

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR MATERIAL SAFETY AND  
SAFEGUARDS RELATED TO THE REQUEST FOR TRANSFER  
OF CONTROL OF RENEWED FACILITY OPERATING LICENSE NO. DPR-43  
AND THE GENERAL LICENSE FOR THE  
INDEPENDENT SPENT FUEL STORAGE INSTALLATION  
FROM DOMINION NUCLEAR PROJECTS, INC.  
TO ENERGYSOLUTIONS, LLC  
KEWAUNEE POWER STATION  
DOCKET NOS. 50-305 AND 72-64

Proprietary information pursuant to Title 10 of the *Code of Federal Regulations* Section 2.390 has been redacted from this document.

Redacted information is identified by blank space enclosed within double bold brackets, as shown here: **[[ ]]**.

## 1.0 INTRODUCTION

By letter dated May 10, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. [ML21131A141](#)), as supplemented by letters dated May 13, 2021 (ADAMS Accession No. [ML21145A118](#)), October 28, 2021 (ADAMS Accession No. [ML21301A177](#)), February 16, 2022 (ADAMS Accession No. [ML22047A057](#)), and March 15, 2022 (ADAMS Accession No. [ML22076A065](#)), Dominion Energy Kewaunee, Inc. (DEK) and EnergySolutions, LLC (EnergySolutions) (together, the Applicants) requested that the U.S. Nuclear Regulatory Commission (NRC, the Commission) consent to the indirect transfer of control of Renewed Facility Operating License (RFOL) No. DPR-43 for Kewaunee Power Station (KPS) and the general license for the KPS independent spent fuel storage installation (ISFSI). Pursuant to Section 184, "Inalienability of Licenses," of the Atomic Energy Act of 1954, as amended (AEA), and Title 10 of the *Code of Federal Regulations* (10 CFR) Sections 50.80, "Transfer of licenses," and 72.50, "Transfer of license," the Applicants requested indirect transfer of control of the licenses from DEK's parent entity, Dominion Nuclear Projects, Inc. (Dominion), to EnergySolutions. In addition, pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," the Applicants requested that the NRC approve a conforming administrative amendment to RFOL No. DPR-43 to reflect, concurrent with the transfer, the proposed transfer and the planned name change from DEK to Kewaunee Solutions, Inc. (Kewaunee Solutions).

The Applicants indicated that upon an NRC approval of the license transfer application and the consummation of the proposed transfer transaction, the same legal entity would remain the KPS licensee, and its name would change from DEK to Kewaunee Solutions. Kewaunee Solutions would continue to hold title to and ownership of any real estate encompassing the KPS site, any

improvements to the site, and title to and ownership of spent nuclear fuel (SNF). Kewaunee Solutions would have responsibility for all licensed activities at the KPS site, including responsibility under the license to complete decommissioning pursuant to NRC regulations. However, Kewaunee Solutions would operate under new management and would be a direct and wholly owned subsidiary of EnergySolutions.

By letter dated September 30, 2021 (ADAMS Accession No. [ML21257A068](#)), the NRC staff requested additional information regarding financial, operational, and organizational qualifications to support its review of the license transfer application. On October 7, 2021, the NRC staff conducted a phone call with DEK and EnergySolutions staff to clarify the content and scope of this request for additional information (RAI). By letter dated October 28, 2021, the Applicants provided a response to the RAI.

The Applicants stated in their May 10, 2021 application that Kewaunee Solutions would develop a Kewaunee Solutions quality assurance (QA) program for KPS that would comply with 10 CFR 50.54(a) and would be implemented at the time of the transfer of control. Accordingly, by letter dated September 29, 2021 (ADAMS Accession No. [ML21277A246](#)), EnergySolutions submitted to the NRC the Kewaunee Solutions Decommissioning Quality Assurance Program (DQAP) for prior NRC approval. The NRC staff issued an RAI on February 2, 2022 (ADAMS Accession No. [ML22032A324](#)) requesting that EnergySolutions provide a 10 CFR 50.54(a)(4) evaluation of the differences between the proposed Kewaunee Solutions DQAP and the current NRC-approved QA program at KPS, which is provided in Topical Report DOM-QA-1, Revision 30, "Nuclear Facility Quality Assurance Program Description" (ADAMS Accession No. [ML21168A339](#)) (the Dominion Fleet QAPD). By letter dated February 16, 2022, the Applicants proposed, instead, as a condition to any license transfer order that prior to the closing of the license transfer, Kewaunee Solutions shall have in place an NRC-approved DQAP for KPS. Subsequently, by letter dated March 15, 2022, the Applicants requested that the NRC approve the withdrawal of this proposal and replace it with a new commitment that Kewaunee Solutions will retain in place, and assume responsibility for, the implementation of the current NRC-approved QA program at KPS (i.e., the Dominion Fleet QAPD) until the Kewaunee Solutions DQAP for KPS is approved by the NRC and implemented at the site.

A notice of the May 10, 2021 application and May 13, 2021 supplement was published in the *Federal Register* (FR) on October 12, 2021 (86 FR 56731). The supplemental letters dated October 28, 2021, February 16, 2022, and March 15, 2022, provided, as discussed above, additional information that clarified the application and did not expand the scope of the application as originally noticed.

## 2.0 BACKGROUND

The KPS was a two-loop pressurized-water reactor designed by Westinghouse Electric Corporation and licensed by the NRC to generate an approximate maximum power output of 1772 megawatts-thermal in the Town of Carlton along the coast of Lake Michigan in Kewaunee County, Wisconsin. The operating license for KPS was issued on December 21, 1973, with an expiration date of December 21, 2013. Commercial operation commenced on June 16, 1974.

On July 5, 2005 (ADAMS Accession No. [ML050810546](#)), the NRC approved the transfer of the KPS license from Wisconsin Public Service Corporation, Wisconsin Power and Light, and Nuclear Management Company, LLC to DEK, the current KPS licensee. DEK is a Wisconsin

corporation and a wholly owned subsidiary of Dominion, which is a wholly owned subsidiary of Dominion Generation, Inc. Dominion Generation, Inc., in turn, is a wholly owned subsidiary of Dominion Energy, Inc.

In 2008, pursuant to 10 CFR 50.54(bb) and 10 CFR 50.75(f)(3), DEK submitted to the NRC an irradiated fuel management plan (IFMP) (ADAMS Accession No. [ML083540651](#)) and a preliminary decommissioning cost estimate (ADAMS Accession No. [ML090300120](#)), respectively. By letter dated September 28, 2009 (ADAMS Accession No. [ML092321079](#)), the NRC staff completed its review of these submittals and found that DEK's long-term storage of spent fuel program and preliminary decommissioning cost estimate for KPS were adequate and provided sufficient details associated with the funding mechanisms until title to the irradiated fuel is transferred to the U.S. Department of Energy (DOE).

On February 24, 2011 (ADAMS Accession No. [ML110100575](#)), the NRC approved a license renewal application for KPS, which extended the expiration date of the KPS license to December 21, 2033.

KPS permanently ceased power operations on May 7, 2013, and DEK certified to the NRC by letter dated May 14, 2013 (ADAMS Accession No. [ML13135A209](#)) that as of May 14, 2013 all the fuel was permanently removed from the KPS reactor vessel and placed into the KPS spent fuel pool (SFP). Accordingly, pursuant to 10 CFR 50.82(a)(2), the KPS license no longer authorizes operation of the KPS reactor or emplacement or retention of fuel into the KPS reactor vessel.

In accordance with 10 CFR 50.82(a)(4)(i), on February 26, 2013 (ADAMS Accession No. [ML13063A248](#)), DEK submitted to the NRC the Post-Shutdown Decommissioning Activities Report (PSDAR) for KPS, which identified SAFSTOR as the method of decommissioning KPS and updated the IFMP. DEK subsequently updated the PSDAR and provided to the NRC PSDAR, Revision 1 by letter dated April 25, 2014 (ADAMS Accession No. [ML14118A382](#)).

On May 21, 2014 (ADAMS Accession No. [ML13337A287](#)), DEK was granted an exemption to use excess funds from the KPS decommissioning trust fund (DTF) for spent fuel management.

On October 1, 2014 (ADAMS Accession No. [ML14279A023](#)), DEK provided a minor PSDAR decommissioning schedule change. On September 21, 2017 (ADAMS Accession No. [ML17276A327](#)), DEK provided an additional schedule change, explaining that it planned to dispose of the spent fuel storage racks during DECON Period 3 in 2017 and 2018 concurrent with activities to drain the SFP and process liquid waste as the racks were removed from the SFP to facilitate these activities.

DEK completed transferring the SNF from the SFP to the ISFSI in 2017. In 2018, DEK completed removing all of the spent fuel storage racks from the SFP and completed all SFP activities.

### License Transfer Application

The Applicants requested that the NRC consent to the indirect transfer of control of RFOL No. DPR-43 for KPS and the general license for the KPS ISFSI from the DEK parent entity, Dominion, to EnergySolutions. Following the closing of the sale described in the purchase agreement, EnergySolutions would acquire 100 percent ownership of DEK and DEK would

change its name to Kewaunee Solutions. After the proposed transfer, Kewaunee Solutions would begin maintaining the facility in SAFSTOR and then transition to an accelerated decommissioning plan that would significantly reduce the time to complete decommissioning. Kewaunee Solutions would operate under new management and be directly and wholly owned by EnergySolutions.

### Purchase Agreement

The Applicants submitted their indirect license transfer application subsequent to a May 6, 2021, Stock Purchase Agreement between EnergySolutions and Dominion (the non-proprietary version of which is found in Attachment 1, Enclosure 1B of the May 10, 2021 submittal) (the purchase agreement). The closing of the purchase agreement is planned to occur in the first quarter of 2022. Upon any approval of the license transfer application by the NRC and after closing, the same legal entity would remain the KPS license holder, but its name would change from DEK to Kewaunee Solutions. The Applicants stated in their May 10, 2021 submittal that Kewaunee Solutions would continue to hold title and ownership of any real estate encompassing the KPS facility, any improvements to the facility, and title to and ownership of the SNF. Upon the transfer of the license, Kewaunee Solutions would have the responsibility for all licensed activity at the KPS facility, including the responsibility to complete decommissioning pursuant to NRC regulations. Kewaunee Solutions would operate under new management and would be a wholly owned subsidiary of EnergySolutions.

### Proposed PSDAR, Revision 2

By letter dated May 13, 2021, EnergySolutions submitted to the NRC a proposed revision 2 to the KPS PSDAR reflecting the proposed decommissioning schedule that would be implemented if the license transfer were to be approved by the NRC and the purchase agreement were to be consummated. This proposed PSDAR, Revision 2 includes financial and planning information to support the license transfer application and describes the planned decommissioning activities to be undertaken at KPS and the KPS ISFSI, along with a schedule for their accomplishment, an estimate of expected costs, and an evaluation of environmental impacts consistent with the discussion provided in the license transfer application. The decommissioning schedule as presented in the PSDAR, Revision 2 reflects decommissioning beginning in 2022 with the majority of decommissioning activities and associated decommissioning expenses being incurred by 2030, resulting in anticipated partial site release (i.e., the unrestricted release of the entirety of the KPS site with the exception of the ISFSI) at that time. The PSDAR, Revision 2 would be made effective upon any NRC approval and the consummation of the license transfer.

By letter dated June 6, 2021 (ADAMS Accession No. [ML21148A074](#)), the NRC staff notified EnergySolutions that the PSDAR, Revision 2 submittal would be treated as a supplement to the KPS license transfer application, until such time as the NRC makes a regulatory decision regarding that application and the transfer is consummated. The requirement for a public meeting following the submission of a PSDAR was already completed under 10 CFR 50.82(a)(4)(ii) for KPS with respect to the original PSDAR submittal. EnergySolutions indicated that the PSDAR, Revision 2 was developed consistent with NRC Regulatory Guide (RG) 1.185, Revision 1, "Standard Format and Content for Post-Shutdown Decommissioning Activities Report" (ADAMS Accession No. [ML13140A038](#)).

## 2.1 Decommissioning Quality Assurance Program

The regulations at 10 CFR 50.80(c) and 10 CFR 72.50(c) state that the Commission will approve an application for the transfer of a license if, among other things, the Commission determines that the proposed transferee is qualified to be the holder of the license. At the close of the proposed transfer transaction, DEK, renamed as Kewaunee Solutions, would continue to hold the KPS license and would continue to be responsible for the existing KPS procedures and programs, such as the existing emergency preparedness, security, and facility access procedures and the existing QA program (i.e., the Dominion Fleet QAPD). The qualification of the proposed transferee as the holder of the KPS license therefore depends, in part, on its having and being capable of administering these procedures and programs.

As discussed above, initially, the Applicants proposed that, upon any approval and consummation of the transfer, Kewaunee Solutions would administer a new Kewaunee Solutions DQAP that would have received prior NRC approval. Accordingly, by letter dated September 29, 2021, *EnergySolutions* submitted to the NRC the Kewaunee Solutions DQAP for prior NRC approval. The NRC staff issued an RAI on February 2, 2022 requesting that *EnergySolutions* provide a 10 CFR 50.54(a)(4) evaluation of the differences between the Kewaunee Solutions DQAP and the Dominion Fleet QAPD, which is the current NRC-approved QA program at KPS. By letter dated February 16, 2022, the Applicants proposed, instead, as a condition to any license transfer order that prior to the closing of the license transfer, Kewaunee Solutions shall have in place an NRC-approved DQAP for KPS. Subsequently, by letter dated March 15, 2022, the Applicants requested that the NRC approve the withdrawal of this proposal and replace it with a new commitment that Kewaunee Solutions will retain in place, and assume responsibility for, the implementation of the current NRC-approved QA program at KPS (i.e., the Dominion Fleet QAPD) until the Kewaunee Solutions DQAP for KPS is approved by the NRC and implemented at the site. This is consistent with 10 CFR 50.54(a) and the KPS license.

Because, consistent with 10 CFR 50.54(a) and the KPS license, the transferee has committed to implementing the current NRC-approved QA program at KPS until the Kewaunee Solutions DQAP for KPS is approved by the NRC and implemented at the site and because, as discussed below, the transferee has the capability to implement this program, the NRC staff concludes that the transferee is technically qualified to be the holder of the KPS license with respect to QA.

## 3.0 REGULATORY EVALUATION

The proposed transaction described in the license transfer application involves the transfer of control of the KPS licenses and, therefore, requires prior NRC approval. Generally, to approve the license transfer application, the NRC must find that the proposed transferee is qualified to be the holder of the licenses and that transfer of the licenses is otherwise consistent with applicable provisions of law, regulations, and orders issued by the NRC pursuant thereto.

The request for approval of the transfer of control of the licenses, as described above and as discussed in this safety evaluation (SE), is made pursuant to 10 CFR 50.80(a), which states:

No license for a production or utilization facility (including, but not limited to, permits under this part and part 52 of this chapter, and licenses under parts 50 and 52 of this chapter), or any right thereunder, shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission gives its consent in writing.

In addition, the regulations at 10 CFR 50.80(b) and (c) apply. Section 50.80(b) of 10 CFR states that an application for a license transfer shall include as much of the information described in 10 CFR 50.33, "Contents of applications; general information," and 10 CFR 50.34, "Contents of applications; technical information," with respect to the identity and technical and financial qualifications of the proposed transferee as would be required by those sections if the application were for an initial license.

Section 50.80(c) of 10 CFR states, in part:

...the Commission will approve an application for the transfer of a license, if the Commission determines: (1) That the proposed transferee is qualified to be the holder of the license; and (2) That transfer of the license is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission pursuant thereto.

In 10 CFR 50.33(a) through (d), the NRC requires applicants to provide information, including the name of the applicant, address of the applicant, description of the corporate structure of the applicant, citizenship of the applicant, and foreign ownership, control, or domination (FOCD) of the applicant, as applicable.

In addition, 10 CFR 50.33(f) states, in part:

Except for an electric utility applicant for a license to operate a utilization facility of the type described in [10 CFR] 50.21(b) or [10 CFR] 50.22, [each application shall state] information sufficient to demonstrate to the Commission the financial qualification of the applicant to carry out, in accordance with regulations in this chapter, the activities for which the permit or license is sought.

Section 50.2, "Definitions," of 10 CFR states, in part, that an electric utility means:

[A]ny entity that generates or distributes electricity and which recovers the cost of this electricity, either directly or indirectly, through rates established by the entity itself or by a separate regulatory authority.

In 10 CFR 50.33(k)(1), the NRC requires that applicants provide the information described in 10 CFR 50.75, "Reporting and recordkeeping for decommissioning planning," indicating how reasonable assurance will be provided that funds will be available to decommission the facility.

The regulation at 10 CFR 50.75 specifies how a licensee will provide reasonable assurance that funds will be available for the decommissioning process. Specifically, 10 CFR 50.75(b) requires that decommissioning financial assurance be provided in an amount not less than the minimum formula amount in 10 CFR 50.75(c). In 10 CFR 50.75(e), the NRC includes the methods acceptable to the agency for covering this decommissioning financial assurance amount, including using a DTF. Finally, 10 CFR 50.75(f) and (h) provide additional requirements for the reporting and management of DTFs.

In addition, 10 CFR 50.82(a)(8)(i) states that licensees may use DTFs if:

(A) The withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in [10 CFR] 50.2;

- (B) The expenditure would not reduce the value of the decommissioning trust below an amount necessary to place and maintain the reactor in a safe storage condition if unforeseen conditions or expenses arise and;
- (C) The withdrawals would not inhibit the ability of the licensee to complete funding of any shortfalls in the decommissioning trust needed to ensure the availability of funds to ultimately release the site and terminate the license.

In accordance with 10 CFR 50.2, the term “decommission” means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits: (1) release of the property for unrestricted use and termination of the license or (2) release of the property under restricted conditions and termination of the license.

In 10 CFR 50.82(a)(8)(v), the NRC also requires power reactor licensees that have permanently ceased operations to provide to the NRC annually, by March 31, a decommissioning financial assurance status report. The report must include additional financial assurance to cover any projected shortfalls.

In 10 CFR 50.54(bb), the NRC requires, in part, a licensee to submit, for NRC review and preliminary approval, the program by which the licensee intends to manage and provide funding for the management of all spent fuel at the reactor following permanent cessation of operation of the reactor until title to the spent fuel and possession of the spent fuel is transferred to the DOE for its ultimate disposal in a repository. In addition, 10 CFR 50.82(a)(8)(vii) provides, in part, for the licensee’s annual submittal to the NRC of a report on the status of its funding for managing spent fuel. If the funds accumulated do not cover the projected cost, a plan to obtain additional funds to cover the cost must be included.

In 10 CFR 50.34(b)(6), the NRC requires applicants to provide certain information on facility operation, including:

- (i) The applicant’s organizational structure, allocations or responsibilities and authorities, and personnel qualifications requirements.
- (ii) Managerial and administrative controls to be used to assure safe operation.

In 10 CFR 50.34(b)(7), the NRC also requires applicants to provide:

The technical qualifications of the applicant to engage in the proposed activities in accordance with the regulations in this chapter.

The NRC staff uses, in part, the following regulatory guidance to evaluate whether the financial and technical qualifications of licensees would be affected by proposed transfers:

- (1) NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition,” Chapter 13, “Conduct of Operations,” Section 13.1.1, Revision 6, “Management and Technical Support Organization,” dated August 2016 (ADAMS Accession No. [ML15005A449](#)), which provides guidance for the review of changes to the technical organization or personnel qualifications proposed as a result of an operating license transfer. Specifically, Section I.4, “Reviews of Operating License Transfers,” states that the

applicant for transfer of an operating license should provide a description of the organization to support plant operations, which should include: (1) organizational charts of the corporate-level management and technical support organizations, emphasizing the changes to be made as a result of the transfer, (2) the relationship of the nuclear-oriented parts of the organization to the rest of the corporate organization, and (3) description of the specific provisions which have been made for uninterrupted technical support for operations.

- (2) NUREG-0800, Chapter 13, Sections 13.1.2–13.1.3, Revision 7, “Operating Organization,” dated August 2017 (ADAMS Accession No. [ML15007A296](#)), which provides guidance for the review of changes to the operating organization proposed as a result of an operating license transfer.
- (3) NUREG-1577, Revision 1, “Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance,” dated December 2001 (ADAMS Accession No. [ML013330264](#)), which describes the process used to review the financial qualifications and methods of providing decommissioning funding assurance required of power reactor license applicants and licensees.
- (4) NUREG-1713, “Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors,” dated December 2004 (ADAMS Accession No. [ML043510113](#)), which provides a list of items for which DTFs can be used.
- (5) RG 1.202, “Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors,” dated November 2001 (ADAMS Accession No. [ML050230008](#)), which provides guidance for licensees to use in meeting the NRC’s regulatory requirements for the various cost estimates that the agency requires for different stages and methods of decommissioning.

The purpose of the NRC staff’s technical qualifications evaluation is to ensure that the proposed corporate management is involved with, informed of, and dedicated to the safe operation, maintenance, and decommissioning of the facility, and that adequate technical and financial resources will be provided to support these activities.

In addressing FOCD issues, Sections 103d and 104d of the AEA provide, in relevant part, that no license may be issued to:

[A]ny corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government.

The NRC regulation at 10 CFR 50.38, “Ineligibility of certain applicants,” is the regulatory provision that implements the FOCD provisions of the AEA. The NRC staff evaluates license transfer applications in a manner that is consistent with the guidance provided in the NRC “Final Standard Review Plan on Foreign Ownership, Control, or Domination” (SRP on FOCD) published on September 28, 1999 (64 FR 52355), to determine whether the proposed transferee is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government. The NRC’s position on FOCD, outlined in the SRP on FOCD, states that “the foreign control limitation should be given an orientation toward safeguarding the national

defense and security.” Further, the SRP on FOCD outlines how the effects of foreign ownership may be mitigated through implementation of a “negation action plan” to ensure that any foreign interest is effectively denied control or domination over the licensee.

The NRC staff also reviews information that relates to nuclear onsite property damage insurance requirements under 10 CFR 50.54(w) and the Price-Anderson insurance and indemnity requirements under Section 170 of the AEA and 10 CFR Part 140, “Financial Protection Requirements and Indemnity Agreements.”

With respect to the transfer of control of a license for an ISFSI, 10 CFR 72.50(a) states, in part:

No license or any part included in a license issued under [10 CFR Part 72] for an ISFSI ... shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission gives its consent in writing.

Section 72.6(b) of 10 CFR states:

A general license is hereby issued to receive title to and own spent fuel, high-level radioactive waste, or reactor-related GTCC [greater than Class C] waste without regard to quantity. Notwithstanding any other provision of this chapter, a general licensee under this paragraph is not authorized to acquire, deliver, receive, possess, use, or transfer spent fuel, high-level radioactive waste, or reactor-related GTCC waste except as authorized in a specific license.

Section 72.210 of 10 CFR states, in part:

A general license is hereby issued for the storage of spent fuel in an independent spent fuel storage installation at power reactor sites to persons authorized to possess or operate nuclear power reactors under 10 CFR part 50....

Section 72.30 of 10 CFR discusses financial assurance for decommissioning ISFSIs.

Finally, with respect to the requested conforming license amendment, 10 CFR 50.90 states, in part:

Whenever a holder of a license ... desires to amend the license..., application for an amendment must be filed with the Commission ... fully describing the changes desired, and following as far as applicable, the form prescribed for original applications.

Pursuant to 10 CFR 2.1315, where administrative license amendments are necessary to reflect an approved license transfer, such amendments will be included in the order that approves the transfer.

#### 4.0 FINANCIAL EVALUATION

##### 4.1 Financial Qualifications

As noted above, pursuant to 10 CFR 50.2, “decommission” means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits: (1) release of the property for unrestricted use and termination of the license or (2) release of the property under

restricted conditions and termination of the license. As explained below, the NRC staff's review of financial qualifications for the proposed license transfer assesses whether the Applicants have provided reasonable assurance that funds will be available to the transferee to cover estimated costs for radiological decommissioning and spent fuel management activities at KPS and the KPS ISFSI, in accordance with the requirements of 10 CFR 50.33(f), 10 CFR 50.33(k)(1), 10 CFR 50.75, 10 CFR 50.82(a), and 10 CFR 72.30.

As previously noted, KPS permanently ceased operations in 2013. Accordingly, DEK, renamed as Kewaunee Solutions (the proposed licensee), would not be authorized under the KPS license to operate or load fuel in the KPS reactor pursuant to 10 CFR 50.82(a)(2) and, therefore, would not conduct the operations contemplated by the financial qualifications provisions of 10 CFR 50.33(f). Rather, all of Kewaunee Solutions' licensed activities would involve the possession of radioactive material in connection with maintaining the safe condition of KPS along with the radiological decommissioning of KPS, operational responsibilities associated with spent fuel management and the ISFSI, and, finally, license termination. Thus, following the proposed transfer, Kewaunee Solutions would retain the existing KPS DTF and would be responsible for funding all of the expenses associated with radiological decommissioning and spent fuel management. Therefore, as described in this SE, the NRC staff's evaluation of the Kewaunee Solutions financial qualifications consists of an analysis of the projected costs for decommissioning KPS and the KPS ISFSI and managing spent fuel until the DOE takes title and possession of the fuel.

As stated in the license transfer application, Kewaunee Solutions would provide the decommissioning financial assurance required by 10 CFR 50.75, 10 CFR 50.82(a), and 10 CFR 72.30 for KPS and the KPS ISFSI using the prepayment method in accordance with 10 CFR 50.75(e)(1)(i) and 10 CFR 72.30(e)(1). Kewaunee Solutions would retain the KPS DTF, which, as of December 31, 2020, contained \$780.4 million (as documented in DEK's March 25, 2021, Decommissioning Funding Status Report (ADAMS Accession No. [ML21084A800](#))). According to the license transfer application, the transferee's right to draw on the funds of the KPS DTF and the estimate of expected decommissioning and spent fuel management costs referred to in the license transfer application and reflected in the *EnergySolutions* PSDAR, along with anticipated DOE reimbursements under the DOE standard contract for disposal of SNF, provide the requisite financial information for the proposed license transfer consistent with 10 CFR 50.33(f). Specifically, the license transfer application concludes that the projected DTF value at the closing of the proposed transfer transaction, including anticipated DOE reimbursements, is expected to fully fund *EnergySolutions*' site-specific decommissioning cost estimate (SSDCE) for radiological decommissioning and spent fuel management costs. The NRC staff's analysis of the proposed transferee's financial qualifications follows.

#### 4.1.1 Estimated Costs for Decommissioning

Together with the license transfer application, *EnergySolutions* submitted a PSDAR (the proposed PSDAR, Revision 2) reflecting its plans for radiological decommissioning and spent fuel management, as well as for site restoration, at KPS if the license transfer is approved and the proposed transfer transaction is consummated. The NRC staff treated this submittal as a supplement to the license transfer application. The *EnergySolutions* PSDAR includes the following:

- a description of the planned decommissioning activities along with a schedule for their accomplishment and
- estimates of expected decommissioning costs, including an SSDCE, using the DECON method for decommissioning the KPS site.

The EnergySolutions PSDAR reflects EnergySolutions' plan to complete the decommissioning of the non-ISFSI portions of the KPS site using the DECON method in approximately eight and one-half years after the proposed transfer transaction is consummated. The EnergySolutions PSDAR also contains the most recent radiological decommissioning cost estimate and plan for spent fuel management and site restoration.

Following the partial site release scheduled for the end of 2030 (i.e., the unrestricted release of the entirety of the KPS site with the exception of the ISFSI), EnergySolutions plans to remove stored spent fuel and GTCC waste from the site, decommission the ISFSI, terminate the NRC licenses, and release the remainder of the KPS site for unrestricted use by 2054. The plan to release the site for unrestricted use by 2054 assumes that the DOE will start accepting spent fuel in 2050 and that all the spent fuel will be removed from KPS by 2052. In accordance with the requirements of 10 CFR 72.30 for ISFSI decommissioning, the cost estimate for decommissioning the KPS ISFSI reflects: (1) the cost of EnergySolutions' decommissioning contractor performing the decommissioning activities, (2) a contingency allowance, and (3) the cost of meeting the criteria for unrestricted use. The cost summary for decommissioning the KPS ISFSI is presented in Enclosure 1B of the EnergySolutions PSDAR.

As part of its review of the license transfer application, the NRC staff reviewed the SSDCE provided with the EnergySolutions PSDAR to ensure that it contains the appropriate information pursuant to NUREG-1713 for decommissioning planning purposes, which includes:

- A description of the decommissioning cost estimating methodology,
- A description of the overall decommissioning project,
- A summary decommissioning cost estimate by major activity and phase,
- A schedule of the major decommissioning activities,
- A summary of the decommissioning management with support staff levels, and
- An estimate of radioactive waste volume.

The SSDCE identified radiological decommissioning costs of **[[ ]]**, including costs for decommissioning the KPS ISFSI; spent fuel management costs of **[[ ]]**; and site restoration costs of **[[ ]]**, for a total cost of **[[ ]]**.

By RAI dated September 30, 2021 (ADAMS Accession No. [ML21257A068](#)), the NRC staff requested, among other things, that the Applicants provide justification for the use of a **[[ ]]** percent contingency allowance instead of the 25 percent recommended in NRC guidance.

By letter dated October 28, 2021, EnergySolutions responded to the NRC staff's RAI and provided additional detail about, and further justification for, the [ ] percent contingency allowance. EnergySolutions noted that it had performed site-specific quantity evaluations for KPS and compared KPS to other EnergySolutions projects (including historical data) to estimate the volume of contaminated material at the site. Based on the estimates and comparisons, EnergySolutions determined that the potential for underestimating the volume of material and the cost to remediate that material is decreased.

The NRC staff reviewed the estimated costs associated with each of the six major periods of decommissioning identified in the SSDCE: planning and transition; spent fuel transfer to ISFSI (completed); decommissioning and license termination; site restoration; dry fuel/GTCC storage and transfer; and ISFSI decommissioning. In particular, the staff considered the costs associated with Period 3, the decommissioning and license termination period, which represents approximately 98 percent of the estimated radiological decommissioning expenses at KPS. Work completed during Period 3 will result in removed reactor components that will be packaged, placed in containers, and transported to storage, treatment, or disposal facilities; radioactive waste that will be packaged and shipped for disposal; and buildings that will be cleared of all radioactive components and declared ready for free release or demolition. The staff reviewed the estimated costs associated with these activities, including the costs for facility infrastructure and operational management, and concluded that these costs appear to be reasonable and to involve plausible assumptions and forecasts.

Regarding spent fuel management, the NRC staff reviewed the operational activities and affiliated costs from the time that all spent fuel is in storage at the ISFSI (which is currently the situation at KPS) until spent fuel and GTCC waste is removed from the ISFSI for receipt by the DOE. While dates by which the DOE will begin to accept spent fuel remain uncertain, the Applicants' spent fuel management plan assumes a start date of 2050. Based on this assumption and on the DOE-authorized exchange rights allowed for by the DOE standard contract, the Applicants estimated that for KPS spent fuel removal will finish in 2052.

Regarding site restoration activities, EnergySolutions' decommissioning plan for KPS anticipates the majority of site restoration expenditures to occur during the 2024 – 2029 timeframe. Site restoration costs are those costs associated with conventional dismantling, demolition, and removal from the site of structures and systems after confirmation that radioactive contaminants have been removed. Based upon the Applicants' decommissioning schedule, by the end of 2029, approximately [ ] will be spent on site restoration.

The license transfer application, as supplemented by the EnergySolutions PSDAR and its SSDCE, provides a comprehensive cost estimate reflecting the full scope, schedule, cost, and contingency baselines for the radiological decommissioning of KPS and for spent fuel management, as well as for site restoration activities. Consistent with guidance in NUREG-1713 and RG 1.202, the Applicants provided information on the decommissioning method selected; a description of, and schedules for, planned decommissioning activities; and estimates of expected costs, including decommissioning of the ISFSI. Schedule and cost details were provided for the phases of planning and transition; spent fuel transfer to ISFSI (completed); decommissioning and license termination; site restoration; dry fuel/GTCC storage and transfer; and ISFSI decommissioning. Therefore, the NRC staff determined that the license transfer application, as supplemented, addresses in sufficient detail the activities and associated costs related to radiological decommissioning and spent fuel management, as well as site restoration, at KPS.

Based on its independent review of the license transfer application, as supplemented, the NRC staff concludes that the Applicants adequately addressed and evaluated all of the activities required to complete the radiological decommissioning of KPS and to manage spent fuel, as well as site restoration activities, and their costs. Therefore, the staff concludes that the Applicants' estimated costs for decommissioning KPS appear to be reasonable and to involve plausible assumptions and forecasts.

#### 4.1.2 Availability of Funds for Decommissioning

The license transfer application indicates that Kewaunee Solutions would fully fund all NRC-required decommissioning costs (i.e., radiological decommissioning and spent fuel management) from the KPS DTF to be retained in the proposed transfer transaction, along with DOE reimbursements. With respect to the adequacy of this funding, the NRC staff reviewed the cost estimate, the DTF balance, the pre-license transfer spending forecasts, and the projected DTF growth. The staff performed independent cash flow analyses of the KPS DTF over the proposed decommissioning period beginning in, and including, 2021, which includes all phases of the decommissioning project, including planned license termination in 2054 and final DTF earnings and DOE reimbursements in 2055. These cash flow analyses are contained in Attachment A, "KPS Cash Flow Analysis Without Site Restoration," and Attachment B, "KPS Cash Flow Analysis With Site Restoration," to this SE, and they account for anticipated DOE reimbursements (calculated conservatively as approximately 80 percent of the previous year's spent fuel management costs).

Attachment A to this SE reflects the NRC staff's cash flow analysis based on the decommissioning costs presented by the Applicants, which, as discussed above, the staff determined appear to be reasonable and to involve plausible assumptions and forecasts. These costs are divided into two categories: license termination (i.e., radiological decommissioning) and spent fuel management. As reflected in Attachment A, after annual withdrawals for radiological decommissioning and spent fuel management activities are considered and including anticipated DOE reimbursements and an annual two percent real rate of return, excess funds are present at the end of 2030, the anticipated date of partial site release (i.e., the unrestricted release of the entirety of the site with the exception of the ISFSI). Specifically, the excess funds equal approximately [ [ ] ]. When evaluating radiological decommissioning and spent fuel management costs to 2055, the staff again found a positive balance (although license termination is planned for 2054 and so there are no costs in 2055, DTF earnings and DOE reimbursements are still obtained in 2055). Specifically, the excess funds equal approximately [ [ ] ].

Although DEK has only been granted an exemption to use excess funds from the KPS DTF for spent fuel management costs in addition to using these funds for radiological decommissioning costs, the NRC staff also performed an independent cash flow analysis of the KPS DTF for a scenario under which the transferee obtains an exemption to also allow the use of excess funds from the KPS DTF for site restoration costs. Under this scenario, as reflected in Attachment B, after annual withdrawals for radiological decommissioning, spent fuel management, and site restoration activities are considered and including anticipated DOE reimbursements and an annual two percent real rate of return, excess funds are present at the end of 2030, the anticipated date of partial site release. Specifically, the excess funds equal approximately [ [ ] ]. When evaluating radiological decommissioning, spent fuel management, and site restoration costs to 2055, the staff again found a positive balance. Specifically, the excess funds equal approximately [ [ ] ].

Additionally, according to the license transfer application, EnergySolutions will obtain a performance bond or bonds by the closing of the purchase agreement to support the decommissioning of KPS and the management of spent fuel. The bonds will be held by Dominion. The proceeds of these bonds, totaling up to \$75 million (phasing up and down according to the nature of the work performed in the phases), will be deposited in a Back-Up Nuclear Decommissioning Trust if called upon, and can only be used to facilitate the decommissioning of KPS or the management of spent fuel. These funds provide additional assurance of the financial qualification of the transferee. Consistent with these representations in the application, the KPS license will be conditioned as follows:

The proceeds of the performance bond(s) obtained pursuant to Section 5.14 of the May 6, 2021 Stock Purchase Agreement between EnergySolutions, LLC and Dominion Nuclear Projects, Inc. must be deposited in a Back-Up Nuclear Decommissioning Trust if called upon and can only be used to facilitate the decommissioning of Kewaunee Power Station or the management of spent fuel. The licensee will notify the Director of the NRC's Office of Nuclear Material Safety and Safeguards prior to reducing the value of the performance bond(s).

Based on its review, and in consideration of its independent cash flow analyses provided in Attachments A and B to this SE, as well as the discussion of spent fuel management funding, below, the NRC staff concludes that the Applicants have provided information sufficient to demonstrate that there is reasonable assurance that, after the proposed license transfer, funds will be available to cover estimated costs for decommissioning KPS.

#### 4.1.3 Financial Qualifications Summary

The NRC staff determined that the Applicants adequately addressed and evaluated all decommissioning costs associated with all phases of decommissioning KPS. Therefore, the staff determined that the Applicants' estimate of radiological decommissioning costs of [ [ ] ], spent fuel management costs of [ [ ] ], and site restoration costs of [ [ ] ] for KPS appears to be reasonable and to involve plausible assumptions and forecasts. Further, based on its review, and in consideration of its independent cash flow analyses, as well as the discussion of spent fuel management funding, below, the staff determined that, with respect to the KPS DTF, which would be retained by Kewaunee Solutions as part of the proposed transfer transaction and used as the source of funds for radiological decommissioning and spent fuel management, along with DOE reimbursements, there would be significant, positive balances at both the time of partial site release in 2030 and the time of license termination in 2054, even if the transferee were to obtain an exemption to also use the DTF for site restoration costs. Therefore, the staff determined that the Applicants provided reasonable assurance of the transferee obtaining the funds necessary to cover the estimated decommissioning costs. Taken together, the staff concludes that the Applicants provided reasonable assurance that the transferee would be financially qualified to be the holder of the KPS license in accordance with the requirements of 10 CFR 50.33(f), 10 CFR 50.33(k)(1), 10 CFR 50.75, 10 CFR 50.82(a), and 10 CFR 72.30.

#### 4.2 Spent Fuel Management Funding

For a facility in decommissioning, a licensee is required to execute financial plans for spent fuel management under 10 CFR 50.54(bb) and report annually on the status of funding dedicated to radiological decommissioning and spent fuel management under 10 CFR 50.82(a)(8)(v) – (vii).

Upon any NRC approval of the license transfer and the close of the purchase agreement, Kewaunee Solutions would hold title to the spent fuel at KPS and the related DOE standard contract, including all rights and obligations under the terms of that contract (see Section 5.0, “DOE Standard Contract for Disposal of Spent Nuclear Fuel,” of this SE for further discussion on this topic).

The license transfer application provided that the transferee’s funding plan for spent fuel management at KPS would rely on the use of funds from the KPS DTF in excess of those needed for radiological decommissioning, along with DOE reimbursements. DEK was granted an exemption on May 21, 2014 to use excess funds from the KPS DTF for spent fuel management. Before the point that DOE reimbursements are anticipated to be required for the spent fuel management funding sufficiency per the PSDAR, Revision 2 analysis, Kewaunee Solutions will seek an update to the current May 21, 2014 exemption to account for the reliance on DOE reimbursements for the period between partial site release and decommissioning of the ISFSI.

Kewaunee Solutions expects to recover from the DOE through litigation or settlement of its claims the spent fuel management costs that will be incurred as a result of the DOE’s breach of its obligations under the standard contract. In the Applicants’ October 28, 2021 response to RAs, they stated that in recent years, DOE reimbursements have become more consistent and predictable despite the longevity of the litigation process and complexity of the DOE standard settlement agreements. Therefore, the NRC staff concludes that DOE reimbursements provide a reasonable source of funds to cover spent fuel management costs at KPS. To ensure that these funds will be available to cover spent fuel management costs, the KPS license transfer order will be conditioned as follows:

At least two business days before the planned closing date of the purchase transaction, EnergySolutions shall provide the Director of the NRC’s Office of Nuclear Material Safety and Safeguards (NMSS) satisfactory documentary evidence of the establishment of, as of closing, a dedicated subaccount within the KPS decommissioning trust fund or a Back-Up Nuclear Decommissioning Trust containing \$7 million (approximately one year’s worth of estimated ISFSI operation and maintenance (O&M) costs). EnergySolutions shall also provide the Director of NMSS satisfactory documentary evidence of the establishment of, as of closing, a parent support agreement providing that EnergySolutions shall obtain a performance bond if a settlement agreement with the U.S. Department of Energy (DOE) on DOE reimbursements for spent fuel management expenses is not entered into by January 1, 2024. The performance bond will be effective January 1, 2024 in the amount of, at least, \$8 million, and it will be renewed annually. This amount covers the annual amount of ISFSI O&M costs projected for 2024–2030. The parent support agreement will provide that the performance bond value, combined with the aggregate trust fund values, will be sufficient for radiological decommissioning and ISFSI O&M costs at KPS at all times.

Additionally, as discussed above, EnergySolutions will also obtain a performance bond or bonds, the proceeds of which can only be used to facilitate the decommissioning of KPS or the management of spent fuel. These funds provide additional assurance of spent fuel management funding.

Based on its determination that the assumptions, activities, and associated costs of EnergySolutions' spent fuel management plan for KPS appear to be reasonable and that the KPS DTF, along with DOE reimbursements, appears to be sufficient to cover these costs, the NRC staff concludes that there is reasonable assurance of the transferee obtaining the funds necessary to cover estimated costs for spent fuel management in accordance with 10 CFR 50.33(f) and 10 CFR 50.54(bb).

#### 4.3 Financial Evaluation Conclusion

As discussed above, the NRC staff has concluded that the Applicants' estimate of radiological decommissioning and spent fuel management costs, as well as site restoration costs, appears to be reasonable and to involve plausible assumptions and forecasts. With the KPS DTF and DOE reimbursements, the transferee has reasonable assurance of obtaining the funds necessary to cover radiological decommissioning and spent fuel management costs in accordance with 10 CFR 50.33(f), 10 CFR 50.33(k)(1), 10 CFR 50.54(bb), 10 CFR 50.75, 10 CFR 50.82(a), and 10 CFR 72.30.

Additionally, EnergySolutions will be required to provide to the NRC notice of the planned closing date for the proposed transfer transaction prior to the date planned so that the NRC staff can timely issue the conforming administrative license amendments. Therefore, the order approving the transfer will be conditioned as follows:

After receipt of all required regulatory approvals of the indirect license transfer, the Applicants shall inform the Director of NMSS in writing of such receipt and of the date of the closing of the transfer no later than five business days prior to the date of the closing of the transfer.

Considering the foregoing evaluation and conditions, the NRC staff concludes that the transferee is financially qualified to be the licensee of RFOL No. DPR-43 for KPS, as proposed.

#### 5.0 DOE STANDARD CONTRACT FOR DISPOSAL OF SPENT NUCLEAR FUEL

By the terms of the proposed transfer transaction (i.e., by the execution of the purchase agreement) and provided that the NRC approves the license transfer, Kewaunee Solutions will hold title to the spent fuel at KPS and the related DOE standard contract, including all rights and obligations under the terms of that contract. Standard Contract No. DE-CR01-83NE44429, dated as of June 21, 1983, was entered into by the previous owners and the United States of America, represented by the DOE, to govern the disposal of the spent fuel generated at KPS. Kewaunee Solutions expects to recover from the DOE through litigation or settlement of its claims the spent fuel management costs that it will incur as a result of the DOE's breach of its obligations under the standard contract.

#### 6.0 ANTITRUST REVIEW

The AEA does not require or authorize antitrust reviews of post-operating license transfer applications (*Kansas Gas and Electric Co., et al.* (Wolf Creek Generating Station, Unit 1), CLI-99-19, 49 NRC 441 (1999)). The license transfer application post-dates the issuance of the operating license under consideration in this SE and, therefore, no antitrust review is required or authorized.

## 7.0 FOREIGN OWNERSHIP, CONTROL, OR DOMINATION

According to the application, EnergySolutions is not owned, controlled, or dominated by an alien, foreign corporation, or a foreign government. EnergySolutions is a wholly owned subsidiary of EnergySolutions Finance Holdings, LLC, which, in turn, is a privately held company whose shares are directly owned by Rockwell Holdco, Inc. (Rockwell).

Rockwell is currently 57 percent owned by a number of affiliated passive investment funds controlled by Energy Capital Partners GP II, LP (Controlling Partner): (i) Energy Capital Partners II, LP; (ii) Energy Capital Partners II-A, LP; (iii) Energy Capital Partners II-B, LP; (iv) Energy Capital Partners II-C, LP; and (v) Energy Capital Partners II-D, LP (collectively, ECP II Partnerships).

The ECP II Partnerships are each controlled by the Controlling Partner, a limited partnership under the laws of the State of Delaware. The Controlling Partner, in turn, is controlled by Energy Capital Partners II, LLC, a limited liability company organized under the laws of the State of Delaware. Energy Capital Partners II, LLC is owned and managed by five individual U.S. citizens.

Rockwell is also 40 percent owned by passive investment funds controlled by TriArtisan ES Partners, LLC. TriArtisan ES Partners, LLC is, in turn, controlled by TriArtisan ES MM, LLC, which is, in turn, controlled by TriArtisan Capital Advisors, LLC. All of these entities are limited liability companies organized under the laws of the State of Delaware and are controlled by two U.S. citizens.

Rockwell is also owned by the Spyder Retirement Trust (approximately 2.2 percent) and by the executive management of Rockwell (less than one percent). The trustee of the Spyder Retirement Trust and the executive management of Rockwell are all U.S. citizens.

Approximately 37 percent of the equity in all the ECP II Partnerships is held by passive investors who are foreign persons or entities. Approximately 38 percent of the equity in the TriArtisan entities is also held by foreign persons or entities. According to the application, these foreign persons or entities will have no ability to exercise control or domination over the operations of Rockwell, EnergySolutions, or any of the EnergySolutions subsidiaries, including Kewaunee Solutions. Accordingly, they will have no direct or indirect control over any NRC-licensed activity conducted by EnergySolutions or any of its subsidiaries.

Based on this information, the NRC staff finds that the transfer of the KPS license, as proposed, does not raise any issues related to FOCD within the meaning of the AEA and the NRC's regulations. In light of the above, and pursuant to Section 103d of the AEA and 10 CFR 50.38, the NRC staff concludes that it does not know or have reason to believe that the transferee or its owners will be owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government as a result of the license transfer.

## 8.0 NUCLEAR INSURANCE AND INDEMNITY

Pursuant to the requirements of the Price-Anderson Act (Section 170 of the AEA) and the NRC's implementing regulations in 10 CFR Part 140, the current indemnity agreement must be modified to reflect that, after the proposed transfer transaction, Kewaunee Solutions will be the sole licensee for the KPS license. Consistent with NRC practice, the NRC staff will require

EnergySolutions to provide evidence that it has obtained the appropriate amount of insurance pursuant to 10 CFR 140.11(a)(4) and 10 CFR 50.54(w), and that the insurance is effective concurrent with the date of the license transfer and amended indemnity agreement. Therefore, the order approving the transfer will be conditioned as follows:

At least two business days before the planned closing date of the purchase transaction, EnergySolutions shall provide the Director of NMSS satisfactory documentary evidence that the appropriate amount of insurance required of a licensee under 10 CFR 140.11(a)(4) and 10 CFR 50.54(w) has been obtained.

Based on the above, the NRC staff concludes that the proposed license transfer, as conditioned, satisfies the nuclear insurance and indemnity requirements of 10 CFR Part 140 and 10 CFR Part 50.

## 9.0 TECHNICAL EVALUATION

The NRC staff used regulations and guidance identified above in Section 3.0 during its technical qualifications evaluation. The evaluation was also supplemented by RAIs. The purpose of the staff's technical qualifications evaluation is to ensure that the proposed corporate management is involved with, informed of, and dedicated to the safe operation, maintenance, and decommissioning of KPS, and that adequate technical and financial resources will be provided to support these activities.

### 9.1 Management and Technical Support Organization

The NRC staff reviewed the license transfer application to determine the acceptability of the proposed corporate management and technical support organization. The application was evaluated consistent with NUREG-0800, Section 13.1.1, paragraph I.4, which pertains to reviewing organizational charts of the corporate-level management and technical support organizations, the relationship of the nuclear-oriented parts of the organization to the rest of the corporate organization, and the description of the specific provisions that have been made for uninterrupted technical support for operations.

In the PSDAR currently applicable to KPS, PSDAR, Revision 1, dated April 25, 2014, the date for the shipping of the spent fuel to DOE is given as 2021. As part of its transition continuity review of the EnergySolutions proposed PSDAR, Revision 2, the NRC staff found it unclear whether EnergySolutions intended to commit to and follow the current DEK IFMP. In their RAI response dated October 28, 2021, the Applicants stated that the spent fuel maintained at KPS is located in the ISFSI and will remain there until accepted by the DOE, which is consistent with the current DEK IFMP. The EnergySolutions proposed PSDAR, Revision 2 discusses changes to the timeline for DOE acceptance of spent fuel and estimates that the DOE will start accepting spent fuel in 2050, as opposed to the previously estimated date of 2021. To maintain continuity for uninterrupted technical support for operations during the transition from DEK to Kewaunee Solutions, EnergySolutions committed to providing to the NRC an updated IFMP within 90 days after any consummation of the license transfer. This is consistent with 10 CFR 50.54(bb), which states, in part, that the licensee shall notify the NRC of any significant changes in the IFMP.

## EnergySolutions and Kewaunee Solutions

Upon any NRC approval of the license transfer and any closing of the purchase agreement, EnergySolutions will acquire DEK and rename it Kewaunee Solutions. Thus, the same corporate entity will remain the KPS licensee following the transfer of control; however, it will operate under a new name, and it will be a direct, wholly owned subsidiary of EnergySolutions. Kewaunee Solutions will comply with all of the requirements of the KPS license, including the NRC-approved QA program that may apply at the time of the license transfer, and will have the responsibility under the license to complete radiological decommissioning pursuant to NRC regulations. As DEK's decommissioning approach for KPS was the SAFSTOR method, the new DECON method that EnergySolutions plans to pursue will require a transition by Kewaunee Solutions with the proper financial, management, and technical oversight. These areas include managing the cost of each decommissioning alternative, minimization of occupational radiation exposure, availability of low-level waste disposal facilities, availability of a high-level waste (spent fuel) repository or DOE interim storage facility, regulatory requirements, and public concerns. Kewaunee Solutions proposed the DECON implementation method with the goal of accelerating and completing the KPS decommissioning and releasing the KPS site (except for any onsite waste storage facilities) in approximately eight and one-half years after the license transfer.

The EnergySolutions proposed PSDAR, Revision 2 states that it used the modified bulk material removal approach to plant decontamination and decommissioning for estimates, schedules, and waste volumes reported in the PSDAR. This approach lowers exposure risks to workers and can also lower overall costs for decommissioning; however, it generates higher low-level radioactive waste volumes and related disposal costs. Kewaunee Solutions plans to draw upon its parent company (EnergySolutions) for its technical knowledge for bulk material removal using specialized high-level waste management, spent fuel handling, transportation, and complex decommissioning and decontamination services. These expertise services have been structured within the Kewaunee Solutions organization and can be further supplemented, as necessary, during the estimated eight and one-half years DECON period along with consistent communications with the parent company.

Kewaunee Solutions will begin planning to conduct major decommissioning activities with detailed preparations and procedures. A transition from SAFSTOR to planning the decontamination and dismantlement (i.e., DECON) activities would occur and is scheduled to begin in the first quarter of 2022, with the completion of engineering and implementing procedures by the end of 2023. The required organizational structure will be established, including retaining available plant staff and using outside resources, as needed, and maintained until the completion of the decommissioning and license termination.

Kewaunee Solutions' responsibilities as the licensee, as described in the EnergySolutions proposed PSDAR, Revision 2, Section B.1, include:

- Decommissioning planning and design.
- Design containment access modifications, as required.
- Determine and procure staffing required to accomplish the required work.

- Prepare site support and storage facilities, as required.
- Plan and design the site characterization. Begin site characterization so that radiological, regulated, and hazardous materials may be identified, categorized, and quantified as decommissioning progresses.
- Prepare integrated work sequences and schedules for decontamination and dismantlement activities.
- Determine transportation and disposal container requirements (including shielding and stabilization) for activated materials and/or hazardous materials.
- Develop activity specifications and task-specific work procedures for occupational exposure control, control and release of liquid and gaseous effluents, processing of radioactive waste generated during decontamination and dismantlement, site security, and industrial safety.
- Prepare the License Termination Plan and other decommissioning licensing documents.
- Obtain necessary environmental permits to support the work.
- Complete decommissioning planning and design activities, as needed.
- Perform post-SAFSTOR baseline radiation survey.
- Conduct post-SAFSTOR radiation surveys of work areas, major components, and sampling of internal piping contamination levels.
- Select shipping casks and obtain shipping permits.
- Design, specify, and procure special items and materials.
- Procure non-engineered standard equipment.
- Revitalize plant infrastructure and repower site, as needed.
- Test special cutting and handling equipment and train operators.
- Modify the containment structure as needed to permit removal of large components.
- Finalize radioactive material inventory.

The license transfer application describes the Energy*Solutions* and Kewaunee Solutions proposed organization structure as being similar to the corporate organization that exists in many current nuclear industry utilities and at other facilities that Energy*Solutions* manages such as Zion Nuclear Power Station, La Crosse Boiling Water Reactor, San Onofre Nuclear Generating Station, Fort Calhoun Station, and Three Mile Island Nuclear Station, Unit No. 2. Consistent with NUREG-0800, Section 13.1.1, paragraph I.4.c., Energy*Solutions* demonstrated provisions made for uninterrupted technical support for operations at KPS. The Applicants

provided a pre-transfer ownership chart, a post-transfer ownership chart, and a chart of the Kewaunee Solutions organization. As noted, the EnergySolutions senior management organization will ensure that the new Kewaunee Solutions manager meets all existing qualification requirements as appropriate and that the needed support is provided during the transition from DEK to Kewaunee Solutions and from SAFSTOR to DECON.

The proposed senior management organization would have the following structure between EnergySolutions personnel and Kewaunee Solutions:

1. The Chief Operating Officer of EnergySolutions, who will provide corporate accountability and oversight of the KPS project.
2. The Chief Nuclear Officer of EnergySolutions, who will be responsible for the execution of the nuclear programs and policies.
3. The Senior Vice President of Operations of EnergySolutions, who will be accountable for the overall management, leadership, performance, nuclear safety, QA, and employee safety.
4. A single Project Director directly responsible for KPS decommissioning operations including implementation of the approved programs and procedures to ensure safe and compliant work. The Project Director will report to the Senior Vice President of Operations.
5. Several managers, directly reporting to the Project Director, with responsibilities for radiological safety, industrial safety, project administration and financial services, training, labor relations, oversight of fuel storage, regulatory affairs, QA, licensing, environmental, decontamination and decommissioning, engineering and operations, waste operations, project controls, security, and ISFSI management.

### Summary

The Applicants described the indirect transfer of KPS to Kewaunee Solutions, the wholly owned subsidiary of EnergySolutions. The approach and organization for managing and its means for providing technical support for ownership while meeting the new DECON approach is essentially equivalent to the current qualifications of the DEK management and technical support organization. The change from SAFSTOR to DECON is further technically supported because of EnergySolutions' experience and expertise as a nuclear reactor decontamination and decommissioning vendor. Finally, as discussed in Section 2.1, Kewaunee Solutions will comply with all of the requirements of the NRC's regulations and the KPS license, including the NRC-approved QA program that may apply at the time of the license transfer.

### 9.2 Operating Organization

The NRC staff reviewed the license transfer application to determine the acceptability of the Kewaunee Solutions operating organization and to evaluate changes to the operating organization proposed as a result of the license transfer. The evaluation focused on using the applicable acceptance criteria in NUREG-0800, Section 13.1.1 and Sections 13.1.2–13.1.3, which indicate that the objective of a review of license transfers under 10 CFR 50.80 is to ensure that the corporate management is involved with, informed of, and dedicated to the safe

decommissioning of the plant. The Applicants provided an organizational chart showing the planned project organization developed with existing DEK employees and organizational structure. Resumes for key management personnel were also provided.

The Applicants stated that Kewaunee Solutions intends to subcontract technical support work related to maintenance and decontamination and decommissioning at KPS with only qualified contractors who have the experience to ensure the timely and safe completion of the tasks involved.

A specific Kewaunee Solutions focus will be executing support agreements with Dominion during post-closing for consulting and transition services to facilitate transfer of KPS knowledge and technical expertise. The application also anticipates Kewaunee Solutions implementing support agreements for the support services related to the management of the ISFSI and provisions for the onsite security functions, as appropriate. These contract support workers will report directly to the Project Director.

The Applicants stated that to ensure that the technical functions are carried over to post-closing, the Applicants would manage three agreements:

1. ISFSI Management Services Agreement,
2. Decontamination and Decommissioning Site Consulting Agreement, and
3. Transition Services Agreement.

The NRC staff evaluated the application, as supplemented, using the applicable acceptance criteria in NUREG-0800, Sections 13.1.2–1.3. Under the ISFSI Management Services Agreement, these employees will manage the ISFSI for the licensee. After the transition and realignment from DEK to Kewaunee Solutions, DEK employees will be retained and continue to perform their duties in substantially the same manner as during the 12-month period immediately preceding the date of the license transfer, and for a minimum of eight years after the license transfer. Under the Decontamination and Decommissioning Site Consulting Agreement, DEK employees will support and consult on the decontamination and decommissioning activities, as needed, including historical site assessments, fire protection, operations, etc. The Transition Services Agreement ensures that the required records will be transferred and that information technology functions are retained. These support agreements are intended to ensure that the previously performed protection services (security), operation and maintenance, engineering, and radiation protection and chemistry functions are maintained at the ISFSI. The agreements also support continued compliance with the applicable regulatory requirements (e.g., emergency planning, access authorization, records retention, etc.).

### Summary

The NRC staff determined that the license transfer application, as supplemented, demonstrated the continuity of organizational support planned for the decommissioning of KPS. The appropriate and necessary management processes and controls will be applied as per the lines of authority and communications. The transition from DEK to Kewaunee Solutions will retain the needed support services, site-specific knowledge, and the organizational ability to meet the planned and scheduled decommissioning activities for a partial site release under 10 CFR Part 50, as well as the long-term support for the ISFSI.

### 9.3 Technical Evaluation Conclusion

The license transfer application described the corporate-level management and technical support organization and the onsite operating organization of Kewaunee Solutions that will be responsible for the maintenance and decommissioning of KPS after the proposed transfer transaction. Based on its evaluation as summarized above, the NRC staff determined that Kewaunee Solutions will have an acceptable management organization and onsite organization and adequate resources to provide technical support for safe operation during the transition from SAFSTOR to an accelerated DECON schedule. The staff also determined that the Applicants provided reasonable assurance that the transferee has met the relevant technical requirements of 10 CFR 50.80 and 10 CFR 50.34 to engage in the proposed activities. Accordingly, in light of the foregoing evaluation, the staff concludes that Kewaunee Solutions will be technically qualified to hold the KPS license.

### 10.0 LICENSE TRANSFER EVALUATION SUMMARY

Based on its review of the information provided in the license transfer application, as supplemented, its independent analyses, and the conditions described herein, the NRC staff finds that the proposed transferee has satisfied the NRC's financial qualifications; antitrust; FOCD; nuclear insurance and indemnity; and technical qualifications requirements. Therefore, the staff concludes that: (1) the proposed transferee is qualified to be the holder of the license and (2) the transfer of the license is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission pursuant thereto.

### 11.0 CONFORMING LICENSE AMENDMENT

The Applicants requested a conforming amendment to RFOL No. DPR-43 for KPS and its Technical Specifications. The proposed conforming amendment reflects the proposed license transfer action. The proposed conforming amendment does not involve any change in the design or licensing basis, plant configuration, the status of KPS, or the requirements of the license.

The NRC staff reviewed the proposed changes and determined that they involve no safety questions, are administrative in nature, and are necessary to reflect the approved license transfer. Accordingly, the staff concludes that the proposed conforming amendment is acceptable. The amendment shall be issued and made effective at the time of the completion of the proposed transfer transaction.

As provided in 10 CFR 2.1315, unless otherwise determined by the Commission with regard to a specific application, the Commission has determined that any amendment to the license of a utilization facility, which does no more than conform the license to reflect the transfer action, involves no significant hazards consideration. No contrary determination has been made by the Commission with regard to this specific application.

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) 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.

## 12.0 HEARING REQUESTS AND PUBLIC COMMENTS

The NRC staff's notice of consideration of approval of the license transfer application and of a conforming amendment to the license to reflect the proposed transfer was published on October 12, 2021 (86 FR 56731). This notice provided an opportunity to request a hearing within 20 days and an opportunity to comment within 30 days. No hearing requests or comments were received.

## 13.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Wisconsin official, Mr. C. Adams, was notified of the proposed license transfer and issuance of a conforming amendment. The State official responded on January 7, 2022 (ADAMS Accession No. [ML22007A318](#)), stating that there were no comments.

## 14.0 ENVIRONMENTAL CONSIDERATIONS

The subject application is for approval of a transfer of a license issued by the NRC and for approval of an associated amendment of the license required to reflect the approval of the transfer. Accordingly, the actions involved meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(21). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the approval of the transfer application and conforming license amendment.

## 15.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) the proposed transferee is qualified to be the holder of the license and (2) transfer of the license is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission pursuant thereto.

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) 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.

Principle Contributors: Trent Wertz, NMSS/REFS/FAB  
Karl Sturzebecher, NMSS/DUWP/RDB

Date of issuance: March 31, 2022

**Attachment A  
KPS Cash Flow Analysis  
Without Site Restoration  
(Thousands of 2021 \$)**

Year	Beginning DTF Balance	License Termination	Spent Fuel Management <sup>a</sup>	NDT Earnings <sup>b</sup>	Ending DTF Balance	DOE Reimbursements <sup>c</sup>	Decommissioning Funds Available w/DOE Reimbursements <sup>d</sup>
2021	[[						
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2023							
2024							
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2026							
2027							
2028							
2029							
2030							
2031							
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2051							
2052							
2053							
2054							
2055							]]

NOTES: a - includes costs for ISFSI decommissioning  
b - based on a 2 percent real rate of return consistent with 10 CFR 50.75(e)(1)(i) and 10 CFR 50.82(a)(8)(vi), which considers growth of DTF net of taxes

- c - DOE reimbursements are assumed to have no growth
- d - includes all funds available for radiological decommissioning and spent fuel management

**Attachment B  
KPS Cash Flow Analysis  
With Site Restoration  
(Thousands of 2021 \$)**

Year	Beginning DTF Balance	License Termination	Spent Fuel Management <sup>a</sup>	Site Restoration	NDT Earnings <sup>b</sup>	Ending DTF Balance	DOE Reimbursements <sup>c</sup>	Decommissioning Funds Available w/DOE Reimbursements <sup>d</sup>
2021	[[							
2022								
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2029								
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NOTES: a - includes costs for ISFSI decommissioning

b - based on a 2 percent real rate of return consistent with 10 CFR 50.75(e)(1)(i) and 10 CFR 50.82(a)(8)(vi), which considers growth of DTF net of taxes

- c - DOE reimbursements are assumed to have no growth
- d - includes all funds available for radiological decommissioning and spent fuel management, as well as for site restoration if the transferee were to obtain an exemption to also use the DTF for site restoration costs