

SWESSAR-P1

AMENDMENT 41

August 17, 1979

PWR REFERENCE NUCLEAR POWER PLANT
SAFETY ANALYSIS REPORT

ASSEMBLY INSTRUCTIONS

| <u>Remove</u> | <u>Insert</u> | <u>Insertion Location</u> |
|---------------|-----------------------|---------------------------|
| - | 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 | |

774045

7908230605.1

STONE & WEBSTER ENGINEERING CORPORATION



245 SUMMER STREET, BOSTON, MASSACHUSETTS

ADDRESS ALL CORRESPONDENCE TO P.O. BOX 2325, BOSTON, MASS. 02107

W. U. TELEX: 94-0001
94-0977

BOSTON
NEW YORK
CHERRY HILL, N.J.
DENVER
CHICAGO
HOUSTON
PORTLAND, OREGON
SAN DIEGO
WASHINGTON, D.C.

DESIGN
CONSTRUCTION
REPORTS
EXAMINATIONS
CONSULTING
ENGINEERING

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

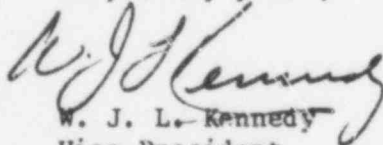
Dear Sir:

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

774046

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

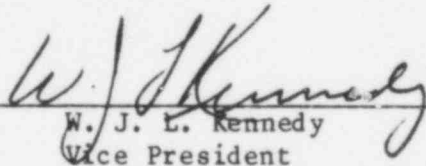
APPLICATION FOR REVIEW OF
"STONE & WEBSTER STANDARD SAFETY ANALYSIS REPORT"

AMENDMENT 41

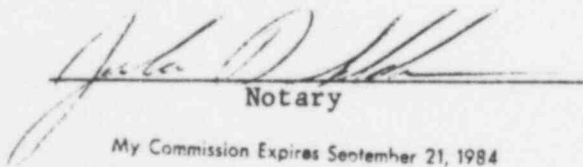
Stone & Webster Engineering Corporation hereby applies for Nuclear Reactor Regulatory Commission Regulatory Staff and Advisory Committee on Reactor Safeguards review of Amendment 41 to "Stone & Webster Engineering Corporation Standard Safety Analysis Report" (SWESSAR-P1), pursuant to Appendix 0 to 10CFR50, "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 17th day of August 1979.


Notary
My Commission Expires September 21, 1984

774047

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 |

774048

SWESSAR-P1

APPENDIX 3C

EXTENSION REVIEW MATTERS FOR PRELIMINARY DESIGN APPROVALS

The following items⁽¹⁾ 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).⁽²⁾

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)⁽²⁾.

Category I: Items 7, 13, and 42

Category II: Items 5, 15, and 20

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

⁽¹⁾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.

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

774049

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

774051⁰

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

774050

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:

774052