

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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SUBJECT: Forwards draft Tech Specs to require usage of shunting
 links during initial source range monitors/intremediate
 range monitors overlap demonstration or post-mod, per
 NUREG-0123.

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1. The first part of the report is a summary of the work done during the year. It is divided into two main sections: a general summary and a detailed summary of the work done in each of the four main branches of the work.

2. The second part of the report is a detailed account of the work done in each of the four main branches of the work. It is divided into four sections: a general summary of the work done in each branch, a detailed account of the work done in each branch, and a summary of the results of the work done in each branch.

3. The third part of the report is a summary of the results of the work done during the year. It is divided into two main sections: a general summary of the results and a detailed summary of the results of the work done in each of the four main branches of the work.

GENERAL SUMMARY		DETAILED SUMMARY		RESULTS	
Branch	Work Done	Branch	Work Done	Branch	Work Done
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2	1	2	1	2	1
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Washington Public Power Supply System

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October 3, 1983
G02-83-880

Docket No. 50-397

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: NUCLEAR PROJECT NO. 2
NUREG-0123, STANDARD TECHNICAL SPECIFICATIONS
FOR GE BWR/5 REACTORS: REVISION TO THE WNP-2
TECHNICAL SPECIFICATIONS

A current requirement for performing a shutdown margin (SDM) demonstration surveillance is to remove the RPS circuitry shorting links. This action causes all scram inputs from any single neutron monitoring system (NMS; SRM, IRM or APRM) to generate a scram signal.

The shutdown margin demonstration on the reactor after a (re)fueling is to ensure that the reactor core can be shutdown and held subcritical. The method most often used to demonstrate SDM is the in-sequence critical demonstration. This method has the distinct advantage of not impacting a normal startup. It also provides a slow and controlled approach to the critical condition because of the rod sequence studies in support of the rod worth minimizer program development. The neutron level reached at criticality is only a decade or so from the SRM scram setpoint.

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NUREG-0123, STANDARD TECHNICAL SPECIFICATIONS FOR GE BWR/5
REACTORS: REVISION TO THE WNP-2 TECHNICAL SPECIFICATIONS

Historically, the bases for the shorting links is to provide an NMS scram from the SRM's during a startup prior to demonstration of overlap between the SRM's and IRM's. This conservatism was applied to initial startups when IRM operability was not demonstrated prior to reaching a neutron level at which the IRM's would be relied upon to terminate an uncontrolled flux increase. After demonstration of SRM non-saturation and SRM-IRM overlap, usage of the shorting links would then only be applied to initial startups or following maintenance/replacement of an SRM or IRM detector or circuitry which would impact the calibration of these detectors.

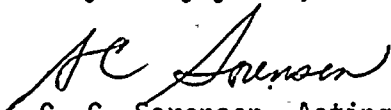
Our recommendation is to modify the technical specification format to require usage of the shorting links during initial SRM/IRM overlap demonstration or post modification. The combination of IRM range 1 scram and proper SRM/IRM overlap and the APRM neutron high flux (setdown to .15% power) scram provides adequate assurance of an RPS input given a low power excursion. Usage of the shorting links requirement while performing a SDM demonstration represents an overly conservative approach not necessary for reactor protection.

Attached are the recommended changes previously submitted as part of draft #2 in the WNP-2 Technical Specifications.

Your review of this subject is not expected to delay the WNP-2 Technical Specification proof and review process. It is, however, presented to pursue a technical justification for the current NUREG-0123 format and present an alternative method based on our perception of the original design intent.

For further discussions or information, please contact Mr. P. L. Powell, Manager, WNP-2 Licensing.

Very truly yours,



G. C. Sorensen, Acting Manager
Nuclear Safety and Regulatory Programs

tmh
Attachment

cc: R Auluck - NRC
WS Chin - BPA
A Toth - NRC Site

DRAFT

SPECIAL TEST EXCEPTIONS

3/4.10.3 SHUTDOWN MARGIN DEMONSTRATIONS

LIMITING CONDITION FOR OPERATION

3.10.3 The provisions of Specification 3.9.1, Specification 3.9.3 and Table 1.2 may be suspended to permit the reactor mode switch to be in the Startup position and to allow more than one control rod to be withdrawn for shutdown margin demonstration, provided that at least the following requirements are satisfied.

- a. The source range monitors are OPERABLE with the ^{assurance of} ~~RPS-circuitry shunting~~ ^{adequate SRM-IRM overlap} links ~~removed~~ per Specification 3.9.2.
- b. The rod worth minimizer is OPERABLE per Specification 3.1.4.1 and is programmed for the shutdown margin demonstration, or conformance with the shutdown margin demonstration procedure is verified by a second licensed operator or other technically qualified member of the unit technical staff.
- c. The continuous rod withdrawal control shall not be used during out-of-sequence movement of the control rods.
- d. No other CORE ALTERATIONS are in progress.

APPLICABILITY: OPERATIONAL CONDITION 5, during shutdown margin demonstrations.

ACTION:

With the requirements of the above specification not satisfied, immediately place the reactor mode switch in the Shutdown or Refuel position.

SURVEILLANCE REQUIREMENTS

4.10.3 Within 30 minutes prior to and at least once per 12 hours during the performance of a shutdown margin demonstration, verify that;

- a. The source range monitors are OPERABLE per Specification 3.9.2,
- b. The rod worth minimizer is OPERABLE with the required program per Specification 3.1.4.1 or a second licensed operator or other technically qualified member of the unit technical staff is present and verifies compliance with the shutdown demonstration procedures, and
- c. No other CORE ALTERATIONS are in progress.

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REFUELING OPERATIONS

3/4.9.2 INSTRUMENTATION

STARTING CONDITION FOR OPERATION

3.9.2 At least 2 source range monitor^a (SRM) channels shall be OPERABLE and inserted to the normal operating level with:

- a. Continuous visual indication in the control room,
- b. At least one with audible indication in the control room,
- c. One of the required SRM detectors located in the quadrant where CORE ALTERATIONS are being performed and the other required SRM detector located in an adjacent quadrant, and
- d. The "shorting links" removed from the RPS circuitry prior to and during the time any control rod is withdrawn and shutdown margin demonstrations are in progress.

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APPLICABILITY: OPERATIONAL CONDITION 3.

ACTION:

With the requirements of the above specification substantiated, immediately suspend all operations involving CORE ALTERATIONS^b and insert all insertable control rods.

SURVEILLANCE REQUIREMENTS

4.9.2 Each of the above required SRM channels shall be demonstrated OPERABLE by:

- a. At least once per 12 hours:
 1. Performance of a CHANNEL CHECK,
 2. Verifying the detectors are inserted to the normal operating level, and
 3. During CORE ALTERATIONS, verifying that the detector of an OPERABLE SRM channel is located in the core quadrant where CORE ALTERATIONS are being performed and another is located in an adjacent quadrant.

^cThe use of special movable detectors during CORE ALTERATIONS in place of the normal SRM nuclear detectors is permissible as long as these special detectors are connected to the normal SRM circuits.

^dExcept movement of IRM, SRM or special movable detectors.

^eNot required for control rods removed per Specification 3.9.10.1 and 3.9.10.2.

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

b. Performance of a CHANNEL FUNCTIONAL TEST:

1. Within 24 hours prior to the start of CORE ALTERATIONS, and
2. At least once per 7 days.

c. Verifying that the channel count rate is at least ^{0.5} cps:

1. Prior to control rod withdrawal,
2. Prior to and at least once per 12 hours during CORE ALTERATIONS, and
3. At least once per 24 hours.

d. Verifying, within 8 hours prior to and at least once per 12 hours during, that the RPS circuitry "shorting links" have been removed during:

1. The time any control rod is withdrawn,^{##} or
2. Shutdown margin demonstrations.

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DEC 29 1964

^{##} Not required for control rods removed per Specification 3.9.10.1 or 3.9.10.2.

3.9.2

- d. Adequate assurance of SRM-IRM overlap is established prior to and during the time any control rod is withdrawn[†] and shutdown margin demonstrations are in progress.

4.9.2

- d. Verifying adequate assurance of SRM-IRM overlap has been maintained from the initial overlap demonstration with installed equipment by:
1. confirming no maintenance/replacement of either the SRM or IRM detectors and/or circuitry has modified the respective SRM, IRM setpoint and rod block setpoints relative to neutron flux levels at the initial overlap demonstration, or installed
 2. With initially or modified SRM, IRM detectors/circuitry an overlap demonstration is performed with the RPS circuitry in "non-coincidence mode" ("shooting links" removed) in which the IRMs register neutron flux response above their respective downscale setpoints before the SRMs exceed their respective rod block setpoints.

TABLE 3.3.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION

TABLE NOTATIONS

- (a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one OPERABLE channel in the same trip system is monitoring that parameter.
- (b) The "shorting links" shall be removed from the RPS ^{if required by} ~~circuitry prior to and during the time any control rod is withdrawn* and shutdown margin demonstrations are being performed per Specification 3.10.3.~~ _{3.9.2.}
- (c) An APRM channel is inoperable if there are less than 2 LPRM inputs per level or less than 14 LPRM inputs to an APRM channel.
- (d) This function shall be automatically bypassed when the reactor mode switch is not in the Run position.
- (e) This function is not required to be OPERABLE when the reactor pressure vessel head is removed per Specification 3.10.1.
- (f) This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.
- (g) Also actuates the standby gas treatment system. ...
- (h) With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.
- (i) This function shall be automatically bypassed when ~~turbine first stage pressure is < 190 psig, equivalent to THERMAL POWER less than 25% of~~ ^{↑ 75} _{30%} RATED THERMAL POWER.
- (j) Also actuates the EOC-RPT system.

~~Not required for control rods removed per Specification 3.9.10.1 or 3.9.10.2~~

Revised to remain consistent with proposed change to 3/4.9.2.

DEC 29 1982

