

March 15, 1984

SBN- 636
T.F. Gl.1.9

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing

References: (a) Construction Permits CPPR-135 and CPPR-136, Docket
Nos. 50-443 and 50-444

Subject: Request For Approval To Implement Subsection NF, Paragraphs
NF-3324.5 and NF-4427 of The ASME III

Dear Sir:

We hereby seek your approval to implement Paragraphs NF-3324.5, 1983 Edition, and NF-4427, 1980 Edition through Winter of 1982 of the ASME Section III Code. The governing regulation (10CFR50.55a) indicates the latest version of the Section III Code endorsed by the Nuclear Regulatory Commission is 1980 Edition through Summer 1982 Addendum.

During discussions with Mr. Bob Bosnak of the Mechanical Engineering branch, he indicated that the following information must be supplied prior to NRC approval of the latter version of the Code.

- o NCA-1140, Paragraph (d), requirements must be satisfied (see Attachment A).
- o Concurrence by the Authorized Nuclear Inspector (ANI) should be documented. The ANI (P. Nightengale of Kemper) was consulted in this matter. His comment was that the application of Paragraph NF-3324.5 should be limited to linear type supports, and that the design specification should be revised to reflect the change.

In response to this comment, we indicated that our intention was to apply this to linear type supports only. The design specification will be revised once formal approval has been received.

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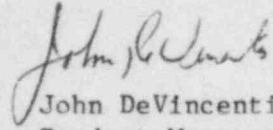
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Your prompt evaluation of this matter is requested.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY


John DeVincentis
Project Manager

cc: Atomic Safety and Licensing Board Service List

ATTACHMENT APSNH-SEABROOK STATION

The following three editions of the A.S.M.E. Code were reviewed as applicable with respect to the 1983 edition for the purpose of adopting paragraphs NF-3324.5 and NF-4427 of the 1983 Edition for use on the Seabrook Project.

- 1) 1971 through Winter 73 Addenda: Design, NF-2000, NF-3000.
- 2) Winter 75 Addenda: Shop Fabrication, NF-4000, NF-5000.
- 3) Winter 77 Addenda: Fabrication and Installation, NF-4000, NF-5000.

CODE SECTIONS RELATING TO
WELDING DESIGN FOR
LINEAR TYPE PIPING SUPPORTS

	1971 thru Winter 73	1983 Edition
Welding and Brazing Materials	NF-2140	NF-2140
	NF-2400	NF-2400
	NF-2430	NF-2430
	NF-2432	

These paragraphs refer
to SFA-5.1. See pages
2 and 3 for detailed
review of these sections

CODE SECTIONS RELATING TO
WELDING DESIGN FOR
LINEAR TYPE PIPING SUPPORTS

Specification for Mild Steel Covered ARC-Welding Electrodes, SFA-5.1 Winter 73 Winter 75 Identical Winter 77	Specification for Covered Carbon Steel ARC Welding Electrodes, SFA-5.1 1983 Edition	Evaluation
Part 1 - Classification and Acceptance	Section A - General Requirements	<u>No Impact</u>
4) Acceptability The purchaser has the option of using the tests of this specification as a basis for acceptance of electrodes.	2) Acceptance Must adhere to Section 3 of AWS A5.01, Filler Metal Procurement Guidelines.	<u>No Impact</u> , since we use only rod E7016 and E7018
5) Chemical Composition (of deposited metal) Shall Conform with Table 2 E7027 Not Listed E7048	Section B-9) Chemical Composition Limits shall conform with Table 2 E7027 Listed E7048	<u>No Impact on Design</u> , since the yield and ultimate strengths remain unchanged. (Note: as per discussion with Welding Department, Si is primarily used as a deoxidizing agent).
Maximum percent Si for E7016 and E7018 = .9	Maximum percent Si for E7016 and E7018 = .75	<u>No Impact</u> , see discussion on Page 8, "Surface of Welds", NF-4424
6) Mechanical, Usability, and Soundness Tests Tests Prescribed: Radiographic (8.1.1) All-weld-metal tension Test (8.1.2) Impact Test (8.1.3) Fillet Weld Test (8.1.4) "...reasonably free of undercut..."	9.1) Mechanical, Usability, and Soundness Tests and Requirements Tests Prescribed: Soundness (9.1.3) All-weld-metal test (9.1.1) Impact Test (9.1.2) Fillet Weld Test (9.1.6) "An infrequent short undercut up to 1/32 in. depth shall be allowed." Transverse Tension Test E6022 Longitudinal Guided Bend Test	

CODE SECTIONS RELATING TO
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Specification for Mild Steel Covered ARC-Welding Electrodes, SFA-5.1 Winter 73 Winter 75 Identical Winter 77	Specification for Covered Carbon Steel ARC Welding Electrodes, SFA-5.1 1983 Edition	Evaluation
Table 7 (footnote "d")	Table 7	<u>No Impact</u> (Footnote "d" points out that an E7018 is available in a 14 in. length also)
21) Radiographic Test 1/4, 5/16 listed together	13.5) Soundness 1/4,5/16 listed separately	<u>No Impact</u> Note: "Radiographic" and "Soundness" are synonymous as used in this context.

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	1971 thru Winter 73	1983 Edition	Evaluation
Stress Intensities	NF-3210	NF-3200	Since we do not use "stress intensities", but rather the provisions of NF-3300, "allowable stress"; there will be <u>No Impact</u> on our weld designs arising from concerns over "stress intensities."

CODE SECTIONS RELATING TO
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	1971 thru Winter 73	1983 Edition	Evaluation
Weld Joint Configuration	Table NF-3712.1 Denotes "all classes" of supports, and all types of welds.	NF-3324.5a Denotes "Classes, 1, 2, and 3". Table NF-3324.5(a)-1 Denotes all types of welds.	<u>No Impact</u>

CODE SECTIONS RELATING TO
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	1971 thru Winter 73	1983 Edition	Evaluation
Placement of Welds	Ap.XIII-1714	NF-3324.1 (c)	1983 reads: "Eccentricity between the gravity axes of such members and the gage lines for their bolted end connections may be neglected in statically loaded members, but should be considered in members subjected to fatigue loading." 1971 does not have the words "... in statically...loading." <u>No Impact</u>
Connections of Tension and Compression Members in Trusses	Ap.XIII-1716	NF-3324.2 (c)	1983 adds "...based upon the kind of stress that governs the selection of the member." <u>No Impact</u>
Welds	Ap.XIII-1741 (Table NF-3712.1)	NF-3324.5 (a) (Table NF-3324.5 (a)-1)	Allowable Stress 18 ksi 21 ksi 1971 <-----> 1983
Maximum Effective Size of Fillet Welds	Ap.XIII-1742.2	NF-3324.5 (d)(2)	Allowable Stress 18 ksi 21 ksi 1971 <-----> 1983
End Returns	Ap.XIII-1742.5	NF-3324.5 (d)(8)	1971 reads "End returns shall be indicated on the design and detail drawings." 1983 does not say this <u>No Impact</u> , since we include end returns on our detail drawings.

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	1971 thru Winter 73	1983 Edition	Evaluation
Class 1-Piping Supports	Note 1	NF-3623	These Stress Limit Factors will not be utilized. <u>No Impact</u>
Class 1-Permissible Welded Joints-Linear	NF-3712	NF-3626.2	Allowable Stress 18 ksi 21 ksi 1971 <-----> 1983
Class 2 and 3-Piping Supports	Note 1	NF-3653	These Stress Limit Factors will not be utilized. <u>No Impact</u>
Class 2 and 3-Permis- sible Welded Joints	NF-3712	NF-3656.2	Allowable Stress 18 ksi 21 ksi 1971 <-----> 1983
Minimum Connections	Ap.XIII-1712	Note 2	<u>1971</u> Design for a minimum of 6K <u>1983</u> Does not have this requirement <u>No Impact</u>
Lamellar Tearing	NF-3211.1.3	NF-4441	Taken out of Subsection NF-3211.1.3 and placed in NF-4441 <u>No Impact</u>

NOTE: 1. Not contained in this Code Edition.

NOTE: 2. Requirement removed.

CODE SECTIONS RELATING TO
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	Winter 75	Winter 77	1983 Edition	Evaluation
Surfaces of Welds	NF-4424	NF-4424	NF-4424	<p>75: "Undercuts shall not encroach on the required section thickness."</p> <p>77: "Undercuts shall not exceed 1/32 in. (0.8mm) and shall not encroach on the required section thickness."</p> <p>83: "Undercuts shall not exceed 1/32 in."</p> <p>There is <u>No Impact on Shop Fabrication</u> since UE&C Specification No. 9763-006-248-52 requires conformance to A.S.M.E. Winter 75 requirements.</p> <p>There is No Impact on Fabrication and Installation since Pullman Power Products documents IX-6 and JS-IX-6, from first issue, met Winter 77 requirements. <u>No Impact on Design.</u></p>
Shape and Size of Fillet Welds	NF-4427	NF-4427	NF-4427	<p>83:adds: "A fillet weld in any single continuous weld may be less than the specified fillet weld dimension by not more than 1/16 in., provided that the total undersize portion of the weld does not exceed 10% of the length of the weld.</p> <p><u>Impact</u> - This provides criteria for a more realistic inspection.</p>

CODE SECTIONS RELATING TO
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	Winter 75	Winter 77	1983 Edition	Evaluation
Personnel Qualification	NF-5520	NF-5520	NF-5520	The 1983 edition has more stringent requirements with respect to Personnel Qualifications, Certification, and Verification. <u>No Impact on Design</u>
Required Examination of Welds Class 1 Linear Type Support Welds	NF-5212	NF-5212	NF-5211	Winter 75 and Winter 77 both require the examination of full fillet welds by the radiographic method. The ultrasonic method and liquid penetrant or magnetic particle method is to be used when radiography does not yield meaningful results. The 1983 edition requires that all fillet welds be examined by either the liquid penetrant or magnetic particle test. <u>Impact</u> - More stringent requirement for <u>all</u> fillet welds. <u>No Impact on Design</u> - This allowable stress change is not attributed to a change in the NDE requirements. The range of base metal ultimate tensile stress versus allowable weld stress was redefined.
Required Examination of Welds Class 2 Linear Type Support Welds	NF-5222	NF-5222	NF-5221	Winter 75 and Winter 77 require visual examination of welds only. The 1983 Edition requires that fillet welds with a throat dimension greater than 1" be examined by liquid penetrant or magnetic particle method. <u>No Impact on Design</u>

CODE SECTIONS RELATING TO
WELDING DESIGN FOR
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	Winter 75	Winter 77	1983 Edition	Evaluation
Required Examination of Welds Class 3 Linear Type Support Welds	NF-5222	NF-5232	NF-5231	Winter 75, Winter 77 require visual examination of welds only. The 1983 Edition requires that fillet welds with a throat dimension greater than 1" be examined by the liquid penetrant or magnetic particle method. <u>No Impact on Design</u>

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