



July 26, 1982

SECY-82-315

POLICY ISSUE
(Notation Vote)

FOR: The Commissioners

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: PROPOSED GUIDANCE FOR IMPLEMENTING STANDARD REVIEW PLAN
RULE

PURPOSE: To obtain Commission approval to publish for comment
NUREG-0906, "Guidance for Implementation of 10 CFR
50.34(g)." Section 50.34(g) is a rule requiring applicants
to evaluate differences from the Standard Review Plan.

CATEGORY: This paper covers a routine matter requiring Commission
consideration.

DISCUSSION: On March 10, 1982, the Commission approved a final rule
10 CFR 50.34(g), "Conformance with the Standard Review
Plan (SRP)." This rule requires power reactor
applications docketed after May 17, 1982 to include an
evaluation of the facility against the acceptance criteria
of the Standard Review Plan (NUREG-0800).

The Commission directed the staff to produce for public
comment after Commission approval "guidance for licensees"
to assist in complying with the rule. Enclosure (1),
"Guidance for Implementation of 10 CFR 50.34(g),"
NUREG-0906, for comment, provides this guidance. The
guidance document is intended as an interim measure until
the "Standard Content and Format Guide for Safety Analysis
Reports, Regulatory Guide 1.70," is revised to reflect the
requirements of the new rule, at which time the guidance
in NUREG-0906 would be incorporated into Regulatory Guide
1.70.

Contact:
E. Goodwin, NRR
X24735

9209250513
XA

The guidance document has the following major features:

- (1) It identifies the locations in the Safety Analysis Report (SAR) for providing the evaluation required by the SRP rule and provides a suggested tabular format for identifying the specific areas of design, analysis, and procedure that are different from the Standard Review Plan. The table includes an identification and summary description of the differences, and a reference to the specific sections of the SAR in which the differences are discussed and evaluated.
- (2) For applicants subject to the rule, it modifies the present guidance contained in Regulatory Guide 1.70 that they should provide a discussion in the SAR of their conformance with all applicable Regulatory Guides (SAR Chapter 1.8). The appropriate Regulatory Guides are cited in the acceptance criteria for each individual section of the SRP. Thus, this section (Chapter 1.8) of the SAR would be redundant to the evaluation now required by the SRP rule and an unnecessary burden on applicants.
- (3) It reaffirms that conformance with the SRP, per se, is not a regulatory requirement, but that the specific acceptance criteria of the SRP define methods acceptable to the staff for satisfying the relevant regulations. However, the guidance document notes that in some instances the SRP acceptance criteria are identical to the requirements of the regulations. Guidance on how to handle this type of difference from the SRP acceptance criteria is included.
- (4) It provides examples of evaluations of differences from the SRP that the staff considers to be acceptable in technical scope and detail.

RECOMMENDATION: That the Commission:

- (1) Approve: The enclosed NUREG for publication for 60 days comment in the Federal Register.
- (2) Note:
 - (a) That the Federal Register notice contains a statement that, pursuant to the Paperwork Reduction Act of 1980, the NRC will request OMB approval for the format and content guidelines established by NUREG-0906.

- (b) That the Subcommittee on Energy and the Environment of the House Committee on Interior and Insular Affairs, the Subcommittee on Energy Conservation and Power of the House Committee on Energy and Commerce, the Subcommittee on Environment, Energy and Natural Resources of the House Committee on Government Operations, and the Subcommittee on Nuclear Regulation of the Senate Committee on Environment and Public Works will be informed.
- (c) That the Federal Register Notice will be distributed by the Office of Administration to power reactor licensees/permit holders, applicants for a construction permit for a power reactor, public interest groups, and nuclear steam system suppliers, and all other interested persons.
- (d) That a public announcement will be issued.



William J. Dircks
Executive Director for Operations

Enclosures:

- 1. Proposed Federal Register notice

Commissioners' comments (or consent) should be provided directly to the Office of the Secretary by c.o.b. August 16, 1982.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT August 9, 1982, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

DISTRIBUTION:

Commissioners

OGC

OPE

OCA

OIA

OPA

REGIONAL OFFICES

EPC

ELD

ACRS

ASLBP

ASLAP

SECY

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

Proposed Guidance for Implementation of 10 CFR 50.34(g)

AGENCY: Nuclear Regulatory Commission

ACTION: Notice of Proposed Guidance for the Implementation of SRP Rule

SUMMARY: The Commission published a final rule in the Federal Register on March 18, 1982 (47 FR 11651), entitled "Conformance with the Standard Review Plan (SRP)." This rule requires certain applicants for nuclear power plant operating licenses, construction permits, and standard plant design approvals to include an evaluation of the differences between the proposed facility and the SRP acceptance criteria in their application. In the notice accompanying the rule, the Commission indicated that guidance documents being developed by the staff to implement the rule would be published for public comment. This notice presents the staff's recommended "Guidance for Implementation of 10 CFR 50.34(g)" (NUREG-0906) and invites comments, suggestions, or recommendations on the content of the proposed guidance.

DATES: Comment period expires [Insert date 60 days after publication]. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given to comments other than those filed on or before that date.

ADDRESSES: Written comments, suggestions, or recommendations should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Copies of comments received may be examined in the NRC Public Document Room, 1717 H Street, NW, Washington, D.C.

FOR FURTHER INFORMATION CONTACT: Robert A. Purple, Deputy Director, Division of Licensing, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (301) 492-7425.

SUPPLEMENTARY INFORMATION: Guidance for Implementation of 10 CFR 50.34(g)
[NUREG-0906, For Comment] .

On March 17, 1982, the NRC published a final rule in the Federal Register (47 FR 11651) entitled "Conformance with the Standard Review Plan (SRP)." This rule requires certain applicants to include in their application an evaluation of all design features, analytical techniques, and procedural methods proposed for a nuclear power facility that are different from those given in the acceptance criteria of the Standard Review Plan (NUREG-0800).

The facilities covered under this rule are those for which an application for an operating license, construction permit, manufacturing license, or preliminary or final design approval for standard plants is docketed after May 17, 1982. The affected applicants are required to provide an evaluation of the facility against the acceptance criteria of the SRP in effect on May 17, 1982 (NUREG-0800) or the most recent revision of the SRP in effect six months prior to the docketing date, whichever is later.

In particular, the applicants are required to identify and describe all differences in design features, analytical techniques, and procedural methods proposed and those corresponding features, techniques, and methods identified in the SRP acceptance criteria. Where such differences exist, an evaluation is required that discusses how the proposed alternatives provide an acceptable method of complying with the NRC regulations which underlie the corresponding SRP acceptance criteria. The SRP is not a substitute for the regulations and compliance with it is not required. It defines methods that are acceptable to the staff for satisfying the relevant regulations and is used by the staff in its evaluation of whether an applicant meets the requirements of NRC regulations.

This document provides guidance for describing the identified differences from the SRP and provides example evaluations of such differences. The staff considers these examples to be acceptable in technical content and level of detail if all other related technical issues have been resolved to the satisfaction of the staff. These particular examples were chosen to present a range of types of differences and acceptable evaluations. They are not intended to circumscribe an applicant in the type or scope of evaluation to be presented. Applicants are encouraged to meet with the staff during the preparation of their application to resolve any questions concerning the SRP acceptance criteria. It should be noted that while the particular examples given may be applicable and acceptable in a number of specific applications, they may not be applicable or acceptable for all applications because of specific design or site characteristics.

Applicants should include the evaluation required by the SRP Rule in Chapter 1 of their Safety Analysis Reports (SAR) at the time of tendering the SAR. An SAR is required to be included in applications by 10 CFR 50.34(a) or (b) of the Commission regulations.

Guidance for the preparation of SARs is currently available in Regulatory Guide (RG) 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants - LWR Edition," (Revision 3). A future revision of Regulatory Guide 1.70 will identify the specific section of the SAR in which the information required by the SRP rule is to be included. Section 1.8 of Chapter 1 of RG 1.70 currently calls for a description of the extent to which an applicant intends to comply with all applicable regulatory guides and any proposed exceptions to the regulatory positions in those guides. Until RG 1.70 is revised, applicants should retitle Section 1.8 "Conformance With the Standard Review Plan," and should include therein the information described below, rather than that which is presently called for in RG 1.70.

In Section 1.8 of the SAR, applicants should identify and describe, preferably in tabular format, all differences in design features, analytical techniques, and procedural measures proposed for a facility and those corresponding features, techniques, and measures given in the SRP acceptance criteria. The information should include: 1) identification of the relevant section of the SRP; 2) a brief summary of the specific SRP criteria for which a difference exists; 3) a summary description of the

nature of the difference; and 4) a page number or subsection reference that identifies where the issue is explicitly evaluated in the SAR. The required discussion of how each proposed alternative provides an acceptable method of complying with the applicable regulation should be included in the relevant section of the SAR.

The specific acceptance criteria in the SRP are presented as Subsection II of each SRP section. Subsection II also identifies the underlying regulations for that feature of the facility. Applicants are not required to address the other subsections of each SRP section. These other subsections (Areas of Review, Review Procedures, Evaluation Findings, Implementation, and References) are intended for use by the staff in conducting its review, and provide a basis on which the staff concludes that the specific feature, technique, or measure meets the acceptance criteria. Applicants may find the material in these other subsections useful in identifying and evaluating differences from the specific acceptance criteria.

The "evaluation" required by §50.34(g)(2) consists of (1) a review of the proposed design against the applicable specific SRP acceptance criteria, with the results of the review (i.e., any differences) being identified and described, preferably in tabular format, in Section 1.8 of the SAR as discussed above; and (2) a discussion of each difference in the applicable SAR section that presents the reasons for concluding that the proposed difference is an acceptable method of complying with the regulations. The specific SRP acceptance criteria are guidelines that define a method

acceptable to the staff for satisfying the relevant regulations. They are not requirements per se, and other methods can be found acceptable by the staff as long as compliance with the underlying regulations is demonstrated. In some instances, however, the specific SRP acceptance criteria are identical to the requirements of the regulations. For these situations the applicant should include in the evaluation required by §50.34(g)(2) a discussion that represents the reasons for concluding that the proposed difference is acceptable from a safety standpoint. In addition, an application for an exemption from the regulations providing all the information needed to make the findings required under §50.12 of the Commission regulations should be separately submitted by the applicant.

The following examples show how the above information should be presented:

1.8 Differences from SRP Acceptance Criteria

(Applicant) has reviewed the (plant name) and concludes that it will meet all applicable specific acceptance criteria in the Standard Review Plan (NUREG-0800), except as noted below. The cited text references in the following table include discussions that describe the basis by which (applicant) concludes that the underlying regulatory requirements have been satisfied in those instances for which there are differences from the SRP.

Table 1.8.1 Summary of Differences From SRP

<u>SRP Section</u>	<u>Specific SRP Acceptance Criteria</u>	<u>Summary Description of Difference</u>	<u>SAR Section Where Discussed</u>
5.3.1 (Rev. 1)	II.6.c.(1) - Surveillance specimens	Surveillance specimens not taken from actual production plates	5.3.1.6.2
6.2.4 (Rev. 2)	II.c. and d.- Containment isolation provisions for CRD withdraw lines	Manually operated containment isolation valves	6.2.4.3.2
15.4.6 (Rev. 1)	II.5.b. - Operator action, in a boron dilution event during hot standby, minimum time 15 minutes	Operator action within 13 minutes	15.4.6.2

Discussion in SAR Section

5.3.1.6.2 RPV Material Surveillance Test Specimens

(excerpt ^{1/})... Acceptance criterion II.6.c.(1) of SRP Section 5.3.1 provides that the material for surveillance test specimens representing the reactor vessel beltline welds be prepared from actual production plates. This criterion is derived from Appendices G and H

^{1/} In this and the other examples that follow, the material presented is an excerpt from a section of the SAR assumed to have been developed in accordance with Regulatory Guide 1.70. Thus, the examples have been prepared on the assumption that complete and adequate information on technically related features of the plant is available in the SAR provided by the applicant.

to 10 CFR Part 50, which requires that surveillance specimens be taken from locations alongside fracture toughness test specimens and that fracture toughness specimens for the reactor vessel beltline region to be taken directly from excess material and welds in the vessel shell courses.

The welding test specimens for (plant name) will be prepared from plates of the same "p" number and, same filler material, as those used in the corresponding actual shell material. The welding conditions will be the same for the test specimens and the production welds, and the qualification procedures conform to the requirements of NB 4330 of the ASME Code.

Based on these similarities between the belt line region test samples and production materials, the technical requirements of Appendix H are satisfied since this provides equivalent test specimens for the material surveillance program for the reactor pressure vessel. ^{2/}

^{2/} Note that an exemption to the regulation (Appendix H to 10 CFR Part 50) would be required in this instance, and that a request for the exemption should be submitted separately by the applicant.

6.2.4.3.2 Containment Isolation Design Basis for CRD Withdraw
Lines

(excerpt)... In SRP Section 6.2.4, acceptance criterion II.d. provides, in part, that the isolation provisions for lines used in systems needed for safe shutdown of the plant that penetrate primary containment and are part of the reactor coolant pressure boundary normally consist of one automatic isolation valve inside and one automatic isolation valve outside of containment. Acceptance criteria II.c. states that remote-manual valves may be used in lieu of automatic valves for such lines, provided that provisions are made to detect possible leakage from the lines outside containment. The underlying regulation for these criteria is GDC 55 which requires such containment isolation provisions unless it can be demonstrated that other provisions are acceptable on some other defined bases.

The Control Rod Drive (CRD) withdraw lines penetrate the primary containment and communicate with the reactor coolant pressure boundary (RCPB) through the CRD assemblies. However, as can be seen in Figure 4.6 the CRD assemblies are composed of a series of seals and mechanical restrictions, such that the CRD withdraw lines represent a unique kind of extension of the RCPB as defined in 10 CFR 50.2(v). Because of the unique function and features of these lines the usual automatic or remote-manual isolation valves are not provided.

Specifically, contrary to the SRP acceptance criteria described above, the CRD withdraw lines are provided with manually operated isolation valves as described in Table 6.2.4-X in lieu of automatic or remote-manual isolation valves, and there are no specific provisions for detection of leakage from these lines outside the containment. Automatic or remote-manual isolation valves are not used since the CRD system performs an essential safety function and the addition of automatic isolation capability could compromise that safety function. Moreover, since leakage from any break in one of the CRD withdraw lines is within the capabilities of the reactor coolant makeup systems

(Feedwater and RCIC), the risk associated with having an automatic or remote-manual isolation valve fail closed in these lines before achieving a successful reactor scram in emergency situations would exceed the risk associated with not isolating such a line should it rupture. In addition, the CRD withdraw lines are designed to high quality standards as described in Section 3.2.2 and the preservice inspection and surveillance inspections described in Section 4.6.X and the general leakage monitoring capabilities described in Section 5.2.5-X will assure that the likelihood and consequences of breaks in the CRD withdraw lines are small. The leakage monitoring capabilities referred to include: a) CRD high temperature alarms; b) CRD position indication; c) level instruments in the secondary containment sump; and d) area radiation monitors that indicate and alarm in the control

room. Should primary system water begin flowing out a broken CRD withdraw line, these monitors will provide the operator with timely information that would permit effective corrective actions.

The design features described above constitute an "other defined basis" of acceptability of the containment isolation provisions for the CRD withdraw lines, as permitted by GDC 55. ^{3/}

15.4.6.2 Boron Dilution Events During Hot Standby

(excerpt).... In Section 15.4.6, acceptance criterion II.5.b specifies that if operator action is required during hot standby to terminate a transient resulting from a boron dilution event, a minimum time period of 15 minutes must be available between the time the first alarm annunciates to alert the operator, and the time that all shutdown margin is lost and criticality occurs. The underlying regulatory requirements for this acceptance criterion are GDC 10, 15 and 26 which collectively require that the reactor core, reactor coolant and associated auxiliary systems, reactivity control systems and the reactor protection system be designed with appropriate margin to assure that specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded during any condition of normal operation, including anticipated operational occurrences.

^{3/} Note that in this instance an exemption to the regulation is not required.

The technical specifications for the (plant name) will require that the reactor be shutdown by at least 2% k/k (i.e., $K_{eff} = 0.98$) while in hot standby. Our analysis of the most limiting boron dilution event during this operational mode, described in Section 15.2.4, assumes an initial reactor shutdown condition of this amount. It was also assumed that all control rods are withdrawn in order to maximize the initial boron concentration and subsequent dilution effects. Approximately 13 minutes after the dilution begins, a high source range count alarm, which is set at twice the initial source level, would occur. Our analysis then shows that 13.4 minutes would be available for the operator to take appropriate action to terminate the boron dilution event between the time of annunciation of this alarm and the time of reaching criticality. The difference between the calculated minimum operator action time to terminate this event (13.4 min.) and the SRP acceptance criterion (15 min.) is small, and the reliability of the source range count alarms is high since they are redundant and of high quality, as described in Section 7.4.1.X.

We conclude, therefore, that for the most limiting boron dilution event during hot standby, the relevant portions of GDC 10, 15 and 25 are satisfied since fuel damage limits and the design conditions of the reactor coolant pressure boundary will not, with considerable margin, be exceeded during this event.

PAPERWORK REDUCTION ACT REVIEW: Prior to publication of the final version of the guidance document (NUREG-0906), the reporting portions will be submitted to the Office of Management and Budget for clearance as required by the Paperwork Reduction Act of 1980 (PL 96-511).

Dated at Washington, D. C., this day of , 1982.

For the Nuclear Regulatory Commission.

Samuel J. Chilk
Secretary of the Commission