Westinghouse Electric Corporation Energy Systems

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Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: T. R. QUAY

SUBJECT: AP600 SSAR CHANGES TO RESOLVE NRC CONCERNS ABOUT SEISMIC CATEGORY II QA

Dear Mr. Quay:

During conversations about closure of open items the Staff has indicated that the Westinghouse positions on quality assurance requirements for seismic Category II structures, systems and, components was unacceptable. The staff position is that pertinent portions of Appendix B of 10 CFR Part 50 should be applied. The attached markup of Chapter 17 of the AP600 SSAR show changes to be incorporated in Revision 17 that will make the SSAR conform to the staff's position. Also included in the markup are changes in the defining of quality assurance program requirements for the regulatory treatment on nonsafety systems. These changes address revisions included in Revision 15 that the staff found inappropriate.

Please contact Donald A. Lindgren at (412) 374-4856 if you have any questions.

B. A. McIntyre

jml

Attachment

cc: W. C. Huffman, NRC (w/Attachment)
N. J. Lipuralo, (w/o Attachment)

CHAPTER 17

QUALITY ASSURANCE

17.1 Quality Assurance During the Design and Construction Phases

See Section 17.4.

17.2 Quality Assurance During the Operations Phase

See Section 17.4.

17.3 Quality Assurance During Design, Procurement, Fabrication, Inspection and/or Testing of Nuclear Power Plant Items and Services

This section outlines the quality assurance program applicable to the design, procurement, fabrication, inspection, and/or testing of items and services for the AP600 Project.

Effective March 31, 1996, activities affecting the quality of items and services for the AP600 Project during design, procurement, fabrication, inspection, and/or testing are being performed in accordance with the quality plan described in *Westinghouse Electric Corporation - Energy Systems Business Unit, Quality Management Systems*, Revision 1 (Reference 1).

Activities performed prior to March 31, 1996 were performed in accordance with the quality plan described in topical report WCAP-8370, *Energy Systems Business Unit - Power Generation Business Unit, Quality Assurance Plan*, Revision 12a (Reference 2). Activities performed prior to November 30, 1992 were performed in accordance with the quality plan described in topical report WCAP-8370/7800, *Energy Systems Business Unit - Nuclear Fuel Business Unit, Quality Assurance Plan*, Revision 11A/7A (Reference 3).

A project-specific quality plan was issued to supplement the quality management system document and the topical reports for design activities affecting the quality of structures, systems, and components for the AP600 project (Reference 4). This plan addresses the NQA-1-1989 edition through NQA-1b-1991 addenda.

Quality Assurance requirements for systems, structures, and components will be graded based on the safety classification as indicated in Section 3.2. Safety-related systems are classified as Equipment Classes A, B and C, and will meet the requirements of 10 CFR 50, Appendix B~~, as well as the ASME B&PV Code, Section III, Classes 1, 2, and 3~~. ~~Nonsafety-related systems with additional requirements on procurement, inspection, or monitoring are defined as Equipment Class D.~~ For ~~Class D~~ systems, structures, and components included in the regulatory treatment of nonsafety systems (RTNSS), ~~Westinghouse will impose~~ the quality requirements are identified in Table 17-1. ~~Reference 5.~~ See Section 16.3 for systems that should be considered for designation of systems and components included in the regulatory

treatment of nonsafety systems. ~~System, structure, and component class designations are defined in Table 3.2-3.~~

While Westinghouse retains the overall responsibility for the AP600 design, portions of the design are developed by external organizations. Each organization maintains a quality assurance program that meets the NQA-1 criteria that apply to its work scope. In accordance with QMS Revision 1 (Reference 1), Westinghouse performs an initial evaluation of these programs and monitors their continued effective implementation through audits, surveillance, and evaluation of the performance of external organizations.

17.4 Combined License Information Items

The Combined License applicant will address its design phase Quality Assurance program, as well as its Quality Assurance program for procurement, fabrication, installation, construction and testing of structures, systems and components in the facility. The quality assurance program will include provisions for seismic Category II structures, systems, and components.

The Combined License applicant will also address its Quality Assurance program for operations.

17.5 References

1. "Energy Systems Business Unit - Quality Management System," Revision 1.

2. WCAP-8370 Revision 12a, "Energy Systems Business Unit - Power Generation Business Unit Quality Assurance Plan."

3. WCAP-8370/7800, Revision 11A/7A, "Energy Systems Business Unit - Nuclear Fuel Business Unit Quality Assurance Plan."

4. WCAP-12600 Revision 3, "AP600 Advanced Light Water Reactor Design Quality Assurance Program Plan."

~~5. GW-GAM-200 dated March 13, 1997, "Quality Assurance Requirements for RTNSS and Seismic Category II Systems, Structures, and Components."~~

Table 17-1

Quality Assurance Program Requirements for RTNSS Systems, Structures, and Components

The following outlines the quality assurance program requirements for suppliers of systems, structures, or components to which the requirements for the regulatory treatment of nonsafety systems (RTNSS) apply.

1. Organization

   The normal line organization may verify compliance with the requirements of this table. A separate or dedicated quality assurance organization is not required.

2. Quality Assurance Program

   It is expected that the existing body of supplier's procedures or practices will describe the quality controls applied to the subject equipment. A new or separate QA program is not required.

3. Design Control

   Measures shall be established to ensure that contractually established design requirements are included in the design. Applicable design inputs shall be included or correctly translated into design documents, and deviations therefrom shall be controlled. Normal supervisory review of the designer's work is an adequate control measure.

4. Procurement Document Control

   Applicable design bases and other requirements necessary to assure component performance, including design requirements, shall be included or referenced in documents for procurement of items and services, and deviations therefrom shall be controlled.

5. Instructions, Procedures, and Drawings

   Activities affecting quality shall be performed in accordance with documented instructions, procedures, or drawings of a type appropriate to the circumstances. This may include such things as written instructions, plant procedures, cautionary notes on drawings, and special instructions on work orders. Any methodology which provides the appropriate degree of guidance to personnel performing activities important to the component functional performance will satisfy this requirement.

6. Document Control

   The issuance and change of documents that specify quality requirements or prescribe activities affecting quality shall be controlled to assure that correct documents are employed.

7. Control of Purchased Items and Services

Measures are to be established to ensure that all purchased items and services conform to appropriate procurement documents.

8. Identification and Control of Purchased Items

Measures shall be established where necessary, to identify purchased items and preserve their RTNSS important functional performance capability. Examples of circumstances requiring such control include the storage of environmentally sensitive equipment or material, and the storage of equipment or material that has a limited shelf-life.

9. Control of Special Processes

Measures shall be established to control special processes, including welding, heat treating, and non-destructive testing. Applicable codes, standards, specifications, criteria, and other special requirements may serve as the basis of these controls.

10. Inspection

Inspections shall be performed where necessary to verify conformance of an item or activity to specified requirements, or to verify that activities are being satisfactory accomplished.

Inspections need not be performed by personnel who are independent of the line organization. However, inspections, where necessary, shall be performed by knowledgeable personnel.

11. Test Control

Measures shall be established, as appropriate, to test equipment prior to installation to demonstrate conformance with design requirements.

Tests shall be performed in accordance with test procedures. Test results shall be recorded and evaluated to ensure that test requirements have been met.

12. Control of Measuring and Test Equipment

Measures shall be established to control, calibrate, and adjust measuring and test equipment at specific intervals.

13. Handling, Storage, and Shipping

Handling, storage, cleaning, packaging, shipping, and preservation of items shall be controlled to prevent damage or loss and to minimize deterioration.

14. Inspection, Test, and Operating Status

Measures shall be established to identify items that have satisfactory passed required tests and inspections, and to indicate status of inspection, test, and operability as appropriate.

15. Control of Nonconforming Items

Items that do not conform to specified requirements shall be identified and controlled to prevent inadvertent installation or use.

16. Corrective Action

Measures shall be established to ensure that failures, malfunctions, deficiencies, deviations, defective components, and nonconformances are properly identified, reported, and corrected.

17. Records

Records shall be prepared and maintained to furnish evidence that the above requirements for design, procurement, document control, inspection, and test activities have been met.

18. Audits

Audits which are independent of line management are not required, if line management periodically reviews and documents the adequacy of the suppliers process and takes any necessary corrective action. Line management is responsible for determining whether reviews conducted by line management or audits conducted by and organization independent of line management are appropriate.

If performed, audits shall be conducted and documents to verify compliance with design and procurement documents, instructions, procedures, drawings, and inspection and test activities.