



November 8, 2007

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
License Amendment Request: Modify Technical Specification Definitions

Pursuant to 10 CFR 50.90, Calvert Cliffs Nuclear Power Plant hereby requests an amendment to Renewed Operating Licenses Number DPR-53 and DPR-69 to clarify the Technical Specification definitions for Channel Calibration and Channel Functional Test. This proposed amendment incorporates Nuclear Regulatory Commission-approved Technical Specification Task Force Standard Technical Specification Change Traveler, TSTF-205-A, "Revision of Channel Calibration, Channel Functional Test, and Related Definitions," Revision 3, dated July 31, 2003.

A description of the proposed changes and associated justification (including a basis for a no significant hazards consideration) are provided in Attachment (1). A markup of the affected Technical Specification pages is provided in Attachment (2). The Technical Specification Bases will be changed as appropriate to support this amendment.

Safety Committee Review

The Plant Operations Review Committee has reviewed the proposed change and concurs that operation with the proposed change will not result in an undue risk to the health and safety of the public.

Schedule

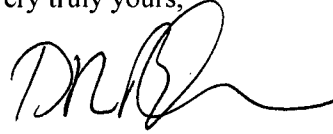
We request approval of this change by November 1, 2008 and an implementation period of 60 days.

No operation of the facility is dependent on approval.

A001
MRR


Should you have questions regarding this matter, please contact Mr. Jay S. Gaines at (410) 495-5219.

Very truly yours,




STATE OF MARYLAND :
 : TO WIT:
COUNTY OF CALVERT :

I, Douglas R. Bauder, being duly sworn, state that I am Plant General Manager - Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP), and that I am duly authorized to execute and file this License Amendment Request on behalf of CCNPP. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other CCNPP employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.



Subscribed and sworn before me, a Notary Public in and for the State of Maryland and County of Calvert, this 8th day of November, 2007.

WITNESS my Hand and Notarial Seal:


Notary Public

Wendy L. Hunter
NOTARY PUBLIC
Calvert County, Maryland
My Commission Expires 01/01/10

My Commission Expires:

11/08/07
Date

DRB/EMT/bjd

- Attachments: (1) Technical Basis and No Significant Hazards Consideration
(2) Marked Up Technical Specification Pages

cc: D. V. Pickett, NRC
S. J. Collins, NRC

Resident Inspector, NRC
R. I. McLean, DNR

ATTACHMENT (1)

**TECHNICAL BASIS AND
NO SIGNIFICANT HAZARDS CONSIDERATION**

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ATTACHMENT (1)

TECHNICAL BASIS AND NO SIGNIFICANT HAZARDS CONSIDERATION

1.0 DESCRIPTION

The proposed changes to the Calvert Cliffs Nuclear Power Plant (Calvert Cliffs) Technical Specifications revise the Channel Calibration and Channel Functional Test definitions, consistent with (Technical Specification Task Force) TSTF-205-A, Revision 3, to eliminate ambiguity and possible misinterpretation. In each of these definitions (as currently worded), amplifying wording referring to "sensor, alarm, display, and/or trip functions" is included to define the scope of the test. This proposed change makes clear that the components to be tested or calibrated are only those that are necessary for the channel to perform its safety function.

2.0 PROPOSED CHANGE

Channel Calibration

Current Technical Specification Definition

"A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps so that the entire channel is calibrated."

Proposed Technical Specification Definition

A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps.

Channel Functional Test

Current Technical Specification Definition

"A CHANNEL FUNCTIONAL TEST shall be:

Analog Channels - the injection of a simulated signal into the channel as close to the primary sensor as practicable to verify OPERABILITY, including alarm and/or trip functions.

Bistable Channels - the injection of a simulated signal into the channel sensor to verify OPERABILITY including alarm and/or trip functions."

Proposed Technical Specification Definition

A CHANNEL FUNCTIONAL TEST shall be:

Analog Channels - the injection of a simulated signal into the channel as close to the primary sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY.

Bistable Channels - the injection of a simulated signal into the channel sensor to verify OPERABILITY of all devices in the channel required for channel OPERABILITY.

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TECHNICAL BASIS AND NO SIGNIFICANT HAZARDS CONSIDERATION

The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps.

3.0 TECHNICAL ANALYSIS

The revised definitions eliminate a possible misinterpretation of Channel Calibration and Channel Functional Test. The current definitions use the phrases "sensor and alarm and/or trip functions," and "alarm and/or trip functions." There is ambiguity as to whether the list is inclusive or representative. Therefore, this list has been replaced with the phrase, "all devices in the channel required for channel OPERABILITY," and makes clear that the components that are required to be tested or calibrated are only those that are necessary for the channel to perform its safety function. These changes will clarify the requirements and allow for consistent application of the definitions, tests, and calibrations.

The second proposed change is the statement at the end of the Channel Calibration definition addressing the allowance to have the test "... performed by means of any series of sequential, overlapping or total channel steps so that the entire channel is calibrated," the statement "... so that the entire channel is calibrated." is deleted. This deletion is to remove the conflict between the verbatim reading of the proposed definition containing the words "... of all devices in the channel required for channel OPERABILITY...".

The proposed CHANNEL FUNCTIONAL TEST definition does not address the method of the testing of all of the required channel devices. As expressed in Reference (1), "The NRC staff position is that a successful test of the required contacts of a channel relay may be performed by the verification of the change of state of a single contact of the relay." Therefore, all contacts of the required device need not be tested, provided the required channel contact is tested. This clarification of what comprises an acceptable channel functional test of a relay will be applied to all channel functional tests in the Technical Specification Bases.

An additional change to the channel functional test definition is proposed for consistency with NUREG-1432. The channel functional test definition is proposed to be modified to include the sentence, "The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps." This change aligns the definition of channel functional test with the definition of channel calibration.

4.0 NO SIGNIFICANT HAZARDS CONSIDERATION

This request proposes to change Technical Specification definitions for channel calibration and channel functional test to eliminate ambiguity and possible misinterpretation. The proposed amendment would revise these definitions in accordance with the Technical Specification Task Force Improved Standard Technical Specification Change Traveler TSTF-205-A, "Revision of Channel Calibration, Channel Functional Test, and Related Definitions," Revision 3, dated July 31, 2003. The proposed amendment would change the definitions to ensure that testing performed in accordance with the Technical Specification defined terms will include all instrument loop components required for a channel to perform its safety function.

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TECHNICAL BASIS AND NO SIGNIFICANT HAZARDS CONSIDERATION

The proposed changes have been evaluated against the standards in 10 CFR 50.92 and have been determined to not involve a significant hazards consideration in that operation of the facility in accordance with the proposed amendments:

1. *Would not involve a significant increase in the probability or consequences of any accident previously evaluated.*

The proposed change clarifies the Technical Specification requirements for performance of channel calibrations and channel functional tests. Specifically, the proposed change incorporates the Nuclear Regulatory Commission-approved Technical Specification Task Force Standard Technical Specification Change Traveler, TSTF-205-A, "Revision of Channel Calibration, Channel Functional Test, and Related Definitions," Revision 3, dated July 31, 2003. The change does not adversely affect the performance or effectiveness of required testing, as testing appropriate to the associated Surveillance Requirements will continue to be performed. The proposed change does not have a detrimental impact on the condition or performance of any plant structure, system, or component that could initiate an analyzed event. Therefore, the probability of an accident previously evaluated is not significantly increased.

The equipment being calibrated or tested is still required to be operable and capable of performing the accident mitigation functions assumed in the accident analysis. As a result, the consequences of any accident previously evaluated are not significantly affected.

Therefore, this change does not involve a significant increase in the probability or consequences of any accident previously evaluated.

2. *The proposed change would not create the possibility of a new or different kind of accident from any accident previously evaluated.*

The scope of the proposed change is limited to the clarification of existing calibration and test requirements. As such, the proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation.

Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. *The proposed change will not involve a significant reduction in the margin of safety.*

The margin of safety in this case is the verification of instrument channel operability. The proposed change clarifies requirements for the performance of channel calibrations and channel functional tests. Specifically, the proposed change incorporates the Nuclear Regulatory Commission-approved Technical Specification Task Force Standard Technical Specification Change Traveler, TSTF-205-A, "Revision of Channel Calibration, Channel Functional Test, and Related Definitions," Revision 3, dated July 31, 2003. No changes of setpoints to plant process limits are involved. The surveillance requirements, as revised, will continue to ensure that affected equipment is tested in a manner that gives confidence that the equipment can perform its appropriate safety function.

Therefore, this change does not involve a significant reduction in the margin of safety.

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TECHNICAL BASIS AND NO SIGNIFICANT HAZARDS CONSIDERATION

5.0 ENVIRONMENTAL ASSESSMENT

We have determined that operation with the proposal would not result in any significant change in the types or amounts of any effluents that may be released offsite, nor would it result in any significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment is eligible for categorical exclusion as set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is needed in connection with the proposed amendment.

6.0 PRECEDENTS

Clinton Power Station, Unit 1 submitted a similar proposed license amendment on October 25, 1999 (ML993090114). The proposal was approved by the Nuclear Regulatory Commission on April 25, 2000 (ML003710654). Although Clinton Power Station is a boiling water reactor and Calvert Cliffs Nuclear Power Plant is a pressurized water reactor, channel calibration and channel functional testing are practices common to both types and we believe the precedent applies.

Cooper Nuclear Station submitted a similar proposed license amendment on August 25, 2005 (ML052420459). The proposal was approved by the Nuclear Regulatory Commission on March 10, 2006 (ML060460122). Although Cooper Nuclear Station is a boiling water reactor and Calvert Cliffs Nuclear Power Plant is a pressurized water reactor, channel calibration and channel functional testing are practices common to both types and we believe the precedent applies.

Various other nuclear plants have proposed changes based on TSTF-205-A in their conversion to the Improved Standard Technical Specifications. Some examples are:

- Prairie Island Nuclear Generating Plant (ML003777180)
- Arkansas Nuclear One (ML003680046)
- Duane Arnold Energy Center (ML993350075)
- Beaver Valley Power Station (ML050610340)

7.0 REFERENCE

1. Letter from Mr. B. Benney (NRC) to Mr. R. K. Edlington (Nebraska Public Power District), dated March 10, 2006, "Cooper Nuclear Station – Issuance of Amendment Re: Revise Technical Specifications Instrumentation Definitions (TAC No. MC8230)"

ATTACHMENT (2)

MARKED UP TECHNICAL SPECIFICATION PAGES

1.0 USE AND APPLICATION

1.1 Definitions

-----NOTE-----

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

<u>Term</u>	<u>Definition</u>
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
AXIAL SHAPE INDEX (ASI)	<p>ASI shall be the power generated in the lower half of the core less the power generated in the upper half of the core, divided by the sum of the power generated in the lower and upper halves of the core.</p> $ASI = \frac{\text{lower} - \text{upper}}{\text{lower} + \text{upper}}$
AZIMUTHAL POWER TILT (T _q)	AZIMUTHAL POWER TILT shall be the power asymmetry between azimuthally symmetric core locations.
CHANNEL CALIBRATION	<p>A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps so that the entire channel is calibrated.</p>
CHANNEL CHECK	A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall

all devices in the channel required for channel OPERABILITY

1.1 Definitions

include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

CHANNEL FUNCTIONAL TEST

A CHANNEL FUNCTIONAL TEST shall be:

of all devices in the channel required for channel OPERABILITY.

Analog Channels - the injection of a simulated signal into the channel as close to the primary sensor as practicable to verify OPERABILITY, including alarm and/or trip functions.

Bistable Channels - the injection of a simulated signal into the channel sensor to verify OPERABILITY, including alarm and/or trip functions.

Insert

CORE OPERATING LIMITS REPORT (COLR)

The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific parameter limits shall be determined for each reload cycle in accordance with Specification 5.6.5. Plant operation within these limits is addressed in individual Specifications.

The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping or total channel steps.

DOSE EQUIVALENT I-131

DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites."

\bar{E} -AVERAGE DISINTEGRATION ENERGY

\bar{E} shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per