POLICY ISSUE
INFORMATION

February 2, 2009 SECY-09-0019

FOR: The Commissioners

FROM: R. W. Borchardt
Executive Director for Operations

SUBJECT: TRANSFER OF THE LICENSES FOR THE PERMANENTLY SHUTDOWN ZION NUCLEAR POWER STATION, UNITS 1 AND 2, FROM EXELON GENERATION COMPANY, LLC TO ZIONSOLUTIONS

PURPOSE:

To provide the results of the staff's review of the proposed license transfers for the permanently shutdown Zion Nuclear Power Station, Units 1 and 2 (Zion or ZNPS) from Exelon Generation Company, LLC (Exelon or the Applicant) to ZionSolutions (ZS) for the purpose of decommissioning the site. This paper does not address any new commitments or resource implications.

SUMMARY:

Exelon, the Zion licensee, submitted a request to transfer the licensed ownership, management authorities, and decommissioning trust fund of the facility to ZS, a subsidiary of EnergySolutions, LLC (ES). ZS was formed for the purpose of decommissioning the Zion site. The title to the site real estate and the spent nuclear fuel will remain with Exelon. ZS will construct an Independent Spent Fuel Storage Installation (ISFSI) and transfer the spent fuel to the ISFSI as part of the decommissioning. Following the decommissioning, currently scheduled for 10 years, the license for the spent fuel will be transferred back to Exelon. This would be the first time a permanently shutdown power reactor license would be transferred for the purpose of

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SECY NOTE: THIS SECY PAPER TO BE RELEASED TO THE PUBLIC 5 WORKING DAYS AFTER DISPATCH OF THE ORDER AND AMENDMENTS.

decommissioning. The staff has reviewed the proposal, focusing on the financial and technical qualifications of ZS to possess, maintain, and decommission the Zion facility, and determined that ZS is qualified to hold the license. Therefore, the staff intends to issue an Order, conforming amendments, and modified Price-Anderson indemnity agreements to approve the transfer.

BACKGROUND:

In February 1998, pursuant to 10 CFR 50.82(a)(1)(i), the Zion licensee certified to the U.S. Nuclear Regulatory Commission (NRC) that as of February 13, 1998, operations ceased at the Zion Units, and subsequently certified pursuant to 10 CFR 50.82(a)(1)(ii) that all fuel had been removed from the units' reactor vessels, and committed to maintain the units permanently defueled. Pursuant to 10 CFR 50.82(a)(2), operations at ZNPS are no longer authorized under the 10 CFR 50 licenses. On February 14, 2000, the licensee submitted a Post-Shutdown Decommissioning Activities Report (PSDAR) for the Zion Units, pursuant to 10 CFR 50.82(a)(4)(i). The units remain defueled and in a safe storage condition, as described in the PSDAR.

On January 25, 2008, Exelon, the Zion licensee, submitted a request to the NRC to transfer the operating license, including ownership and management authority, and the decommissioning trust fund of the facility to ZS, a subsidiary of ES. The title to the site real estate and the spent nuclear fuel would remain with Exelon. ZS plans to construct an ISFSI and transfer the spent fuel to the ISFSI as part of the decommissioning. Following decommissioning, currently scheduled for 10 years, the license for the ISFSI and possession of the spent fuel would be transferred back to Exelon.

According to the application, the purpose of the proposed direct transfer of the licenses from Exelon to ZS is to permit accelerated radiological decontamination and subsequent completion of the decommissioning of the ZNPS as well as the environmental remediation of the Zion site. The Applicant states that the proposed transfer of the licenses is desirable because ZS would take advantage of the capability of its parent company, ES to accelerate the decommissioning of the Zion site and eliminate the risk associated with the cost and burial capacity for low level waste in the future.

ZS is a direct wholly owned subsidiary of ES and was expressly created to take ownership of Zion. ES has entered into an agreement with Exelon under which ZS will assume ownership of the facility and undertake decommissioning activities, which will be conducted by ES and its affiliated companies. As stated in the application, ZS, as the licensee for the Zion site, will be responsible for, and have ultimate control and final authority over, all licensed activities, including decommissioning. ES states that it specializes in providing nuclear services, such as high level waste management, spent fuel handling and transportation, as well as performing complex decontamination and decommissioning projects.

Under the terms of the proposed sale, which are set forth in the Asset Sales Agreement (ASA), ES will accomplish the operational and physical decommissioning of the Zion facility. Title to the spent fuel and greater than Class C radioactive waste, which will be stored in an ISFSI to be constructed by ZS, will remain with Exelon, pursuant to general licenses provided for in 10 CFR 31.9, 10 CFR 40.21 and 10 CFR 70.20. Exelon will also remain responsible for the ultimate disposition of the spent fuel and waste as provided for under the terms of Exelon's Standard Spent Fuel Disposal Contract with the U.S. Department of Energy.

On July 22, 2008, ES announced that it has received a favorable Private Letter Ruling from the United States Internal Revenue Service (IRS) concerning tax treatment of decommissioning funds related to the company's Zion Nuclear Power Station project. The IRS ruling concluded that the structure of the ES project will allow the ZS to assume control of decommissioning funds without having to recognize gains or losses at the time of transfer.

DISCUSSION:

While this will be the first time that a license for a permanently shutdown power reactor would be transferred for the purpose of decommissioning, the staff did not consider this to be a policy issue because regulatory criteria are well established for the transfer of a Part 50 license. The applicants' request for approval of the direct transfer of the Zion licenses was made pursuant to 10 CFR 50.80. Section 50.80(a) of 10 CFR states: "No license for a production or utilization facility, 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 shall give its consent in writing."

In addition, the requirements of 10 CFR 50.80(b) and (c) apply. Section 50.80(b)(1)(i) states that an application for a license transfer shall include as much of the information described in 10 CFR 50.33 and 10 CFR 50.34 "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) states that "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 the transfer of the license is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission pursuant thereto."

Following the proposed direct transfer, ZS would not be authorized under the Part 50 licenses to operate or load fuel pursuant to the terms of 10 CFR 50.82(a)(2). Its licensed activities would be limited to possession of radioactive material in connection with maintaining the safe storage condition of the plant, maintaining the spent fuel pool, transferring the fuel to and maintaining the proposed ISFSI, as well as completing the decommissioning of Zion. The staff has evaluated the technical and financial qualifications of ZS to hold the license for the Zion facility based on the current licensed condition.

To ensure adequate oversight of licensee performance during the decommissioning process, NRC Region III is prepared to conduct the inspection activity that will be needed to verify licensee activities are conducted safely and in accordance with regulatory requirements. Specific inspection areas would include quality assurance, corrective action, and oversight; spent fuel safety, handling and transfer to a new ISFSI; modifications to the facility to support the ISFSI project; radiation protection; radioactive waste management; security; maintenance and surveillance; and decommissioning related activities.

Technical Qualifications:

The key technical qualifications for a permanently shutdown facility, such as the Zion facility, are related to maintaining the facility, including the spent fuel, in a safe and secure manner, constructing and transferring the spent fuel to a proposed ISFSI, removing and disposing of the large radioactive components, decontaminating and demolishing the remaining structures, and transporting radiologically contaminated and non-contaminated waste to an appropriate disposal facility. Expertise required for these activities include the areas of radiation protection, spent fuel handling and transportation, radioactive waste management, security, emergency planning, and radiological decommissioning.

The staff reviewed the application to ensure that the proposed corporate management is involved with, informed of, and dedicated to, safely performing the above activities and that sufficient, qualified technical resources will be provided to support safe plant decommissioning and maintenance. The staff also considered whether the proposed corporate management was capable of evaluating proposed changes to the organization that may occur as a result of the license transfer.

The initial operating organization at Zion was determined to be acceptable by the initial licensing review. Subsequent safety-related changes to the operating organization have been evaluated with an appropriate methodology. Therefore, the existing operating organization remains acceptable. The staff's review focused on evaluating any changes to the operating organization proposed as a result of the transfer.

The ZS organization will consist of existing Zion staff, augmented by an experienced management team and other technical resources as required. The personnel presently employed by Exelon will be integrated into the ZS organization, and the proposed transfer will have no impact on their ability to continue to safely maintain the facilities. An organization chart of the management structure was provided, along with resumes of corporate officers and station managers. The organization chart shows that the incumbent Plant Operations Manager will continue in that position under the proposed ZS organization and the resumes of the proposed management personnel demonstrate significant experience in the areas of radiation protection, spent fuel handling and transportation, radioactive waste management, security, emergency planning, and radiological decommissioning. Additionally, the applicant stated that, ". . . support for certain functions (e.g., training, emergency preparedness and quality assurance) may be obtained from ES' corporate organization or from Exelon (by contract) during the transition period."

Based on the continuity of plant staff and expertise of the proposed management, the staff concludes that the corporate level management and technical support organization and the onsite operating organization that will be responsible for the operation and maintenance of the ZNPS facilities after the transfer of licensed operating authority to ZS, meets NRC's regulatory requirements and demonstrates that ZS will be technically qualified to hold the ZNPS licenses.

Financial Qualifications:

Pursuant to the license transfer application, the existing decommissioning trust funds currently held by Exelon (approximately $727 million) will be the primary source of funds for the purpose of evaluating the financial qualifications of ZS. The NRC staff must find reasonable assurances that the site will be brought to NRC standards for decommissioning activities that result in complete radiological decontamination.

In February 1999, TLG Services, Inc. (TLG) completed a ZNPS site-specific decommissioning cost estimate. The applicant used the TLG estimates to obtain site-specific commodity quantities, and ES applied its own weights and currently estimated unit cost factors, which take into consideration the specific demolition methods and schedule ES plans to use, to arrive at an updated estimated cost to decommission the ZNPS. This estimate includes provisions for storage of spent fuel and greater than Class C wastes on the ZNPS site until 2018, as well as complete site restoration costs, also referred to as "Green Field," for all areas except for the proposed ISFSI. The application also stated that, pursuant to the terms of a Credit Support Agreement, ES will provide a $200 million Irrevocable Letter of Credit to ZS, which is payable to a backup non-qualified decommissioning trust, that will be established at closing, which will be drawn against a thrift institution to be named. The NRC staff will add the procurement of the $200 million Irrevocable Letter of Credit for ZS as a condition of the license transfer.

In addition to the Credit Support Agreement, ES committed to provide an Irrevocable Easement for Disposal Capacity of 7.5 million cubic feet to ZS, which provides for rights for disposal capacity at the Clive, Utah facility sufficient to dispose of all of the Class A Low-Level Waste that will be shipped from the ZNPS. This Irrevocable Easement for Disposal may be exercised such that no additional financial expenses will be incurred by the project. The staff considers this easement a material factor in assessing the financial qualifications of the proposed transferee. The NRC staff will add the procurement of the Irrevocable Easement for Disposal Capacity of 7.5 million cubic feet for ZS as a condition of the license transfer.

As of November 30, 2008, the market value of the combined Zion trust funds was approximately $727 million, including funds for site restoration not required by NRC regulations. ZS estimates NRC radiological decontamination costs to be $644 million. NRC staff reviewed that estimate given the proposed method outlined by ZS to conduct radiological decontamination and found the estimated cost reasonable. Based on the staff review of the forecasted expenses estimated by ZS, the available decommissioning funds, including the $200 million letter of credit, the economic value for disposal rights, and an independent estimate of decommissioning funding, the staff determined that ZS is financially qualified to hold the licenses as proposed for Zion.

The provisions of the Price-Anderson Act (Section 170 of the Atomic Energy Act) and the Commission's regulations at 10 CFR Part 140 require that the current indemnity agreement reflect that ZS will be the licensee after the proposed direct transfer takes effect. ZS will be required to maintain the financial protection required by 10 CFR Part 140 and the property insurance required by 10 CFR 50.54(w). Prior to the proposed direct transfers, ZS will obtain not less than $50 million onsite insurance coverage and not less than $100 million offsite coverage in accordance with NRC approved exemptions to 10 CFR 50.54(w) and 10 CFR 140.11 issued December 21, 1999. Participation in the secondary insurance pool is not required based on the permanently defueled status of the Zion Units.

The staff is aware that ES is considering delaying the finalization of the transfer of the Zion Nuclear Power Station assets until after the financial markets stabilize and the company reaffirms that there is sufficient value in the Zion decommissioning trust funds to ensure adequate funds for the complete decommissioning of the plant and restoration to green field. Exelon officials have informed ES that they are supportive of this strategy. Pursuant to the asset sale agreement, ES and Exelon have until December 2009, to close the transaction. The staff recognizes that ES has significant financial interest in ensuring sufficient funds in the decommissioning trust as NRC approval of the transfer is dependent on contingency funding provided by ES which ES would not want to expend. Although the value of the trust fund, as of November 30, 2008, is sufficient for NRC required decontamination and decommissioning, due to the recent market decrease the fund is no longer sufficient for restoration to green field. However, green field (except for the ISFSI and switchyard) is the contractually expected condition when ZS has finished their work prior to transferring it back to Exelon.

Although the staff believes that ES would not execute the transfer unless they considered the trust fund sufficiently funded to complete the decommissioning and restoration to green field without the use of the letter of credit contingency funding, that represents significantly more funding than necessary for the NRC required radiological decontamination. Given that the site specific cost estimate for NRC required decommissioning is $644 million and that there is currently $727 million in the decommissioning trust fund, the staff is satisfied with the current funding status.

CONCLUSION:

The staff's review of the proposed transfer determined that ZS is technically and financially qualified to receive the license for Zion. Therefore, the Office of Federal and State Materials and Environmental Management Programs (FSME) staff intends to prepare the necessary Order, conforming amendments, and modified Price-Anderson indemnity agreements to approve the transfer for FSME Office Director signature.

COORDINATION:

The Office of the General Counsel reviewed this package and has no legal objection.

The staff requests this paper be withheld until issuance of the order and amendments because it is pre-decisional.

/RA Martin Virgilio for/

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