

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

ZION NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-295 & 50-304

REQUEST FOR EXEMPTION FROM 10 CFR 50.82(a)(8)(i)(A)

USE OF DECOMMISSIONING TRUST FUNDS

FOR MANAGEMENT OF SPENT FUEL

1.0 **INTRODUCTION:**

By letter dated June 4, 2013, (Agencywide Documents and Access Management System (ADAMS) Accession No. ML13157A056), ZionSolutions, LLC (ZS), pursuant to 10 CFR 50.12, "Specific Exemptions," submitted a request for an exemption from 10 CFR 50.82(a)(8)(i)(A), specifically:

Termination of license...(a) For power reactor licensees...(8)(i) Decommissioning trust funds may be used by licensees if ...(A) The withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2.

2.0 **BACKGROUND:**

Zion Nuclear Power Station, Units 1 & 2, (ZNPS) has been in active decommissioning since 2008 and is forecasting to finish decontamination to NRC requirements and complete site restoration by 2020.

Pursuant to 10 CFR 50.12, ZS is requesting an exemption from 10 CFR 50.82(a)(8)(i)(A) to obtain authorization to use funds from the ZNPS nuclear reactor decommissioning trusts to fund the full scope of activities currently planned in connection with the active decommissioning of ZNPS including the management of irradiated spent fuel consistent with the ZNPS's current Irradiated Fuel Management Plan and Post-Shutdown Decommissioning Activities Report (PSDAR).

By letter dated February 13, 1998, Commonwealth Edison, a predecessor as licensee of ZNPS, certified to the NRC the permanent cessation of operation of ZNPS. Subsequently, by separate letters dated February 14, 2000, Commonwealth Edison submitted the ZNPS Irradiated Fuel Management Plan (ADAMS Accession No. ML003685855), as required by 10 CFR 50.54(bb) and a PSDAR (ADAMS Accession No. ML003685879), as required by 10 CFR 50.82(a)(4)(i). On January 25, 2008, Exelon, a predecessor as licensee (subsequent to Commonwealth Edison), together with ZS submitted a license transfer application which included changes to the spent fuel management plan, (ADAMS Accession No. ML080310521). The amendment to the license for the transfer from Exelon to ZS was approved on September 1, 2010 (ADAMS Accession No. ML102290437) On March 18, 2008, ZS submitted an amended PSDAR for

ZNPS (ADAMS Accession No. ML080840398). The updated PSDAR includes the estimated costs and available decommissioning trust funds for active reactor decommissioning and dismantlement, and spent fuel management. The license transfer application demonstrated that the Nuclear Decommissioning Trusts (NDTs) contained funds in excess of the amount needed to cover the estimated costs of reactor radiological decommissioning and sufficient to also fund irradiated fuel management. The PSDAR reflected ZS's intention to use the NDTs for irradiated fuel management.

On January 10, 2013, ZS submitted an indirect license transfer application (ADAMS Accession No. ML13014A007), which was subsequently approved (ADAMS Accession No. ML13122A366). The indirect transfer of control would result from a proposed transaction whereby the ultimate parent holding company of ZS, EnergySolutions, Inc., would be acquired by Rockwell Holdco, Inc., a Delaware corporation that was formed for the purpose of acquiring EnergySolutions, Inc. This application for indirect transfer was approved on May 8, 2013 (ADAMS Accession No. ML13122A065). The January 10, 2013 application included an amended PSDAR for Zion Nuclear Power Station. The updated PSDAR includes the estimated costs and available decommissioning trust funds for active decommissioning, dismantlement, and spent fuel management. The NRC staff found that the license transfer application demonstrated reasonable assurance that the NDTs contained sufficient funds needed to cover the estimated costs of radiological decommissioning and sufficient to also fund irradiated fuel management (ADAMS Accession No. ML13122A065). The PSDAR reflected ZS's intention to use the NDTs for irradiated fuel management.

3.0 REGULATORY REQUIREMENTS:

10 CFR 50.82(a)(8)(i)(A) states that reactor decommissioning trust funds may be used by licensees if the withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2. The definition of decommissioning in 10 CFR 50.2 reads as follows:

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.

Similar to 10 CFR 50.82(a)(8)(i)(A), provisions of 10 CFR 50.75(h)(1)(iv) and (h)(2) dictate that, with certain exceptions, disbursements from nuclear decommissioning trusts "are restricted to decommissioning expenses." However, in accordance with 10 CFR 50.75(h)(5), those provisions do not apply to "any licensee that as of December 24, 2003, has existing license conditions relating to decommissioning trust agreements, so long as the licensee does not elect to amend those license conditions." The operating licenses for ZNPS included "existing license conditions relating to decommissioning trust agreements" on December 24, 2003, and as such, the provisions of paragraphs (h)(1) through (h)(3) of the regulations in 10 CFR 50.75 do not apply to ZNPS, pursuant to the terms of 10 CFR 50.75(h)(5).

In its June 4, 2013, request, ZS states that its plans for the use of nuclear decommissioning trust funds to actively decommission ZNPS involve the removal of ZNPS and the site safely

from service and involves the reduction of radioactivity at ZNPS site as necessary to ultimately release the site for unrestricted use and termination of the license (or modification for an on-site Independent Spent Fuel Storage Installation (ISFSI)). However, ZS claims that the United States Department of Energy (DOE) has failed to meet its obligations regarding the removal and permanent disposal of spent nuclear fuel. Thus, ZS is faced with circumstances that were not explicitly contemplated by the existing regulations, because it will not be possible to fully decommission ZNPS and terminate the licenses without first arranging for interim storage of spent nuclear fuel at an on-site ISFSI.

The ZNPS nuclear decommissioning trusts have been accumulated for purposes of complying with the financial assurance requirements of 10 CFR 50.75. Pursuant to the provisions of 10 CFR 50.75(c), the NRC's minimum financial assurance requirements exclude "the cost of removal and disposal of spent fuel." The management of spent nuclear fuel and planning for the funding of spent fuel management is separately addressed by 10 CFR 50.54(bb), and therefore, the NRC's financial assurance requirements in 10 CFR 50.75 are not directly designed to capture the costs of removing and disposing spent nuclear fuel.

Notwithstanding the more limited scope of 10 CFR 50.75, the regulation also allows accumulation of funds pursuant to site-specific cost estimates, which may include costs that go beyond NRC requirements. In fact, ZS claims the accumulation of trust funds for ZNPS was based upon site-specific cost estimates which included costs for the management of spent nuclear fuel. For example, according to the June 4, 2013, request, in a February 21, 2001 Amended Order, the Illinois Commerce Commission rejected arguments from interveners that trust fund collections for ZNPS be adjusted to "remove spent fuel storage costs from ComEd's estimates." Moreover, in its NRC license transfer application, ZS documented its plans to use funds from the nuclear decommissioning trusts to pay for the construction of an ISFSI and the transfer of spent nuclear fuel to the ISFSI. These plans were also included in the updated PSDAR. ZS notes that thereafter, these plans were reviewed and accepted in connection with NRC's Order approving the transfer of the ZNPS licenses to ZS and its accompanying Safety Evaluation Report (SER) (ADAMS Accession No. ML102290437). The SER acknowledges this use of the NDT monies as follows:

All of its licensed activities would involve possession of radioactive material in connection with maintaining the safe storage condition of the plant, maintaining the spent fuel pool and proposed ISFSI, and completing the decommissioning of Zion Nuclear Power Station. The existing decommissioning trust funds currently held by Exelon will be the primary source of funds to be used by ZS.

Following the transfer of the ZNPS licenses to ZS, ZS further documented these plans in a revised Irradiated Fuel Management Plan, submitted on November 2, 2010 (ADAMS Accession No. ML103070117), which was submitted for the purpose of assuring compliance with 10 CFR 50.54(bb).

4.0 JUSTIFICATION FOR EXEMPTION:

10 CFR 50.12 states that the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of the regulations of Part 50 which are authorized by law, will not present an undue risk to the public health and safety, and

are consistent with the defense and security. 10 CFR 50.12 also states that the Commission will not consider granting an exemption unless special circumstances are present.

4.1 The exemption is authorized by law:

According to the June 4, 2013, submittal, the proposed exemptions would confirm ZS's authorization to use funds from the nuclear decommissioning trusts for irradiated fuel management, consistent with the Zion Nuclear Power Station updated Irradiated Fuel Management Plan and PSDAR. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50. The proposed exemptions would 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.

4.2 The exemption will not present undue risk to public health and safety:

According to the June 4, 2013, submittal, the underlying purpose of 10 CFR 50.82(a)(8)(i)(A) is to provide reasonable assurance that adequate funds will be available for decommissioning of power reactors within 60 years of the date of permanent cessation of operations. Based on a review of the site-specific cost estimate and the cash flow analysis, the NRC staff found that there is reasonable assurance that the use of the nuclear decommissioning trusts funds in the proposed manner will not adversely impact ZS's ability to complete the prompt radiological decommissioning of the ZNPS site and ultimately to terminate the ZNPS licenses within 60 years, consistent with the schedule and costs contained in the ZNPS's PSDAR. Therefore, the underlying purpose of the regulation will continue to be met. Since the underlying purpose of the rule will continue to be met, the exemption will not present an undue risk to the public health and safety.

4.3 The exemption is consistent with the common defense and security:

According to the June 4, 2013, submittal, the proposed exemption would confirm ZS's authorization to use NDT funds for irradiated fuel management, consistent with the ZNPS updated Irradiated Fuel Management Plan and PSDAR. Irradiated fuel management is an integral part of the planned ZNPS decommissioning process as discussed in the ZNPS PSDAR and the updated Irradiated Fuel Management Plan. Use of the NDTs as contemplated by the Irradiated Fuel Management Plan and PSDAR will not adversely affect ZS's ability to physically secure the site or protect special nuclear material. Security plan changes to accommodate the movement of the irradiated fuel to the ISFSI were approved by the NRC on December 12, 2013. (ADAMS Accession No. ML13310C058) These security plan changes were consistent with the Irradiated Fuel Management Plan and PSDAR and the use of NDT funds for irradiated fuel management. Therefore, the proposed exemptions are consistent with the common defense and security.

4.4 Special circumstances:

According to 10 CFR 50.12(a)(2), the NRC will not consider granting an exemption to its regulations unless special circumstances are present. ZS believes that special circumstances are present as discussed below.

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) is to provide reasonable assurance that adequate funds will be available for decommissioning of power reactors within 60 years of permanent cessation of operations. The regulation could limit the withdrawal of funds from the nuclear decommissioning trusts for activities directly associated with irradiated fuel management until the ZNPS licenses have been terminated. However, the ZNPS licenses cannot be terminated unless the irradiated fuel is first managed until such time that the U.S. Department of Energy takes possession of the irradiated fuel. Moreover, the site-specific decommissioning cost analysis demonstrates that adequate funds are reasonably available in the nuclear decommissioning trusts to both manage the irradiated fuel and to complete all decommissioning and decontamination activities, including the activities necessary to remove much of the ZNPS site from the license and proceed down the path toward ultimate license termination. Finally, additional assurances have been provided to assure the availability of funds for radiological decontamination and decommissioning, including a \$200 million irrevocable letter of credit with the JPMorgan Chase Bank, N.A.

The adequacy of the nuclear decommissioning trusts to cover the cost of activities associated with the different elements of decommissioning (including the irradiated fuel management) is supported by a site-specific decommissioning cost analysis.

5.0 CONCLUSION:

The NRC staff finds that the proposed exemptions would confirm the availability for use of the nuclear decommissioning trust funds for irradiated fuel management activities in accordance with the ZNPS updated Irradiated Fuel Management Plan required by 10 CFR 50.54(bb) as well as the PSDAR. The NRC staff finds that there is reasonable assurance that adequate funds are available in the nuclear decommissioning trusts to complete all activities associated with license termination and irradiated fuel management. There is no decrease in safety associated with the NDTs being used to fund activities associated with irradiated fuel management. The exemption would confirm ZS's authorization to manage irradiated fuel in accordance with the updated Irradiated Fuel Management Plan and PSDAR and should be approved.

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