



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

JUL 31 1981

MEMORANDUM FOR: Richard H. Vollmer, Director
Division of Engineering

THRU: Stefan S. Pawlicki, Chief
Materials Engineering Branch
Division of Engineering

FROM: Warren S. Hazelton, Section Leader
Materials Application Section
Materials Engineering Branch
Division of Engineering

SUBJECT: DIFFERING PROFESSIONAL OPINION RELATED TO SENSITIZATION
OF BWR STAINLESS STEEL WELDMENTS

Now that Mr. Halapatz has identified the components he is concerned about, we can comment on his Differing Professional Opinion in a more directed manner. The SRP Sections involved are:

- 4.5.1 Control Rod Drive Materials
- 4.5.2 Reactor Internals Materials
- 5.2.3 RCPB Materials
- 6.1.1 Engineered Safeguards Materials
- 10.3.6 Steam & Feedwater System Materials

Reviewers for these sections are Sellers, Litton, Bolotsky, Smith and Tom Walker.

Although most of the components he mentions are generally included in reactor internals, he also mentions installed large diameter pipe and concrete embedded flued heads. I don't know which systems he is referring to, however. My reviewers and I have some questions and concerns regarding how this "issue" will be resolved.

1. First, what is the issue? We've been going around in circles on this one, but if it is to be resolved by a trip to San Jose, it appears to me that we'd better make sure that we know what it is that needs to be resolved.
 - a. If the question is whether some welds are, or could be sensitized, we can stipulate right now to that effect.
 - b. If the question is whether all GE supplied equipment met or does meet Regulatory 1.44, we know that the answer is negative.
 - c. If the question is whether components not made to 1.44, and/or are sensitized, are likely to fail in service, looking over welding procedures will not resolve the issue.

XA

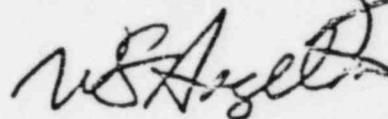
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2. My reviewers and I believe that the lack of problems with IGSCC failures of BWR internals, together with the results of laboratory tests showing the necessity for maintaining stresses at or above yield to cause IGSCC in BWR environment, justify our position that complete conformance to Regulatory Guide 1.44 is not required for us to make a finding that the applicable GDC's are met.
3. Inspection programs on BWR internals are being carried out. These include spray lines, feedwater spargers, LPCI connectors, jet pump components, shroud head assembly (stand pipes and steam separators), and the steam dryer assembly. This program has discovered cracks in core spray lines and spargers, for example. (Note that not all cracks were in weld HAZs). In addition to these components that are inspected fairly often, the CRD guide tubes and instrumentation piping are inspected every 10 years, when it can be made accessible. We believe that this inspection program is adequate, and is about the best that can be done.
4. Our reviewers feel strongly that they should be included in any NRC investigation into the validity of their reviews. It is clear that we can not afford to send a contingent of six or more people to San Jose for this purpose, therefore we urge that General Electric be given the opportunity to come here to make a formal presentation on the subject. I would be pleased to assist in preparing a proposed agenda, which I believe should cover much more than details of weld procedures.



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cc: W. V. Johnston
S. S. Pawlicki
G. Johnson

~~Johnston~~