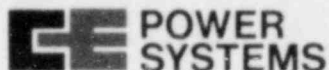


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Docket No.: STN-50-470

August 18, 1982  
LD-82-075

Mr. Harold Bernard, Acting Chief  
Standardization and Special Projects Branch  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Subject: Compliance with Commission Regulations

Reference: Letter J. R. Miller to A. E. Scherer, dated March 12, 1982

Dear Mr. Bernard:

In the Reference letter, the NRC requested that Combustion Engineering (C-E) verify that our CESSAR design meets the pertinent regulatory requirements in 10 CFR Parts 20, 50 and 100.

It is C-E's belief that the C-E System 80<sup>TM</sup> Standard Nuclear Steam Supply System (NSSS) design presented in the CESSAR Final Safety Analysis Report (CESSAR-F) does indeed comply with the pertinent safety related regulations in 10 CFR Parts 20, 50, and 100, except in the cases of 10 CFR 50 Appendix G and H which have been justified to and accepted by the NRC Staff. It should be noted, however, that CESSAR-F covers only the design of the NSSS and the safety related interfaces for the Balance of Plant. Enclosed is an itemized review of the compliance of CESSAR FSAR with particularly significant rules and regulations of Chapter 10 of the Code of Federal Regulations.

It should also be noted that the System 80 NSSS design is, in many respects, very similar to earlier C-E NSSS's which have been found to meet the pertinent NRC regulations. The System 80 NSSS was subjected to C-E's most rigorous design process and quality assurance program, and underwent an extensive, independent review by the NRC Staff, as well as the independent audit of the Advisory Committee on Reactor Safeguards. Thus, C-E believes that the System 80 NSSS design, as described in CESSAR-F, complies with the pertinent NRC requirements.

If I can be of any additional assistance in this matter, please contact me or Mr. G. A. Davis of my staff at (203)688-1911, Extension 2803.

Very truly yours,

COMBUSTION ENGINEERING, INC.

A handwritten signature in dark ink, appearing to read 'A. E. Scherer'.

A. E. Scherer  
Director  
Nuclear Licensing

Boo!

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A PDR

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Enclosure

COMPLIANCE OF COMBUSTION ENGINEERING STANDARD  
SAFETY ANALYSIS REPORT WITH NRC REGULATIONS

Regulation  
(10 CFR)

Compliance

- |      |  |
|------|--|
| 20.  | The regulation addresses the possession, use and transfer of licensed material by a licensee and is not applicable to CESSAR-F. However, systems and equipment in the CESSAR-F scope have been designed for ALARA. Chapters 11 and 12 of the FSAR describe the specific equipment and design features utilized in this effort. |
| 50.1 | The regulation states the purpose of the Part 50 regulations and does not impose any requirements.   |
| 50.2 | The regulation defines various terms and does not impose any requirements.   |
| 50.3 | The regulation governs the interpretation of the regulations by the NRC and does not impose any requirements.  |
| 50.4 | The regulation gives the address of the NRC and does not impose any requirements.  |
| 50.8 | The regulation provides for Office of Management and Budget approval of the information collection requirements of various sections of 10 CFR 50 and does not impose any requirements.   |

- 50.10           The regulation specifies the types of activities that require a license from the NRC. CESSAR-F does not seek approval for any of the specified activities that require a license.
- 50.11           The regulation identifies exceptions and exemptions from licensing requirements and does not impose any requirements.
- 50.12           The regulation provides for the granting of exemptions from 10 CFR 50 regulations, provided such exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. All requested exemptions from 10 CFR 50 were identified in CESSAR-F and accepted by the NRC staff.
- 50.13           The regulation states that a license applicant need not design against acts of war. It does not impose any requirements.
- 50.20           The regulations describe the classes of licenses that  
50.21           the NRC issues and do not impose any requirements.  
50.22  
50.23
- 50.30           The regulation sets forth procedural requirements for the filing of license applications concerning items such as place of filing, oath or affirmation, number of copies of application, filing, fees, application for operating license, and an environmental report. CESSAR-F has met the procedural requirements of this regulation in the FDA application, as required by 10 CFR 50 Appendix O.

- 50.31                    The regulations merely permit more efficient organization  
50.32                    of the license application and do not impose any  
                         requirements.
- 50.33                    The regulation requires the license application to contain  
                         certain general information, such as an identification of  
                         the applicant. The applicable information as defined by  
                         10 CFR 50 Appendix O was provided in the CESSAR FDA  
                         application.
- 50.33a                   The regulation requires applicants for construction  
                         permits to submit information as described in Appendix L.  
                         The requirements set forth by this regulation are not  
                         applicable to CESSAR-F.
- 50.34(a)                The regulation governs the content of the Preliminary  
                         Safety Analysis Report and is not applicable to CESSAR-F.
- 50.34(b)                The regulation governs the content of the Final Safety  
                         Analysis Report. The applicable information as defined by  
                         10 CFR 50 Appendix O was provided in the CESSAR FDA  
                         application.
- 50.34(c)                Not Applicable to CESSAR-F
- 50.34(d)                Not Applicable to CESSAR-F
- 50.34(e)                Not Applicable to CESSAR-F

- 50.34(f) The regulation imposes additional requirements upon a specific list of applicants for construction permits and manufacturing licenses. It does not impose requirements upon CESSAR-F.
- 50.34(g) Not Applicable to CESSAR-F
- 50.34a The regulation delineates the design objectives for equipment to control releases of radioactive material. The requirement is not applicable to CESSAR-F. However, systems and equipment in the CESSAR-F scope have been designed for ALARA. Chapters 11 and 12 of the FSAR describe the specific equipment and design features utilized in this effort.
- 50.35 Not Applicable to CESSAR-F
- 50.36 Technical Specifications have been provided in Chapter 16 of CESSAR-F addressing each of the categories specified in the regulations: (1) safety limits and limiting safety settings, (2) limiting conditions for operations, (3) surveillance requirements, and (4) design features. Administrative controls are not in the scope of CESSAR-F.
- 50.36a Not Applicable to CESSAR-F
- 50.37 Not Applicable to CESSAR-F
- 50.38 Not Applicable to CESSAR-F
- 50.39 The regulation provides that applications and related documents may be made available for public inspection and does not impose any requirements.

- 50.40                   The regulations list guidance that the Commission should  
50.41                   consider before issuing a construction permit or license  
50.42                   and do not impose any requirements.  
50.43  
50.44  
50.45
- 50.46                   FSAR Section 6.3 identifies requirements for the emergency  
                        core cooling system (ECCS) and the methods used to analyze  
                        ECCS performance following a loss-of-coolant accident  
                        (LOCA). The LOCA analysis presented in CESSAR-F Section  
                        6.3.3 demonstrates conformance with 10 CFR 50.46.
- 50.47                   Not Applicable to CESSAR-F
- 50.48                   Not Applicable to CESSAR-F
- 50.50                   The regulation states that the NRC will issue a license  
                        upon determining that the application meets the standards  
                        and requirements of the Atomic Energy Act and the  
                        regulations and that the necessary notifications to other  
                        agencies or bodies have been duly made. It does not  
                        impose any requirements.
- 50.51                   The regulation specifies the maximum duration of licenses  
                        to be granted by the NRC. It is not applicable to  
                        CESSAR-F.
- 50.52                   The regulation provides for the combining in a single  
                        license of a number of activities and does not impose any  
                        requirements.

- 50.53 Not Applicable to CESSAR-F
- 50.54 The regulation specifies the conditions that the NRC must incorporate in every license issued. It imposes no requirements on CESSAR-F.
- 50.55 Not Applicable to CESSAR-F
- 50.55a The regulation identifies specific codes and standards to be applied to structures, systems, and components. In paragraph (a)(2), the regulation specifies that alternatives to the requirements of paragraphs (c), (d), (e), (f), (g), and (i) may be found acceptable, within specified restrictions. The information provided in CESSAR-F, along with code case interpretations provided in the referencing applicant's FSAR, demonstrate compliance with this regulation - except for requested exemptions which were identified in CESSAR-F and accepted by the NRC staff.
- 50.56 The regulation provides that the Commission will, in the absence of good cause shown to the contrary, issue an operating license upon completion of the construction of a facility in compliance with the terms and conditions of the construction permit. This regulation does not impose any requirements.
- 50.57 Not Applicable to CESSAR-F
- 50.58 The regulation provides for hearings and for review and report by the Advisory Committee on Reactor Safeguards (ACRS). The ACRS has reviewed the FDA application for CESSAR in accordance with 10 CFR 50, Appendix O. Hearings for the FDA application have not been requested.



50.59	Not Applicable to CESSAR-F
50.70	Not Applicable to CESSAR-F
50.71	Not Applicable to CESSAR-F
50.72	Not Applicable to CESSAR-F
50.78	Not Applicable to CESSAR-F
50.80	Not Applicable to CESSAR-F
50.81	Not Applicable to CESSAR-F
50.82	Not Applicable to CESSAR-F
50.90	Not Applicable to CESSAR-F
50.91	The regulation provides guidance to the NRC in issuing license amendments. It does not impose any independent obligations on a holder of an FDA.
50.100	Not Applicable to CESSAR-F
50.101	Not Applicable to CESSAR-F
50.102	Not Applicable to CESSAR-F
50.103	Not Applicable to CESSAR-F
50.109	The regulation specifies the conditions under which the NRC may require the backfitting of a facility. This regulation imposes no independent obligations on holder of an FDA.



50.110 Not Applicable to CESSAR-F

Appendix A CESSAR-F Section 3.1 addresses conformance to each of the General Design Criteria in Appendix A. Part of the design criteria are outside CESSAR-F scope and are the responsibility of the referencing applicant

Appendix B The Combustion Engineering Quality Assurance Program is described in CENPD-210A Revision 3, dated November, 1977, and incorporated in CESSAR-F's Chapter 17 by reference. The program meets the requirements of 10 CFR 50 Appendix B.

Appendix E Not Applicable to CESSAR-F

Appendix F Not Applicable to CESSAR-F

Appendix G The appendix specifies fracture toughness requirements for reactor coolant pressure boundary components. CESSAR-F meets the fracture toughness requirements of Appendix G with exceptions as discussed in CESSAR Section 5.2.3.3.1, which have been accepted by the NRC staff.

Appendix H Reactor vessel material surveillance program requirements are delineated in this part. The System 80 reactor vessel surveillance program satisfies the intent of 10 CFR 50 Appendix H, as discussed in CESSAR-F Section 5.3.1.6.

Appendix I The regulation delineates the design objectives for equipment to control releases of radioactive material. The requirement is not applicable to CESSAR-F. However, systems and equipment in the CESSAR-F scope have been designed for ALARA. Chapters 11 and 12 of the FSAR describe the specific equipment and design features utilized in this effort.

Appendix J	Not Applicable to CESSAR-F
Appendix K	The appendix specifies features of acceptable ECCS performance evaluation models. The ECCS evaluation model used to demonstrate conformance with 10 CFR 50.46 is described in CESSAR-F Section 6.3.3. The model complies with Appendix K requirements and has been approved by the NRC staff.
Appendix L	Not Applicable to CESSAR-F
Appendix M	Not Applicable to CESSAR-F
Appendix N	Not Applicable to CESSAR-F
Appendix O	This regulation delineates the applicable sections of 10 CFR 50 and the procedures for review of Standard Designs. The CESSAR-F application was submitted in accordance with 10 CFR 50 Appendix O.
Appendix Q	Not Applicable to CESSAR-F
Appendix R	Not Applicable to CESSAR-F
100.	This regulation addresses reactor site criteria and is not applicable to CESSAR-F. However, the C-E standard plant is designed on the basis of assumed site-related parameters selected so as to be applicable to the majority of potential nuclear power plants sites in the United States. Therefore, despite variations in actual site parameters from the assumed values , the C-E standard plant design will conservatively envelope the actual site

parameters. Detailed site characteristics will be provided by the referencing applicant for each specific application.

Assumed CESSAR boundary distances and diffusion estimates ( $X/Q$ ) are presented in Chapter 2 of CESSAR-F. The accident analyses, presented in Chapter 15 of CESSAR-F demonstrate that offsite doses resulting from postulated accidents would not exceed the criteria in this section of the regulation.

The seismic analyses are performed specifically for each plant, using the methodology described in CESSAR-F, with the results provided in the referencing applicant's FSAR.