

October 28, 2004

Mr. A. Christopher Bakken, III  
President & Chief Nuclear Officer  
PSEG Nuclear LLC - X15  
Post Office Box 236  
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK GENERATING STATION - ISSUANCE OF AMENDMENT  
RE: REVISION TO CONTROL ROOM EMERGENCY FILTRATION SYSTEM  
TECHNICAL SPECIFICATIONS (TAC NO. MC1683)

Dear Mr. Bakken:

The Commission has issued the enclosed Amendment No. 156 to Facility Operating License No. NPF-57 for the Hope Creek Generating Station. This amendment revised the Technical Specifications in response to your application dated December 12, 2003. The amendment removes the operability requirements for the Control Room Emergency Filtration System during core alterations and the movement of sufficiently decayed irradiated fuel.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

**/RA/**

Daniel S. Collins, Senior Project Manager, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosures: 1. Amendment No. 156 to  
License No. NPF-57  
2. Safety Evaluation

cc w/encls: See next page

Hope Creek Generating Station

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PSEG NUCLEAR LLC

DOCKET NO. 50-354

HOPE CREEK GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 156  
License No. NPF-57

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by PSEG Nuclear LLC dated December 12, 2003 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-57 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 156, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into the license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA by Richard J. Laufer for/*

James W. Clifford, Chief, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: October 28, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 156

FACILITY OPERATING LICENSE NO. NPF-57

DOCKET NO. 50-354

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

3/4 3-63

3/4 3-64

3/4 3-66

3/4 3-67

3/4 7-6

Insert

3/4 3-63

3/4 3-64

3/4 3-66

3/4 3-67

3/4 7-6

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 156 TO FACILITY OPERATING LICENSE NO. NPF-57

PSEG NUCLEAR LLC

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

1.0 INTRODUCTION

By letter dated June 28, 2002, as supplemented by letters dated December 18, 2002, January 18, 2003, and February 25, 2003, PSEG Nuclear LLC (PSEG or the licensee) submitted a request for changes to the Hope Creek Generating Station (Hope Creek) Technical Specifications (TSs). The Nuclear Regulatory Commission (NRC or the Commission) staff approved the licensee's proposed changes in Amendment No. 146, issued April 15, 2003. The changes were based on the use of an alternative source term (AST) in the re-analyses of the fuel handling accident (FHA) and the loss-of coolant accident (LOCA), and also on the adoption of applicable provisions of an NRC-approved change to the standard TSs, that had been proposed by the Nuclear Energy Institute's Technical Specification Task Force (TSTF). The standard TSs applicable to Hope Creek are contained in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR [boiling water reactor]/4 (STs)," Revision 3, and incorporate this change, which is referred to as TSTF-51, Revision 2. The changes approved in Amendment No. 146 included relaxation of certain TSs for secondary containment isolation and removal of the secondary containment filtration recirculation and ventilation system's (FRVS's) recirculation subsystem charcoal filters from the TSs.

Subsequently, by letter dated December 12, 2003, PSEG requested additional Hope Creek TS changes that should have been requested in the changes approved in Amendment No. 146. Previously omitted changes which are included in this submittal revise the applicability requirements necessary for consistency with TSTF-51 and the STs in TS 3/4.7.2, "Control Room Emergency Filtration (CREF) System," TS Table 3.3.7.1-1, "Radiation Monitoring Instrumentation," and TS Table 4.3.7.1-1, "Radiation Monitoring Instrumentation Surveillance Requirements." The NRC staff's proposed no significant hazards determination was published in the Federal Register on February 17, 2004 (69 FR 7527).

Specifically, the proposed changes would:

- (a) replace the phrase, "When irradiated fuel is being handled in the secondary containment" with the phrase, "When recently irradiated fuel is being handled in the secondary containment and during operations with the potential for draining the reactor vessel" in Table Notation "\*" for TS Tables 3.3.7.1-1 and 4.3.7.1-1, and footnote "\*" in the Applicability statement, Action b, and Action c of TS 3/4.7.2;

- (b) replace the phrase, “Modes 1, 2, 3, 5 and \*” with “Modes 1, 2, 3 and \*” under “Applicable Condition” for Instrumentation Item 1, “Control Room Ventilation Radiation Monitor,” in TS Tables 3.3.7.1-1 and 4.3.7.1-1; and
- (c) replace the phrase, “Modes 1, 2, 3, 4 and \*” with “Modes 1, 2, 3 and \*” in the Applicability statement and Action b of TS 3/4.7.2.

The licensee proposed no additional changes to the TS Bases. The Hope Creek TSs, as revised by Amendment No. 146 and the present proposal, are consistent with the STSs.

## 2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act of 1954, as amended, requires applicants for nuclear power plant operating licenses to include TSs, which are derived from the plant safety analyses, as part of the license. In general, licensees cannot justify TS changes solely on the basis of having adopted the model STSs. As a part of its review, the NRC staff makes a determination that the proposed changes maintain adequate safety. Changes that result in relaxation (less restrictive condition) of current TS requirements require detailed justification. Such changes may be supported by evidence that the change is less restrictive than the licensee’s current requirement, but nonetheless still affords adequate assurance of safety when judged against current regulatory standards.

The shutdown conditions during which TSs require system operability are captured in the applicability requirements of the TSs. The standard TS presentation of applicability requirements during shutdown, prior to TSTF-51, was typically:

When irradiated fuel is being handled in the secondary containment and during Core Alterations and operations with a potential for draining the reactor vessel.

Following reactor shutdown, the radioactive decay of certain short-lived fission products results in a significant reduction in the overall fission product inventory in the irradiated fuel. The proposed changes to TS applicability requirements take advantage of this reduction in the fission product inventory and account for Hope Creek’s current analysis of an FHA, which is the postulated accident during fuel handling and core alterations, and which is based on use of an approved AST. The specific decay time assumed for Hope Creek was 24 hours. After 24 hours, active containment and CREF systems are no longer necessary to mitigate an FHA. Fuel that has not decayed for at least 24 hours is termed by the proposed TS Bases to be “recently irradiated.” Hence, the standard TS presentation of applicability requirements during shutdown, revised to incorporate the changes approved in TSTF-51, is:

When [recently] irradiated fuel is being handled in the secondary containment and during Core Alterations and operations with a potential for draining the reactor vessel.

A holder of an operating license issued prior to January 10, 1997, or a holder of a renewed license under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 54 whose initial operating license was issued prior to January 10, 1997, is allowed, by 10 CFR 50.67, to voluntarily revise its current accident source term used in design-basis radiological consequence analyses. In its Safety Evaluation (SE) for Amendment No. 146, the NRC staff

approved Hope Creek's use of an AST in the re-analysis of the FHA and adoption of TSTF-51 based, in part, on the assurance that in the event of an FHA, Hope Creek control room personnel would not receive radiation exposures exceeding the limits of General Design Criterion (GDC) 19, which states:

A control room shall be provided from which actions can be taken to operate the nuclear power unit safely under normal conditions and to maintain it in a safe condition under accident conditions, including loss-of-coolant accidents. Adequate radiation protection shall be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident.

With respect to adoption of an AST, GDC 19 also states:

. . . holders of operating licenses using an alternative source term under [10 CFR] 50.67, shall meet the requirements of this criterion, except that with regard to control room access and occupancy, adequate radiation protection shall be provided to ensure that radiation exposures shall not exceed 0.05 Sv (5 rem) total effective dose equivalent (TEDE) as defined in [10 CFR] 50.2 for the duration of the accident.

Amendment No. 146 adopted an AST methodology into Hope Creek's design basis for the FHA, but did not completely implement the guidance contained in TSTF-51 and the STSs related to the applicability of TS operability requirements for FHA radiological consequence mitigation systems. The licensee proposed to correct that oversight with the present application and rely on the justifications previously presented in support of Amendment No. 146.

### 3.0 TECHNICAL EVALUATION

The NRC staff has previously accepted the licensee's analyses of the radiological consequences for the design-basis FHA and the design-basis LOCA for Hope Creek, which were based on use of an AST, as documented in Amendment No. 146. The changes proposed in the present application rely on the NRC staff's previous conclusion that these analyses are acceptable. The NRC staff's SE supporting Amendment No. 146 is available in the Agencywide Documents Access and Management System<sup>1</sup> under accession number ML030760293. In addition, the proposed changes are based on the guidance of TSTF-51 and the STSs.

Following reactor shutdown, rapid decay of the short-lived fission products quickly reduces the fission product inventory present in irradiated fuel in the reactor core. The proposed TS changes are based on a specific minimum decay period which takes advantage of the reduced radionuclide inventory available for release in the event of an FHA. For Hope Creek, this specific decay period is 24 hours. Based on its FHA analysis, the licensee determined that in the event of an FHA beyond 24 hours of decay time, containment isolation and the CREF

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<sup>1</sup>Note: As of the date of issuance of this amendment public access to ADAMS has been temporarily suspended so that security reviews of publicly available documents may be performed and potentially sensitive information removed. Please check the NRC Web site for updates on the resumption of ADAMS access.

system are no longer required to ensure offsite and control room operator radiological doses remain within regulatory limits.

The FHA is the bounding accident during fuel handling and core alterations. Requiring operability of a dose mitigation system during core alterations is unnecessary because no fuel damage is postulated when moving core components other than irradiated fuel. The removal of such applicability requirements was approved in Amendment No. 146. The removal of requirements for operability during core alterations is consistent with one of the generic changes to the STSs made by TSTF-51.

The other generic change to the STSs made by TSTF-51 is based on the concept of "recently" irradiated fuel. The STSs now refer to irradiated fuel that has not sufficiently decayed to allow relaxation of the containment and CREF system operability requirements as "recently" irradiated fuel. During movement of recently irradiated fuel, containment and CREF system operability are required to adequately mitigate the consequences of an FHA. For Hope Creek, recently irradiated fuel is defined as fuel that has decayed less than 24 hours. When using 24 hours for the decay time in the design-basis FHA analysis, projected radiological consequences remain within the acceptance criteria of 10 CFR 50.67 and GDC 19.

Section 9.4.1.1.3 of the Hope Creek Updated Final Safety Analysis Report states that the CREF system is designed to maintain control room habitability by providing filtration of outside air and recirculated air during any accident that may release high radioactivity. In Operational Conditions 1, 2, and 3, a LOCA could lead to a fission product release to primary containment that leaks to secondary containment. Hence, TSs require secondary containment and CREF system operability in these operational conditions. In Operational Conditions 4 and 5, however, the probability and consequences of a LOCA are reduced because of TS limitations on reactor coolant system pressure and temperature, and because the reactor is shut down. Therefore, CREF system operability is not required in Operational Conditions 4 and 5 except during specific activities for which significant releases of radioactive material can be postulated, such as operations with the potential for draining the reactor vessel (OPDRVs) or movement of recently irradiated fuel assemblies in secondary containment. Requiring CREF system operability during these specific situations will ensure that control room personnel are adequately protected (i.e., do not receive radiological exposures in excess of regulatory limits) in the event of a LOCA, FHA, or vessel draindown event.

An operable CREF system must be capable of automatic actuation upon receipt of a signal that the control room ventilation radiation monitor indication has reached its setpoint. Consequently, the licensee proposed to specify in the applicability requirements of TS 3.3.7.1 that the control room ventilation radiation monitor be operable in Operational Conditions 1, 2, and 3; during OPDRVs; and during movement of recently irradiated fuel assemblies in secondary containment. The NRC staff verified that the proposed changes are consistent with TSTF-51 and the STSs, as noted in the table of corresponding requirements below. The table uses the following key to describe specific change types:

1. Remove "Core Alterations" (change included in TSTF-51)
2. Add "recently" as a modifier to irradiated fuel (change included in TSTF-51)
3. Modify as appropriate to eliminate the FRVS charcoal filters (The table lists a few changes made in Amendment No. 146 to make clear the correspondence regarding the proposed changes with the STSs. The table uses a "#" to denote these changes.)

4. Remove requirement to be operable in Mode 4
5. Add “during operations with the potential for draining the reactor vessel (OPDRVs)”
6. Remove requirement to be operable in Mode 5

In this table, “n/a” stands for a change that is “not applicable” because either the change is not included in either the proposed amendment or TSTF-51, or no corresponding requirement or component exists either in the Hope Creek TSs or the STSs.

Hope Creek TS Changes	Type	TSTF-51 STS Changes	Type
Table 3.3.7.1-1, Radiation Monitoring Instrumentation, revise Applicability by adding ‘recently’ and ‘during OPDRVs’ to Note “*” and removing Mode 5 for:  n/a  1. Control Room Ventilation Radiation Monitor instrument	n/a  2, 5, 6	Table 3.3.7.1-1, Main Control Room Environmental Control (MCREC) System Instrumentation, revise Applicability Note (b) for Functions:  4. Refueling Floor Area Radiation - High  5. Control Room Air Inlet Radiation - High	1, 2  1, 2
Table 4.3.7.1-1, Radiation Monitoring Instrumentation Surveillance Requirements, revise Applicability by adding ‘recently’ and ‘during OPDRVs’ to Note * and removing Mode 5 for:  n/a  1. Control Room Ventilation Radiation Monitor instrument	n/a  2, 5, 6	Table 3.3.7.1-1, MCREC System Instrumentation, surveillances, revise Applicability Note (b) for Functions:  4. Refueling Floor Area Radiation - High  5. Control Room Air Inlet Radiation - High	1, 2  1, 2
No changes to Bases for 3/4.3.7.1		Bases for 3.3.7.1, MCREC System Instrumentation, revise limiting condition for operation (LCO)discussion for Functions:  4. Refueling Floor Area Radiation - High  5. Control Room Air Inlet Radiation - High	1, 2  1, 2

Hope Creek TS Changes	Type	TSTF-51 STS Changes	Type
<p>3.7.2, CREF System (includes air conditioning), revise:</p> <p># Applicability</p> <p># Note “*” to Applicability, Action b, and Action c</p> <p># Action b.2</p> <p>Applicabilty and Action b</p> <p>Note “*” to Applicability, Action b, and Action c</p>	<p></p> <p>4</p> <p>2</p> <p>1, 2</p> <p>4</p> <p>5</p>	<p>3.7.4, MCREC System, revise:</p> <p>Applicability</p> <p>Condition C</p> <p>Condition E</p> <p>n/a</p> <p>n/a</p>	<p></p> <p>1, 2</p> <p>1, 2</p> <p>1, 2</p> <p>n/a</p> <p>n/a</p>
<p>No changes to Bases for 3/4.7.2</p>		<p>Bases for 3.7.4, MCREC System, revise discussion of:</p> <p>Applicable Safety Analyses</p> <p>Applicability</p> <p>Required Actions C.1, C.2.1 and C.2.2</p> <p>Required Actions E.1 and E.2</p>	<p></p> <p>2</p> <p>1, 2</p> <p>1, 2</p> <p>1, 2</p>
<p>3.7.2, CREF System, (includes air conditioning) revise:</p> <p># Applicability</p> <p># Note “*” to Applicability, Action b, and Action c</p> <p># Action b.2</p> <p>Applicabilty and Action b</p> <p>Note “*” to Applicability, Action b, and Action c</p>	<p></p> <p>6</p> <p>2</p> <p>1, 2</p> <p>4</p> <p>5</p>	<p>3.7.5, Main Control Room Air Conditioning System, revise:</p> <p>Applicability</p> <p>Condition C</p> <p>Condition E</p> <p>n/a</p> <p>n/a</p>	<p></p> <p>1, 2</p> <p>1, 2</p> <p>1, 2</p> <p>n/a</p> <p>n/a</p>
<p>No changes to Bases for 3/4.7.2</p>		<p>Bases for 3.7.5, Control Room Air Conditioning System, revise discussion of:</p> <p>Applicability</p> <p>Required Actions C.1, C.2.1 and C.2.2</p> <p>Required Actions E.1 and E.2</p>	<p></p> <p>1, 2</p> <p>1, 2</p> <p>1, 2</p>

TSTF-51 also revises STS 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)" by:

- adding "recently" as a modifier to irradiated fuel in Condition G and Required Action G.1,
- removing "Core Alterations" from Condition I,
- deleting Condition H,
- renumbering Condition I as Condition H, and
- making suitable changes to the Bases.

These changes were not applicable to Hope Creek because the Hope Creek TSs do not contain the following STS 3.6.1.3 provisions:

- Applicability condition, "When associated instrumentation is required to be OPERABLE per LCO 3.3.6.1, 'Primary Containment Isolation Instrumentation.'"
- Condition G, which states: "Required Action and associated Completion Time of Condition A, B, C, D, or E not met for PCIV(s) required to be OPERABLE during movement of [recently] irradiated fuel assemblies in [secondary] containment."
- Condition H, which states: "Required Action and associated Completion Time of Condition A, B, C, D, or E not met for PCIV(s) required to be OPERABLE during MODE 4 or 5 or during operations with a potential for draining the reactor vessel (OPDRVs)."

Regarding the above applicability condition, STS 3.3.6.1 and associated Table 3.3.6.1-1 require no primary containment isolation instrumentation functions to be operable during movement of recently irradiated fuel assemblies in secondary containment or during OPDRVs. Therefore, STS 3.6.1.3 Condition G could never apply.

Regarding the above applicability condition and STS 3.6.1.3 Condition H, only primary containment isolation instrumentation Function 6.b, "Shutdown Cooling System Isolation - Reactor Vessel Water Level - Low, Level 3," is required in Modes 4 and 5. In the event a required channel of this function cannot be restored or placed in trip within 12 hours (STS 3.3.6.1 Condition A), STS 3.3.6.1 Required Action J.2 specifies "Initiate action to isolate the Residual Heat Removal (RHR) Shutdown Cooling System - Immediately." Therefore, only Condition H of STS 3.6.1.3 could apply and it requires immediately initiating action to suspend OPDRVs or immediately initiating action to restore the (RHR isolation) valve(s) to operable status.

Corresponding instrumentation functions in Hope Creek TS Table 3.3.2-1, "Isolation Actuation Instrumentation," are only required to be operable in Operational Conditions 1, 2, and 3. These functions are RHR Shutdown Cooling Mode Isolation Trip Functions 7.a, "Reactor Vessel Water Level - Low, Level 3," and 7.b, "Reactor Vessel (RHR Cut-in Permissive) Pressure - High." In addition, the Hope Creek TSs only require PCIVs to be operable in Modes 1, 2, and 3. These specifications are not applicable in Modes 4 and 5 regardless of circumstances. Therefore, the NRC staff concludes that the changes made by TSTF-51 to the STS PCIV specification do not apply to the Hope Creek PCIV specification.

Currently, the Hope Creek TSs contain no explicit requirements for inverters, and so the

TSTF-51 changes to STS 3.8.8, "Inverters - Shutdown," were not explicitly included in Amendment No. 146. These changes to STS 3.8.8 added "recently" as a modifier to irradiated fuel in the Applicability and in Required Action 3.8.8.A.2.2, and also made suitable changes to the Bases. Amendment No. 146, however, did implicitly include these changes in TS 3/4.8.3.2, "Electrical Power System Distribution - Shutdown," by adding "recently" as a modifier to irradiated fuel in Note "\*" to the Applicability. By the definition of operability, to be operable the vital AC instrumentation distribution panels require operable inverters supplied by operable batteries. Therefore, the Hope Creek TSs implicitly require inverters to be operable during movement of recently irradiated fuel, which is consistent with TSTF-51.

Implementation of TSTF-51 is conditioned upon the licensee's commitment to follow the guidelines in Revision 3 of NUMARC 93-01, Section 11, "Assessment of Risk Resulting from Performance of Maintenance Activities." This guidance states, in part, that when licensees are conducting maintenance that involves the need for an open containment, they should evaluate the ability to close the containment in time to mitigate potential fission product releases. The guidance goes on to state that licensees should develop a method to close containment penetrations promptly in order to enable ventilation systems to draw any release from an FHA in such a way that it can be treated and monitored.

In its January 18, 2003, supplement (approved as Amendment No. 146), PSEG stated that it would follow the guidelines in Section 11 of NUMARC 93-01, Revision 3, at Hope Creek during refueling inside containment. Based on the licensee's commitment to NUMARC 93-01, the consistency of the proposed changes with TSTF-51, and the reasons described above, the NRC staff finds that the proposed TS changes are not adverse to operational safety at Hope Creek, in all operational conditions including during movement of recently irradiated fuel assemblies in secondary containment and during OPDRVs. Therefore, the proposed changes are acceptable.

As indicated in the table of changes to corresponding requirements, the licensee did not revise the Bases for TS 3/4.3.7.1 and TS 3/4.7.2, even though TSTF-51 had revised the STS Bases for corresponding changes. In these cases, the existing level of detail or the scope of information in the Hope Creek TS Bases did not lend itself to changes comparable to the STS presentation. Therefore, the NRC staff has no objection to the omission of Bases changes in these cases.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State Official was notified of the proposed issuance of the amendment. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes a surveillance requirement. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (69 FR 7527). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b),

no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: C. Harbuck

Date: October 28, 2004