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

June 9, 2014

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

SUBJECT: KEWAUNEE POWER STATION - AMENDMENT TO TECHNICAL SPECIFICATIONS NEEDED TO SUPPORT FUEL HANDLING ACTIVITIES (TAC NO. MF4146)

Dear Mr. Heacock:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 212 to Renewed Facility Operating License No. DPR-43 for the Kewaunee Power Station (KPS). The amendment revises the Renewed Facility Operating License and associated technical specifications (TSs) to permit fuel handling activities at KPS. The amendment is in response to your application dated May 29, 2013, as supplemented by letters dated September 23, October 15, October 17, October 31, and November 7, 2013, and January 7, and March 13, 2014.

In the original May 29, 2013, amendment request, as supplemented, Dominion Energy Kewaunee, Inc. (DEK), proposed to modify the operating TSs at KPS to be consistent with the current permanently shutdown and defueled status of the reactor. In general, the changes proposed by the original request would only eliminate those TSs that are applicable in operating modes or modes where fuel is emplaced in the reactor vessel. Changes to other TSs, definitions, administrative controls, as well as several license conditions have also been proposed.

In the March 13, 2014, supplemental letter, DEK stated that the schedule to transfer spent fuel from the KPS spent fuel pool to the KPS independent spent fuel storage installation (ISFSI) has been accelerated. Under its new schedule, DEK plans to begin activities to support spent fuel transfer to the ISFSI by July 1, 2014. Based on its new schedule, DEK requested expedited review and partial approval of the deletion of certain TSs currently required for movement of irradiated fuel assemblies. If the affected TSs are not amended, DEK would be required to restore operability of certain equipment during spent fuel handling activities that are no longer needed for accident mitigation.

As requested in DEK's March 13, 2014, letter, the NRC staff has partially approved the original TS amendment request of the May 29, 2013, submittal, as supplemented, to permit fuel handling activities. The staff continues to review the remaining license conditions and TSs not addressed in this amendment.

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

Sincerely,

Christopher Gratton, Senior Project Manager
Plant Licensing IV-2 and
Decommissioning Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-305

Enclosures:
1. Amendment No. 212 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 RENEWED FACILITY OPERATING LICENSE

AND TECHNICAL SPECIFICATIONS

Amendment No. 212
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 May 29, 2013, as supplemented by letters dated September 23, October 15, October 17, October 31, and November 7, 2013, and letters dated January 7, and March 13, 2014, 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, Renewed Facility Operating License No. DPR-43 is amended as indicated in the attachment to this license amendment. In addition, paragraph 2.C.(2) of the Renewed 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. 212, are hereby incorporated in the renewed license. The licensee 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 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Douglas A. Broaddus, Chief
Plant Licensing IV-2 and
Decommissioning Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and Technical
Specifications

Date of Issuance: June 9, 2014

ATTACHMENT TO LICENSE AMENDMENT NO. 212

RENEWED FACILITY OPERATING LICENSE NO. DPR-43

DOCKET NO. 50-305

Replace the following page of the Renewed Facility Operating License No. DPR-43 with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Renewed Facility Operating License

Remove	Insert
Page 3	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.

Technical Specifications

Remove	Insert
i	i
ii	ii
iii	iii
3.3.5-1	---
3.3.5-2	---
3.3.7-1	---
3.3.7-2	---
3.3.7-3	---
3.3.7-4	---
3.7.10-1	---
3.7.10-2	---
3.7.11-1	---
3.7.11-2	---
3.8.2-1	---
3.8.2-2	---
3.8.2-3	---
3.8.3-1	---
3.8.3-2	---
3.8.5-1	---
3.8.5-2	---
3.8.6-1	---
3.8.6-2	---
3.8.6-3	---
3.8.6-4	---
3.8.8-1	---
3.8.8-2	---
3.8.10-1	---
3.8.10-2	---
5.2-2	5.2-2

(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form for sample analysis or instrument calibration or associated with radioactive apparatus or components;

(5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating 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, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and (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 212, are hereby incorporated in the renewed 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 (USAR), 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.

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5.2 Organization

5.2.2 Unit Staff (continued)

c. A radiation technologist shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, except in severe weather conditions, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.

d. The operations manager or assistant operations manager shall hold a Senior Operator license.

e. An individual qualified in radiation protection procedures shall be onsite during fuel handling operations or movements of loads over storage racks containing fuel.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO AMENDMENT NO. 212 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-43

DOMINION ENERGY KEWAUNEE, INC.

KEWAUNEE POWER STATION

DOCKET NO. 50-305

1.0 INTRODUCTION

By letter dated February 25, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13058A065), Dominion Energy Kewaunee, Inc. (DEK, the licensee) submitted a certification to the U.S. Nuclear Regulatory Commission (NRC) indicating that it would permanently shutdown Kewaunee Power Station (KPS) on May 7, 2013. On May 7, 2013, DEK permanently ceased power operations at KPS. On May 14, 2013, DEK certified that it had permanently defueled the KPS reactor vessel (ADAMS Accession No. ML13135A209). Consequently, pursuant to Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.82(a)(2), the KPS renewed facility operating license no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel.

By letters dated May 29, 2013, as supplemented by letters dated September 23, October 15, October 17, October 31, and November 7, 2013, and letters dated January 7, and March 13, 2014 (ADAMS Accession Numbers ML13156A037, ML13277A359, ML13294A091, ML13302B680, ML13308A326, ML13312A920, ML14009A393, and ML14084A384 respectively), DEK requested an amendment to the KPS Renewed Facility Operating License and technical specifications (TSs). In its original May 29, 2013, TS amendment request, DEK proposed numerous changes to conform the existing TSs to the permanently shutdown and defueled condition. In general, the May 29, 2013, proposed amendment would eliminate most of the previous operating TSs (that applied to KPS when it was authorized to operate) because these TSs are only applicable in operating modes or modes where fuel is emplaced within the reactor vessel. Operation or emplacement of fuel into the reactor vessel in no longer authorized at KPS and the applicability of these TS modes are no longer relevant. The proposed license amendment also requested changes to TS definitions and various organizational and program specifications. In addition, the amendment requested certain license condition changes not directly related to the proposed TS changes.

In its March 13, 2014, supplemental letter, DEK stated that it had accelerated its schedule to transfer spent fuel from the KPS spent fuel pool (SFP) to the KPS independent spent fuel

storage installation (ISFSI). Under its new schedule, DEK plans to begin activities to support spent fuel transfer to the KPS ISFSI by July 1, 2014. Based on its new schedule, DEK requested expedited review and approval to delete certain TSs no longer applicable during the movement of irradiated fuel assemblies. DEK indicated that if the TSs currently required for irradiated fuel movement were not approved, DEK would either have to delay its fuel transfer schedule or restore operability of systems and equipment to support spent fuel transfer operations that are no longer needed for accident mitigation.

DEK states there are no design-basis accidents (DBAs) or other conditions of high safety or regulatory significance associated with a permanently shutdown and defueled reactor that would require irradiated fuel handling TSs at the permanently shutdown and defueled KPS reactor (with the exception of the SFP water level related TS discussed in Section 3 of this safety evaluation). Therefore, DEK believes the TSs currently required for irradiated fuel movement (with the exception of SFP water level) are no longer appropriate or applicable to KPS.

TSs Proposed for Deletion (Expedited Request)

3.3 INSTRUMENTATION

3.3.5 Loss of Offsite Power (LOOP) Diesel Generator (DG) Start Instrumentation
3.3.7 Control Room Post Accident Recirculation (CRPAR) System Actuation Instrumentation

3.7 PLANT SYSTEMS

3.7.10 Control Room Post Accident Recirculation (CRPAR) System
3.7.11 Control Room Air Conditioning (CRAC) Alternate Cooling System

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources - Shutdown
3.8.3 Diesel Fuel Oil and Lube Oil
3.8.5 DC Sources - Shutdown
3.8.6 Battery Parameters
3.8.8 Inverters - Shutdown
3.8.10 Distribution Systems - Shutdown

In addition to the deletion of the TSs identified above, DEK's March 13, 2014, letter, also proposed a new administrative control in TS Section 5 to require an individual qualified in radiation protection to be onsite during fuel handling operations that is discussed in Section 3.2.6 of this safety evaluation.

As a result of this request, the NRC staff has completed its evaluation of the original amendment request, as supplemented, specific to those TSs that are currently required during movement of irradiated fuel assemblies. The NRC staff continues to review the remaining proposed changes to license conditions and TSs not addressed in this evaluation.

2.0 REGULATORY EVALUATION

2.1 Technical Specifications

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the application. The NRC's regulatory requirements related to the content of the TSs are contained in 10 CFR 50.36, "Technical Specifications." Pursuant to 10 CFR 50.36, each operating license issued by the Commission includes technical specifications and includes items in the following categories: (1) safety limits, limiting safety systems settings and control settings, (2) limiting conditions for operation (LCO), (3) surveillance requirements (SRs), (4) design features, (5) administrative controls, (6) decommissioning, (7) initial notification, and (8) written reports.

Section 50.36 of 10 CFR provides four criteria to define the scope of equipment and parameters to be included in the TS LCOs. These criteria were developed for licenses authorizing operation (i.e., operating reactors) and focused on instrumentation to detect degradation of the reactor coolant system pressure boundary, process variables and equipment, design features, or operating restrictions that affect the integrity of fission product barriers during design bases accidents or transients. A fourth criterion refers to the use of operating experience and probabilistic risk assessment to identify and include in the TSs structures, systems, and components (SSCs) shown to be significant to public health and safety.

A general discussion of these criteria, which were used by the NRC staff in its evaluation of the deletion of the irradiate fuel movement TSs, is provided below.

Criterion 1 of 10 CFR 50.36(c)(2)(ii)(A) states that TS LCOs must be established for "installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary." Since no fuel is present in the reactor or reactor coolant system at the KPS facility, this criterion is not applicable.

Criterion 2 of 10 CFR 50.36(c)(2)(ii)(B) states that TS LCOs must be established for 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." The purpose of this criterion is to capture those process variables that have initial values assumed in the DBA and transient analyses, and which are monitored and controlled during power operation. The scope of DBAs applicable to a reactor permanently shut down and defueled is reduced from those postulated for an operating reactor, and most TSs satisfying Criterion 2 are no longer applicable. There is one existing TS that defines the initial condition of the DBA associated with irradiated fuel movement that is discussed in Section 3.1.4 of this evaluation.

Criterion 3 of 10 CFR 50.36(c)(2)(ii)(C) states that TS LCOs for operation must be established for structures, systems, or components (SSC) "that are part of the primary success path and which function or actuate 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." The intent of this criterion is to capture into TSs those SSCs that are part of the primary success path of a safety sequence analysis. Also captured by this criterion are those support and actuation systems that are necessary for items in the primary success path to successfully function. The

primary success path of a safety sequence analysis consists of the combination and sequences of equipment needed to operate (including consideration of the single failure criterion), so that the plant response to DBAs and transients limits the consequences of these events to within the appropriate acceptance criteria. There are no transients that continue to apply to permanently shutdown and defueled reactors. The scope of applicable DBAs which apply to KPS are discussed in more detail in Section 3 of this evaluation.

Criterion 4 of 10 CFR 50.36(c)(2)(ii)(D) states that TS LCOs must be established for SSCs "which operating experience or probabilistic risk assessment has shown to be significant to public health and safety." The intent of this criterion is that risk insights and operating experience be factored into the establishment of TS LCOs. All of the accident sequences that dominated risk at KPS when it was authorized to operate are no longer applicable with the reactor in the permanently shutdown and defueled condition.

The NRC staff notes that in the course of this evaluation, information contained in DRAFT NUREG-1625, "Proposed Standard Technical Specifications for Permanently Defueled Westinghouse Plants," March 1998, was also considered. This draft NUREG provides examples of TSs that the staff found acceptable during previous TS reviews for permanently shutdown and defueled reactors.

2.2 Radiological Consequences

Pursuant to the change process permitted by 10 CFR 50.59, DEK has revised Chapter 14 of the KPS Updated Safety Analysis Report (USAR). Chapter 14 of the USAR describes the DBA and transient scenarios that could apply to KPS. Of these, DEK states that there are no transients that continue to apply to KPS and that the only accident scenarios that could potentially apply to a permanently defueled facility would be a fuel handling accident (FHA), an accidental release of waste liquid, or an accidental release of waste gas. Since the waste gas decay tanks, volume control tanks, liquid holdup tanks, reactor coolant drain tank, and associated systems have been purged of their contents, a rupture of these components would no longer be an applicable initiator or source of such an accident. DEK stated that the only accident with potential offsite radiological consequences that remains applicable to KPS in the permanently shut down and defueled condition is a FHA in the auxiliary building where the SFP is located. The FHA analysis for KPS shows that, following 90 days of decay time after reactor shutdown, the dose consequences from an FHA are acceptable without relying on SSCs to remain functional for accident mitigation during and following the event provided that 23 feet of water is maintained above the irradiated fuel assemblies in the SFP.

The NRC staff evaluated the radiological consequences of the postulated FHA DBA against the dose criteria specified in 10 CFR 50.67, "Accident source term", and using the guidance described in Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors."

RG 1.183 provides guidance to licensees on acceptable application of alternative source term (AST) submittals, including acceptable radiological analysis assumptions for use in conjunction with the accepted AST.

The NRC approved the implementation of the AST methodology for FHA dose consequence analysis at KPS by License Amendment No. 166 to Facility Operating License DPR-43 (ADAMS Accession No. ML030210062). The submittal also included changes to the KPS TSs to reflect implementation of AST assumptions in accordance with 10 CFR 50.67.

The FHA-specific dose acceptance criteria are specified in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition," (SRP), Section 15.0.1, "Radiological Consequence Analyses Using Alternative Source Terms." The dose acceptance criteria for the FHA are a Total Effective Dose Equivalent (TEDE) of 6.3 roentgen equivalent man (rem) at the exclusion area boundary for the worst two hours, 6.3 rem at the outer boundary of the low population zone, and 5 rem in the control room for the duration of the accident.

3.0 TECHNICAL EVALUATION

3.1 Accident Analysis

During normal power reactor operations, the forced flow of water through the reactor coolant system (RCS) removes the heat generated by the reactor. The RCS, operating at high temperatures and pressures, transfers this heat through the steam generator tubes to the secondary system. The most severe postulated accidents for nuclear power plants involve damage to the nuclear reactor core and the release of large quantities of fission products to the reactor coolant system. Many of the accident scenarios postulated in the USAR involve failures or malfunctions of systems, which could affect the reactor core. With the termination of reactor operations at KPS and the permanent removal of the fuel from the reactor core in each unit, such accidents are no longer possible. The irradiated fuel is now stored in the SFP and the reactor, RCS, and secondary system are no longer in operation and have no function related to the storage of the irradiated fuel. Therefore, the postulated accidents involving failure or malfunction of the reactor, RCS, or secondary system are no longer applicable.

Prior to permanently shutting down, Chapter 14 of the KPS USAR described transients and DBAs that were applicable to KPS during power operations. Since KPS is permanently shutdown and defueled, there are no longer any applicable transients. The only DBAs that could potentially apply at this time to the permanently shutdown and defueled KPS reactor would be the FHA, an accidental release of waste liquid, or an accidental release of waste gas.

3.1.1 Fuel Handling Accident

In the AST evaluation used during KPS power operation, the radiological consequence analysis evaluated the radiological consequences of a postulated FHA in the containment with no credit taken for containment isolation. Since the assumptions and parameters used for a FHA inside containment are identical to those for a FHA in the auxiliary building, the resulting radiological consequences are the same regardless of the location of the accident. Post-cessation of operations, a FHA onto the top of the core (or elsewhere within containment) is no longer possible and therefore no longer part of the licensing basis. However, a FHA in the SFP (which is located in the auxiliary building) is still possible at KPS, as long as spent fuel is stored in the SFP.

The licensee defines the FHA in the SFP as the dropping of a spent fuel assembly onto the SFP floor or the racks that hold the spent fuel such that the cladding of all the fuel rods in one assembly ruptures. The gap activity in the damaged rods is instantaneously released into the spent fuel pool. The activity is assumed to pass through the 23 feet of required minimum water level over the top of the irradiated fuel assemblies in the SFP. It is postulated that the activity released from the SFP then mixes with the auxiliary building atmosphere before being released directly to the environment. The FHA analysis postulates that the release to the SFP atmosphere is not mitigated en route to the environment. This assumption is consistent with the current licensing basis FHA analysis, which does not credit the SFP ventilation system for accident mitigation. The activity is assumed to be exhausted from the auxiliary building at a rate established to complete the release in two hours (consistent with RG 1.183). The NRC staff finds that the assumptions in the licensee's analysis are consistent with the current licensing basis FHA analysis, which do not credit the auxiliary building ventilation system for accident mitigation but assumes that it continues to operate to conservatively expel the activity to the environment or to the control room ventilation intake.

The licensee assumed an overall decontamination factor of 200 for iodine in elemental and particulate forms in the SFP water with minimum water depth of 23 feet consistent with the guidelines provided in RG 1.183. Also, a fission product decay period of 90 days (post-cessation of operations) is assumed. The NRC staff finds the 90 day decay period assumption in the licensee's analysis to be conservative because KPS has been defueled since May 14, 2013 (> 90 days).

No credit is taken for control room (CR) isolation or recirculation filtration in the FHA analysis. Specifically, the Control Room Post Accident Recirculation (CRPAR) system, support systems, or automatic actuation instrumentation (from the radiation monitor in the CR ventilation ductwork) are not credited in the DEK analysis. No atmospheric dispersion is credited in the determination of CR dose. The NRC staff finds that the assumptions in the licensee's analysis are conservative. The staff notes that the actual radiological plume will experience some dispersion in the environment in route to the control room intake. For calculation of doses at the exclusion area boundary (EAB) and low population zone (LPZ), the licensee used current licensing basis atmospheric dispersion factors.

The licensee's analysis of radiological consequences resulting from the postulated FHA for the permanently shutdown and defueled condition at KPS, concluded that the radiological consequences at the EAB, LPZ, and in the CR are within the dose criteria specified in 10 CFR 50.67 and accident specific dose criteria described in SRP Section 15.0.1. The NRC staff has evaluated the licensee's analysis. In performing this evaluation, the staff relied upon information provided by the licensee, as well as NRC staff experience in performing similar evaluations. The staff reviewed the methods, parameters, and assumptions that the licensee used in its radiological dose consequence analyses and finds that they are consistent with the conservative guidance provided in RG 1.183. The FHA analysis assumption and parameters can be found in Table 1 of this SE. The offsite atmospheric dispersion factors are in Table 2. The licensee's limiting calculated FHA dose results are given in Table 3.

3.1.2 Accidental Release of Waste Liquid

According the KPS USAR, postulated accidents that could result in the release of radioactive liquids are those that involve the rupture or leaking of system pipe lines or storage tanks. The largest vessels are the three liquid holdup tanks, sized such that two tanks can hold more than one reactor coolant liquid volume, used to store the normal recycle or water fluids produced during reactor operation.

The licensee states that since the KPS reactor is permanently shutdown, defueled, and placed in a long-term safe storage condition for decommissioning, the liquid waste tanks and lines have been drained. The NRC staff concludes that a failure involving radioactive liquid waste systems that could exceed the dose criteria specified in 10 CFR 50.67 is no longer possible since the tanks have been purged of their contents, and therefore, this hazard no longer exists.

3.1.3 Gas Decay Tank and Volume Control Tank Rupture Accidents

The KPS licensing basis includes analyses of the radiological consequences of a rupture of a gas decay tank (GDT) and a rupture of the volume control tank (VCT). During reactor operation, the GDTs are used to store processed radioactive gases removed from the reactor coolant to allow for radioactive decay before the controlled release to the environment. The VCT is a component in the plant's chemical and volume control systems that serves as a surge volume to balance differences in letdown and makeup flow rates while maintaining reactor coolant inventory. Part of the reactor coolant (known as letdown) is removed from the RCS, cooled, filtered, demineralized, and degassed.

The licensee states that the GDT, VCT, and associated lines and tanks have been drained and purged of their contents since the KPS reactor is permanently shutdown and defueled and is in a long-term safe storage condition for decommissioning. The NRC staff concludes that a failure involving radioactive gas release from these tanks that could exceed the dose criteria specified in 10 CFR 50.67 is no longer possible since the tanks that have been purged of their contents, and therefore, this hazard no longer exists.

3.1.4 Spent Fuel Pool Water Level

Criterion 2 of 10 CFR 50.36(c)(2)(ii)(B) states that TS LCOs must be established for a "process variable, design feature, or operating restriction that is an initial condition of a design basis accident (DBA) or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier." The purpose of this criterion is to capture those process variables that have initial values assumed in the DBA. TS 3.7.13, "Spent Fuel Pool Water Level," specifies the TS required LCOs and SRs that ensure the minimum water level in the spent fuel pool meets the assumptions of iodine decontamination factors following a FHA.

According to the DEK analysis of the postulated FHA, there is 23 feet of water between the top of the damaged fuel bundle and the fuel pool surface during the FHA. In the analysis, FHA is defined as the dropping of a spent fuel assembly onto the spent fuel pool floor or racks such that the cladding of all the fuel rods in one assembly rupture. The gap activity in the damaged rods is instantaneously released into the spent fuel pool. The release occurs under 23 feet of water, which acts as a filter. The activity exhaust rate from the fuel building is established to

complete the release in two hours as required by RG 1.183 but does not credit the auxiliary building ventilation for any mitigation of the release.

Since the 23 foot water level of the spent fuel pool is an initial condition of the FHA design basis accident, it satisfies Criterion 2 for inclusion in TSs and is being retained as a TS for KPS in its permanently shutdown and defueled condition. The March 13, 2014, expedited amendment request by DEK does not involve any change to TS 3.7.13. The discussion in this evaluation of the spent fuel pool water level TS is provided only for completeness since the spent fuel pool water level is an important initial condition in the FHA analysis and should continue to be part of the KPS technical specifications.

3.1.5. Accident Analysis Summary

As described above, the NRC staff reviewed the assumptions, inputs, and methods used by the licensee to assess the radiological consequences of DBAs based upon the permanently shutdown and defueled condition at KPS. The staff finds that the licensee used analysis methods and assumptions consistent with the conservative regulatory requirements and guidance identified in Section 2.2 above. The NRC staff compared the doses estimated by the licensee to the applicable criteria identified in Section 2.2. The licensee's limiting calculated DBA dose results are given in Table 3. The staff finds that the licensee has demonstrated, with reasonable assurance, that the estimates of the EAB, LPZ, and CR doses will comply with these criteria. The NRC staff further finds that there is reasonable assurance that KPS TSs, as modified by this license amendment, will continue to provide sufficient safety margins with adequate defense-in-depth to address unanticipated events and to compensate for uncertainties in accident progression and analysis assumptions and parameters. Therefore, the proposed license amendment is acceptable with respect to the radiological consequences of DBAs.

Table 1
Parameters and Assumptions Used in Radiological Consequence Calculations
Fuel Handling Accident

Parameter	Value
Radial peaking factor	1.7
Source Term Decay	90 days
Number of fuel assembly damaged	1
Fuel pool water depth	23 feet
Fuel gap fission product inventory:	
Noble gases excluding Kr-85	5 percent
Kr-85	10 percent
I-131	8 percent
Alkali metals	12 percent
Fuel pool decontamination factors:	
Iodine	200
Noble gases	1
Duration of accident	2 hours

Control room:	
Isolation	Not Credited
Recirculation	Not Credited
Unfiltered Inflow*	3000 cfm
Atmospheric Dispersion	Not Credited

* Combined unfiltered normal intake & unfiltered inleakage for entire accident duration, which was varied between 400- 6,000 cfm to maximize dose.

Table 2
Kewaunee Fuel Handling Accident Atmospheric Dispersion Factors (sec/m^3)

Time Period	Exclusion Area Boundary	Low Population Zone	Control Room Intake
0-2 hr	2.232E-4	3.977E-5	Not credited

Table 3
Calculated FHA Radiological Consequences

	EAB	LPZ	CR
Calculated results, TEDE (90 day decay period)	0.001 rem	0.001 rem	1.9 rem
Dose acceptance criteria, TEDE	6.3 rem	6.3 rem	5 rem

3.2 Technical Specification Changes

As requested in DEK's March 13, 2014, supplemental letter, the NRC staff evaluated the following KPS TS LCOs proposed for deletion. The staff's evaluation is in the order listed below:

- TS 3.7.10, "Control Room Post Accident Recirculation (CRPAR) System"
  - Current Applicability: MODES 1, 2, 3, 4, 5, and 6
  - During movement of irradiated fuel assemblies
- TS 3.7.11, "Control Room Air Conditioning (CRAC) Alternate Cooling System"
  - Current Applicability: MODES 1, 2, 3, 4
  - During movement of irradiated fuel assemblies
- TS 3.3.7, "Control Room Post Accident Recirculation (CRPAR) System Actuation Instrumentation"
  - Current Applicability: MODES 1, 2, 3, 4, 5, and 6*
  - During movement of irradiated fuel assemblies*
    *According to TS Table 3.3.7-1
- TS 3.8.2, "AC Sources – Shutdown"
  - Current Applicability: MODES 5, and 6
  - During movement of irradiated fuel assemblies

- TS 3.8.5, "DC Sources – Shutdown"
  - Current Applicability: MODES 5, and 6
  - During movement of irradiated fuel assemblies
- TS 3.8.6, "Battery Parameters"
  - Current Applicability: When associated DC electrical systems are required to be OPERABLE
- TS 3.8.8, "Inverters – Shutdown"
  - Current Applicability: MODES 5, and 6
  - During movement of irradiated fuel assemblies
- TS 3.8.10, "Distribution Systems – Shutdown"
  - Current Applicability: MODES 5, and 6
  - During movement of irradiated fuel assemblies
- TS 3.8.3, "Diesel Fuel Oil and Lube Oil"
  - Current Applicability: When associate DG is required to be OPERABLE
- TS 3.3.5, "Loss of Offsite Power Diesel Generator Start Instrumentation"
  - Current Applicability: MODES 1, 2, 3, 4
  - When associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources – Shutdown"

In this evaluation, the NRC staff reviewed the TSs proposed for deletion to ensure that these LCOs were no longer required to satisfy the 10 CFR 50.36 criteria for inclusion in TSs, as described in Section 2.1 of this evaluation. The staff notes that most of the TSs subject to this evaluation also indicate MODES for which the TS is applicable. MODES, as defined in TSs, correspond to any one inclusive combination of core reactivity condition, power level, average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in TS Table 1.1-1 with fuel in the reactor vessel. The reference to MODES for a permanently shutdown and defueled reactor, such as KPS, has no meaning and is not relevant. Because DEK has submitted certifications pursuant to 10 CFR 50.82(a)(2), it is prohibited from operating the reactor or placing fuel in the reactor vessel and KPS is no longer in a configuration or a condition under which the TS MODES apply.

Therefore, the NRC staff did not evaluate the basis or the continued need for these TSs related to LCO MODE applicability. The focus of the staff's review in this evaluation was whether those TSs are still needed for accident mitigation at KPS considering its permanently shutdown and defueled condition.

3.2.1 TS Section 3.7, Plant Systems

This section evaluates the acceptability of deleting plant systems-related LCOs that previously satisfied Criterion 3 of 10 CFR 50.36(c)(2)(ii)(C) for SSCs that were part of the primary success path and which functioned or actuated to mitigate a FHA DBA when KPS was authorized to operate and emplace fuel into the reactor core. With KPS now permanently shutdown and

defueled, DEK states that these TSs no longer satisfy Criterion 3 and can be deleted. Specifically, DEK proposes to delete the following TSs for KPS:

- 3.7.10, "Control Room Post Accident Recirculation (CRPAR) System"
- 3.7.11, "Control Room Air Conditioning (CRAC) Alternate Cooling System"

When KPS was authorized to operate, the CRPAR system provided a protected environment from which operators could control the unit following postulated accidents involving an uncontrolled release of radioactivity, including a FHA. The CRPAR system consists of two independent, redundant trains that recirculate and filter the control room and outside air. Each train consists of a prefilter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Common ductwork, valves or dampers, and instrumentation also form part of the system. The CRAC alternate cooling system, provided temperature control for the control room following isolation of the control room during a design basis accident. The CRAC alternate cooling system consists of two independent and redundant trains that provide cooling of recirculated and fresh air. Each train consists of an air handling unit (containing filters, a cooling coil, and a fan), instrumentation, and controls to provide for control room temperature control. The CRAC alternate cooling system is capable of removing sensible and latent heat loads from the control room, which include consideration of equipment heat loads and personnel occupancy requirements, to ensure equipment operability.

Prior to KPS permanently shutting down and defueling, the TSs for CRPAR and CRAC alternate cooling system provided the LCOs and SRs necessary to maintain the control room environment following an accident. Specifically, during irradiated fuel movement, the CRPAR provided a protected environment from which operators can control the unit following a postulated uncontrolled release of radioactivity from a FHA. The CRAC provided an alternate cooling system and temperature control for the control room if the control room were isolated following a DBA.

Since KPS is permanently shutdown and defueled, DEK states that the only DBA with potential radiological consequences is the FHA. DEK has analyzed the FHA in the SFP, assuming a fuel decay period of greater than 90 days, and found that the radiological consequences for the CR are bounded by the rupture of all fuel rods in one fuel assembly. DEK calculated the radiological consequences assuming no credit for control room isolation or recirculation filtration and no credit for any accident mitigation by the auxiliary building ventilation system. Calculated doses at the EAB, LPZ, and CR are within 10 CFR Part 50.67 limits, and RG 1.183 dose limits. Since the bounding FHA accident analysis for KPS assumed no credit for control room post accident recirculation system emergency ventilation or filtration, the CRPAR system is no longer required. Since isolation of the CR is not necessary for a FHA at KPS after 90 days of fuel decay, CR temperature control following CRPAR isolation by the CRAC alternate cooling system is no longer required. In addition, there are no SSCs in the CR (or anywhere else at KPS facility) that is required to be operable for mitigation of radiological releases.

With KPS permanently shutdown and defueled, and the irradiated fuel having decayed for a period greater than 90 days, CRPAR and CRAC are no longer needed or credited in the primary success path of a safety sequence analysis related to the FHA. The radiological consequences of the FHA DBA are within the appropriate acceptance criteria (see Section 3.1 of this

evaluation) without credit for the CRPAR and CRAC. The NRC staff has confirmed there are no DBAs analyzed in Chapter 14 of the KPS USAR that rely on these systems and TSs 3.7.10 (for CRPAR) and TS 3.7.11 (for the CRAC alternate cooling system) no longer satisfy TS Criterion 3 or any other Criteron for inclusion in TSs. Therefore, the NRC staff finds the proposed deletion of these TSs for KPS to be acceptable.

3.2.2 TS Section 3.3 Plant System Actuation Instrumentation

This section evaluates the acceptability of deleting TS instrumentation LCOs that ensure the operability of SSCs designed to detect a radiation release and automatically actuate the CRPAR system to isolate the CR from the release. When KPS was authorized to operate, this LCO satisfied Criterion 3 of 10 CFR 50.36(c)(2)(ii)(C) in regard to a support or actuation system that was necessary for the primary success path SSC to successfully function to mitigate a FHA DBA. With KPS now permanently shutdown and defueled, DEK states that this TS no longer satisfies Criterion 3 and can be deleted. Specifically, DEK proposes to delete the following TS for KPS:

- TS 3.3.7, "Control Room Post Accident Recirculation (CRPAR) System Actuation Instrumentation"

When KPS was authorized to operate, TS 3.3.7 provided the LCO and SRs for instrumentation designed to monitor radiation levels in the control room, and isolate and initiate the CRPAR system, if needed, following postulated accidents involving an uncontrolled release of radioactivity, including a FHA during movement of irradiated fuel assemblies. Since KPS is permanently shutdown and defueled, DEK states that the only DBA with potential radiological consequences is the FHA. DEK has analyzed the FHA in the SFP, assuming a fuel decay period of greater than 90 days, and found that the radiological consequences are bounded by the rupture of all fuel rods in one fuel assembly. DEK calculated the radiological consequences assuming no credit for control room isolation or recirculation filtration and no credit for any accident mitigation by the auxiliary building ventilation system. Therefore, automatic isolation by the CRPAR system actuation instrumentation is not credited. Calculated doses at the EAB, LPZ, and CR are within 10 CFR Part 50.67 limits, and RG 1.183 dose limits. Since the bounding accident analysis for the permanently defueled condition assumed no credit for control room post-accident recirculation system emergency ventilation or filtration for mitigation of radiological releases and the results of the analysis were within dose limits, this system is no longer required to be operable and, therefore, automatic actuation of CRPAR is unnecessary.

The NRC staff determined in Section 3.2.1 that with KPS permanently shutdown and defueled and the irradiated fuel having decayed for a period greater than 90 days, CRPAR and CRAC are no longer needed or credited in the primary success path of a safety sequence analysis related to the FHA. Consequently, the CRPAR actuation instrumentation no longer satisfies TS Criterion 3 for inclusion in TSs as a support or actuation system that is necessary for items in the primary success path to successfully function. The NRC staff has confirmed that there are no other DBAs analyzed in Chapter 14 of the KPS USAR that rely on this instrumentation system. Based on the above, the NRC staff finds the proposed deletion of TS 3.3.7 for KPS to be acceptable.

3.2.3 TS Section 3.8, Electrical Power Systems Shutdown

This section evaluates the acceptability of deleting TS electrical power-related systems LCOs that would ensure the availability of safety related power for the CRPAR, CRAC alternate cooling system, and associated actuation instrumentation. When KPS was authorized to operate, these LCOs satisfied Criterion 3 of 10 CFR 50.36(c)(2)(ii)(C) for SSC that were part of the primary success path and which functioned or actuated to mitigate a DBA. With KPS now permanently shutdown and defueled, DEK states that these TSs no longer satisfy Criterion 3 and can be deleted. Specifically, DEK proposes to delete the following TSs for KPS:

- 3.8.2, "AC Sources – Shutdown"
- 3.8.5, "DC Sources – Shutdown"
- 3.8.6, "Battery Parameters"
- 3.8.8, "Inverters – Shutdown"
- 3.8.10, "Distribution Systems – Shutdown"

When KPS was authorized to operate, these TSs provided the LCOs and SRs related to offsite power sources (reserve auxiliary transformers and tertiary auxiliary transformers), onsite safety-related AC power, DC power, DC battery parameters, AC inverters (the preferred source of AC instrument power), onsite standby power sources - emergency diesel generator (EDGs), together with the associated electrical distribution systems. DEK states these systems were credited as part of the primary success path to prevent or mitigate postulated accidents during plant shutdown conditions. Specifically, the KPS TS Basis document indicates, as summarized below, that these shutdown electrical TSs provided assurance that:

a. The reactor could be maintained in shutdown or refueling conditions for extended periods;
b. Adequate electrical power would be provided to required SSC necessary to prevent or mitigate postulated events that could lead to core damage during shutdown and ensure adequate coolant inventory makeup is available for irradiated fuel assemblies in the core;
c. Sufficient instrumentation and control capability was available for monitoring and maintaining the reactor in a shutdown or refueling status; and
d. Adequate power is provided to mitigate other events postulated during shutdown, such as a fuel handing accident.

Since KPS is permanently shutdown and defueled, there is no longer any possibility of an accident involving irradiated fuel assemblies in the reactor core or the need for instrumentation and controls for monitoring or maintaining the shutdown status of the reactor while fuel is in the core. DEK states that the only DBA with potential radiological consequences is the FHA. DEK has analyzed the FHA in the SFP, assuming a fuel decay period of greater than 90 days, and found that the radiological consequences are bounded by the rupture of all fuel rods in one fuel assembly. DEK calculated the radiological consequences assuming no credit for control room isolation or recirculation filtration and no credit for any accident mitigation by the auxiliary building ventilation system. Calculated doses at the EAB, LPZ, and CR are within 10 CFR Part 50.67 limits, and Regulatory Guide 1.183 dose limits. Since the bounding FHA analysis for the

permanently defueled condition assumed no credit for the successful detection, actuation, and operation of the CRPAR and the CRAC alternate cooling system or any other electrically powered SSC for a postulated FHA during movement of irradiated fuel assemblies, the electrical power systems required that support operation of CRPAR and the CRAC alternate cooling (offsite and onsite AC, DC, AC instrument power, and backup EDGs) are unnecessary.

The NRC staff determined in Section 3.2.1 that with KPS permanently shutdown and defueled, and the irradiated fuel having decayed for a period greater than 90 days, the offsite and onsite AC, DC, AC instrument power, and backup EDGs, together with the associated electrical distribution systems and DC battery parameters, are not needed to be included in TSs because there are no active systems credited as part of the initial conditions of an analysis or as part of the primary success path for mitigation of the FHA DBA. Therefore, TS 3.8.2, TS 3.8.5, TS 3.8.6, TS 3.8.8 and TS 3.8.10, no longer satisfy TS Criterion 3 for inclusion in TSs. The NRC staff confirmed that there are no other DBAs analyzed in Chapter 14 of the KPS USAR that rely on these electrical systems. Therefore, the NRC staff finds the proposed deletion of these TSs for KPS to be acceptable.

3.2.4 TS Section 3.8, Electrical Power Systems Support System

This section evaluates the acceptability of deleting TS electrical power-related support system LCOs that satisfied Criterion 3 of 10 CFR 50.36(c)(2)(ii)(C) in regard to a support or actuation system that was necessary for the primary success path SSCs to successfully function to mitigate a DBA when KPS was authorized to operate. With KPS now permanently shutdown and defueled, DEK states that this TS no longer satisfies Criterion 3 and can be deleted. Specifically, DEK proposes to delete the following TS for KPS:

- 3.8.3, "Diesel Fuel Oil and Lube Oil"

When KPS was authorized to operate, TS 3.8.3 ensured sufficient quantity and proper quality of the fuel oil as well as sufficient quantity of lube oil. Stored diesel fuel oil was required to have sufficient supply for seven days of rated load operation for each EDG. It was also required to meet specific standards for quality. Additionally, sufficient lubricating oil supply had to be available to ensure the capability to operate each EDG at rated load for seven days. This requirement, in conjunction with an ability to obtain replacement supplies within seven days, supported the availability of EDGs for postulated DBAs in conjunction with a loss of offsite power. In summary, the EDGs were required to ensure the availability of shutdown AC electrical power sources (TS 3.8.2) when required safety related power for postulated DBAs was needed and offsite AC power was unavailable.

Since KPS is permanently shutdown and defueled, DEK states that the only DBA with potential radiological consequences is the FHA. DEK has analyzed the FHA in the SFP, assuming a fuel decay period of greater than 90 days, and found that the radiological consequences are bounded by the rupture of all fuel rods in one fuel assembly. DEK calculated the radiological consequences assuming no credit for control room isolation or recirculation filtration and no credit for any accident mitigation by the auxiliary building ventilation system. Calculated doses at the EAB, LPZ, and CR are within 10 CFR Part 50.67 limits, and RG 1.183 dose limits. Since the bounding accident analysis for the permanently defueled condition assumed no credit for control room post accident recirculation system emergency ventilation or filtration for mitigation

of radiological releases, the electrical power systems required that support operation of CRPAR and the CRAC alternate cooling (which include the EDGs) are unnecessary. Therefore, the EDG fuel oil and lube oil systems that support operation of the EDG are not required.

The NRC staff determined in Section 3.2.1 that with KPS permanently shutdown and defueled and the irradiated fuel having decayed for a period greater than 90 days, the EDG fuel oil and lube oil system are not needed because there are no active systems or associated support systems credited as part of the initial conditions of an analysis or as part of the primary success path for mitigation of the FHA DBA. Therefore, TS 3.8.3 no longer satisfies TS Criterion 3 for inclusion in TSs. The staff confirmed that there are no other DBAs analyzed in Chapter 14 of the KPS USAR that rely on these support systems. Therefore, the NRC staff finds the proposed deletion of TS 3.8.3 for KPS to be acceptable.

3.2.5 TS Section 3.3, Electrical Power Systems Actuation Instrumentation

This section evaluates the acceptability of deleting TS instrumentation LCOs that ensure the capability to detect a loss of offsite power and automatically actuate EDGs to provide safety-related power for SSCs needed for accident mitigation. When KPS was authorized to operate, this LCO satisfied Criterion 3 of 10 CFR 50.36(c)(2)(ii)(C) in regard to a support or actuation system that was necessary for the primary success path SSC to successfully function to mitigate a DBA. With KPS now permanently shutdown and defueled, DEK states that this TS no longer satisfies Criterion 3 and can be deleted. Specifically, DEK proposes to delete the following TS for KPS:

- 3.3.5, "Loss of Offsite Power Diesel Generator Start Instrumentation"

When KPS was authorized to operate, TS 3.3.5 provided the LCO and SRs to ensure availability of backup safety-related AC power to the SSC used to prevent or mitigate postulated accidents involving an uncontrolled release of radioactivity, including a FHA during movement of irradiated fuel assemblies. Specifically, this TS LCO ensured the operability of instrumentation designed to detect an undervoltage on the safety-related AC electrical busses upon a loss of offsite power and start the EDGs to supply backup power to the AC busses. Since KPS is permanently shutdown and defueled, DEK states that the only DBA with potential radiological consequences is the FHA. DEK has analyzed the FHA in the SFP, assuming a fuel decay period of greater than 90 days, and found that the radiological consequences are bounded by the rupture of all fuel rods in one fuel assembly. DEK calculated the radiological consequences assuming no credit for control room isolation or recirculation filtration and no credit for any accident mitigation by the auxiliary building ventilation system. Calculated doses at the EAB, LPZ, and CR are within 10 CFR Part 50.67 limits, and RG 1.183 dose limits. Since the bounding accident analysis for the permanently defueled condition assumed no credit for control room post-accident recirculation system emergency ventilation or filtration for mitigation of radiological releases, the CRPAR and the CRAC alternate cooling systems are not required. Therefore, backup electrical power required to support operation of CRPAR and the CRAC alternate cooling upon a loss of offsite power is unnecessary. DEK states that the EDG loss of offsite power start instrumentation would only be needed at KPS if the CRPAR and CRAC alternate cooling system were required to function or mitigate a postulated FHA during movement of irradiated fuel assemblies.

The NRC staff determined in Section 3.2.1 that with KPS permanently shutdown and defueled and the irradiated fuel having decayed for a period greater than 90 days, CRPAR and CRAC alternate cooling system are no longer needed or credited in the primary success path of a safety sequence analysis related to the FHA. Consequently, neither primary nor backup power to support operation of the CRPAR or CRAC alternate cooling system is needed. Therefore, actuation instrumentation to start the backup power EDGs is no longer required to satisfy TS Criterion 3 for inclusion in TSs as a support or actuation system that is necessary for items in the primary success path to successfully function. The NRC staff has confirmed that there are no other DBAs analyzed in Chapter 14 of the KPS USAR that rely on this instrumentation system. Based on the above, the NRC staff finds the proposed deletion of TS 3.3.5 for KPS to be acceptable.

3.2.6 TS Section 5.2.2, Unit Staff

TS 5.2.2 specifies the requirements for minimum shift manning, and the qualifications of shift personnel.

The licensee proposes to delete current KPS TS 5.2.2.e and replace it with a new requirement specifying that an individual qualified in radiation protection procedures shall be onsite during fuel handling operations or movements of loads over storage racks containing fuel.

Currently, TS 5.2.2.e contains the requirement to provide advisory technical support to the operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis in Modes 1, 2, 3, or 4. The licensee has permanently defueled the facility, and 10 CFR 50.82(a)(2) prohibits the licensee from operating the plant or placing fuel in the reactor vessel. Because the facility is no longer authorized to operate in Modes 1, 2, 3, or 4, the staffing requirement of current TS 5.2.2.e will no longer be applicable to KPS and the NRC staff finds the proposal to delete the current KPS TS 5.2.2.e acceptable.

DEK has proposed a new TS 5.2.2.e in its March 13, 2014, supplemental letter. The new TS will require an individual qualified in radiation protection procedures to be onsite during fuel handling operations or movements of loads over storage racks containing fuel. DEK believes that it is prudent to have an individual qualified in radiation protection procedures on site during fuel handling operations or movements of loads over storage racks containing fuel. Currently, existing KPS procedures require that radiation protection staff be present for various activities that may affect radiological conditions, such as movement of irradiated fuel. This new TS requirement will provide additional administrative controls for ensuring that an individual qualified in radiation protection procedures is onsite during fuel handling operations or movements of loads over storage racks containing fuel.

The licensee modified TS 5.2.2.e to reflect those activities requiring Radiation Protection staffing following the permanent shutdown of the reactor. The changes are consistent with the intent of DRAFT NUREG-1625, "Proposed Standard Technical Specifications for Permanently Defueled Westinghouse Plants." The NRC staff considers it prudent to have an individual qualified in radiation protection onsite during fuel handling operations or movement of loads over the spent fuel pool storage racks containing fuel and finds the proposed TS changes 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

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. 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 which was published in the *Federal Register* on August 20, 2013 (78 FR 51224). 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 amendments.

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: K. Bucholtz
D. Duvigneaud

Date: June 9, 2014

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

Sincerely,

/RA/

Christopher Gratton, Senior Project Manager
Plant Licensing IV-2 and
Decommissioning Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-305

Enclosures:
1. Amendment No. 212 to License No. DPR-43
2. Safety Evaluation

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OFFICE	NRR/LPL4-2/PM	NRR/LPL4-2/PM	NRR/LPL4-2/LA	NRR/DSS/STSB/BC*	NRR/DSS/SCVB/BC
NAME	WHuffman	CGratton	MHenderson	REIliott	RDennig
DATE	04/21/14	05/29/14	05/29/14	04/17/14	04/24/14
OFFICE	NRR/DRA/ARCB*	OGC - NLO	NRR/LPL4-2/BC	NRR/LPL4-2/PM	
NAME	UShoop	SUttal	DBroaddus	CGratton	
DATE	04/09/14	06/02/14	06/06/14	06/09/14	

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