

NUCLEAR REGULATORY COMMISSION

Docket No. 50-305

Kewaunee Solutions, Inc.

Kewaunee Power Station

Exemption

I. Background

The Kewaunee Power Station (KPS) consists of a permanently shutdown and defueled pressurized water reactor located in Kewaunee County, Wisconsin. On May 7, 2013, the licensee at that time, Dominion Energy Kewaunee (DEK), permanently ceased power operations at KPS. On May 14, 2013, DEK certified that it had permanently defueled the KPS reactor vessel (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13135A209). On May 21, 2014 (ML13225A224), the U.S. Nuclear Regulatory Commission (NRC) approved an exemption from the specific requirements of paragraph (a)(8)(i)(A) of Section 50.82 "Termination of license," of Part 50, "Domestic Licensing of Production and Utilization Facilities," of Title 10 of the Code of Federal Regulations (10 CFR) and paragraph (h)(1)(iv) of 10 CFR 50.75, "Reporting and recordkeeping for decommissioning planning," for KPS. This exemption authorizes the licensee to use funds from the KPS nuclear decommissioning trust (NDT) for the management of spent nuclear fuel, and allows trust disbursements for spent fuel management to be made without prior NRC notice.

By letter dated March 29, 2023 (ML23093A031), Kewaunee Solutions, Inc., and EnergySolutions, LLC (Kewaunee Solutions and EnergySolutions, respectively, or the licensees), submitted, pursuant to 10 CFR 50.12, "Specific Exemptions," a request for an exemption to 10 CFR 50.82(a)(8)(i)(A) that would allow KPS to use funds from the NDT for site restoration activities. Pursuant to 10 CFR 50.12, the licensees also requested an exemption from 10 CFR 50.75(h)(1)(iv), which would allow trust disbursements for site restoration activities

to be made without prior notice to the NRC, similar to withdrawals in accordance with 10 CFR 50.82(a)(8) for decommissioning activities.

By letter dated October 5, 2023 (ML23278A100), the licensees provided a response to an NRC request for additional information (RAI), dated August 29, 2023 (ML23222A152), pertaining to decommissioning trust fund (DTF) cash flows that were provided in the initial exemption request submittal. The funds within the DTF were collected in compliance with the 10 CFR 50.75 financial requirements while KPS was operating. The licensees included with the exemption request a cash flow analysis reflecting the balance of funds within the trust throughout the decommissioning period, based upon a DECON decommissioning method ending in 2055, which is the year of anticipated license termination.

II. Request/Action

The request for an exemption from the requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) would allow the licensees to use funds from the KPS NDT for the management of site restoration activities and allow trust disbursements for site restoration activities to be made without prior notice to the NRC. The licensee's initial basis for the exemption request relied upon financial and other decommissioning data reflected in a May 13, 2021, letter from EnergySolutions titled "Notification of Amended Post Shutdown Decommissioning Activities Report (Revision 2) for Kewaunee Power Station" (ML21145A083), as well as on decommissioning cost estimate data provided with that letter. However, during the course of its review the NRC staff concluded that the status of funding in the KPS DTF had changed since submission of the May 13, 2021, letter. Specifically, the NRC staff noted that there were significant differences in the expenditure and cash flow data reported in the Post-Shutdown Decommissioning Activities Report (PSDAR) and site-specific decommissioning cost estimate (SSDCE) that formed the basis of the exemption request, and a more recent DTF Status Report, dated March 30, 2023 (ML23089A304), for the KPS NDT, which reflects financial data through December 31, 2022. Therefore, the NRC staff raised a concern that the PSDAR

and SSDCE data on which the NRC was to base its analysis of the portion of the exemption request relating to the requirement in 10 CFR 50.82(a)(8)(i)(A), to allow use of funds from the KPS NDT for site restoration activities, was outdated, and thus did not provide the timely information necessary for the staff to complete its analysis.

Subsequently, the NRC staff requested additional information from the licensees in an RAI letter dated August 29, 2023, requesting, in part, "... revised license termination, spent fuel management, and site restoration plans, including forecasted cash flow expenditure data, that reflect Kewaunee Solution's current assumptions about the decommissioning method, decommissioning activities, and the schedule of such activities for KPS," so that the staff could perform its analysis of the requested exemption with more timely data. The licensees responded by letter dated October 5, 2023, explaining that the basis for demonstrating adequate funding for the exemption request is provided in (1) the March 30, 2023, KPS DTF Status Report, which includes detailed license termination, spent fuel management, and site restoration costs; and (2) the total forecasted expenditure data provided in the RAI response, which is based on the DECON decommissioning method and the current schedule for decommissioning and license termination activities for KPS.

The requirement at 10 CFR 50.82(a)(8)(i)(A) restricts withdrawals from an NDT to expenses for legitimate decommissioning activities consistent with the definition in 10 CFR 50.2, "Definitions." The definition of "decommission" in 10 CFR 50.2 does not include activities associated with site restoration. Specifically, the definition of "decommission" in 10 CFR 50.2 is "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."

The requirement at 10 CFR 50.75(h)(1)(iv) also restricts the use of DTF disbursements (other than for ordinary administrative costs and other incidental expenses of the fund in connection with the operation of the fund) to decommissioning expenses until final radiological

decommissioning is completed. While the NRC previously approved an exemption for KPS to use funds from the KPS NDT for the management of spent fuel, an additional exemption from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) is needed to allow the licensees to use funds from the KPS NDT for site restoration activities at KPS. The requirement at 10 CFR 50.75(h)(1)(iv) further provides that, except for withdrawals being made under 10 CFR 50.82(a)(8) or for payments of ordinary administrative costs and other incidental expenses of the fund in connection with the operation of the fund, no disbursement may be made from the DTF without written notice to the NRC at least 30 working days in advance. Therefore, an exemption from 10 CFR 50.75(h)(1)(iv) is also needed to allow the licensees to use funds from the KPS NDT for site restoration activities at KPS without prior NRC notification.

III. Discussion

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 (1) when the exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security; and (2) when any of the special circumstances listed in 10 CFR 50.12(a)(2) are present. These special circumstances include, among other things:

- (ii) Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule; and
- (iii) Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated.

A. Authorized by Law

The requested exemption from the requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) would allow the licensees to use a portion of the funds from the KPS DTF for site restoration activities at KPS without prior notice to the NRC, in the same manner

that withdrawals are made under 10 CFR 50.82(a)(8) for decommissioning activities and through use of a previously authorized exemption for KPS spent fuel management activities. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50 when the exemptions are authorized by law. The NRC staff has determined, as explained below, that granting the licensees' proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

B. No Undue Risk to Public Health and Safety.

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) is to provide reasonable assurance that adequate funds will be available for the radiological decommissioning of power reactors. Based on the licensees' PSDAR, SSDCE, the most recent KPS DTF Status Report, additional information provided by the licensees in response to the NRC staff's RAI on this exemption request, and conclusions reached by the NRC staff in its independent cash flow analysis, the use of a portion of the KPS DTF for site restoration activities at KPS will not adversely impact the licensees' ability to complete radiological decommissioning within 60 years and terminate the KPS license. Furthermore, an exemption from 10 CFR 50.75(h)(1)(iv) to allow KPS to make withdrawals from the DTF for site restoration activities without prior written notification to the NRC will not affect the sufficiency of funds in the DTF to accomplish radiological decommissioning. This is because such withdrawals are still constrained by the provisions of 10 CFR 50.82(a)(8)(i)(B) – (C) and are reviewable under the annual reporting requirements of 10 CFR 50.82(a)(8)(v) – (vii). Therefore, KPS decommissioning trust funds, in accordance with 10 CFR 50.82(a)(8)(i)(B) – (C), may only be used by the licensee if: (1) an 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; (2) the withdrawals would not inhibit the ability of

the licensees to complete funding of any shortfalls in the DTF needed to ensure the availability of funds to ultimately release the site and terminate the license.

Based on the NRC staff's analysis of the information provided in support of this exemption request, as supplemented, there are no new accident precursors created by using the DTF in the proposed manner. Thus, the probability of postulated accidents is not increased. In addition, based on the above, the consequences of postulated accidents are not increased. No changes are being made in the types or amounts of effluents that may be released offsite. There is no significant increase in occupational or public radiation exposure. Therefore, the requested exemption will not present an undue risk to public health and safety.

C. Consistent with the Common Defense and Security

The requested exemption would allow the licensees to use funds from the KPS NDT for the management of site restoration activities and allow trust disbursements for site restoration activities to be made without prior notice to the NRC. Spent fuel management under paragraph (bb) of 10 CFR 50.54, "Conditions of licenses," is an integral part of the planned KPS decommissioning and license termination process; the NRC previously approved an exemption for KPS to use funds from the KPS NDT for the management of spent fuel. The current change, to enable the use of a portion of the funds from the DTF for site restoration activities, and to do so without prior written NRC notification, has no relation to security issues. Therefore, the common defense and security is not impacted by the requested exemption.

D. Special Circumstances

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the regulation.

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv), which restrict withdrawals from the DTF to expenses for radiological decommissioning activities, is to provide reasonable assurance that adequate funds will be available to complete radiological

decommissioning of power reactors and achieve license termination. Strict application of these requirements would prohibit the withdrawal of funds from the KPS DTF for activities other than radiological decommissioning activities at KPS, such as for spent fuel management and site restoration activities, until final radiological decommissioning at KPS has been completed. As noted above, the NRC previously approved an exemption for the licensees to use funds from the KPS NDT for the management of spent fuel on May 21, 2014.

According to the March 30, 2023, KPS DTF Status Report, the DTF for KPS contained \$745.6 million as of December 31, 2022. The licensees' analysis projects that the total remaining radiological decommissioning costs at KPS will be approximately \$654 million (2023 dollars), including the costs for decommissioning the onsite independent spent fuel storage installation (ISFSI). As required by 10 CFR 50.54(bb), the licensees estimated the costs associated with spent fuel management at KPS to be \$36.1 million (2023 dollars). Site restoration costs are estimated at \$38.1 million (2023 dollars). This reflects a total remaining estimated cost of approximately \$728.2 million for radiological decommissioning, spent fuel management, and site restoration activities, with license termination anticipated in 2055. In its analysis, the NRC staff assumed a 2 percent annual real rate of return on the DTF balance as allowed by 10 CFR 50.75(e)(1)(ii), and determined the projected earnings of the DTF.

The NRC staff's independent cash flow analysis projects that the KPS DTF will contain approximately \$84.3 million following completion of radiological decommissioning activities at the site (year 2031), and \$122.9 million at the end of all license termination, spent fuel management, and site restoration activities (year 2055), when considering use of the KPS DTF for payment of spent fuel management and site restoration expenses. The NRC staff's analysis aligns with the cash flow analysis provided by the licensees in their submittals. Tax liabilities related to DTF investments are not reflected in the NRC staff's analysis.

The NRC staff confirmed that the current funds and projected earnings of the KPS DTF provide reasonable assurance of adequate funding to complete all NRC-required radiological

decommissioning activities at KPS, as well as to pay for spent fuel management and site restoration activities. Therefore, the NRC staff finds that the licensees have provided reasonable assurance that adequate funds will be available for the radiological decommissioning of KPS, even with the disbursement of funds from the DTF for spent fuel management and site restoration activities. Consequently, the NRC staff concludes that application of the requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv), in addition to application of a previously authorized exemption for spent fuel management activities at KPS, which provide that funds from the DTF only be used for radiological decommissioning activities and not for site restoration activities, is not necessary to achieve the underlying purpose of the rule. Thus, special circumstances are present supporting approval of the exemption request.

In its submittal, the licensees also requested exemption from the requirement of 10 CFR 50.75(h)(1)(iv) concerning prior written notification to the NRC of withdrawals from the DTF to fund activities other than radiological decommissioning. The underlying purpose of notifying the NRC prior to withdrawal of funds from the DTF is to provide the opportunity for NRC intervention, when deemed necessary, if the withdrawals are for expenses other than those authorized by 10 CFR 50.75(h)(1)(iv), 10 CFR 50.82(a)(8), and by the previously approved exemption for spent fuel management expenditures from the DTF, which could result in there being insufficient funds in the DTF to accomplish radiological decommissioning.

By granting the exemption to 10 CFR 50.75(h)(1)(iv) and 10 CFR 50.82(a)(8)(i)(A), the NRC staff considers that withdrawals consistent with the licensees' submittal dated March 29, 2023, are authorized. As stated previously, the NRC staff determined that there are sufficient funds in the KPS DTF to complete radiological decommissioning activities, as well as to conduct spent fuel management and site restoration activities, consistent with the licensees' PSDAR and SSDCE, dated May 13, 2021, as well as the information provided in support of its exemption request, as supplemented.

Pursuant to the requirements in 10 CFR 50.82(a)(8)(v) and (vii), licensees are required to monitor and annually report to the NRC the status of the DTF and the licensee's funding for spent fuel management. These reports provide the NRC staff with awareness of, and the ability to take action on, any actual or potential funding deficiencies. Additionally, 10 CFR 50.82(a)(8)(vi) requires that the annual DTF Status Report must include additional financial assurance to cover the estimated cost of completion of radiological decommissioning if the sum of the balance of any remaining decommissioning funds, plus earnings on such funds calculated at not greater than a 2-percent real rate of return, together with the amount provided by other financial assurance methods being relied upon, does not cover the estimated cost to complete decommissioning.

The requested exemption would not allow the withdrawal of funds from the KPS DTF for any purpose that is not currently authorized in the regulations, or that has previously been authorized by exemption from the NRC, without prior notification to the NRC. Therefore, the granting of the exemption to 10 CFR 50.75(h)(1)(iv) to allow the licensees to make withdrawals from the KPS DTF to cover authorized expenses for site restoration activities without prior written notification to the NRC will still meet the underlying purpose of the regulation.

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(iii), are present whenever compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated. The licensees state, and the NRC staff has confirmed, that the KPS DTF contains funds in excess of the estimated costs of radiological decommissioning. The licensees further state that these excess funds are needed for spent fuel management and site restoration activities. The NRC does not preclude the use of funds from the NDT in excess of those needed for radiological decommissioning for other purposes, such as spent fuel management or site restoration activities.

The NRC has previously stated that funding for spent fuel management and site restoration activities may be commingled in the DTF, provided that the licensee is able to identify and account for the radiological decommissioning funds separately from the funds set aside for spent fuel management and site restoration activities (see NRC Regulatory Issue Summary 2001-07, “10 CFR 50.75 Reporting and Recordkeeping for Decommissioning Planning,” Revision 1, dated January 8, 2009 (ML083440158), and Regulatory Guide 1.184, “Decommissioning of Nuclear Power Reactors,” Revision 1, dated October 2013 (ML13144A840)). Preventing access to those excess funds in DTFs because spent fuel management and site restoration activities are not associated with radiological decommissioning would create an unnecessary financial burden without any corresponding safety benefit. The adequacy of the KPS DTF to cover the cost of activities associated with site restoration, in addition to radiological decommissioning and spent fuel management, is supported by the licensees’ SSDCE for KPS. If the KPS DTF cannot be used for site restoration activities, the licensees would need to obtain additional funding that would not be recoverable from the DTF, or would have to modify the decommissioning approach and methods planned at KPS. The NRC staff concludes that either outcome would impose an unnecessary and undue burden significantly in excess of that contemplated when 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) were adopted.

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) would continue to be achieved by allowing the licensees to use a portion of the KPS DTF for site restoration activities without prior NRC notification, and compliance with the regulations would result in an undue hardship or other costs that are significantly in excess of those contemplated when the regulations were adopted. Thus, the special circumstances required by 10 CFR 50.12(a)(2)(ii) and (iii) exist and support the approval of the requested exemption.

E. Environmental Considerations

In accordance with paragraph (a) of 10 CFR 51.31, "Determinations based on environmental assessment," the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment, as discussed in the NRC staff's Environmental Assessment and Finding of No Significant Impact published on January 25, 2024 (89 FR 4999).

IV. Conclusion.

In consideration of the above, the NRC staff finds that the proposed exemption confirms the adequacy of funding in the KPS DTF, considering growth, to complete radiological decommissioning of the site and to terminate the license, as well as to cover the estimated costs of spent fuel management and site restoration activities.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemption is authorized by law, will not present an undue risk to public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants Kewaunee Solutions, Inc., and EnergySolutions, LLC an exemption from the requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) to allow the use of a portion of the funds from the KPS DTF for site restoration activities in accordance with (1) the licensees' PSDAR and SSCE, (2) forecasted cost and scheduling information from the most recent KPS DTF Status Report, and (3) as provided in response to the NRC's RAI on this exemption request. Additionally, the Commission hereby grants the

licensees an exemption from the requirement of 10 CFR 50.75(h)(1)(iv) to allow such withdrawals from the KPS DTF for site restoration activities without prior NRC notification.

This exemption is effective upon issuance.

Dated: January 26, 2024.

For the Nuclear Regulatory Commission.

A handwritten signature in dark ink, appearing to read 'J. Marshall', is positioned to the left of the typed name.

Signed by Marshall, Jane
on 01/26/24

Jane E. Marshall, Director,
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards.