



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

March 2, 2017

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: SAFETY EVALUATION FOR THE PROPOSED REVISION TO KEWAUNEE
POWER STATION DEFUELED STATION EMERGENCY PLAN (TAC NO.
L53082)

Dear Mr. Heacock:

By letter dated September 14, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15261A238), as supplemented by a letter dated March 3, 2016 (ADAMS Accession No. ML16069A388), Dominion Energy Kewaunee, Inc. (DEK, the licensee) proposed changes to the Kewaunee Power Station (KPS) Permanently Defueled Emergency Plan (PDEP) and Permanently Defueled Emergency Action Level Bases Document to reflect the reduced scope of potential radiological accidents with spent fuel in dry cask storage within the independent spent fuel storage installation.

The U.S. Nuclear Regulatory Commission (NRC) staff has completed review (ADAMS Accession No. ML16196A103) of the DEK submittal. The NRC staff concluded that the two documents, with the proposed changes, would meet the standards of Title 10 of the *Code of Federal Regulations* (10 CFR) section 50.47, "Emergency plans," and the requirements of Appendix E, "Emergency Planning and Preparedness for Production and Utilization facilities," to 10 CFR Part 50, as exempted, and continue to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Therefore, DEK's proposed changes, as outlined in the letters referenced above, are considered acceptable. The basis for our conclusion is contained in the attached safety evaluation report.

D. Heacock

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In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions concerning the above, please contact me at (301) 415-5543, or via email at Ted.Carter@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Ted Carter", with a large, sweeping flourish extending to the left.

Ted H. Carter, Senior Project Manager
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Enclosures:

1. Amendment
2. Safety Evaluation Input

Docket No.: 50-305

cc: ListServ

DOMINION ENERGY KEWAUNEE, INC.

DOCKET NO. 50-305

KEWAUNEE POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 218
License No. DPR-43


1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15261A238) dated September 14, 2015 and supplemented by a letter (ADAMS Accession No. ML16069A388) dated March 3, 2016 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 Title 10 of the *Code of Federal Regulations* (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.

Enclosure 1

2. Accordingly, by Amendment No. 218, License No. DPR-43 is hereby amended to reduce the scope of onsite emergency planning requirements by removing various emergency actions related to the Spent Fuel Pool; removing non-independent spent fuel storage installation (ISFSI) related emergency event types; replacing the "ISFSI Shift Supervisor" title for the current "Shift Manager" title as the position which assumes the Emergency Director's responsibilities, and revising the structure of the augmented emergency response organization.

3. This license amendment is effective as of the date of issuance, and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, appearing to read "Bruce A. Watson".

Bruce A. Watson, CHP, Chief
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Date of Issuance:

March 2, 2017

SAFETY EVALUATION REPORT BY
OFFICE OF NUCLEAR SECURITY AND INCIDENT RESPONSE RELATED TO KEWAUNEE
POWER STATION SITE EMERGENCY PLAN PERMANENTLY DEFUELED EMERGENCY PLAN
LICENSE AMENDMENT
DOCKET NO. 50-305

1.0 INTRODUCTION

Kewaunee Power Station (KPS) is a decommissioning power reactor located on approximately 900 acres in Carlton, Wisconsin, 27 miles southeast of Green Bay, Wisconsin. The licensee, Dominion Energy Kewaunee, Inc. (DEK), is the holder of Facility Operating License No. DPR-43 for KPS, issued pursuant to the Atomic Energy Act of 1954, as amended, and Part 50, "Domestic Licensing of Production and Utilization Facilities," of Title 10 of the *Code of Federal Regulations* (10 CFR).

By letter dated September 14, 2015 (Reference 1), and as supplemented by a letter dated March 3, 2016 (Reference 2), DEK requested a license amendment to revise the KPS Permanently Defueled Emergency Plan (PDEP) and the Permanently Defueled Emergency Action Level (EAL) Scheme. DEK requests revisions of the PDEP and Permanently Defueled EAL Scheme that reflect DEK's plan to transfer all spent fuel to the independent spent fuel storage installation (ISFSI) by the end of Calendar Year 2016. The result is the KPS ISFSI-Only Emergency Plan and ISFSI-Only EAL Scheme.

2.0 REGULATORY EVALUATION

This safety evaluation addresses the impact of the proposed changes on the KPS PDEP and EAL Bases Document. The regulatory requirements of Part 50, as exempted by letter dated October 27, 2014 (Reference 3), and guidance on which the U.S. Nuclear Regulatory Commission (NRC) based its acceptance, are as follows:

2.1 10 CFR Part 50 Regulations

- 10 CFR 50.47(b)(1), as exempted, states, in part: "... each principal response organization has staff to respond and to augment its initial response on a continuous basis;"
- 10 CFR 50.47(b)(2) states, in part: "... adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available ...;"
- 10 CFR 50.47(b)(4), as exempted, states, in part: "A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee...;"
- 10 CFR Part 50, Appendix E, Section IV.A, states, in part: "The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization...;" and

- 10 CFR Part 50, Appendix E, Section IV.C.1, as exempted, states, in part: "The emergency classes defined shall include (1) Notification of unusual events, (2) alert..."

2.2 Guidance

- Revision 1 to NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Reference 4), provides a common reference and guidance source for nuclear facility operators to develop radiological emergency response plans.
- Office of Nuclear Security and Incident Response / Division of Preparedness and Response (NSIR/DPR) Interim Staff Guidance (ISG) – 2, "Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants" (Reference 5), provides guidance for the review of permanently defueled emergency plans for power reactor sites undergoing decommissioning.
- Office of Nuclear Materials Safety and Safeguards / Spent Fuel Project Office (NMSS/SFPO) ISG – 16, "Emergency Planning" (Reference 6), provides emergency plan review guidance applicable to facilities licensed pursuant to the regulatory requirements found at 10 CFR Part 72. The staff uses this guidance to ensure consistency between specifically licensed and generally licensed ISFSIs.
- Nuclear Energy Institute (NEI) document NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors" (Reference 7), endorsed by the NRC in a letter dated March 28, 2013 (Reference 8), as generic (non-plant-specific) EAL scheme development guidance.

3.0 TECHNICAL EVALUATION

The NRC staff reviewed the licensee's regulatory and technical analyses in support of its proposed emergency plan changes, as described in DEK's application and subsequent letter. The staff's technical evaluation is detailed below.

3.1 Background

KPS has been shut down since May 7, 2013, and the final removal of fuel from its reactor vessel was completed on May 14, 2013. By letter dated February 25, 2013 (Reference 9), DEK submitted a certification to the NRC indicating its intention to permanently cease power operations at the KPS on May 7, 2013, pursuant to 10 CFR 50.82(a)(1)(i). By letter dated May 14, 2013 (Reference 10), DEK submitted a certification of permanent removal of fuel from the reactor vessel pursuant to 10 CFR 50.82(a)(1)(ii). DEK is authorized to possess and store spent nuclear fuel at the permanently shut down and defueled KPS facility. Spent fuel is currently stored on site at KPS in a spent fuel pool (SFP) and an ISFSI.

By letter dated July 31, 2013 (Reference 11), DEK requested exemptions for KPS from certain planning standards in 10 CFR 50.47(b) regarding onsite and offsite emergency response plans for nuclear power reactors; from certain requirements of 10 CFR 50.47(c)(2) that require establishment of plume exposure and ingestion pathway emergency planning zones for nuclear power reactors;

and from certain requirements in 10 CFR Part 50, Appendix E, Section IV, which establishes the elements that make up the content of a licensee's emergency plan.

By letter dated January 16, 2014 (Reference 12), DEK provided their proposed KPS PDEP and EAL Scheme, as supplemented by letters dated June 19, 2014 (Reference 13) and September 9, 2014 (Reference 14). By letter dated October 27, 2014 (Reference 3), the NRC approved the exemptions requested in the July 31, 2013 DEK letter (Reference 11), as supplemented by letters dated January 16, 2014 (Reference 12), June 19, 2014 (Reference 13), and September 9, 2014 (Reference 14). By letter dated December 2, 2014 (Reference 15), DEK stated that the PDEP was fully implemented in accordance with License Amendment No. 214.

3.2 Proposed Changes

By letter dated September 14, 2015 (Reference 1), DEK requested that the NRC review and approve, through a license amendment, a proposed ISFSI-Only Emergency Plan and a proposed ISFSI-Only EAL Scheme based on NEI 99-01, Revision 6 (Reference 8). The proposed amendment revises and replaces the existing KPS PDEP and the associated EAL scheme. The major changes DEK requests are: 1) the removal of the various emergency actions related to the SFP; 2) the removal of non-ISFSI related emergency event types; 3) substituting the "ISFSI Shift Supervisor" title for the current "Shift Manager" title and having the ISFSI Shift Director assume the Emergency Director's responsibilities when an off-normal, natural phenomenon, or accident event occurs, and 4) revising the structure of the augmented emergency response organization. The Emergency Director position is responsible for notifying offsite authorities and has full authority and responsibility for on-site emergency response actions. In an e-mail dated February 10, 2016 (Reference 16), the NRC requested additional information. DEK's response to the request for additional information (RAI), dated March 3, 2016 (Reference 2), included Supplement 1 to the KPS ISFSI-Only Emergency Plan, clarifying the original submittal.

The proposed changes modify the scope of onsite EP requirements to reflect the reduced potential for radiological accidents after all spent fuel is removed from the SFP and transferred to dry cask storage within the ISFSI. The off-normal events and accidents addressed in the KPS ISFSI-Only Emergency Plan are only related to the dry storage of spent nuclear fuel at the ISFSI and include only off-normal, accident, natural phenomena, and hypothetical events and consequences that could affect the spent fuel in dry cask storage. These events and accidents are described and evaluated in the NUH-003, Updated Final Safety Analysis Report (UFSAR) for the Standardized NUHOMS® Horizontal Modular Storage System for Irradiated Nuclear Fuel, Revision 11 (Reference 17) and in the FSAR, Revision 5, for the Modular Advanced Generation Nuclear All-purpose Storage (MAGNASTOR®) Dry Cask Storage System (Reference 18). The results of these analyses show that there are no credible potential accidents that could result in radioactive releases beyond the controlled area boundary that exceed the limits of the U.S. Environmental Protection Agency's (EPA) Protective Action Guides (PAGs) (Reference 19). Therefore, the basis for the granting of the exemption from the requirement to maintain formal offsite radiological emergency preparedness (REP) plans at KPS continues to be met.

3.3 Evaluation

ISFSI EALs and Removal of SFP Initiating Conditions and EALs

The initiating conditions (IC) and EALs associated with emergency classification in the current PDEP are based on Appendix C to NEI 99-01, Revision 6 (Reference 8). NEI-99-01 contains ICs

and EALs for nuclear power plants that have permanently ceased operations and are permanently defueled. After all spent fuel is removed from the SFP and placed into dry cask storage within the ISFSI, the ICs and EALs in Appendix C to NEI 99-01 that are associated with the SFP at a decommissioning facility are no longer applicable. In addition, ICs and EALs whose primary functions were associated with radiological gaseous or liquid effluent releases from the SFP at the facility are no longer applicable. Adequate protection is provided by administrative controls that are imposed to limit source term accumulation and the offsite consequences of uncontrolled effluent releases at the decommissioning reactor. Examples of administrative controls for radiological source term accumulation limits and methods to control the accidental dispersal of the radiological source are:

- Establishing and maintaining limits on the amount of radioactive materials collected on filter media and resins (maximum dose rate limits);
- Establishing and maintaining limits on surface or fixed contamination in work areas that may create airborne radioactive material (maximum activity limits), and
- Limiting possible dispersal mechanisms that may cause a fire (e.g., limits on combustible material loading, use of fire watch to preclude fire, etc.) or placement of a berm around a radioactive liquid storage tank to prevent or minimize the spread of radioactive liquids.

ICs also proposed for deletion include those associated with the mitigative strategies in KPS license conditions and response procedures for potential or actual aircraft attacks. These will be eliminated after spent fuel is removed from the SFP and is stored in the ISFSI. These ICs are bounded by IC EU1, "Damage to a loaded cask CONFINEMENT BOUNDARY."

Table 1 below lists ICs that will be deleted or modified from the PDEP and EAL that are currently approved for KPS. The ICs to be deleted or modified are associated only with SFP operations or with administrative controls that limit potential radiological gaseous or liquid effluent releases from the facility.

Table 1, "Initiating Conditions to be Deleted or Modified"

ALERT ICs	UNUSUAL EVENT ICs
<p>PD-AA1 (all EALs) An uncontrolled release of gaseous or liquid radioactivity resulting in detectable levels at the site boundary.</p>	<p>PD-AU1 (all EALs) An uncontrolled release of gaseous or liquid radioactivity for 60 minutes or longer.</p>
<p>PD-AA2 (all EALs) UNPLANNED rise in plant radiation levels that impedes plant access required to maintain spent fuel integrity.</p>	<p>PD-AU2 (all EALs) UNPLANNED rise in plant radiation levels.</p>
<p>PD-HA1.1 HOSTILE ACTION within the VBS [vehicle barrier system] boundary or airborne attack threat within 30 minutes.*</p>	<p>PD-SU1 (all EALs) UNPLANNED spent fuel pool temperature rise.</p>
<p>PD-HA1.2 A validated notification from NRC providing information of an aircraft attack threat within 30 minutes of the site.</p>	<p>PD-HU1.3 A validated notification from the NRC providing information of an aircraft threat.</p>
	<p>PD-HU2 (all EALs)** Hazardous event affecting SAFETY SYSTEM equipment necessary for spent fuel cooling.</p>

*Only the strike-through portion is being deleted.

**For an ISFSI-only facility, the condition addressed by PD-HU2 remains fully addressed by IC EU1.1.

The following ICs are retained in the ISFSI-only EP and EAL Scheme to address the condition of the ISFSI-Only storage of the spent fuel.

Table 2, "Initiating Conditions to be Maintained"

ALERT ICs	UNUSUAL EVENT ICs
Independent Spent Fuel Storage Installation (ISFSI)	
	EU1, Damage to a loaded cask CONFINEMENT BOUNDARY.
Hazards and Other Conditions	
PD-HA1, HOSTILE ACTION within the VBS boundary.	PD-HU1, Confirmed SECURITY CONDITION or threat.
PD-HA3, Other conditions exist which in the judgment of the Emergency Director warrant declaration of an Alert.	PD-HU3, Other conditions exist which in the judgment of the Emergency Director warrant declaration of a UE.

The most severe beyond-design-basis event postulated for KPS with fuel stored within the SFP, involved a highly unlikely sequence of events that caused the spent fuel to be heated without heat transfer occurring, thereby allowing the zircaloy fuel cladding to reach ignition temperature. The previously limiting beyond-design-basis scenario will no longer be possible with the removal of fuel from the SFP. However, DEK assessed several design-basis events associated with the performance of decommissioning activities with all irradiated fuel stored in the KPS ISFSI. These events are: 1) a cask drop event (fuel related accident); 2) a radioactive material handling accident

(non-fuel related), and 3) accidents initiated by external events. The results of the assessment indicate the projected radiological doses at the controlled area boundary¹ of the ISFSI are less than the EPA PAGs for design-basis scenarios 1 and 2. The effects of external events considered for the ISFSI under the existing PDEP, include fires, floods, high wind, tornados, earthquakes, lightning strikes, and physical security breaches. The confinement boundary of the KPS ISFSI cask remains unchanged by these postulated events.

In granting KPS exemptions from certain EP requirements in 10 CFR Part 50, Appendix E, Section IV.C.1 (Reference 3), the NRC staff analyzed the potential radiological impact of a design-basis accident or a reasonably plausible beyond-design-basis accident at KPS in a permanently defueled condition. The staff determined that any releases beyond the exclusion area boundary² will remain below the EPA PAG exposure levels. The staff finds the basis for granting these exemptions has not changed and provides support for the proposed emergency plan changes. The emergency classes in Appendix E, Section IV.C.1 that remain applicable to KPS are the notification of unusual events and the alert.

Because of the very low risk of consequences to public health and safety resulting from the postulated accidents related to the KPS ISFSI, the staff found there were no potential emergencies that could be classified as higher than an Alert. Similarly, the regulations at 10 CFR 72.32, "Emergency Plan" reflect the NRC's determination that potential emergencies at ISFSIs are classified as no higher than an Alert.

Based on the staff's review of the KPS ISFSI-Only Emergency Plan, as described in Section 3.2 of this SER, the staff concludes that the planning standard of 10 CFR 50.47(b)(4) as exempted, pertaining to a standard emergency classification and action level scheme, is addressed in an acceptable manner in the ISFSI-Only Emergency Plan, considering the permanently shut down and defueled status of the facility and the proposed transfer of all remaining spent fuel from the SFP to the ISFSI.

Emergency Response Organization (ERO) Revision

The existing KPS PDEP identifies two (2) ERO augmented positions – a Technical Director and a Radiation Protection Director. These directors must respond to the site within two (2) hours from an alert declaration to assist on-site personnel. The proposed KPS ISFSI-Only Emergency Plan eliminates these positions and in their place creates a Resource Manager position staffed by an expert trained in radiological monitoring and assessment. The Resource Manager will provide assistance to the ISFSI Shift Supervisor in assessing the technical significance of the event, obtain needed resources to augment the on-shift personnel, and serve as the public information interface. The Resource Manager must establish contact with the Emergency Director within two hours of

¹ *Controlled area* means that area immediately surrounding an ISFSI or MRS for which the licensee exercises authority over its use and within which ISFSI or MRS operations are performed.

² *Exclusion area* means that area surrounding the reactor, in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area. This area may be traversed by a highway, railroad, or waterway, provided these are not so close to the facility as to interfere with normal operations of the facility and provided appropriate and effective arrangements are made to control traffic on the highway, railroad, or waterway, in case of emergency, to protect the public health and safety. Residence within the exclusion area shall normally be prohibited. In any event, residents shall be subject to ready removal in case of necessity. Activities unrelated to operation of the reactor may be permitted in an exclusion area under appropriate limitations, provided that no significant hazards to the public health and safety will result.

classification of an Unusual Event or an Alert. DEK's ISFSI-Only Emergency Plan also requires that at least one person trained in radiological monitoring and assessment report to the KPS within four hours of the declaration of a classified event involving radiological consequences.

In Section 3.3, the staff previously evaluated the licensee's accident analysis of the elimination of EALs that are related to the SFP operation. Specifically, the staff determined that the range of postulated accidents posed a very low risk to public health and safety. The KPS ISFSI-Only Emergency Plan will maintain an appropriate level of augmented response to an emergency. The proposed plan postulates an event with radiological consequences and KPS designed a response that protects the health and safety of the public and onsite personnel.

In the Statements of Considerations for the 1995 10 CFR Part 72 final rule, "Emergency Planning Licensing Requirements for Independent Spent Fuel Storage Facilities (ISFSI) and Monitored Retrievable Storage Facilities (MRS)" (60 FR 32430; June 22, 1995), the Commission stated, in part:

For there to be a significant environmental impact resulting from an accident involving the dry storage of spent nuclear fuel, a significant amount of the radioactive material contained within a cask must escape its packaging and enter the biosphere. There are two primary factors that protect the public health and safety from this event. The first is the design requirements for the cask that are imposed by regulation. . . . These general design criteria place an upper bound on the energy a cask can absorb before the fuel is damaged. No credible dynamic events have been identified that could impart such significant amounts of energy to a storage cask after that cask is placed at the ISFSI.

Additionally, there is a second factor which does not rely upon the cask itself but considers the age of the spent fuel and the lack of dispersal mechanisms. There exists no significant dispersal mechanism for the radioactive material contained within a storage cask. . . . Based on the design limitations, the majority of spent fuel is cooled greater than 5 years. At this age, spent fuel has a heat generation rate that is too low to cause significant particulate dispersal in the unlikely event of a cask confinement boundary failure.

(60 FR at 32439.) The licensee's analysis in the UFSAR for the Standardized NUHOMS® Horizontal Modular Storage System for Irradiated Nuclear Fuel, Revision 11 (Reference 17) and in the FSAR, Revision 5, for the MAGNASTOR Dry Cask Storage System (Reference 18) has not identified any design-basis accident that would result in a failure of the cask's confinement barrier. However, the KPS ISFSI-Only Emergency Plan still requires that one person trained in radiological monitoring and assessment will report to the KPS within four hours of the emergency declaration with a potential for radiological consequences. This will ensure that KPS remains capable of performing timely radiological monitoring and assessment.

The proposed KPS ISFSI-Only Emergency Plan also requires that additional personnel resources may be directed to report to KPS in order to provide support as needed to assess radiological conditions, to support maintenance and repair activities, to develop and implement corrective action plans, and to assist with recovery actions.

Based on the staff's review of the proposed KPS ISFSI-Only Emergency Plan, the staff concludes that the KPS ISFSI-Only Emergency Plan provides sufficient personnel identified to augment the on-shift personnel to respond in a manner that protects the health and safety of the public and onsite personnel. Therefore, the staff finds the ISFSI-Only Emergency Plan complies with 10 CFR

50.47(b)(1), as exempted. Specifically, the ISFSI-Only Emergency Plan provides timely and adequate augmentation of the KPS's response capabilities because the facility is permanently shut down and in a defueled status and the licensee proposes the transfer of all remaining spent fuel from the SFP to the ISFSI.

Replacement of the "Shift Manager" title for the "ISFSI Shift Supervisor" title

DEK has proposed revisions to Section 6.1, "On-Shift Positions" in the existing PDEP. The current "Shift Manager" title will be replaced with "ISFSI Shift Supervisor." In addition, when an off-normal, natural phenomenon, or accident event occurs, the ISFSI Shift Director will assess the condition and assume the responsibilities of the Emergency Director. Under the proposed revisions, the ISFSI Shift Director will be responsible for:

- Notification of the emergency classification to the NRC, State of Wisconsin and Kewaunee County;
- Management of available station resources;
- Initiation of mitigative actions and corrective actions;
- Initiation of onsite protective actions;
- Request for offsite police, fire or ambulance assistance as appropriate;
- Request for augmentation of the emergency staff, as deemed necessary;
- Coordination of security activities;
- Termination of the emergency condition when appropriate;
- Performance of initial radiological assessment, and
- Documentation of a record of event activities.

The proposed ISFSI-Only Emergency Plan requires an ISFSI Shift Supervisor be on-shift at the KPS ISFSI on a 24-hours / 7 days a week schedule. The ISFSI Shift Supervisor is also designated as the senior KPS manager during off-hours. The ISFSI Shift Supervisor will assume overall command and control for any event response activities and condition monitoring at the ISFSI, and serves as the Emergency Director. Table 6-1 in Section 6.1 of the proposed ISFSI-Only Emergency Plan lists the ISFSI Shift Supervisor's designated tasks. Section 6.1 of the proposed plan also identifies non-delegable responsibilities of the ISFSI Shift Supervisor / Emergency Director as emergency classification and authority for radiation exposures that exceed the 10 CFR Part 20 limits. The staff considers these changes to be administrative changes because the emergency responses are unchanged, only the titles of those performing the responsibilities change. For these reason, the staff finds that the proposed changes will not impact the timing or performance of emergency response duties.

Based on the staff's review of the KPS ISFSI-Only Emergency Plan, as described above, the staff concludes that the planning standard of 10 CFR 50.47(b)(2), pertaining to the onsite emergency organization for emergency response addressed in an acceptable manner in the KPS ISFSI-Only Emergency Plan, considering the current status of the facility and the proposed transfer of all remaining spent fuel from the SFP to the ISFSI.

4.0 STATE CONSULTATION

The Wisconsin State official was notified on October 18, 2016 (ML17040A022) of the proposed issuance of the amendment. The State official has 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 October 25, 2016 (81 FR 73431). 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 staff reviewed the proposed KPS ISFSI-Only Emergency Plan and ISFSI-Only EAL Scheme and finds that the two documents, with the proposed changes, would continue to meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E of Part 50, as exempted (Reference 3). The staff concludes that adequate protective measures can and will be taken in the event of a radiological emergency at the KPS facility. In addition, the staff concludes that the revised KPS ISFSI-Only Emergency Plan will meet the emergency planning requirements contained in 10 CFR Part 72 for an ISFSI not located on the site of an operating reactor. Therefore, the NRC staff concludes that the licensee's proposed changes to the KPS PDEP and EAL Scheme in its application dated September 14, 2015, and as supplemented by the letter dated March 3, 2016, are acceptable.

The NRC staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that 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.

7.0 REFERENCES

1. Letter from Dominion Energy Kewaunee, Inc. to U.S. Nuclear Regulatory Commission, "Docket 50-305 – License DPR-43 - Kewaunee Power Station – License Amendment Request 259, ISFSI-Only Emergency Plan and Emergency Action Level Scheme," dated September 14, 2015 (ADAMS Accession No. ML15261A238).
2. Letter from Dominion Energy Kewaunee, Inc. to U.S. Nuclear Regulatory Commission, "Docket 50-305 – License DPR-43 - Kewaunee Power Station – Supplement 1 and Response to Request for Additional Information Regarding License Amendment Request 259, ISFSI-Only Emergency Plan and Emergency Action Level Scheme," dated March 3, 2016 (ADAMS Accession No. ML16069A388).

3. Letter from Thomas J. Wengert (NRC) to David A. Heacock (DEK), "Kewaunee Power Station – Exemptions from Certain Emergency Planning Requirements and Related Safety Evaluation (TAC No. MF2567)," dated October 27, 2014 (ADAMS Accession No. ML14261A223).
4. U.S. Nuclear Regulatory Commission and Federal Emergency Management Agency, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654/FEMA-REP-1, Revision 1, dated November 1980 (ADAMS Accession No. ML040420012).
5. NSIR/DPR-ISG-02, Interim Staff Guidance "Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants," dated May 2015 (ADAMS Accession No. ML14106A057).
6. Spent Fuel Project Office Interim Staff Guidance – 16, "Emergency Planning," dated June 14, 2000 (ADAMS Accession No. ML003724570).
7. NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors," dated November 2012 (ADAMS Accession No. ML12326A805).
8. Letter from U.S. Nuclear Regulatory Commission to the Nuclear Energy Institute, "Technical Evaluation for the Endorsement of NEI 99-01, Revision 6," dated March 28, 2013 (ADAMS Accession No. ML12346A463).
9. Letter from Dominion Energy Kewaunee, Inc. to U.S. Nuclear Regulatory Commission, "Docket 50-305 – License DPR-43 - Kewaunee Power Station – Certification of Permanent Cessation of Power Operations," dated February 25, 2013 (ADAMS Accession No. ML13058A065).
10. Letter from Dominion Energy Kewaunee, Inc. to U.S. Nuclear Regulatory Commission, "Docket 50-305 – License DPR-43 – Kewaunee Power Station – Certification of Permanent Removal of Fuel from the Reactor Vessel," dated May 14, 2013 (ADAMS Accession No. ML13135A209).
11. Letter from Dominion Energy Kewaunee, Inc. to U.S. Nuclear Regulatory Commission, "Docket 50-305 – License DPR-43 – Kewaunee Power Station – Request for Exemptions from Portions of 10 CFR 50.47 and 10 CFR 50, Appendix E," dated July 31, 2013 (ADAMS Accession No. ML13221A182).
12. Letter from Dominion Energy Kewaunee, Inc. to U.S. Nuclear Regulatory Commission, "Docket 50-305 – License DPR-43 – Kewaunee Power Station License Amendment Request 257, Permanently Defueled Emergency Plan and Emergency Action Level Scheme," dated January 16, 2014 (ADAMS Accession No. ML14029A076).
13. Letter from Dominion Energy Kewaunee, Inc. to U.S. Nuclear Regulatory Commission, "Docket 50-305 – License DPR-43 – Supplement 1 and Response to Request for Additional Information Regarding License Amendment Request 257, Permanently Defueled Emergency Plan and Emergency Action Level Scheme," dated June 19, 2014 (ADAMS Accession No. ML14178A167).

14. Letter from Dominion Energy Kewaunee, Inc. to U.S. Nuclear Regulatory Commission, "Docket 50-305 – License DPR-43 – Supplement 2 and Response to Request for Additional Information Regarding License Amendment Request 257, Permanently Defueled Emergency Plan and Emergency Action Level Scheme," dated September 9, 2014 (ADAMS Accession No. ML14255A004).
15. Letter from Dominion Energy Kewaunee, Inc. to U.S. Nuclear Regulatory Commission, "Docket 50-305 – License DPR-43 – Kewaunee Power Station and ISFSI Kewaunee Power Station Permanently Defueled Emergency Plan and Permanently Defueled Emergency Action Level Document," dated December 2, 2014 (ADAMS Accession No. ML14338A049).
16. E-mail from Ted Carter (NRC) to Jack Gadzala (DEK), "Final RAIs Regarding LAR 259," dated February 10, 2016 (ADAMS Accession No. ML16041A273).
17. Letter from Transnuclear, Inc. to U.S. Nuclear Regulatory Commission, "NUH-003, Updated Final Safety Analysis Report (UFSAR) for the Standardized NUHOMS® Horizontal Modular Storage System for Irradiated Nuclear Fuel, Revision 11," dated February 1, 2010 (ADAMS Accession No. ML100601041).
18. Letter from NAC International to U.S. Nuclear Regulatory Commission, "Submission of Final Safety Analysis Report (FSAR), Revision 5, for the NAC MAGNASTOR® Cask System," dated September 25, 2013 (ADAMS Accession No. ML13280A353).
19. Environmental Protection Agency's "Protective Action Guide and Planning Guidance for Radiological Incidents," Draft for Interim Use and Public Comment, dated March 2013 (PAG Manual).
20. NRC Bulletin (BL) 2005-02, "Emergency Preparedness and Response Actions for Security Based Events," dated July 18, 2005 (ADAMS Accession No. ML051740058).

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