

# COMBUSTION ENGINEERING

May 25, 1988  
LD-88-033

Docket No. STN 50-470F  
(Project No. 675)

Mr. Guy Vissing, Project Manager  
Standardization and Non-Power Reactor  
Project Directorate  
Office of Nuclear Regulation  
Attn: Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: Response to NRC Request for Additional Information  
Concerning Chapter 17 CESSAR-DC, Quality Assurance

- References:
- (A) Letter, G. S. Vissing (NRC) to A. E. Scherer (C-E),  
dated February 26, 1988
  - (B) Letter, LD-87-068, A. E. Scherer (C-E) to F. J.  
Miraglia (NRC), dated November 30, 1987
  - (C) Letter, LD-88-026, A. E. Scherer (C-E) to F. J.  
Miraglia (NRC), dated April 11, 1988

Dear Mr. Vissing:

Reference (A) requested that Combustion Engineering provide additional information on our Topical Report CENPD-210-A, Revision 4, "Quality Assurance Program". The responses to the majority of the questions asked will be provided in our revised program description which will be submitted to the NRC by the third quarter of 1988. Enclosure (1) to this letter provides our responses to the remaining questions and Enclosure (2) provides the corresponding revisions to our submittals of References (B) and (C).

Power Systems  
Combustion Engineering, Inc.

1000 Prospect Hill Road  
Post Office Box 500  
Windsor, Connecticut 06095-0500

(203) 685-1911  
Telex: 99297

8806010249 880525  
PDR ADOCK 05000470  
A DCD

E003  
11

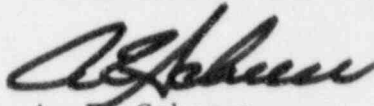
Mr. Guy Vissing  
May 25, 1988

LD-88-033  
Page 2

Should you have any questions, please feel free to contact me or  
Dr. M. D. Green of my staff at (203) 285-5204.

Very truly yours,

COMBUSTION ENGINEERING, INC.



A. E. Scherer  
Director  
Nuclear Licensing

AES:ss  
Enclosures: As Stated

cc: Frank Ross (DOE-Germantown)

Response to NRC Request for Additional Information  
Concerning Chapter 17, CESSAR-DC, Quality Assurance

Reference: Letter, G. S. Vissing (NRC) to A. E. Scherer (C-E),  
dated February 26, 1988

The reference letter requested that Combustion Engineering provide additional information on C-E's Topical Report CENPD-210-A, Revision 4, "Quality Assurance Program". The responses to the following questions will be provided in our revised program description which will be submitted to the NRC by the third quarter of 1988.

260.3	260.15
260.5	260.16
260.7	260.17
260.9	260.18
260.11	260.19
260.12	260.20
260.13	260.21
260.14	260.22

This enclosure provides the responses to the following questions in a question and response format:

260.1  
260.2  
260.4  
260.6  
260.8  
260.10

Question 260.1

Clarify the C-E organization(s) involved in the System 80+ design and under the cognizance of the QA program. Describe responsibilities of each and related interfaces.

Response 260.1

The primary C-E organizations involved in the System 80+<sup>TM</sup> design effort and under the cognizance of the QA program are identified below, including a description of their responsibilities and related interfaces.

Combustion Engineering's Quality Assurance of Design Procedures manual summarizes the design responsibilities of organizations within the Nuclear Power Division and provides detailed quality assurance procedures to control the performance of safety-related design activities.

The NSSS Engineering Department is responsible for the overall design and coordination of the System 80+ Standard Design. This design includes the Nuclear Steam Supply System, the Nuplex 80+<sup>TM</sup> Control Center, the Containment System, the Emergency Feedwater System, and the Standardized Functional Descriptions (which provide detailed descriptions of safety requirements on other systems).

NSSS Engineering has full access to the expertise of other departments in accomplishing the System 80+ design effort. No matter where the work is accomplished within Nuclear Power Systems, however, each group is responsible for performing its own safety-related design activities in conformance with Combustion Engineering's Quality Assurance of Design Procedures manual.

The interfaces among contributing engineering groups are controlled in accordance with quality assurance procedures. These procedures control

the flow of design information by requiring the formal, documented release of outputs. The transmittal identifies the verification status of the information. Where it is necessary to transmit design information orally or by other informal means, follow-up by a formal document is provided. Interface communications are traceable from a request through a related response to assure completeness, accuracy, and timeliness.

Question 260.2

Table 1 of C-E's 12/15/87 letter does not identify the organization(s) responsible for assuring design quality. That is, Section 17.1.3.1 of CENPD-210-A describes the QA responsibilities of C-E's engineering organizations and the Manager of EQA, but these responsibilities are not described in the letter. Clarify where these responsibilities are since the September reorganization.

Response 260.2

The quality assurance responsibilities of C-E's engineering organizations remain unchanged from those previously described. The Manager, Quality Programs, however, is currently assigned the responsibilities previously assigned to the Manager, Engineering Quality Assurance. [This is covered in Table 1 of Combustion Engineering's Letter, LD-87-070, A. E. Scherer to J. W. Roe (NRC), dated December 15, 1987.]

Question 260.4

Section 17.2.1 states that Table 17-3 shows the "typical equipment" covered by C-E's QA program. For System 80+, identify in the SAR the specific equipment covered by the program. This can be done in Chapter 17 or in another chapter which is then referenced in Chapter 17.

Response 260.4

CESSAR-DC Chapter 3 already contains Table 3.2-1 (Classification of Structures, Systems, and Components) which is identical to that for CESSAR-F. This table lists the specific equipment covered by C-E's Quality Assurance program. It will be updated appropriately as future chapters of CESSAR-DC are completed. Table 3.2-1 will be referenced in Chapter 17 of CESSAR-DC.

Question 260.6

Clarify that fire protection will be addressed in the System 80+ SAR, and describe or reference C-E's QA provisions for fire protection.

Response 260.6

The guidelines for fire protection provided in Regulatory Guide 1.120 (Fire Protection Guidelines for Nuclear Power Plants) will be addressed in a revision to Chapter 7 of CESSAR-DC. Table 1.8-1 of CESSAR-DC has been amended to include Regulatory Guide 1.120 [see Combustion Engineering's Letter LD-88-026, A. E. Scherer to Frank J. Miraglia (NRC), dated April 11, 1988]. Combustion Engineering's Quality Assurance Procedures contain requirements to consider fire protection requirements as part of design input considerations. This includes ensuring that the intent of Regulatory Guide 1.120 is met.



Question 260.8

Table 17-4 in CENPD-210-A provides C-E's commitments to QA Regulatory Guides. Update the table to address the guides and revisions indicated below:

<u>Regulatory Guide</u>	<u>Revision</u>	<u>Date</u>	<u>Comment</u>
1.26	3	2/76	Released for Comment
1.28	3	8/85	
1.29	3	9/78	
1.58	1	9/80	
1.123	1	7/77	See also pp. 17.4-1 & 17.7-1
1.144	1	9/80	
1.146	-	8/80	

Clarify with the commitment to Rev. 3 of Regulatory Guide 1.28 whether C-E will meet NQA-1 or N45.2, N45.2.6, N45.2.9, etc. Correspondingly, update Section 17.4 (first paragraph), Section 17.7 (first paragraph), Section 17.10 (first paragraph), and Section 17.18 (first paragraph).

Response 260.8

Combustion Engineering's Quality Assurance Program is described in CENPD-210-A. We are currently in the process of reviewing this program against all applicable guidance and requirements of NQA-1. Combustion Engineering's current plans are that the next revision will acknowledge NQA-1 as the basis for our quality assurance program. Our reasons are: 1) NQA-1 has been endorsed by both NRC and ASME, 2) NQA-1 represents a consolidation of numerous standards and, thus, has reduced the overlapping of requirements without changing the intent of previous standards, and 3) Combustion Engineering already uses NQA-1 as the basis for several quality assurance programs that have been approved by ASME.

Table 1.8-1 of CESSAR-DC, will be revised to show our commitment to meet the intent of Regulatory Guide 1.28, Revision 3. Commitment to Regulatory Guides 1.58, 1.123, 1.144 and 1.146 would not be required

based on C-E's commitment to Regulatory Guide 1.28, Revision 03, and NQA-1. Table 17-4 and the corresponding sections (17.7, 17.10, and 17.18) of our quality assurance program description will be updated in our next revision, which will be submitted to the NRC by the third quarter of 1988. Regulatory Guides 1.26 and 1.29 will be addressed as the corresponding CESSAR-DC Chapters are developed.

Question 260.10

Construction permit holders are subject to 10 CFR 50.55. Since there is no construction permit holder involved in the design certification of C-E's System 80+, provide a commitment that C-E will meet 50.55(e)(1)(i and ii), 50.55(e)(2, 3, and 4) and 50.55(f)(1) in conformance with the requirements of CENPD-210-A.

Response 260.10

As described below, Combustion Engineering already meets the intent of the indicated sections of 10 CFR 50.55(e). Our QA program contains a procedure to assure that safety-related information submitted to the NRC in the safety analysis report (CESSAR-DC) is an accurate reflection of the System 80+ design. This procedure applies to initial submittals as well as changes to those submittals. As in the past, the NRC is immediately informed as soon as we are aware that any revision could significantly affect the NRC review.

As required by 50.55(f)(1), Combustion Engineering shall implement, pursuant to Section 50.34(a)(7), the quality assurance program referenced in CESSAR-DC.

PROPOSED REVISIONS TO THE  
COMBUSTION ENGINEERING STANDARD SAFETY ANALYSIS REPORT

**Q/R 260.8**

TABLE 1.8-1

(Sheet 3 of 18)

REGULATORY GUIDES

<u>Document/Title GDC References</u>	<u>Original or Revision Issue Date</u>	<u>Reference CESSAR Section</u>	
Reg. Guide 1.20 - Vibration Measurements on Reactor Internals - GDC 1	Revision 2 5/76	3.9.2.4, A-1	B
Reg. Guide 1.21 - Measuring and Reporting of Effluents from Nuclear Power Plants - GDC-64		See Site Specific SAR	
Reg. Guide 1.22 - Periodic Testing of Protection Systems Actuation Functions - GDC-20	2/72	7.1.2.15	
Reg. Guide 1.23 - Onsite Meteorological Programs		See Site Specific SAR	
Reg. Guide 1.24 Assumptions Used for Evaluating the Potential Radiological Consequences of a Pressurized Water Reactor Radioactive Gas Storage Tank Failure		See Site Specific SAR	
Reg. Guide 1.25 - Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors	3/72	15.7	
Reg. Guide 1.26 - Quality Group Classifications and Standards - GDC 1	Revision 3 2/76	3.2.2 and See Site Specific SAR	B
Reg. Guide 1.27 - Ultimate Heat Sink - GDC-44		See Site Specific SAR	
Reg. Guide 1.28 - Quality Assurance Program Requirements	Revision 2 <sup>3</sup> <del>2/79</del> 8/85	17.0, <del>A-17</del>	B

Q/R 260.4

17.0 QUALITY ASSURANCE PROGRAM

The Combustion Engineering Quality Assurance Program is described in topical report CENPD-210-A, Revision 4, "Quality Assurance Program", dated January 1987. The list of specific equipment covered by this Program is contained in Table 3.2-1 of CESSAR-DC. |