

Westinghouse Electric Corporation Energy Systems

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NTD-NRC-94-4349 DCP/NRC0249 Docket No.: STN-52-003

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

ATTENTION: DENNIS M. CRUTCHFIELD

SUBJECT: WESTINGHOUSE COMMENTS ON NRC LETTER (CRUTCHFIELD TO LIPARULO, DATED OCTOBER 24, 1994), "REVIEW APPROACH FOR THE REGULATORY TREATMENT OF NONSAFETY-RELATED SYSTEMS (RTNSS) REVIEW FOR THE AP600

Dear Mr. Crutchfield.

Westinghouse has reviewed your October 24, 1994 letter to Mr. Nicholas Liparelo providing the review approach being used by the staff in preparation of the AP600 DSER for those systems that have been identified as important through the process addressing RTNSS for the AP600.

The fundamental approach to the regulatory treatment of nonsafety-related systems presented in SECY-94-084 is that the regulatory oversight will be developed based upon the identification of a specific mission and determination of the mission's importance. The approach outlined in the October 24, 1994 letter does not indicate that the eleven criteria will be applied based on the identification of a specific mission and the mission's importance. Rather, the approach in your letter implies that the eleven criteria will be applied uniformly to all nonsafety-related systems identified as important by the RTNSS process, regardless of system missions.

For example, the letter implies that all nonsafety-related systems identified as important by the RTNSS process will require protection against internal flooding and other in-plant hazards including the effects of pipe breaks. The process outlined in SECY-94-084 would not require application of this criterion if the system is not required by the RTNSS process to function to mitigate the effects of hazards.

In addition, several of the eleven criteria cited in the letter seem to, in effect, apply the criteria associated with a safety-related designation without applying the safety-related label. For example, criterion 6 states that all nonsafety-related systems identified as important by the RTNSS process should not require Seismic Category 1 classification, however, they will require dynamic analysis or a qualification test to demonstrate that their components can withstand the effects of a safe-shutdown earthquake.

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The attachment to this letter provides detailed comments on the proposed approach.

We look forward to an opportunity to discuss these comments and their detailed implementation with you and your staff. If you have any questions or require additional information, please contact Brian McIntyre at (412) 374-4334.

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ML 1 Nicholas J. Liparulo, Manager

Nuclear Safety Regulatory and Licensing Activities

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Attachment

## Attachment to Letter NTD-NRC-94-4349

Following are detailed comments on the proposed review criteria provided in the NRC letter, Crutchfield to Liparulo, dated October 24, 1994:

Paragraph a)	Acceptable. The AP600 systems, structures and components that perform safety- related functions at designed in accordance with the applicable safety-related
	criteria. These SSCs include those in nonsafety-related systems that perform safety- related functions, such as containment isolation.

Paragraph b) It is beyond the scope of the process outlined in SECY 94-084 to require an evaluation of the impact of failures of nonsafety-related systems on those nonsafety-related SSCs designated as important by the RTNSS process for the full range of design basis normal operating and accident conditions, including low power and shutdown conditions and post accident conditions.

Paragraph c) The ALWR Utility Requirements Document does not establish a licensing basis. Where the staff supports the content of a specific requirement, it is more appropriate to specify the particular requirement rather than rely on a reference to the URD.

- Paragraph c1) Many defense-in-depth systems have been designed for a single active failure or failure of a single electrical bus. This does not apply to the Diverse Actuation System (DAS). The DAS is two-out-of-two, energize to actuate. This is comparable to the ATWS mitigation systems provided on operating plants. In addition, the defense-in-depth systems are not necessarily designed to ensure the defense-in-depth function on a loss of air because the air system is designed with the same redundancy as the defense-in-depth systems. Where maintenance activities would prevent the systems from fulfilling these necessary mission, appropriate maintenance restrictions or recommendations are provided in the proposed oversight.
- Paragraph c2) The criteria does not define the level of separation required. For the AP600 design, separation to the extent practical is defined as separation of the diesels, the 4160 kV buses, and the 4160 / 480 V transformers. Separation of cable trays to the served loads and the served loads is not necessary.
- Paragraph c3) The AP600 instrumentation and control systems classification is consistent with SECY-91-292.

Paragraph c4) If the RTNSS important SSC mission is important due to its required function for severe accidents, only those portions required to function that can be subjected to severe accident conditions, should be designed to function in such conditions.

Paragraph c5) Defense-in-depth systems, including RTNSS important functions should not be arbitrarily required to be qualified for in-plant hazards. If a function were identified as having a RTNSS-important function to mitigate the affects of in-plant hazards, then the regulatory oversight could include hazard protection. No AP600 nonsafety-related SSCs are required to mitigate the affects of any hazard, therefore, no nonsafety-related SSCs should require protection against in-plant hazards.

Paragraph c6)	Defense-in-depth systems, including RTNSS important systems are not qualified for natural phenomena since they are not required to bring the plant to a safe shutdown conditions during the existence of natural phenomena (tornado, seismic, etc.). Qualification of RTNSS important SSCs to address natural phenomena conditions combined with the hazard protection discussed in paragraph c5, is equivalent to applying safety-related criteria to these nonsafety-related systems.
	The application of ASME Section III SSE loads and piping stress allowable values to RTNSS important SSCs is inappropriate unless the RTNSS important function is required to put the plant in a safe shutdown condition following a seismic event. In addition, many of the RTNSS important SSCs are located in structures that are not qualified for natural phenomena such as seismic and tornadoes.
	Classification of the structures that house RTNSS important SSCs along win components located near the RTNSS important SSCs as seismic Category I' is also inappropriate unless the RTNSS important function is required to put the plant in a safe shutdown condition following a seismic event. The requirement for seismic Category II classification is not consistent with an earlier statement in paragraph c6, stating that RTNSS important systems and components should not be required to be classified as seismic Category I.
Paragraph c7)	The application of quality assurance guidelines comparable to those of Generic Letter 85-06 for ATWS and Regulatory Position 3.5 and Appendix A of Regulatory Guide 1.155, "Station Blackout," for station blackout nonsafety-related equipment is appropriate for RTNSS important SSCs.
Paragraph c8)	Inclusion of RTNSS important SSCs in the D-RAP and maintenance rule programs will provide proper and effective maintenance, surveillance, and inservice inspection and testing to provide reasonable assurance that the RTNSS important systems' performance is consistent with the PRA assumptions.
	Maintenance of the reactor coolant system pressure boundary integrity is a safety- related function. SSCs that maintain the RCS pressure boundary integrity are classified as safety-related even when the system function is nonsafety-related. For example the normal residual heat removal system is nonsafety-related, however the components that support the function of maintaining RCS pressure boundary integrity are classified as Safety Class 3.
Paragraph c9)	Administrative controls during shutdown conditions should be applied only to those systems with functions that are RTNSS important during specific shutdown conditions.
Paragraph c10)	Westinghouse supports this criteria.
Paragraph c11)	Administrative procedures and programs including the maintenance program and short-term availability control procedures should provide reasonable assurance that the reliability / availability missions are met during operation. Technical Specifications are not expected to be necessary.
Paragraph d)	No comment.