

SWESSAR-P1

AMENDMENT 41

August 17, 1979

PWR REFERENCE NUCLEAR POWER PLANT  
SAFETY ANALYSIS REPORT

ASSEMBLY INSTRUCTIONS

Remove

Insert

Insertion Location

-	Assembly Instructions	Front of Vol. 1
-	S&W Letter	Front of Vol. 1
-	Notarized Statement	Front of Vol. 1
3C-a	3C-a	
3C-1/2	3C-1/2	
3C-17/18	3C-17/18	

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# STONE & WEBSTER ENGINEERING CORPORATION



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Mr. Roger S. Boyd, Director  
Division of Project Management  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

August 17, 1979

RPS- 376

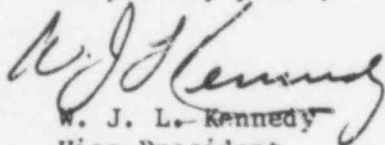
Dear Sir:

DOCKET NO. STN 50-495  
S&W REFERENCE NUCLEAR POWER PLANT

Forwarded for Nuclear Regulatory Commission review are 70 copies  
of Amendment 41 to the Stone & Webster Standard Safety Analysis Report,  
SWESSAR-Pl.

Amendment 41 revises Appendix 3C in response to NRC comments  
on Amendment 40.

Very truly yours,

  
W. J. L. Kennedy  
Vice President

Enclosure

JHM:EMK

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of:

August 17, 1979

Stone & Webster Engineering Corporation

Docket No. STN-50-495

Pressurized Water Reactor  
Reference Nuclear Power Plant

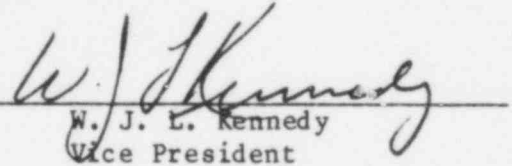
APPLICATION FOR REVIEW OF  
"STONE & WEBSTER STANDARD SAFETY ANALYSIS REPORT"

AMENDMENT 41

Stone & Webster Engineering Corporation hereby applies for Nuclear Reactor Regulatory Commission Regulatory Staff and Advisory Committee on Reactor Safeguards review of Amendment 41 to "Stone & Webster Engineering Corporation Standard Safety Analysis Report" (SWESSAR-P1), pursuant to Appendix 0 to 10CFR50, "Standardization of Design, Staff Review of Standard Designs."

STONE & WEBSTER ENGINEERING CORPORATION

By

  
W. J. L. Kennedy  
Vice President

Subscribed and Sworn to before me  
this 17<sup>th</sup> day of August 1979.

  
Notary

My Commission Expires September 21, 1984

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APPENDIX 3C

EXTENSION REVIEW MATTERS FOR PRELIMINARY  
DESIGN APPROVALS

LIST OF EFFECTIVE PAGES

<u>Page, Table (T) or Figure (F)</u>	<u>Amendment No.</u>
3C-a	41
3C-i	40
3C-1 and 2	41
3C-3 thru 16	40
3C-17	41
3C-18 thru 25	40

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SWESSAR-P1

APPENDIX 3C

EXTENSION REVIEW MATTERS FOR PRELIMINARY DESIGN APPROVALS

The following items<sup>(1)</sup> are not within the SWESSAR-P1 scope (Utility-Applicant or NSSS scope-31 items).

Category I: Items 3, 8, 9, 15, 16, 17, 20, 24, 26, 28, 34, 38, 39, 40, 44, 45, and 49

Category II: Items 6, 18, and 19

Category III: Items 1, 3, 4, 5, 7, 9, and 11

Category IV-C: Items 4, 7, 8, and 11

The following items have NRC implementation dates prior to the NRC cutoff date for SWESSAR/BSAR-205 which is September 1976. Since the applicable items are generic to S&W design (white pages), the NRC review and conclusion relative to SWESSAR/BSAR-205 are applicable (44 items).<sup>(2)</sup>

Category I: Items 6, 14, 21, and 22

Category II: Items 1, 2, 8, 16, and 17

Category III: Item 6

Category IV-A: Items 1 through 6

Category IV-B: Items 1 through 23

Category IV-C: Items 2, 3, 13, 18, and 19

The following items are duplicated or the response is already in SWESSAR-P1 even though the implementation date is after September 1976 (10 items)<sup>(2)</sup>.

Category I: Items 7, 13, and 42

Category II: Items 5, 15, and 20

Category IV-C: Items 1, 5, 14, and 17

<sup>(1)</sup>The NRC letters of January 24, 1979 (Enclosure 1 to W. J. L. Kennedy's letter of May 3, 1979 to Roger Boyd) listing Categories I, II, III, and IV matters identifies the item numbers. These items were numbered by S&W in some cases.

<sup>(2)</sup>Reference S&W letter RPS-375 dated August 16, 1979.

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SWESSAR-P1

The remaining items listed below are addressed in Sections 3C.1 through 3C.4 even though they are not considered significant safety issues. These items are applicable to the SWESSAR-P1 design and the NRC implementation date is after September 1976, the cutoff date for SWESSAR/BSAR-205 (43 items).

Category I: Items 1, 2, 4, 5, 10, 11, 12, 18, 19, 23, 25, 27, 29, 30, 31, 32, 33, 35, 36, 37, 41, 43, 46, 47, and 48

Category II: Items 3, 4, 7, 9, 10, 11, 12, 13, and 14

Category III: Items 2, 8, and 10

Category IV-C: Items 6, 9, 10, 12, 15, and 16

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1. Regulatory Position C.1

The selection of the parameters to be indicated by the post-accident monitoring system is derived from an analysis of those design basis events analyzed in Chapter 15. This parameter selection will reflect the accomplishment of a safety systems function rather than the operation of individual pieces of equipment.

2. Regulatory Position C.3

The ranges of the post-accident monitoring system will be based on maximum design conditions combined with sufficient margin to maintain instrument accuracy and upper limit readability.

Item 9 - RG 1.105, Rev 1 (9/15/76) Instrument Setpoints

Response

Instrument setpoint requirements comply with RG 1.105, Rev 1 dated November 1976.

Item 10 - RG 1.108, Rev 1 (6/14/77) Periodic Testing of Diesel Generators Used as Onsite Electric Power System at Nuclear Power Plants

Response

The design complies with RG 1.108, Rev 1 dated August 1977.

Item 11 - RG 1.115, Rev 1 (3/22/77) Protection Against Low-Trajectory Turbine Missiles

Response

For single unit sites, protection against low-trajectory turbine missiles complies with RG 1.115, Rev 1, dated July 1977. For dual unit sites, this issue is deferred to a utility-applicant referencing SWESSAR-P1 (SER Section 3.5.1).

Item 12 - RG 1.117, Rev 1 (12/20/77) Tornado Design Classification

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Response

The method used for identifying those structures, systems, and components of light-water-cooled reactors that should be designed to withstand the effects of the design basis tornado, including tornado missiles, comply with RG 1.117, Rev 1 dated April 1978, with the following interpretation:

1. Paragraph 4.(4) Appendix, "Structures, Systems, and Components of Light-Water-Cooled Reactors to Be Protected Against Tornadoes" the statement:
  4. "Systems or portions of a system that are required for ... (4) mitigating the consequences of a tornado-caused PWR steamline break...."

is interpreted as:

Protection of systems and components for which credit is taken in the analysis of PWR steamline break outside containment.

Item 13 - RG 1.124, Rev 1 (8/31/77) Service Limits and Loading Combinations for Class 1 Linear-Type Component Supports

Response

The design limits and loading combinations for Class 1 linear-type supports comply with RG 1.124, Rev 1 dated January 1978, with the following exceptions and additions, as noted in S&W letter from S.B. Jacobs to the Secretary of the Commission, US NRC, dated June 8, 1978.

1. The following paragraph should be added to Regulatory Position C.3:
 

C.3.c. The bending stress limit  $F_b$  resulting from tension and bending in structural members as specified in Appendix XVII-2214 of Section III, Div 1, should be the smaller value of 0.66  $S_y$  or 0.55  $S_u$  for compact sections, 0.75  $S_y$  or 0.63  $S_u$  for doubly symmetrical members with bending about the minor axis, and 0.6  $S_y$  or 0.5  $S_u$  for box-type flexural members and miscellaneous members.
2. The second paragraph under Regulatory Position C.4 should be replaced with the following:

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