



U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

Branch Technical Position 7-3

GUIDANCE ON PROTECTION SYSTEM TRIP POINT CHANGES FOR OPERATION WITH REACTOR COOLANT PUMPS OUT OF SERVICE

REVIEW RESPONSIBILITIES

Primary - Organization responsible for the review of instrumentation and controls

Secondary - None

A. Background

For the past several years and before the development of ANSI/IEEE Std 279, "Criteria for Protection Systems for Nuclear Power Generating Stations," the Staff has required automatic adjustment to more restrictive settings of trips affecting reactor safety by means of circuits satisfying the single-failure criterion. IEEE Std 603, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations" contains a similar requirement. The basis for this requirement is that the function can be accomplished more reliably by automatic circuitry than by a human operator. This design practice, which has also been adopted independently by the national laboratories and by much of industry, served as the basis for paragraph 4.15, "Multiple Set Points," of ANSI/IEEE Std 279.

More recently, all applicants have stated that their protection systems were designed to meet ANSI/IEEE Std 279. Paragraph 4.15 of ANSI/IEEE Std 279 specified that where a mode of

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This Standard Review Plan, NUREG-0800, has been prepared to establish criteria that the U.S. Nuclear Regulatory Commission staff responsible for the review of applications to construct and operate nuclear power plants intends to use in evaluating whether an applicant/licensee meets the NRC's regulations. The Standard Review Plan is not a substitute for the NRC's regulations, and compliance with it is not required. However, an applicant is required to identify differences between the design features, analytical techniques, and procedural measures proposed for its facility and the SRP acceptance criteria and evaluate how the proposed alternatives to the SRP acceptance criteria provide an acceptable method of complying with the NRC regulations.

The standard review plan sections are numbered in accordance with corresponding sections in the Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants (LWR Edition)." Not all sections of the standard format have a corresponding review plan section. The SRP sections applicable to a combined license application for a new light-water reactor (LWR) will be based on Regulatory Guide 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)," until the SRP itself is updated.

These documents are made available to the public as part of the NRC's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Individual sections of NUREG-0800 will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience. Comments may be submitted electronically by email to NRR_SRP@nrc.gov.

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reactor operation requires a more restrictive set point, the means for ensuring use of the more restrictive set point shall be positive and must meet the other requirements of ANSI/IEEE Std 279. A number of designs have been proposed and accepted which reliably and simply satisfy this requirement. During the review of some applications, however, certain design deficiencies have been found. The purpose of this position is to provide additional guidance on the application of Section 4.15 of ANSI/IEEE Std 279 and Section 6.8.2 of IEEE Std 603.

B. Branch Technical Position

1. If more restrictive safety trip points are required for operation with a reactor coolant pump out of service, and if operation with a reactor coolant pump out of service is of sufficient likelihood to be a planned mode of operation, the change to the more restrictive trip points should be accomplished automatically.
2. Plants with designs not in accordance with the above should have included in the plant technical specifications a requirement that the reactor be shut down prior to changing the set points manually.

C. References

1. ANSI/IEEE Std 279-1971, "Criteria for Protection Systems for Nuclear Power Generating Stations."
2. IEEE Std 603-1991, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations."

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Description of Changes

This Branch Technical Position section affirms the technical accuracy and adequacy of the guidance previously provided in Revision 4, dated June 1997 of this Branch Technical Position. See ADAMS accession number ML052500524.

In addition this Branch Technical Position section was administratively updated in accordance with NRR Office Instruction, LIC-200, Revision 1, "Standard Review Plan (SRP) Process." The revision also adds standard paragraphs to extend application of the updated SRP section to prospective submittals by applicants pursuant to 10 CFR Part 52.

The technical changes are incorporated in Revision 5, dated [Month] 2007:

Review Responsibilities - Reflects changes in review branches resulting from reorganization and branch consolidation. Change is reflected throughout the Branch Technical Position..

A. Background

None.

B. Branch Technical Position

None.

C. References

None.