

WOLF CREEK

NUCLEAR OPERATING CORPORATION

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March 1, 1991

ET 91-0047

U. S. Nuclear Regulatory Commission
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Reference: 1) Letter NO 91-0065 dated February 22, 1991 from J. A. Bailey, WCNOG to the NRC
2) Letter dated February 27, 1991, from C. I. Grimes, NRC, to B. D. Withers, WCNOG

Subject: Docket No. 50-482: Revision to Technical Specifications 3/4.3.1 and 3/4.3.2 - Increased Surveillance Test Intervals and Allowed Outage Times for Reactor Trip System and Engineered Safety Features Actuation System Instrumentation

Gentlemen:

The purpose of this letter is to transmit an application for amendment to Facility Operating License No. NPF-42 for Wolf Creek Generating Station (WCGS), Unit No. 1. This license amendment request proposes revising Technical Specification Tables 3.3-1, 4.3-1, 3.3-3, 4.3-2 and associated Bases to increase the surveillance test intervals and allowed outage times for the analog channels of the Engineered Safety Features Actuation System (ESFAS). The proposed changes also increase the allowed outage times for the ESFAS logic and actuation relays of the Solid State Protection System. Wolf Creek Nuclear Operating Corporation (WCNOG) requests this license amendment be processed as an exigent technical specification change.

Reference 1 requested a temporary waiver of compliance from technical specification requirements governing the testing of ESFAS containment pressure inputs for the initiation of Safety Injection (SI) and Steam Line Isolation (SLI). Reference 2 approved the requested waiver of compliance. WCGS has experienced spurious spiking on one of three channels of containment pressure that provide input to ESFAS for actuation of SI and SLI. While performing the monthly Analog Channel Operational Tests (ACOTs) these containment pressure channels are placed in the "test" position, generating a trip input to the ESFAS logic. The receipt of a spike, such as those recently observed, during testing of another containment pressure channel would complete the two-of-three ESFAS logic and result in a SI and SLI actuation and a reactor trip.

As discussed in the referenced temporary waiver of compliance, efforts to repair the spiking pressure channel could not be completed prior to the ACOT required by the technical specifications on March 1, 1991. The temporary waiver of compliance addressed this situation. However, should current repair efforts prove unsuccessful, this situation would recur in thirty days. Expedited repair efforts are proceeding, however, procurement of necessary

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parts has required the manufacture of a custom circuit board to match the specific parameters of the containment pressure transmitter. Therefore, this amendment request is being submitted in order to preclude any potential need for additional temporary waivers of compliance. By changing the test frequency from monthly to quarterly, and revising the action statements to provide additional flexibility, the technical specification changes included in this amendment request will preclude the possible need for additional requests for temporary waivers of compliance relative to this item. Since the time period prior to the next required ACOTs is not sufficient for normal review and noticing by the NRC Staff, WCNOG requests that this amendment be processed on an exigent basis in accordance with 10 CFR 50.91(a)(6).

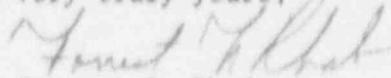
The proposed technical specification changes are based on WCAP-10271, its supplements and NRC approvals issued in a Safety Evaluation Report dated February 22, 1989 and a Supplemental Safety Evaluation Report dated April 30, 1990. The proposed changes addressed by WCAP-10271 includes a broad scope of ESFAS technical specification improvements. Due to the integral nature of the evaluation of the ESFAS technical specifications and the previous generic approval of this evaluation by the NRC, WCNOG has expedited submittal of this full scope amendment request, rather than attempt to address the containment pressure input on an individual basis.

Attachment I provides a description of the amendment along with a Safety Evaluation. Attachment II provides the Significant Hazards Consideration Determination. Attachment III provides the Environmental Impact Determination. The proposed change to the technical specifications is provided in Attachment IV.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Kansas State Official.

If you have any questions concerning this matter, please contact me or Mr. H. K. Chernoff of my staff.

Very truly yours,



Forrest T. Rhodes
Vice President
Engineering & Technical Services

PTR/sgw

Attachments: I - Safety Evaluation
II - Significant Hazards Consideration Determination
III - Environmental Impact Determination
IV - Proposed Technical Specification Changes

cc: G. W. Allen (KDHE), w/a
A. T. Howell (NRC), w/a
R. D. Martin (NRC), w/a
D. V. Pickett (NRC), w/a
M. E. Skow (NRC), w/a

STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Forrest T. Rhodes, of lawful age, being first duly sworn upon oath says that he is Vice President Engineering and Technical Services of Wolf Creek Nuclear Operating Corporation; that he has read the foregoing document and knows the content thereof; that he has executed that same for and on behalf of said Corporation with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By Forrest T. Rhodes
Forrest T. Rhodes
Vice President
Engineering & Technical Services

SUBSCRIBED and sworn to before me this 1 day of March, 1991.

Marlene Hoarson
Notary Public

Expiration Date August 4, 1994



ATTACHMENT I
SAFETY EVALUATION

Safety Evaluation

Summary of Proposed Changes

This license amendment request proposes to revise Technical Specification Tables 3.3-1, 4.3-1, 3.3-3, 4.3-2 and associated Bases to increase the surveillance test intervals (STIs), allowed outage times (AOTs) and associated Action Statements for the analog channels of the Engineered Safety Features Actuation System. The proposed changes also increase the AOTs for the ESPAS actuation logic and actuation relays of the Solid State Protection System (SSPS). The proposed changes are based on WCAP-10271, its supplements, and NRC approvals issued in a Safety Evaluation Report dated February 22, 1989 and a Supplemental Safety Evaluation Report dated April 30, 1990.

Background

In response to growing concerns over the impact of current testing and maintenance requirements on plant operation, particularly as related to instrumentation systems, the Westinghouse Owners Group (WOG) initiated a program to develop a justification to be used to revise generic and plant-specific instrumentation technical specifications. Operating plants have experienced many inadvertent reactor trips and safeguards actuations during performance of instrumentation surveillances, causing unnecessary transients and challenges of safety systems. Significant time and effort on the part of operating staffs have been devoted to performing, reviewing, documenting and tracking the various surveillance activities, which in many instances seemed unwarranted based on the high reliability of the equipment. Therefore, significant benefits for operating plants appeared to be achievable through revision of instrumentation test and maintenance requirements.

On February 3, 1983, the WOG submitted WCAP-10271, "Evaluation of Surveillance Frequencies and Out of Service Times for the Reactor Protection Instrumentation System" to the NRC as the first step in gaining approval of the relaxation of technical specification requirements for instrumentation. WCAP-10271 justifies revisions to plant-specific technical specifications. The justification consists of the deterministic and numerical evaluation of the effects of particular technical specification changes with consideration given to such things as safety, equipment requirements, human factors, and operational impact. The objective was to reach a balance in which safety and operability are ensured. The technical specification revisions evaluated were increased test and maintenance times, less frequent surveillance, and testing in bypass.

In July 1983, the NRC requested additional information from the WOG (letter to J. J. Sheppard from Cecil O. Thomas dated July 28, 1983). The WOG responded in October 1983 with Supplement 1 to WCAP-10271, which contained the additional information requested. Specifically, Supplement 1 demonstrates the applicability of the justification contained in WCAP-10271 to the Reactor Trip System (RTS) for two, three and four loop plants with either relay or solid state logic. Additionally, this supplement extends the evaluation to topics not addressed in the original WCAP such as the interdependence of surveillance intervals and hardware failure rates.

In February 1985, the NRC issued a Safety Evaluation Report (SER) for WCAP-10271 and Supplement 1. The SER approved quarterly STIs, an increase in the time allowed for an inoperable channel to be placed in the tripped condition from 1 to 6 hours, increased time for surveillance and maintenance testing in bypass for analog channels of the RTS. The SER also required quarterly testing to be conducted on a staggered basis. The RTS SER specifically stated that for analog channels shared by the RTS and ESFAS the approved relaxations applied only to the RTS function. In a letter dated July 24, 1985, from the NRC to L. D. Butterfield, Chairman of the WOG, comments were provided on the draft 'Guidelines for Preparing Submittals Requesting Revision of Reactor Protection System Technical Specification.' Enclosure 3 of the letter provided a broader relaxation of the surveillance for shared components, subject to proper annotation to the surveillance requirements.

WCNOC letter dated June 16, 1987 (ET 87-0223) submitted proposed changes to the RTS Instrumentation Technical Specification Tables 3.3-1 and 4.3-1 to increase the AOT for the RTS analog channels and to increase the STI for the analog channel operational tests (ACOTs). These changes were based on WCAP-10271 and Supplement 1. These changes were subsequently approved and License Amendment No. 12 issued on November 2, 1987.

On March 20, 1986, the WOG submitted WCAP-10271, Supplement 2, 'Evaluation of Surveillance Frequencies and Out of Service Times for the Engineered Safety Systems Actuation System.' On May 12, 1987, the WOG submitted WCAP-10271, Supplement 2, Revision 1. Supplement 2 and Supplement 2, Revision 1 specifically demonstrated the applicability of the justification contained in WCAP-10271 to the ESFAS for two, three and four loop plants with either relay or solid state systems.

In Appendix D of WCAP-10271, Supplement 2, Revision 1, the results of the evaluation for extending the AOTs for the test and maintenance of the reactor trip breakers and the logic cabinets were presented.

On February 22, 1989, the NRC issued the SER for WCAP-10271 Supplement 2 and Supplement 2, Revision 1. The SER approved quarterly STIs, an increase in the time allowed for an inoperable channel to be placed in the tripped condition from 1 to 6 hours, increased time for surveillance and maintenance testing, and testing in bypass for analog channels of the ESFAS. Staggered testing was not required for ESFAS analog channels and the requirement was removed from the RTS analog channels. The SER also concluded that 4 hour test and 12 hour maintenance AOTs are acceptable for ESFAS Automatic Actuation Logic and Actuation Relays.

On April 30, 1990, the NRC issued a Supplemental Safety Evaluation Report (SSER) on WCAP-10271, Supplement 2, Revision 1. This SSER approved the AOT and STI extensions for the non-Standard Technical Specifications ESFAS functions that were included in Appendix A2 of WCAP-10271, Supplement 2, Revision 1. The SSER also concluded that 4 hour test and 12 hour maintenance AOTs are acceptable for the RTS actuation logic. No changes were approved for the test and maintenance AOTs for the reactor trip breakers.

With the issuance of the February 1989 SER and the SSER, the relaxations for the analog channels of the RTS and ESFAS are now the same. The AOTs for test and maintenance of RTS and ESFAS actuation logic are also now the same.

Proposed Changes

This license amendment request proposes to revise Technical Specification Tables 3.3-1, 4.3-1, 3.3-3 and 4.3-2 as follows:

1. Tables 3.3-1, Functional Unit 13

Add Action 6# to Functional Unit 13 (Steam Generator Water Level-Low-Low). This action was inadvertently omitted when implementing License Amendment No. 12.

2. Table 3.3-1, Functional Unit 17 and 20

In accordance with the WCAP-10271, Supplement 2, Revision 1, test and maintenance AOTs for RTS actuation logic are increased. New Action Statement 7 provides for these test and maintenance AOT extensions. The increased test AOT for the RTS logic surveillance includes bypassing the associated reactor trip breaker (i.e., racking in the bypass breaker) for 4 hours. This new Action Statement applies to Functional Unit 17 (Safety Injection Input from ESP) and Functional Unit 20 (Automatic Trip and Interlock Logic). Current Action Statement 9 will apply only to Functional Unit 19 (Reactor Trip Breakers) and has been clarified as such.

3. Table 3.3-1 and 4.3-1, Notes 1 and 15

With the approval of the ESFAS changes in WCAP-10271, Supplement 2, Revision 1, the AOT and STI for RTS and ESFAS analog channels are now the same. Note 1 of Table 3.3-1 and Note 15 of Table 4.3-1 have been revised appropriately.

4. Table 3.3-1, Action Statement 11

The AOT for this Action Statement is being changed from 1 hour to 6 hours. This change was inadvertently omitted when implementing License Amendment No. 12.

5. Table 4.3-1, Note 14

In accordance with WCAP-10271, Supplement 2, Revision 1, staggered testing is no longer required for RTS analog channels. Note 14 has been deleted.

6. Table 3.3-3, Action Statements 16 and 28

In accordance with WCAP-10271, Supplement 2, Revision 1, new Action Statement 28 provides for 6 hours to place an inoperable channel in the tripped condition and increases the time an inoperable channel may be bypassed to allow surveillance testing of other channels from 2 to 4 hours. Action 28 is applicable to Functional Units 1.c (Containment Pressure-High-1), and

(Pressurizer Pressure-Low), 1.e (Steam Line Pressure-Low), 4.c (Containment Pressure-High-2), 4.d (Steam Line Pressure-Low), 4.e (Steam Line Pressure - Negative Rate-High), 5.b (Steam Generator Water Level-High-High), and 6.d.1) and 6.d.2) (Steam Generator Water Level-Low-Low Start Auxiliary Feedwater Pumps). The existing Action Statement 19 remains applicable to Functional Units 6.g, 8.a, and 8.b which are associated with the Balance-of-Plant (BOP) ESFAS and the Load Shedding and Emergency Load Sequencing systems. These systems were not included in the WCAP-10271, Supplement 2, Revision 1 analyses (see discussion on SER Condition item 1.a below). Revised Action Statement 16 provides for an extended AOT (from 2 hours to 4 hours) for surveillance testing of analog channels of Functional Units 2.c (Containment Pressure - High-3 - Containment Spray), 3.b.3) (Containment Pressure - High-3 - Containment Isolation) and 7.b (RWST Level - Low-Low Coincident With Safety Injection).

7. Table 3.3-3, Functional Units 1.b, 2.b, 3.a.2), 3.b.2) and 5.a

In accordance with WCAP-10271, Supplement 2, Revision 1, Action Statement 14 is revised to allow 12 hours to restore an inoperable channel before requiring shutdown to Hot Standby within the next six hours and increases the allowed bypass time from 2 to 4 hours for surveillance testing. Action 14 is applicable to Functional Units 1.b, 2.b, 3.a.2), 3.b.2) and 7.a (Automatic Actuation Logic and Relays). Revised Action Statement 27, applicable only to Functional Unit 5.a, also provides for the above increased test and maintenance AOTs.

8. Table 3.3-3, Functional Units 4.b and 6.b

In accordance with WCAP-10271, Supplement 2, Revision 1, a new Action Statement 29 provides 6 hours to restore an inoperable channel to operable status before requiring shutdown to Hot Standby within the next 6 hours and increases the allowed bypass time from 2 to 4 hours for surveillance testing. Action 29 is applicable to Functional Unit 4.b (Automatic Actuation Logic and Actuation Relays (SSPS)-Steam Line Isolation) and 6.b (Automatic Actuation Logic and Actuation Relays (SSPS)-Auxiliary Feedwater). The existing Action Statement 21 remains applicable to Functional Unit 6.c (Automatic Actuation Logic and Actuation Relays (BOP ESFAS)-Auxiliary Feedwater) which is associated with the BOP ESFAS and was not included in the WCAP-10271, Supplement 2, Revision 1 analyses.

9. Table 3.3-3, Functional Unit 6.g

The de-energization of one train of BOP ESFAS actuation logic and actuation relays will render two of the four main feedwater pump pressure switches inoperable. This situation impacts Functional Unit 6.c (Automatic Actuation Logic and Actuation Relays (BOP ESFAS)-Auxiliary Feedwater) and 6.g (Trip of All Main Feedwater Pumps - Start Motor-Driven Pumps). However, it is not specifically addressed in current Action Statement 19 for Functional Unit 6.g. As such, Specification 3.0.3 would require shutdown to commence in 1 hour and to reach Hot Standby in 6 hours. It is noted that Action Statement 21 provides similar compensatory measures, invoked in this case for Functional

Unit 6.c. Therefore, for clarification, a new *** footnote has been added that states that Action Statement 21 applies to both Functional Units 6.c and 6.g in this situation (i.e., applies to both the BOP ESFAS logic and to the Auxiliary Feedwater start on trip of both main feedwater pumps).

10. Table 4.3-2

In accordance with WCAP-10271, Supplement 2, Revision 1, the STI for analog channel testing is being changed from monthly to quarterly. The change in STI is applicable to Functional Units 1.c, 1.d, 1.e, 2.c, 3.b.3), 4.c, 4.d, 4.e, 5.b, 6.d and 7.b (see item 11 below), and 11.a.

11. Tables 3.3-3 and 4.3-2, Functional Unit 7.b

Increased AOT for surveillance testing and increased STI for the ACOT of analog channels of Functional Unit 7.b (RWST Level - Low-Low Coincident With Safety Injection for Automatic Switchover to Containment Sump) was not included in the generic Technical Specification Optimization Program as discussed in WCAP-10271, Supplement 2, Revision 1. Therefore, a separate, qualitative evaluation has been performed for this item. This evaluation demonstrates that the unavailability and risks associated with increased AOT and STIs for this functional unit is equivalent to, or less than, those of other functional units included in WCAP-10271. This evaluation is summarized below.

Actuation of the automatic switchover from the Refueling Water Storage Tank (RWST) to containment sump occurs when the RWST Level Low-Low signal is received coincident with a Safety Injection Signal (SIS). By comparison of circuit design, it can be concluded that the unavailability of the two-of-four logic circuit for the RWST Level Low-Low signal is similar to that of the reactor trip signals developed by either the Overpower Delta-Temperature (OPDT) or Overtemperature Delta-Temperature (OTDT) signal. As demonstrated in WCAP-10271, Supplement 2, Revision 1, the unavailability of the OPDT and OTDT trip signals (and, by comparison, the unavailability of the RWST Level Low-Low signal) is generally an order of magnitude less than the unavailability calculated for the SIS. Since automatic switchover from the RWST to containment sump occurs only on RWST Level Low-Low coincident with an SIS, the unavailability calculated for the SIS dominates the unavailability for this function. Use of the proposed optimized ESFAS technical specifications has been shown not to result in any significant increase in SIS unavailability and to cause no significant increase in risk to the public. Therefore, any increase in unavailability of the automatic switchover from the RWST to containment sump resulting from implementation of the proposed technical specifications is acceptable, since it is clearly dominated by the previously reviewed and approved SIS unavailability.

12. BASES 3/4.3.1 and 3/4.3.2

The Bases is being changed to reference NRC approval of WCAP-10271, Supplement 2, Revision 1.

RTS and ESFAS SER Conditions

The proposed changes described above are consistent with the NRC Staff SER and SSER issued on February 22, 1989 and April 30, 1990, respectively. The Staff has stated that approval of these changes is contingent upon confirmation that certain conditions are met. Although WCAP-10271 Supplement 2 and Supplement 2, Revision 1 apply to the ESFAS instrumentation, it is WCNO's interpretation that conditions imposed in the SER for RTS instrumentation (WCAP-10271 and its Supplement 1) shall also be applied to the ESFAS where appropriate. WCNO's responses to these SER conditions are provided below.

1. ESFAS SER Condition (February 22, 1989):

- a. SER Condition - Confirm the applicability of the generic analyses to the plant.

Response - The methodology of WCAP-10271 and its supplements was applied to specific RTS and ESFAS functions implemented via the Westinghouse Solid State Protection System (SSPS).

At WCGS, selected ESFAS functions are implemented via plant-specific features, such as the BOP ESFAS or the Load Shedding and Emergency Load Sequencing (LSELS) system. These systems are included on Technical Specification Tables 3.3-3 and 4.3-2.

A review was performed to assure that the functions used in the generic analysis and the employment of the SSPS to perform ESFAS functions, as described in the generic analysis, are applicable to the WCGS design. Based on this review, the WCAP has been determined to be applicable to the WCGS design. However, Action Statements and STIs for the following Functional Units in Tables 3.3-3 and 4.3-2 have not been changed:

- (1) Functional Unit 3.c (Containment Purge Isolation) - implemented via the BOP ESFAS.
- (2) Functional Unit 6 (Auxiliary Feedwater) - Most of these subfunctions are implemented via the BOP ESFAS. Therefore, no changes are requested to Functional Units 6.c, 6.f and 6.h. Manual functions are not affected by the WOG program, thus Functional Unit 6.a is unchanged. Functional Units 6.b, 6.d and 6.g are changed as described above. Functional Unit 6.e, Safety Injection, is changed by virtue of its Functional Units 1.c, 1.d, and 1.e being changed.
- (3) Functional Unit 8 (Loss of Power) - not evaluated in WCAP-10271, Supplement 2, Revision 1.
- (4) Functional Unit 9 (Control Room Isolation) - Implemented via the BOP ESFAS.
- (5) Functional Unit 10 (Solid State Load Sequencer) - Not evaluated in WCAP-10271, Supplement 2, Revision 1.

A review was performed on the impact of extending the AOTs for those SSPS functions (i.e., steam generator level low-low, phase A containment isolation, safety injection, and SSPS logic) which provide input to plant-specific design features such as BOP ESFAS. Implementation of the following plant-specific functions is affected by any change in signal availability to or from the BOP ESFAS:

- (a) containment purge isolation (Functional Unit 3.c)
- (b) auxiliary feedwater initiation (Functional Unit 6.d)
- (c) control room ventilation isolation (Functional Unit 9)

No changes are proposed to the technical specification requirements for the BOP ESFAS actuation logic and relays (i.e., no changes are proposed for Functional Units 3.c.3), 6.c, or 9.c) and the unavailability of the BOP ESFAS itself remains unchanged. For the above functions (a) through (c), overall function unavailability is made up of two separate components representing SSPS unavailability and BOP ESFAS unavailability, the latter remaining unchanged. As reported in Tables 3.6-6 and 3.6-9 of WCAP-10271, Supplement 2, Revision 1, typical unavailability for safety injection and auxiliary feedwater pump start increased by a factor of 3 to 6. Given that the BOP ESFAS unavailability does not change, the overall functional unavailability increase would be bounded by the factor of 3 to 6 increase in SSPS unavailability, regardless of what value is assigned to the BOP ESFAS unavailability (typical value is $5E-04$). Similar conclusions can also be drawn for Functional Units 4 and 5 which are implemented via the Main Steam/Main Feedwater Isolation Actuation System.

Therefore, the overall impact of the changes in SSPS unavailability resulting from the generic technical specification changes on the affected plant-specific ESFAS functions remains within the bounds of the generic analysis.

- b. SER Condition - Confirm that any increase in instrument drift due to the extended STIs is properly accounted for in the setpoint calculation methodology.

Response - WCNOG will implement a program to evaluate setpoint drift of the ESFAS and RTS channels when increased STIs are implemented. For those ESFAS channels with increased STIs herein, "as found" and "as left" data for each affected channel will be collected over a one year period after quarterly testing is begun. After a review of the data, setpoints and allowable values will be changed if the data indicates a need to do so. Based on experience to date, WCNOG does not foresee this being the case.

2. RTS SER Conditions (February 1985):

- a. SER Condition - The NRC Staff stated in the RTS SER, dated February 21, 1985, that approval of an increase in STI for the analog channel operational tests from once per month to once per quarter is contingent upon performance of the testing on a staggered test basis.

Response - In the ESFAS SER, this provision was not required for ESFAS channels and the requirement was removed from the RTS channels. The proposed changes remove the staggered testing requirement from the RTS ACOTs.

- b. SER Condition - The Staff stated in the RTS SER that approval of items related to extending STIs is contingent upon procedures being in place to require evaluation of RTS channel failures for common cause and to require additional testing if necessary.

Response - WCNOG will implement procedures to evaluate failures of ESFAS and RTS channels with quarterly ACOTs for common cause when the increased STIs are implemented. If common cause failures are found, additional testing will be required.

- c. SER Condition - The NRC Staff stated in the RTS SER that approval of routine channel testing in a bypassed condition is contingent upon the capability of the RTS design to allow such testing without lifting leads or installing temporary jumpers.

Response - With the exception of the containment pressure channels for containment spray actuation and phase B containment isolation (Containment Pressure High - 3), WCGS does not have the capability to test on a routine basis an analog instrumentation channel with the channel in a bypass condition. Therefore, the proposed changes to the ESFAS technical specifications do not provide for the routine testing of channels in a bypass condition when the use of jumpers or lifted leads is required. Consistent with the previously approved technical specifications for the Reactor Protection System and with WCAP-10271, Supplement 2, Revision 1, Action Statement 28 has been added to permit the bypassing of an inoperable channel for up to four hours in order to allow performance of ACOTs on other operable channels of the same functional unit. This provision would apply in cases where a failed channel can be taken out of the test position (in which a channel trip is forced) and returned to operation for a limited time in a condition which precludes a channel trip. Due to its failed nature, the channel could not be assumed to be operable (until returned to a tripped condition) and would, therefore, be considered to be in a state of bypass.

- d. SER Condition - The Staff stated in the RTS SER that for channels which provide dual inputs to other safety-related systems, such as ESFAS, the approval of items that extended STIs and AOTs applies only to the RTS function.

Response - The increase in STIs and AOTs now approved for the ESFAS analog channels are the same as for RTS. Therefore, Tables 3.3-1 and 4.3-1 have been revised accordingly, as discussed above.

- e. SER Condition - Same as ESFAS SER Condition 1.b above.

Response - Same response as provided for ESFAS SER Condition 1.b above.

3. SSER Conditions (April 30, 1990):

- a. SSER Condition - Same as ESFAS SER Condition 1.a

Response - Same response as provided for ESFAS SER Condition 1.a above.

- b. SSER Condition - Same as ESFAS SER Condition 1.b

Response - Same response as provided for ESFAS SER Condition 1.b above.

EVALUATION

The increase of AOTs and STIs for the ESFAS analog channels and AOTs for the actuation logic and relays will result in a slight increase in the probability of core damage accidents over and above that previously evaluated in the Updated Safety Analysis Report (USAR).

The reduction in testing associated with these changes is expected to result in fewer inadvertent reactor trips, less frequent spurious actuations of ESFAS components, and fewer distractions to operations personnel. Implementation of the proposed changes is calculated to result in only a small increase in ESFAS unavailability and correspondingly a small increase in core damage frequency (CDF). The calculated increase is small in comparison to the uncertainty in calculation of the CDF and to the net benefits which will result. This conclusion has been reviewed and approved by the NRC Staff in the SER and SSER.

In WCAP-10271 and its supplements, the WOG evaluated the impact of the proposed STI and AOT changes on CDF and public risk. The NRC Staff concluded in its evaluation of the WOG analyses that the overall upper bound of the CDF increase due to the proposed STI/AOT changes is less than 6 percent for Westinghouse PWRs. The Staff also concluded that actual CDF increase to be small when compared to the range of uncertainty in the CDF analyses and, therefore, acceptable. Additionally, the Staff concluded that a staggered test strategy need not be implemented for ESFAS analog channel testing. This conclusion was based upon the small relative contribution of the analog

channels to RTS/ESFAS unavailability, process parameter signal diversity, and normal operational testing sequencing. In addition, the commitment to evaluate channel failures for common cause addresses this issue.

The change to add new Action Statement 28 to Functional Limit 7.b of Table 2.0.3 will reduce the probability for an automatic switchover from the RWST to an empty containment sump in the event that, while an RWST level channel were inoperable or were being tested with its bistable tripped, an inadvertent safety injection signal occurred along with a single failure of a second RWST level channel. These channels do not have the design for operation or testing in bypass needed for Action Statement 16 to be applicable. In changing to new Action Statement 28, there is now a limit on the duration that a channel could be inoperable or be in test with its bistable tripped.

The proposed changes do not involve any design changes or hardware modifications. Therefore, the possibility of an accident or malfunction of a different type than any previously evaluated in the USAR is not created.

There will be no reduction in the margin of safety as defined in the basis of any technical specification. The proposed changes do not alter the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined. The impact of reduced testing, other than as described above, is to allow a longer time interval over which instrument uncertainties (e.g., drift) may act. The commitment to monitor the effects of drift addresses this concern.

As discussed in WCAP-10271, increasing the STI for the ESFAS instrumentation minimizes the potential number of inadvertent ESFAS actuations and reactor trips during surveillance testing. Less frequent surveillance testing has been estimated by Westinghouse to result in 0.5 fewer inadvertent reactor trips, per unit, per year. Also, increasing the surveillance interval enhances the operational effectiveness of plant personnel. The amount of time plant personnel spend performing surveillance testing will be reduced. This allows manpower to be used for other tasks, such as preventive maintenance. The increased AOTs have been shown to result in fewer human factor errors, since more time is allowed to perform the needed actions.

In conclusion, there will be a slight increase in the probability of core damage accidents over and above that previously evaluated in the USAR; however, this increase is minimal when compared to the uncertainty ranges involved and has been accepted by the NRC Staff. The possibility for an accident or malfunction of a different type other than any previously evaluated in the USAR is not created. There will be no reduction in the margin of safety as defined in the basis of any technical specification. The proposed revision will reduce the number of ESFAS actuations and the reactor trips and will allow better management of resources to maintain the plant. Additional changes of an editorial or clarification nature have been proposed as discussed in the Proposed Changes section above.

Based on the NRC evaluation of WCAP-10271 and its supplements and the discussion of the various SER conditions above, there is reasonable assurance that the proposed changes will not adversely affect or endanger the health or safety of the general public.

ATTACHMENT II

SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

This amendment application includes revisions to Technical Specification Tables 3.3-1, 4.3-1, 3.3-3, and 4.3-2 to extend the allowable out-of-service times (AOTs) and surveillance test intervals (STIs) for the analog channels of the Engineered Safety Features Actuation System (ESFAS). Extended AOTs for the ESFAS actuation logic and actuation relays in the Solid State Protection System (SSPS) are also requested. In addition, changes of an editorial or clarification nature have been proposed. WCNOG has reviewed the requirements of 10 CFR 50.92 as they relate to the proposed Reactor Trip System (RTS) and ESFAS technical specification changes for WCGS and has determined that no significant hazard consideration is involved.

The proposed changes do not involve a significant hazards consideration because operation of WCGS in accordance with these changes would not:

Standard 1 - Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated.

The determination that the results of the proposed changes are acceptable was established in the NRC Safety Evaluation Report (SER) and Supplemental SER (SSER) prepared for WCAP-10271 Supplement 2 and WCAP-10271 Supplement 2, Revision 1 (issued by letters dated February 22, 1989 and April 30, 1990). Implementation of the proposed changes is expected to result in an acceptable increase in total ESFAS unavailability. This increase, which is primarily due to less frequent surveillance, results in a small increase (less than 6 percent) in core damage frequency (CDF) and public health risk. The values determined by the Westinghouse Owners Group (WOG) and presented in the above WCAP for the increase in CDF were verified by Brookhaven National Laboratory as part of an audit and sensitivity analyses for the NRC Staff. Based on the small value of the increase compared to the range of uncertainty in the CDF, the increase was considered to be acceptable. Applicability of these conclusions to WCGS has been verified through a plant-specific review.

Removal of the requirement to perform the RTS analog channel operational test (ACOT) on a staggered basis will have a negligible impact on the RTS unavailability. Staggered testing was initially imposed to address the concerns of common cause failures. WCNOG's implementation of a program to evaluate failures for common cause, process parameter signals diversity, and normal operational test spacing yield most of the benefits of staggered testing.

AOT and STI extensions for the ACOT of the RWST Level Low-Low Coincident with Safety Injection (for Automatic Switchover from the RWST to Containment Sump), Functional Unit 7.b, were not included in the generic analysis presented in WCAP-10271 Supplement 2 and Supplement 2, Revision 1. However, a separate qualitative evaluation performed for this item showed the associated unavailability and risk to be equivalent to, or less than, that of other functional units included in the WCAP evaluation.

Standard 2 - Create the Possibility of a New or Different Kind of Accident from any Previously Analyzed.

The proposed changes do not involve hardware changes and do not result in a change in the manner in which the Reactor Protection System provides plant protection. No change is being made which alters the functioning of the Reactor Protection System. Rather the likelihood or probability of the Reactor Protection System functioning properly is affected as described above. Therefore the proposed changes do not create the possibility of a new or different kind of accident.

Standard - 3 Involve a Significant Reduction in a Margin of Safety.

The proposed changes do not alter the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined. The impact of reduced testing, other than as addressed above, is to allow a longer time interval over which instrument uncertainties (e.g., drift) may act. The commitment to monitor the effects of drift will address this concern. Implementation of the proposed changes is expected to result in an overall improvement in safety, as follows:

- a. Reduced testing will result in fewer inadvertent reactor trips, less frequent actuation of ESFAS components, and less frequent distraction of operations personnel.
- b. Improvements in the effectiveness of the operating staff in monitoring and controlling plant operation will be realized. This is due to less frequent distraction of the operators and shift supervisor to attend to instrumentation testing.
- c. Longer repair times associated with increased AOTs will lead to higher quality repairs and improved reliability.

Based on the above discussions, it has been determined that the proposed technical specification revisions do not involve a significant increase in the probability or consequences of an accident previously evaluated; or create the possibility of a new or different kind of accident; or involve a significant reduction in a margin of safety. Therefore, this amendment application does not involve a significant hazards consideration.

ATTACHMENT III
ENVIRONMENTAL IMPACT DETERMINATION

ENVIRONMENTAL IMPACT DETERMINATION

10 CFR 51.22(b) specifies the criteria for categorical exclusions from the requirement for a specific environmental assessment per 10 CFR 51.21. This amendment request meets the criteria specified in 10 CFR 51.22(c)(9). Specific criteria contained in this section are discussed below.

(i) the amendment involves no significant hazards considerations.

As demonstrated in the Significant Hazards Consideration Determination above, this proposed amendment does not involve any significant hazards consideration.

(ii) there is not significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

This amendment involves no change to the facility or operating procedures which would cause an increase in the amounts of effluents or create new types of effluents.

(iii) there is no significant increase in individual or cumulative occupational radiation exposure.

The nature of the changes is administrative and does not require additional exposure by personnel nor affect levels of radiation present. The proposed change does not result in significant individual or cumulative occupational radiation exposure.

Based on the above, it is concluded there will be no impact on the environment resulting from this change and the change meets the criteria specified in 10 CFR 51.22 for a categorical exclusion from the requirements of 10 CFR 51.21 relative to specific environmental assessment by the Commission.