recognizing the importance of this issue, together with the impracticality of using irradiated mockups, the BWRVIP has developed an alternate approach to evaluating the weldability of irradiated materials. This proprietary methodology will be submitted to the NRC for review in December 2001. The approach is based, in part, on a large body of welding data purchased by the BWRVIP from the Japanese Owners Group and recognizes that successful welds can be performed on high-fluence material if appropriate controls are applied. The methodology allows the licensee to assess the weldability of a material based on existing test results that indicate the

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conditions of fluence, welding method and welding heat input that have been demonstrated to result in a satisfactory weld. If a licensee demonstrates that the fluence (more specifically, the helium concentration) at the repair location is below specified thresholds, then certain welding processes would be allowed as long as the heat input is carefully controlled. We believe that this methodology will allow satisfactory welds to be performed in high fluence locations without fear of cracking. As a verification, the methodology requires a post-weld NDE inspection.

It is also worth noting that any cracking due to the use of improper welding techniques on irradiated materials would be detectable immediately after a weld is deposited and, with a suitable post-weld inspection, would be detected prior to start-up. Consequently, the issue of cracking is reduced to an economic issue for the licensee rather than a safety issue. Thus, should a licensee use an inappropriate welding technique and cracking result, additional delay in startup would be incurred while alternate repair methods were developed; however, the plant would never be started in a potentially unsafe condition.

The BWRVIP is confident that the NRC will accept the overall approach that is to be submitted for evaluating the weldability of irradiated materials. As such, the requirement that the acceptability of underwater welding be demonstrated on irradiated mockups should not be included in a revision to 10CFR50.55a. We do, however, feel that it may be appropriate for licensees to be required to evaluate the suitability of underwater welding techniques by use of a methodology that has been reviewed and approved by the NRC.

Should you have any questions regarding these comments, please feel free to contact Robin Dyle of Southern Nuclear Co., BWRVIP Assessment Committee Chairman, at 205.992.5885 or Ken Wolfe of EPRI at 650.855.2578.

Table 1
BWRVIP Comments on Proposed Changes to 10.CFR 50.55a
(Reference: Federal Register, Vol. 66, No. 150, pages 40626 ff.)

Comment Number	Page	Paragraph	Comment	Proposed Resolution
1	40640	(b)(2)(xxiii)	Demonstration of the acceptability of an underwater welding method through the use of a mockup using a material with similar neutron fluence levels is not practical. (See details in attached cover letter.)	Delete the requirement that “..acceptability of the welding method must include demonstration on a mockup using a material with similar neutron fluence levels to verify that adequate crack prevention measures were used.” Replace with a requirement for the licensee to evaluate the suitability of underwater welding techniques by use of a methodology that has been reviewed and approved by the NRC.
2	40639	(b)(2)(xviii)(A)	Appendix VII-4240 requires annual practice. (b)(2)(xiv) requires annual hands-on training at no later than 6 months prior to performing at licensee’s plant.	Delete this proposed change.
3	40639	(b)(2)(xviii)(B)	5 year certification is sufficient	Change 3 years to 5 years for re-certification
4	40639	(b)(2)(xviii)(C)	5 year certification is sufficient	Change 3 years to 5 years for re-certification
5	40640	(b)(2)(xxi)(B)	This modification should be restricted to bolting that is being reused. For bolting that is not being reused, no examination should be required.	Add “No examination is required for bolting that is not reused.”