



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 20, 2008

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

SUBJECT: KEWAUNEE POWER STATION - ISSUANCE OF AMENDMENT TO RELOCATE
SPENT FUEL POOL CRANE REQUIREMENTS FROM THE TECHNICAL
SPECIFICATIONS TO THE TECHNICAL REQUIREMENTS MANUAL
(TAC NO. MD7300)

Dear Mr. Christian:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 200 to Facility Operating License No. DPR-43 for the Kewaunee Power Station. This amendment revises the Technical Specifications (TS) in response to your application dated November 9, 2007, as supplemented by letter dated June 2, 2008.

The amendment revises the Technical Specifications by relocating the requirement of Specification 3.8.a.7 to the licensee-controlled Technical Requirements Manual. Specification 3.8.a.7 specifies that heavy loads greater than the weight of a fuel assembly will not be transported over or placed in either spent fuel pool when spent fuel is stored in that pool.

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,

A handwritten signature in black ink, appearing to read "Peter S. Tam".

Peter S. Tam, 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. 200 to
License No. DPR-43
2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DOMINION ENERGY KEWAUNEE, INC.

DOCKET NO. 50-305

KEWAUNEE POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 200
License No. DPR-43

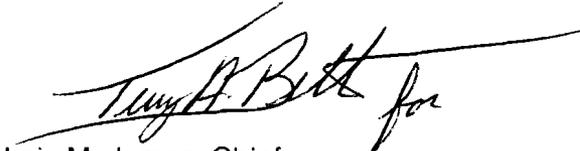
1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Dominion Energy Kewaunee, Inc., dated November 9, 2007, as supplemented by letter dated June 2, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (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. 200, 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

A handwritten signature in black ink, appearing to read "Lois M. James for", is written over a horizontal line.

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: November 20, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 200

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

INSERT

Page 3

Page 3

Replace the following page of Appendix A, Technical Specifications, with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE

INSERT

TS 3.8-2

TS 3.8-2

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. 200, 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, July 26, 2005, and May 15, 2006.

(5) Deleted

Amendment No. 1 thru 200
Revised by letter dated May 7, 2008, August 22, 2008

6. Direct communication between the control room and the operating floor of the containment shall be available whenever changes in core geometry are taking place.
 7. Deleted.
 8. The containment ventilation and purge system, including the capability to initiate automatic containment ventilation isolation, shall be tested and verified to be operable immediately prior to and daily during REFUELING OPERATIONS.
 9. a. The spent fuel pool sweep system, including the charcoal adsorbers, shall be operating during fuel handling and when any load is carried over the pool if irradiated fuel in the pool has decayed less than 30 days. If the spent fuel pool sweep system, including the charcoal adsorber, is not operating when required, fuel movement shall not be started (any fuel assembly movement in progress may be completed).
 - b. Performance Requirements
 1. The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal adsorber banks shall show $\geq 99\%$ DOP removal and $\geq 99\%$ halogenated hydrocarbon removal.
 2. The results of laboratory carbon sample analysis from spent fuel pool sweep system carbon shall show $\geq 95\%$ radioactive methyl iodide removal when tested in accordance with ASTM D3803-89 at conditions of 30°C and 95% RH.
 3. Fans shall operate within $\pm 10\%$ of design flow when tested.
 10. The minimum water level above the vessel flange shall be maintained at 23 feet.
 11. A dead-load test shall be successfully performed on both the fuel handling and manipulator cranes before fuel movement begins. The load assumed by the cranes for this test must be equal to or greater than the maximum load to be assumed by the cranes during the REFUELING OPERATIONS. A thorough visual inspection of the cranes shall be made after the dead-load test and prior to fuel handling.
 12. A licensed senior reactor operator will be on-site and designated in charge of the REFUELING OPERATIONS.
- b. If any of the specified limiting conditions for REFUELING OPERATIONS are not met, refueling of the reactor shall cease. Work shall be initiated to correct the violated conditions so that the specified limits are met, and no operations which may increase the reactivity of the core shall be performed.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE NO. DPR-43

DOMINION ENERGY KEWAUNEE, INC.

KEWAUNEE POWER STATION

DOCKET NO. 50-305

1.0 INTRODUCTION

By letter dated November 9, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML073170705), as supplemented by letter dated June 2, 2008 (Accession No. ML081550342), Dominion Energy Kewaunee, Inc. (DEK) requested an amendment to Facility Operating License Number DPR-43 for Kewaunee Power Station (KPS). The existing KPS Technical Specifications (TSs) Section 3.8.a.7 restricts heavy load transport over or placement in the spent fuel pools. This proposed amendment would modify TS 3.8.a.7 and relocate the modified requirements to a licensee-controlled document, the KPS Technical Requirements Manual. A modification to the current TS is necessary to permit future spent fuel cask handling activities in the KPS spent fuel pool.

The licensee is in the process of upgrading its 125-ton Auxiliary Building (AB) crane to a single-failure-proof design. In the June 2, 2008, supplement, DEK stated that physical modifications to the crane had been completed. In addition, the licensee performed an analysis using currently licensed methods demonstrating the crane can withstand safe shutdown earthquake accelerations with a 50-ton load suspended from the crane. The proposed amendment would allow the use of the upgraded crane to move loads up to 50-tons into and out of the spent fuel pool. The licensee has determined that an additional amendment approving a new seismic analysis methodology is necessary for analyses involving heavier suspended loads (see the licensee's application dated July 7, 2008 (Accession No. ML081930317), currently under U.S. Nuclear Regulatory Commission (NRC) staff review (TAC No. MD9221).

The licensee's June 2, 2008, supplement provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on December 18, 2007 (72 FR 71706).

2.0 REGULATORY EVALUATION

2.1 Control of Heavy Loads

General Design Criterion (GDC) 4, "Environmental and Dynamic Effects Design Bases," of Appendix A to 10 CFR Part 50 specifies, in part, that structures, systems, and components

important to safety shall be appropriately protected against dynamic effects, including the effects of missiles, that may result from equipment failures. GDC 2, "Design Bases for Protection Against Natural Phenomena," specifies, in part, that structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena, such as earthquakes. Revision 1 of Section 9.1.5, "Overhead Heavy Load Handling Systems," of NUREG-0800, "NRC Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," references the guidelines of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," for implementation of these criteria in the design of overhead heavy load handling systems.

In NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," the NRC staff provided regulatory guidelines for control of heavy load lifts to assure safe handling of heavy loads in areas where a load drop could impact on stored spent fuel, fuel in the reactor core, or equipment that may be required to achieve safe shutdown or permit continued decay heat removal. Section 5.1.1 of NUREG-0612 provides guidelines for reducing the likelihood of dropping heavy loads and provides criteria for establishing safe load paths; procedures for load-handling operations; training of crane operators; design, testing, inspection, and maintenance of cranes and lifting devices; and analyses of the impact of heavy load drops. The guidelines in Sections 5.1.2 through 5.1.6 address alternatives to either further reduce the probability of a load-handling accident or mitigate the consequences of heavy load drops. These alternatives include using a single-failure-proof crane for increased handling system reliability, employing electrical interlocks and mechanical stops for restricting crane travel to safe areas, or performing load drop consequence analyses for assessing the impact of dropped loads on plant safety and operations.

Criteria for design of single-failure-proof cranes were included in NUREG-0554, "Single-Failure-Proof Cranes for Nuclear Power Plants." Appendix C to NUREG-0612 provided alternative criteria for upgrading the reliability of existing cranes to single-failure-proof standards. In Section 9.1.5 of NUREG-0800, the NRC staff recognizes cranes designed to the criteria for Type 1 cranes specified in the American Society of Mechanical Engineers (ASME) NOG-1 2004, "Rules for Construction of Overhead and Gantry Cranes," as acceptable under the guidelines of NUREG-0554 for construction of a single failure-proof crane.

2.2 Content of Technical Specifications

Section 182a of the Atomic Energy Act of 1954, as amended (the Act) requires applicants for nuclear power plant operating licenses to include the TSs as part of the license. The Commission's regulatory requirements related to the content of TSs are set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical Specifications." The regulation requires that the TSs include items in specific categories, including: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements; (4) design features; and (5) administrative controls. The regulation does not specify the particular requirements to be included in the TSs.

The four criteria defined by 10 CFR 50.36(d)(2)(ii) for determining whether particular items are required to be included in the TS LCOs, are as follows:

- (A) *Criterion 1.* Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.
- (B) *Criterion 2.* A process variable, design feature, or operating restriction that is an initial condition of a design-basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;
- (C) *Criterion 3.* A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design-basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- (D) *Criterion 4.* A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

3.0 TECHNICAL EVALUATION

3.1 System Description

The original AB crane was a non-single-failure-proof Whiting Corporation bridge and trolley design of late-1960s vintage with a design rated load (DRL) of 125-tons. The crane was originally designed, fabricated, and qualified in accordance with Electric Overhead Crane Institute Standard No. 61, American National Standard Institute Standard B-30.2.0, 1967 Edition, and Pioneer Service and Engineering Company Standard Specification for Powerhouse Overhead Electrical Traveling Cranes. Section 9.5.3.3 of the KPS UFSAR states that interlocks on the AB crane would prevent the transport of heavy loads such as a shipping cask over the spent fuel pool. Redundant limit switches are furnished to assure that the exclusion area is not inadvertently traversed by the malfunction of a limit switch. An override feature is provided to administratively allow free movement of the trolley when spent fuel is not stored in the pool.

As part of the crane upgrade, the licensee has replaced the AB crane trolley and hoists with single-failure-proof designs for both the main and auxiliary hoists, upgraded the crane controls, and modified the existing bridge. The design load for the AB crane main hoist will remain 125 tons. The licensee ultimately intends to operate the crane with a maximum critical load (MCL) rating (i.e., the load for which the crane is considered single-failure-proof) of 125-tons upon completion of necessary analyses.

The licensee described the planned use of the AB crane at KPS. The licensee intends to complete construction and start operation of an independent spent fuel storage installation at the KPS site under the general license provisions of 10 CFR Part 72, Subpart K (Docket No. 72-064). The licensee intends to use the Transnuclear Standard NUHOMS® dry spent fuel storage system. The generic NUHOMS® system design requires the use of a transfer cask (TC) weighing up to 125-tons during cask handling operations in the auxiliary building. The actual weight of the TC is determined in part by the fuel type to be loaded and the TC and dry shielded canister models chosen for use by the general licensee.

Use of the Standardized NUHOMS® System requires the lifting and movement of heavy loads over the spent fuel pool during cask handling operations. Although movement of heavy loads over the spent fuel pool is required, the arrangement of the spent fuel cask loading pit and loading dock at KPS permits completion of the movement of these heavy loads without passing over irradiated fuel in the spent fuel racks during cask handling operations. The KPS AB crane lifting system will be used to lift and move the TC between the cask loading pit in the spent fuel pool and the loading dock, and to lift and move other heavy loads necessary to use the spent fuel cask in accordance with its 10 CFR Part 72 Certificate of Compliance and Final Safety Analysis Report.

3.2 Control of Heavy Loads

The licensee stated that KPS meets the guidelines contained in NUREG 0612, Sections 5.1.1, 5.1.2 and 5.1.6, as augmented by RIS 2005-25 for the AB crane lifting system. The licensee accomplished this through the implementation of crane upgrades, physical controls on crane motion, and administrative controls related to handling system training, operations, and maintenance. Attachment 5, "NUREG-0612 Compliance Matrix for Upgraded KPS AB Crane Lifting System," to the application for amendment provided an item-by-item comparison between criteria from NUREG-0612 and the application of the criteria to the upgraded KPS AB overhead crane and heavy load handling system. Likewise, Attachment 6, "NUREG-0554 Compliance Matrix for Upgraded KPS AB Crane," to the application for amendment provided an item-by-item comparison between criteria from NUREG-0554 and the application of the criteria to the upgraded KPS AB overhead crane.

Attachment 5 of the application for amendment included a description of the implementation of the general guidelines contained in Section 5.1.1 of NUREG-0612 with regard to: (1) establishment of safe load paths; (2) development of procedures; (3) training and qualification of crane operators; (4) selection of special lifting devices; (5) selection of slings; (6) inspection, testing and maintenance of cranes; and (7) application of standards to crane design. Attachment 5 also indicated that conformance with the guidelines of Section 5.1.2 of NUREG-0612 was provided by provision of a single-failure-proof lifting system. Finally, Attachment 5 included a description of conformance with the single failure proof lifting system guidelines of Section 5.1.6 of NUREG-0612.

With regard to selection of slings to be used with the single-failure-proof handling system, the staff requested that the licensee address how the nature of the lift would affect the selection of the slings. In Attachment 1 to the June 2, 2008, supplement, the licensee described the crane operating modes, the effect of the crane operating modes on crane motion interlocks, and the effect of crane operating mode on sling selection. In the "Normal" mode, heavy loads cannot traverse over areas where equipment needed to shutdown the reactor and maintain it in a safe shutdown condition is located, and electrical interlocks prevent heavy load movement over the spent fuel pools. In the "Cask Handling" mode, the electrical interlock boundary permits heavy load movement over the cask loading area in the south-west quadrant of spent fuel pool 1A, but heavy loads cannot traverse over spent fuel in the pool storage racks. In the "New Fuel" mode, the auxiliary hook is used to handle new fuel and remove the fuel transfer canal gate (a heavy load) along the east side of spent fuel pool 1B. Although the main hook may traverse over the edge of the spent fuel pool 1B during these evolutions, the licensee described that procedures do not allow use of the main hook for lifts in the "New Fuel" mode. In addition, a separate key-operated switch may be used to override the interlocks on the AB crane. Since the "Cask

Handling” mode and operation in override allow heavy load movement over the spent fuel pool, the licensee stated that the single-failure proof features of the crane are necessary for heavy load movement in these operating conditions. The licensee committed to administratively prohibit use of synthetic slings in these operating conditions. This restriction is consistent with the guidance of Revision 1 to Section 9.1.5 of the Standard Review Plan (SRP).

Attachment 6 of the license amendment request included a description of the implementation of the guidelines contained in NUREG-0554 with regard to crane design features in the following broad areas: (1) structural design, (2) material properties, (3) mechanical system and component design, (4) control and protective system design, (5) operating parameters (e.g., hoist speed), (6) inspection and testing of the crane, and (7) application of quality assurance measures. The licensee identified few exceptions to the guidelines of NUREG-0554. Those exceptions to NUREG-0554 that were identified related principally to the existing crane bridge structure, which will remain in service, and the exceptions conformed to acceptable alternative guidelines contained in Appendix C to NUREG-0612 or ASME NOG-1, 2004. However, the NRC staff noted that NUREG-0554 guidelines called for periodic non-destructive examination (NDE) of critical crane structural welds, and Attachment 6 specified neither the standards nor frequency of NDE for those welds. The NRC staff requested that the licensee clarify the standards and methods employed in the conduct of the NDE and describe the frequency and type of repeat inspections that will be performed to verify continued structural integrity of the crane bridge. In the June 2, 2008, supplement, the licensee committed to perform NDE of KPS AB crane bridge welds, whose failure could result in the drop of the critical load, at least once every four years following completion of initial cold proof load testing. The licensee also clarified that the NDE would be performed using the inspection methodology and acceptance criteria of American Welding Society 01.1-2004, "Structural Welding Code – Steel." The NDE periodicity and methodology conform to the guidelines of NUREG-0554, as supplemented by guidelines identified in Section 9.1.5 of the SRP. Thus, the KPS AB crane conforms to acceptable guidelines for single-failure proof cranes and meets the intent of NUREG-0554.

Table 3, "Kewaunee Auxiliary Building Crane NUREG-0554 Compliance Matrix Changes Concerning MCL and DRL," of Attachment 2 to the June 2, 2008, supplement, lists changes to the compliance matrix necessary to reflect the current 50-ton maximum critical load rating. As described above, the maximum critical load rating of 50-tons is limited by the currently licensed seismic analysis methods. In the June 2, 2008, supplement, the licensee committed to not perform a lift greater than 50 tons using the KPS AB crane until a seismic analysis, using NRC approved methods, demonstrates acceptable results are achieved for the auxiliary building crane, and establishes a new limit based on lifting heavy loads greater than 50 tons. This commitment is consistent with the intent of NUREG-0554 in ensuring the capability of the crane to stop and hold the load during and following seismic events.

The application included the following additional commitments related to design, operation, maintenance, and testing of the KPS AB lifting system:

- All heavy load lifts in or around the spent fuel pool using the upgraded AB crane lifting system will meet the guidance in NUREG-0612, Section 5.1.6, as follows:
 - Special lifting devices, as defined in ANSI N14.6 will meet the guidance in NUREG-0612, Section 5.1.6(1)(a) and ANSI N14.6-1993, as clarified in Attachment 5.

- Lifting devices not specially designed will meet the guidance in NUREG-0612, Section 5.1.6(1)(b) and ASME B30.9, "Slings," 2003, as clarified in Attachment 5.
- The AB crane will meet the guidance in NUREG-0612, Section 5.1.6(2) and NUREG-0554 as clarified in Attachments 5 and 6.
- Interfacing lift points will meet the guidance in NUREG-0612, Section 5.1.6(3), as clarified in Attachment 5.
- Crane operator training will meet the guidance in ASME B30.2, "Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)," 2005.
- Crane maintenance and inspections will meet the guidance in ASME B30.2-1976.

These commitments and the commitments discussed in previous paragraphs provide reasonable assurance that the KPS AB lift system will be designed, operated, and maintained in a manner that satisfies the intent of NUREG-0612 and NUREG-0554 guidelines. The NRC staff acknowledges the licensee's commitments but does not rely on them to make its technical determination.

Based on the evaluation set forth above in this section, the NRC staff finds the proposed upgrade of the KPS AB lift system acceptable.

3.3 Relocation of Technical Specification 3.8.a.7

The licensee proposes to remove Kewaunee TS 3.8.a.7, which current says:

Heavy loads, greater than the weight of a fuel assembly, will not be transported over or placed in either spent fuel pool when spent fuel is stored in that pool. Placement of additional fuel storage racks is permitted, however, these racks may not traverse directly above spent fuel stored in the pools.

Specific exceptions are provided for installation or movement of spent fuel storage racks, spent fuel casks, and heavy loads associated with spent fuel cask handling operations, under certain circumstances.

3.3.1 Criteria 1, 3, and 4 of 10 CFR 50.36(d)(2)(ii)

Attachment 1 to the application noted that movement of loads greater than the weight of a fuel assembly traveling over fuel assemblies in the spent fuel storage pool would not involve or otherwise affect installed instrumentation that is used to detect or indicate in the control room a significant abnormal degradation of the reactor coolant pressure boundary. Therefore, the licensee concluded that Kewaunee TS 3.8.a.7 does not meet Criterion 1.

Likewise, the licensee stated that the systems and equipment related to TS 3.8.a.7 would not be a part of the primary success path that functions or actuates to mitigate a design-basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. As a result, the licensee concluded that TS 3.8.a.7 does not meet Criterion 3.

Finally, the licensee found that the systems and equipment related to TS 3.8.a.7 would generally not be considered risk-significant. From this, the licensee concluded that TS 3.8.a.7 does not satisfy Criterion 4.

The NRC staff reviewed the licensee's bases for relocation against the criteria in 10 CFR 50.36. The NRC staff independently evaluated the TS proposed for relocation against the requirements in 10 CFR 50.36 and concluded that TS 3.8.a.7 would not satisfy Criterion 1, 3, or 4.

3.3.2 Criterion 2 of 10 CFR 50.36(d)(2)(ii)

Criterion 2 applies to a process variable, design feature, or operating restriction that is an initial condition of a design-basis accident or transient analysis described in the USAR that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Initial conditions captured under Criterion 2 are not limited to only process variables assumed in safety analyses, but also include certain active design features and operating restrictions needed to preclude unanalyzed accidents. Active design features are intended to be those design features under the control of operations personnel (i.e., licensed operators and personnel who perform control functions at the direction of licensed operators). Should a specific LCO considered for relocation involve a physical, designed-in plant feature that prevents operations staff from immediately placing the plant in an unanalyzed condition in the course of operations (one that would require a design change before operators could exceed the limits of the LCO) that LCO would not satisfy Criterion 2.

The prohibition against handling loads greater than the weight of a fuel assembly over fuel assemblies in the spent fuel storage pool is provided to prevent operation in a condition that could potentially lead to an unanalyzed load drop accident. With the crane upgraded to satisfy single-failure-proof guidelines, a load drop accident is no longer considered credible. Therefore, the cask handling accident need not be included in the KPS USAR. Because the plant contains design features that will prevent a load drop accident in addition to procedural controls that would limit the consequences of a load drop, the NRC staff concludes that the load handling restrictions are not necessary to satisfy Criterion 2 and the restrictions (i.e., TS 3.8.a.7) can be relocated to licensee-controlled document and modified pursuant to the requirements of 10 CFR 50.59.

3.4 Summary of Technical Evaluation

The NRC staff finds that the proposed design and use of the new single-failure-proof crane is in accordance with NUREG-0554 and satisfies the guidelines of NUREG-0612. The NRC staff finds that use of the proposed crane will enable the licensee to handle fuel transfer casks and associated components with very low risk to irradiated fuel stored in the spent fuel pit or to redundant trains of safe shutdown equipment during spent fuel transfer activities. Therefore, the use of the upgraded KPS AB single-failure-proof crane for heavy load handling operations is 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 use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC 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 71706). 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 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Steve Jones

Date: November 20, 2008