

March 28, 2008

Mr. David A. Christian
Senior Vice President and
Chief Nuclear Officer
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: KEWAUNEE POWER STATION – ISSUANCE OF AMENDMENT REGARDING
NUCLEAR INSTRUMENTATION SYSTEM PERMISSIVE SETPOINTS
(TAC NO. MD5843)

Dear Mr. Christian:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 195 to Facility Operating License No. DPR-43 for the Kewaunee Power Station. This amendment revises the Technical Specifications in response to your application dated June 12, 2007, as supplemented on December 12, 2007.

The amendment revises the P-7 and P-10 nuclear instrumentation system permissive setpoints in Technical Specification (TS) Table 3.5-2, "instrument Operation Conditions for Reactor Trip," revises the Table format and adds a footnote explaining that the turbine impulse pressure setting limit is converted to an equivalent turbine impulse pressure, and revises TS 2.3, "Instrumentation System," concerning reactor trip interlocks to be consistent with the proposed changes to TS Table 3.5-2.

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

Sincerely,

/RA/

Patrick D. Milano, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-305

Enclosures:

1. Amendment No. 195 to
License No. DPR-43
2. Safety Evaluation

cc w/encls: See next page

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Kewaunee Power Station

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DOMINION ENERGY KEWAUNEE, INC.

DOCKET NO. 50-305

KEWAUNEE POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195
License No. DPR-43

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Dominion Energy Kewaunee, Inc. dated June 12, 2007, as supplemented on December 12, 2007, 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;
 - 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. DPR-43 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 195, are hereby incorporated in the license. The licensees shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Lois M. James, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility Operating License
and Technical Specifications

Date of Issuance: March 28, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 195

FACILITY OPERATING LICENSE NO. DPR-43

DOCKET NO. 50-305

Replace the following page of the Facility Operating License No. DPR-43 with the attached revised page. The changed area is identified by a marginal line.

REMOVE

Page 3

INSERT

Page 3

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

2.3-4
Table TS 3.5-2 (Page 4 of 4)

INSERT

2.3-4
Table TS 3.5-2 (Page 4 of 4)

- C. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR, Chapter 1: (1) Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70, (2) is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect, and (3) is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady-state reactor core power levels not in excess of 1772 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 195, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Fire Protection

The licensee shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the licensee's Fire Plan, and as referenced in the Updated Safety Analysis Report, and as approved in the Safety Evaluation Reports, dated November 25, 1977, and December 12, 1978 (and supplement dated February 13, 1981) subject to the following provision:

The licensee may make changes to the approved Fire Protection Program without prior approval of the Commission, only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(4) Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Nuclear Management Company Kewaunee Nuclear Power Plant Physical Security Plan (Revision 0)" submitted by letter dated October 18, as supplemented by letter dated October 21, 2004.

(5) Fuel Burnup

The maximum rod average burnup for any rod shall be limited to 60 GWD/MTU until completion of an NRC environmental assessment supporting an increased limit.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATING TO AMENDMENT NO. 195 TO FACILITY OPERATING LICENSE NO. DPR-43
DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
DOCKET NO. 50-305

1.0 INTRODUCTION

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated June 12, 2007, as supplemented on December 12, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML0701700257 and ML073530486, respectively), Dominion Energy Kewaunee, Inc. (the licensee) submitted a request for changes to the Kewaunee Power Station (KPS) Technical Specifications (TSs). The requested changes would (a) revise the P-7 and P-10 nuclear instrumentation system permissive setpoints in TS Table 3.5-2, "Instrument Operation conditions for Reactor Trip," (b) revise the Table format and add a footnote explaining that the turbine impulse pressure setting limit is converted to an equivalent turbine impulse pressure, and (c) revise TS 2.3, "Instrumentation System," concerning reactor trip interlocks to be consistent with the proposed changes to TS Table 3.5-2.

The December 12, 2007, letter provided clarifying information that did not change the scope of the proposed amendment as described in the original notice of proposed action published in the *Federal Register* (72 FR 49570) and did not change the initial proposed no significant hazards determination.

2.0 REGULATORY EVALUATION

Part 50 to Title 10 of the Code of Federal Regulations (10 CFR Part 50) includes the NRC's requirement that TSs shall be included by applicants for a license authorizing operation of a production or utilization facility.

2.1 Background

As stated in the KPS Updated Safety Analysis Report (USAR), the plant was designed to comply with the original owner's (Wisconsin Public Service Corporation's, WPSC's) understanding of the intent of the Atomic Energy Commission (AEC) General Design Criteria (GDC) for Nuclear Power Plant Construction Permits, as proposed on July 10, 1967. In a letter dated October 2, 1967, the Atomic Industrial Forum (AIF) distributed comments on the July 1967 AEC GDC. This AIF document was adopted as WPSC's understanding of the method for complying with the AEC GDC. In addition, the licensing basis for KPS is based on the AEC safety evaluation dated July 24, 1972. In Section 3.1, "Conformance with AEC General Design Criteria," the staff

performed a technical review to assess the plant against the revised GDC, issued in 1971, and found that a re-analysis of the plant was not required and that the plant design generally conformed to the intent of the criteria.

2.2 Description of System

Various control and alarm functions are obtained from the nuclear instrumentation during shutdown, startup and power operation. These functions are used to alert the operator of conditions that may require action or may alert personnel to unsafe reactor conditions. They also provide signals to the rod control system for automatic blocking of rod withdrawal during plant operation to avoid unnecessary reactor trips. Where operating requirements necessitate automatic or manual bypass of a protective function, the design is such that the bypass is removed automatically whenever permissive conditions are not met. Devices used to achieve automatic removal of the bypass of a protective function are part of the protection system. These reactor protection permissive interlocks are provided to ensure reactor trips are in the correct configuration for the current unit status. The permissive interlocks back up operator actions to ensure protection system functions are not bypassed during unit conditions under which the safety analysis assumes the functions are not bypassed.

2.3 Proposed TS Changes

2.3.1 TS 2.3.a.6, "Reactor Trip Interlocks"

The current TS 2.3.a.6 states:

Protective instrumentation settings for reactor trip interlocks shall be as follows:

- A. Above 10 percent of RATED POWER, the low pressurizer pressure trip, high pressurizer level trip, the low reactor coolant flow trips (for both loops), and the turbine trip-reactor trip are made functional.
- B. Above 10 percent of RATED POWER, the single loop loss-of-flow trip is made functional.

The licensee proposes to change TS 2.3.a.6 to state:

Protective instrumentation settings for reactor trip interlocks shall be as follows:

- A. Prior to exceeding 12.2 percent of RATED POWER, the low pressurizer pressure trip, high pressurizer level trip, the low reactor coolant flow trips (for both loops), and the turbine trip-reactor trip are made functional.
- B. Prior to exceeding 10 percent of RATED POWER, the single loop loss-of-flow trip is made functional.

2.3.2 NOTES for TS Table 3.5-2, "Instrument Operation Conditions for Reactor Trip"

The Notes currently state:

- P-6 1 of 2 Intermediate Range Nuclear Instrument Channels indicates $> 10^{-5}$ percent power
- P-7 3 of 4 Power Range Nuclear Instrument channels < 10 percent power AND
2 of 2 Turbine Impulse Pressure Channels < 10 percent power
- P-8 3 of 4 Power Range Nuclear Instrument Channels < 10 percent power
- P-10 2 of 4 Power Range Nuclear Instrument Channels > 10 percent power

The licensee proposes to change the TS Table 3.5-2 NOTES associated with the permissives into a tabular format, modify the nuclear instrumentation setpoints for P-10 and P-7, change "power" to "RATED POWER," and add a footnote explaining that the turbine impulse pressure setting limit is converted to an equivalent turbine impulse pressure.

2.4 Regulatory Requirements and Guidance

The regulatory requirements and guidance which the NRC staff considered in its review of the applications are as follows:

- A. KPS USAR Section 1.3 provides a list of applicable AEC GDC, as proposed on July 10, 1967. In particular, Criterion 14, "Core Protection Systems," states that core protection systems, together with associated equipment, shall be designed to act automatically to prevent or to suppress conditions that could result in exceeding acceptable fuel damage. The nuclear instrumentation and associated permissive setpoints prevent or suppress conditions which could result in exceeding acceptable fuel damage limits.
- B. Criterion 6, "Reactor Core Design," states that the core with its related controls and protection systems shall be designed to function throughout its design lifetime without exceeding acceptable fuel damage limits which have been stipulated and justified. The core and related auxiliary system designs shall provide this integrity under all expected conditions of normal operation with appropriate margins for uncertainties and for specified transient situations which can be anticipated.
- C. Criterion 12, "Instrumentation and Control Systems," states that instrumentation and controls shall be provided as required to monitor and maintain variables within prescribed operating ranges.
- D. Criterion 14, "Core Protection Systems," states that these protection systems, together with associated equipment, shall be designed to prevent or to suppress conditions that could result in exceeding acceptable fuel damage limits.
- E. Section 50.36, "Technical Specifications," of 10 CFR Part 50 states, "Each applicant for a license authorizing operation of a production or utilization facility shall include in his application proposed technical specifications in accordance with the requirements of this

section.” Section 50.36(d) requires that the TSs include items in five categories: (1) safety limits, limiting safety system settings, and limiting control settings, (2) limiting conditions for operation, (3) surveillance requirements, (4) design features, and (5) administrative controls. Specifically, the proposed changes to TS 2.3.a.6 and the Notes for Table 3.5-2 are within the limiting safety system settings category.

- F. Regulatory Guide (RG) 1.105, “Setpoints for Safety-Related Instrumentation,” describes a method acceptable to the NRC staff for complying with the NRC’s regulations for ensuring that setpoints for safety-related instrumentation and initially within and remain within the TS limits.

3.0 TECHNICAL EVALUATION

3.1 Systems and Analyses Evaluation

Excessive reactor power levels are prevented by high neutron flux trips from the power range flux monitor channels. If a reactor power excursion begins at too low of a reactor power, the peak reactor power may overshoot the acceptable peak power values. For this reason, high flux trips with lower setpoints protect against excursions that start at low power levels. Above a certain reactor power level, these trips are not needed and may be blocked. Reactor trip interlocks are provided to ensure that reactor trip circuits are in the correct configuration for the current plant status. Certain reactor trips are bypassed at specified power levels when they are not required for protection and would otherwise interfere with normal operation and are unblocked at other specified power levels.

Unstable boiling that threatens adequate heat transfer from fuel assemblies is, in part, avoided by various reactor trips that protect against loss of forced cooling of the reactor core. Natural convection cooling, rather than forced circulation, is adequate below a certain reactor power level and, therefore, trips that protect the loss of forced cooling are not needed and may be blocked.

The reactor power levels below which forced cooling is not required in order to remain within the analyzed operational envelope that has been found acceptable overlaps the region of reactor power levels above which low level flux channel trips are not required. Thus, there is a band of reactor power levels for which neither forced cooling trips nor low level flux trips are needed.

Assurance of safe plant operation relies, in part, on the results of analysis of plant operation and response to a variety of conditions. Trip setpoints associated with the reactor trip system are established to require that process variables remain within allowable values. The licensee states that the nominal setpoint values for the P-7 and P-10 permissives, which is 10 percent power, will not change. However, a band of allowable values has been proposed that is aligned with the Westinghouse Standard Technical Specifications (STS).

	Kewaunee Current Licensing Basis Values	Westinghouse STS Values	Kewaunee Proposed Values
P-7	< 10%	Above 10% enable trips Input from P-10	≤ 12.2% Nominal 10%
P-10	> 10%	≥ 7.8% Rated Thermal Power (RTP) and ≤12.2% RTP Nominal 10%	≥ 7.8% Nominal 10%

The KPS USAR states that the P-7 permissive provides for blocking trips at low power to allow plant startup and shutdown. The P-10 permissive alerts the operator to take action to block the intermediate range flux trip and power range low flux trip before any further power increase. Permissive P-10 also provides input to the P-7 permissive.

On increasing power, the P-10 permissive allows the operator to manually block the intermediate range neutron flux reactor trip and power range high flux - low setpoint reactor trip. It also provides a backup signal to block the source range neutron flux reactor trip. On decreasing power, P-10 provides one of two inputs to the P-7 interlock. It also automatically reinstates the power range high flux low setpoint reactor trip and intermediate range high flux reactor trip and rod stop.

On increasing power, P-7 permissive automatically enables reactor trips, and on decreasing power, automatically blocks reactor trips on the following functions:

- Pressurizer pressure - low
- Pressurizer water level - high
- Reactor coolant flow - low (low flow for both reactor coolant system (RCS) loops)
- Reactor coolant pump (RCP) breakers open (two loops)
- Undervoltage RCPs
- Underfrequency RCPs
- Turbine trip - reactor trip

These trips are only required when operating above the P-7 setpoint. The reactor trips provide protection against violating the departure from nucleate boiling ratio (DNBR) limit. Below the P-7 setpoint, the RCS is capable of providing sufficient natural circulation without an RCP running.

The licensee analyzed RTP below 12.2 percent and verified that these trips are not required because the RCS is capable of providing sufficient natural circulation without any RCP running.

The licensee evaluated the effect of the proposed TS changes on the applicable USAR Chapter 14 accident analysis. The licensee stated that the only accident potentially affected by the proposed change is the uncontrolled rod cluster assembly withdrawal at power (RWAP). The current safety analysis assumes that the low power nuclear instrument trip has been blocked and concludes that a reactor trip would occur on either the nuclear instrumentation high neutron flux or over-temperature delta temperature trip. For this event, it must be demonstrated that the DNBR limit is maintained. The analysis considers initial power levels of 10 percent, 60 percent and 100 percent. The limiting case for this accident is the full-power (100 percent) event. The analysis demonstrated that for the proposed change in the initial power from

10 percent to 7.8 percent for the RWAP event, the minimum DNBR would always be greater than the safety limit.

The licensee also evaluated the maximum reactivity insertion from an initial reactor power of 8 percent. The maximum reactivity insertion is the simultaneous withdrawal of two sequential rod cluster control assembly banks at maximum speed with maximum differential rod worth. The analysis demonstrated that the RCS pressure transient for the limiting condition of 8 percent initial reactor power would result in a peak pressure below the overpressure limit of 2750 psia. This is approximately 130 psi below the overpressure limit.

On the basis that the licensee has adequately evaluated the effect of the proposed TS changes on the applicable accident analyses, and that the safety limits will be maintained, the NRC staff finds the proposed values for the P-7 and P-10 permissives to be acceptable.

3.2 Instrument Setpoint Evaluation

The P-7 and P-10 interlock setpoints have been set at approximately 10 percent reactor power since initial licensing of the plant. However, the licensee has determined that channel calibration surveillance procedure directed the P-10 permissive interlock setting to be 9.5 percent \pm 0.5 percent of RTP with a reset of 7.5 percent \pm 0.5 percent RTP.

The licensee determined that the P-7 and P-10 setpoints are not limiting safety system settings (LSSS) for a variable on which a safety limit has been placed. The licensee has performed a calculation to determine the P-7 and P-10 setpoint uncertainties. The calculation used the square-root-some-of-the-squares method and included accuracy, instrument drift, and measuring and test equipment factors. The results of the calculation have determined that the setting limit for the P-7 should be \leq 12.2 percent of RTP, and the setting limit for P-10 should be \geq 7.8 percent of RTP.

The licensee has requested changes that would:

- a. Revise the P-7 and P-10 interlock setpoints in TS Table 3.5-2. The licensee states that these changes are necessary to ensure consistency between the plant settings and the TS requirements.
- b. Convert the TS Table 3.5-2 Notes associated with interlocks P-6, P-7, P-8, and P-10 into a tabular format that is consistent with NUREG-1431, "Standard Technical Specifications Westinghouse Plants," and add a footnote to this table explaining that the turbine impulse pressure setting limit is converted to an equivalent turbine impulse pressure.
- c. Revise TS 2.3, "Limiting Safety System Settings – Protective Instrumentation," paragraphs a.6.A and a.6.B, concerning reactor trip interlocks, to be consistent with the proposed changes to TS Table 3.5-2.

The existing TS setting limits for interlocks P-6, P-7, P-8, and P-10 are included as Notes to TS Table 3.5-2. The licensee has proposed that the Notes for permissive interlocks P-6, P-7, P-8, and P-10 be reformatted into a table format for clarity. The licensee has also proposed that the TS Table 3.5-2, P-7 interlock setting limit be revised from "< 10 percent power" to " \leq 12.2 percent RATED POWER" and the TS Table 3.5.2, P-10 interlock setting limit be revised from

"> 10 percent power" to "≥ 7.8 percent RATED POWER" in this new table. The proposal to change the word "power" to "RATED POWER" would clarify that the setting limits are in percent of steady state reactor core output as defined in the licensee's TS Section 1.0, "DEFINITIONS," item m, "RATED POWER."

To be consistent with the changes to TS Table 3.5-2, the licensee has proposed changes to TS 2.3, paragraphs a.6.A and a.6.B. The proposed changes to TS 2.3 paragraph a.6.A would change "Above 10 percent of RATED POWER, the low pressurizer pressure trip, high pressurizer level trip, the low reactor coolant flow trips (for both loops), and the turbine trip-reactor trip are made functional" to "Prior to exceeding 12.2 percent of RATED POWER, the low pressurizer pressure trip, high pressurizer level trip, the low reactor coolant flow trips (for both loops), and the turbine trip-reactor trip are made functional." The proposed changes to TS 2.3 paragraph a.6.B would change "Above 10 percent of RATED POWER, the single loop loss-of-flow trip is made functional" to "Prior to exceeding 10 percent of RATED POWER the single loop loss-of-flow trip is made functional."

The licensee also provided information concerning the surveillance procedures for the P-7 and P-10 interlocks. The licensee performs periodic surveillances to verify that specific settings are within an acceptable range. If the as-found value is within the acceptance range the calibration is considered acceptable.

When these instruments are tested, the surveillance procedure directs that if the as-found value is not within the acceptance range, then the first line supervisor and the shift manager are immediately notified before the surveillance proceeds. When notification is made to the shift manager, the channel is already removed from service and considered inoperable. A condition report is required to be generated to track and evaluate this issue in the corrective action program.

Once notification is made, an evaluation of the instrument calibration history is performed. The evaluation consists of reviewing the past calibration as-found and as-left values. In the case of setpoints, if the past values were within tolerance, and the present drift is not excessive, the circuit is recalibrated to the setpoint value. If these criteria can not be met, the component is repaired or replaced.

Based on the evaluation of the past calibration data, the component is either repaired, replaced, or recalibrated. Once repair or replacement and recalibration are complete, the surveillance is allowed to continue. In all cases, the as-left setting is required to be within the surveillance procedure specified tolerance before the surveillance can be considered satisfactory and the channel returned to service. If repair or recalibration is not possible, the channel is not allowed to be returned to service.

The NRC staff has reviewed the licensee's setting limit calculations and concludes that the methodology demonstrates that the proposed setting limits are reasonable. The licensee has defined the as-left calibration tolerance. The licensee has also defined the as-left tolerance based on the setting limit by taking the square-root-of-the-sum-of-the-squares of instrument uncertainties measured during testing. The NRC staff has determined that the licensee's setpoint calculation meets the guidance of RG 1.105. The licensee has stated that its surveillance procedure requires the setpoint to be returned to within the specified as-left calibration tolerance if found outside the as-left tolerance band. If the setpoint is found outside

the as-found tolerance band, plant surveillance procedures require an evaluation be performed per the requirements of the corrective action program. The channel will be declared inoperable until it is repaired, replaced, or recalibrated.

Based on this information, the NRC staff has determined that the licensee's setpoint calibration procedures will maintain the setting limits within the established setting tolerances to ensure that the instruments will be capable of performing the specified safety function. Based on its review of the license's calculations and justification, the staff finds the proposed TS changes to be acceptable. Thus, the NRC staff concludes that the proposed changes meet the plants current licensing basis and 10 CFR Part 50 and, therefore, are acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

This 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 or changes a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding (72 FR 49570). Accordingly, this 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 this amendment.

6.0 CONCLUSION

The staff 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: D. Jackson
B. Marcus

Date: March 28, 2008