



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR MATERIAL SAFETY

AND SAFEGUARDS RELATED TO

AMENDMENT NO. 193 TO FACILITY OPERATING LICENSE NO. DPR-39,

AMENDMENT NO. 180 TO FACILITY OPERATING LICENSE NO. DPR-48,

CONSTELLATION ENERGY GENERATION, LLC

ZION NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-295, 50-304, AND 72-1037

## 1.0 INTRODUCTION

By letter dated March 7, 2025 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML25066A171), Constellation Energy Generation, LLC (CEG, the licensee) submitted, for U.S. Nuclear Regulatory Commission (NRC) review and approval, a license amendment request for Facility Operating License (FOL) Nos. DPR-39 and DPR-48 for Zion Nuclear Power Station (Zion), Units 1 and 2. Specifically, the amendment request proposes to delete from the FOLs certain license conditions relating to the terms and conditions of decommissioning trust agreements and, instead, conform to the 10 CFR 50.75(h) regulations, and delete license conditions relating to the License Termination Plan (LTP).

## 2.0 REGULATORY EVALUATION

The NRC staff considered the following regulations, licensing basis, and guidance during its review of the proposed changes.

### 2.1 Regulations

#### Decommissioning Trust Provisions

On December 24, 2002, the NRC issued a final rule (67 FR 78332) promulgating new regulatory provisions at 10 CFR 50.75(h) that govern decommissioning financial assurance mechanisms for licensees that are not electric utilities as defined in 10 CFR 50.2. The provisions in 10 CFR 50.75(h) include substantially similar decommissioning trust requirements as those found in CEG's license conditions. In establishing these requirements, the NRC stated that it "has always believed that it is preferable and more efficient to adopt standard rules, as opposed to applying specific license conditions on a case by case basis" (67 FR 78334). In its 2002 rulemaking, the NRC addressed several comments regarding potential conflicts or inconsistencies between the provisions of 10 CFR 50.75(h) and a licensee's existing decommissioning funding trust license conditions. The NRC explained that "licensees will have the option of maintaining their existing

license conditions or submitting to the new requirements" and "will be able to decide for themselves whether they prefer to keep or eliminate their specific license conditions" (67 FR 78335, 78339). To support the option to amend and eliminate these license conditions, the NRC made a generic determination in 10 CFR 50.75(h)(4) that a license amendment, which does no more than delete specific license conditions relating to the terms and conditions of decommissioning trust agreements, involves "no significant hazards consideration."

After the promulgation of 10 CFR 50.75(h) in 2002, the NRC received a comment that the rule language did not sufficiently reflect the NRC's intent that individual licensees should have the option of retaining their existing license conditions. In response, the NRC promulgated 10 CFR 50.75(h)(5) on November 20, 2003 (68 FR 65386), which explicitly allowed licensees to either retain their existing facility specific decommissioning trust agreement license conditions or eliminate them in favor of complying with the generic decommissioning trust agreement regulatory requirements. Specifically, 10 CFR 50.75(h)(5) states:

The provisions of paragraphs (h)(1) through (h)(3) of this section 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. If a licensee with existing license conditions relating to decommissioning trust agreements elects to amend those conditions, the license amendment shall be in accordance with the provisions of paragraph (h) of this section.

CEG is not an electric utility as defined in 10 CFR 50.2. Consistent with 10 CFR 50.75(h)(5), CEG has elected to adopt the requirements of 10 CFR 50.75(h) by requesting deletion of the site-specific license conditions that are currently in the FOLs. Therefore, CEG must comply with the provisions in 10 CFR 50.75(h)(1) and (3) upon the implementation of the proposed amendment.

### License Termination Plan

The regulatory requirements applicable to the LTP are provided in 10 CFR 50.82(a)(9).

#### 2.2 Licensing Basis

##### Decommissioning Trust Provisions

The license conditions relating to the decommissioning trust agreement are in conditions C.(14) and C.(15) in both of the FOLs for Zion Unit 1 and Unit 2, and state:

- (14) The decommissioning trust agreement for Zion, [Unit 1 and Unit 2], at the time the transfer of the unit to CEG is affected and thereafter, is subject to the following:
  - (a) The decommissioning trust agreement must be in a form acceptable to the NRC.
  - (b) With respect to the decommissioning trust fund, investments in the securities or other obligations of Constellation Energy Corporation or affiliates thereof, or their successors or assigns are prohibited. Except for investments tied to market indexes or other nonnuclear sector mutual funds, investments in any entity owning one or more nuclear power plants are prohibited.

- (c) The decommissioning trust agreement for Zion, [Unit 1 and Unit 2], must provide that no disbursements or payments from the trust shall be made by the trustee unless the trustee has first given the Director of the Office of Nuclear Reactor Regulation 30 days prior written notice of payment. The decommissioning trust agreement shall further contain a provision that no disbursements or payments from the trust shall be made if the trustee receives prior written notice of objection from the NRC.
- (d) The decommissioning trust agreement must provide that the agreement cannot be amended in any material respect without 30 days prior written notification to the Director of the Office of Nuclear Reactor Regulation.
- (e) The appropriate section of the decommissioning trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Commission's regulations.

(15) CEG shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application for approval of the transfer of the Zion, [Unit 1 and Unit 2] license and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting the Order.

According to the application, the possibility to delete license conditions relating to the terms and conditions of decommissioning trust agreements and, instead, conform to the 10 CFR 50.75(h) regulations adopted in 2003 is specifically allowed by the provisions of 10 CFR 50.75(h)(5), and the generic finding of no significant hazards consideration in 10 CFR 50.75(h)(4) for such change.

#### License Termination Plan

The license conditions relating to the LTP are in condition C.(17) in both of the FOLs for Zion Unit 1 and Unit 2, and state:

(17) License Termination Plan (LTP)

CEG shall implement and maintain in effect all provisions of the approved License Termination Plan as approved in License Amendment [No. 191 / No. 178] subject to and as amended by the following stipulations:

CEG may make changes to the LTP without prior approval provided the proposed changes do not meet any of the following criteria:

- (A) Require Commission approval pursuant to 10 CFR 50.59.
- (B) Result in significant environmental impacts not previously reviewed.
- (C) Detract or negate the reasonable assurance that adequate funds will be available for decommissioning.

- (D) Decrease a survey unit area classification (i.e., impacted to not impacted; Class 1 to Class 2; Class 2 to Class 3; or Class 1 to Class 3) without providing the NRC a minimum 14 day notification prior to implementing the change in classification.
- (E) Increase the derived concentration guideline levels (DCGLs) and related minimum detectable concentrations (for both scan and fixed measurement methods).
- (F) Increase the radioactivity level, relative to the applicable DCGL, at which an investigation occurs.
- (G) Change the statistical test applied other than the Sign test.
- (H) Increase the approved Type I decision error above the level stated in the LTP.
- (I) Change the approach used to demonstrate compliance with the dose criteria (e.g., change from demonstrating compliance using derived concentration levels to demonstrating compliance using a dose assessment that is based on final concentration data).
- (J) Change parameter values or pathway dose conversion used to calculate the dose such that the resultant dose is lower than in the approved LTP and if a dose assessment is being used to demonstrate compliance with the dose criteria.
- (K) Reuse concrete from demolished structures, other than from the list of areas specified in Section 2.1.1 of TSD 17-010, "Final Report - Unconditional Release Surveys at the Zion Station Restoration Project, Revision 1", as backfill.
- (L) Assign a dose for reuse concrete other than the dose values provided along with the LTP (as shown in Table 6-53 (Revision 2) of the LTP) and documented in Section 8 and Table 33 of TSD 14-010, "RESRAD Dose Modeling for Basement Fill Model and Soil DCGL and Calculation of Basement Fill Model Dose Factors and DCGLs, Revision 6."
- (M) Use area-specific surrogate ratios that are less than the maximum surrogate ratios (H-3/Cs-137, Ni-63/Co-60, Sr-90/Cs-137) presented in Table 5-15 (Revision 2) of the LTP.

## 2.3 Guidance

NUREG-1577, Rev. 1, "Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance" was used to review the licensee's license amendment request.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Method of Review

The NRC staff evaluated the license amendment request to determine whether the proposed changes are consistent with the regulations, licensing basis information, and guidance, as applicable, discussed in section 2.0 of this safety evaluation.

#### 3.2 Removal of Decommissioning Trust Agreement License Conditions

##### 3.2.1 Removal of License Condition C.(14)(a)

Condition C.(14)(a) states that the decommissioning trust agreement must be in a form acceptable to the NRC. The NRC staff finds that these license conditions are related to decommissioning trust agreements and are implicit in the regulations in 10 CFR 50.75(e) and (h). Thus, the decommissioning trust requirements in 10 CFR 50.75(h), consistent with 10 CFR 50.75(h)(5), would apply to CEG with the deletion of these license conditions. Therefore, the staff finds CEG's request to delete these license conditions acceptable.

##### 3.2.2 Removal of License Condition C.(14)(b)

Condition C.(14)(b) states:

With respect to the decommissioning trust fund, investments in the securities or other obligations of Constellation Energy Corporation or affiliates thereof, or their successors or assigns are prohibited. Except for investments tied to market indexes or other nonnuclear sector mutual funds, investments in any entity owning one or more nuclear power plants are prohibited.

The content of license conditions C.(14)(b) for Zion Unit 1 and Unit 2 is addressed in 10 CFR 50.75(h)(1)(i)(A), which states:

The trustee, manager, investment advisor, or other person directing investment of the funds: Is prohibited from investing the funds in securities or other obligations of the licensee or any other owner or operator of any nuclear power reactor or their affiliates, subsidiaries, successors or assigns, or in a mutual fund in which at least 50 percent of the fund is invested in the securities of a licensee or parent company whose subsidiary is an owner or operator of a foreign or domestic nuclear power plant. However, the funds may be invested in securities tied to market indices or other non-nuclear sector collective, commingled, or mutual funds, provided that this subsection shall not operate in such a way as to require the sale or transfer either in whole or in part, or other disposition of any such prohibited investment that was made before the publication date of this rule, and provided further that no more than 10 percent of trust assets may be indirectly invested in securities of any entity owning or operating one or more nuclear power plants.

Based on this information, the NRC staff finds that these license conditions are related to decommissioning trust agreements. Thus, the decommissioning trust requirements in 10 CFR 50.75(h), consistent with 10 CFR 50.75(h)(5), would apply to CEG with the deletion of these license conditions. Therefore, the staff finds CEG's request to delete these license conditions acceptable.

### 3.2.3 Removal of License Condition C.(14)(c)

Condition C.(14)(c) states:

The decommissioning trust agreement for Zion, [Unit 1 and Unit 2], must provide that no disbursements or payments from the trust shall be made by the trustee unless the trustee has first given the Director of the Office of Nuclear Reactor Regulation 30 days prior written notice of payment. The decommissioning trust agreement shall further contain a provision that no disbursements or payments from the trust shall be made if the trustee receives prior written notice of objection from the NRC.

The content of license conditions C.(14)(c) for Zion Unit 1 and Unit 2 is addressed in 10 CFR 50.75(h)(1)(iv), which states:

Except for withdrawals being made under § 50.82(a)(8) or for payments of ordinary administrative costs (including taxes) and other incidental expenses of the fund (including legal, accounting, actuarial, and trustee expenses) in connection with the operation of the fund, no disbursement or payment may be made from the trust, escrow account, Government fund, or other account used to segregate and manage the funds until written notice of the intention to make a disbursement or payment has been given to the Director, Office of Nuclear Reactor Regulation, Director, Office of New Reactors, or Director, Office of Nuclear Material Safety and Safeguards, as applicable, at least 30 working days before the date of the intended disbursement or payment. The disbursement or payment from the trust, escrow account, Government fund or other account may be made following the 30-working day notice period if the person responsible for managing the trust, escrow account, Government fund, or other account does not receive written notice of objection from the Director, Office of Nuclear Reactor Regulation, Director, Office of New Reactors, or Director, Office of Nuclear Material Safety and Safeguards, as applicable, within the notice period. Disbursements or payments from the trust, escrow account, Government fund, or other account used to segregate and manage the funds, other than for payment of ordinary administrative costs (including taxes) and other incidental expenses of the fund (including legal, accounting, actuarial, and trustee expenses) in connection with the operation of the fund, are restricted to decommissioning expenses or transfer to another financial assurance method acceptable under paragraph (e) of this section until final decommissioning has been completed. After decommissioning has begun and withdrawals from the decommissioning fund are made under § 50.82(a)(8), no further notification need be made to the NRC.

Based on this information, the NRC staff finds that these license conditions are related to decommissioning trust agreements. Thus, the decommissioning trust requirements in 10 CFR 50.75(h), consistent with 10 CFR 50.75(h)(5), would apply to CEG with the deletion of these license conditions. Therefore, the staff finds CEG's request to delete these license conditions acceptable.

### 3.2.4 Removal of License Condition C.(14)(d)

Condition C.(14)(d) states:

The decommissioning trust agreement must provide that the agreement cannot be amended in any material respect without 30 days prior written notification to the Director of the Office of Nuclear Reactor Regulation.

The content of license conditions C.(14)(d) for Zion Unit 1 and Unit 2 is addressed in 10 CFR 50.75(h)(1)(iii), which states:

The trust, escrow account, Government fund, or other account used to segregate and manage the funds may not be amended in any material respect without written notification to the Director, Office of Nuclear Reactor Regulation, Director, Office of New Reactors, or Director, Office of Nuclear Material Safety and Safeguards, as applicable, at least 30 working days before the proposed effective date of the amendment. The licensee shall provide the text of the proposed amendment and a statement of the reason for the proposed amendment. The trust, escrow account, Government fund, or other account may not be amended if the person responsible for managing the trust, escrow account, Government fund, or other account receives written notice of objection from the Director, Office of Nuclear Reactor Regulation, Director, Office of New Reactors, or Director, Office of Nuclear Material Safety and Safeguards, as applicable, within the notice period.

Based on this information, the NRC staff finds that these license conditions are related to decommissioning trust agreements. Thus, the decommissioning trust requirements in 10 CFR 50.75(h), consistent with 10 CFR 50.75(h)(5), would apply to CEG with the deletion of these license conditions. Therefore, the staff finds CEG's request to delete these license conditions acceptable.

### 3.2.5 Removal of License Condition C.(14)(e)

Condition C.(14)(e) states:

The appropriate section of the decommissioning trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Commission's regulations.

The content of license conditions C.(14)(e) for Zion Unit 1 and Unit 2 is addressed in 10 CFR 50.75(h)(1)(i)(B), which states:

The trustee, manager, investment advisor, or other person directing investment of the funds: Is obligated at all times to adhere to a standard of care set forth in the trust, which either shall be the standard of care, whether in investing or otherwise, required by State or Federal law or one or more State or Federal regulatory agencies with jurisdiction over the trust funds, or, in the absence of any such standard of care, whether in investing or otherwise, that a prudent investor would use in the same circumstances. The term "prudent investor," shall have the same meaning as set forth in the Federal Energy Regulatory Commission's "Regulations Governing Nuclear Plant Decommissioning Trust Funds" at 18 CFR 35.32(a)(3), or any successor regulation.

Based on this information, the NRC staff finds that these license conditions are related to decommissioning trust agreements. Thus, the decommissioning trust requirements in 10 CFR 50.75(h), consistent with 10 CFR 50.75(h)(5), would apply to CEG with the deletion of these license conditions. Therefore, the staff finds CEG's request to delete these license conditions acceptable.

### 3.2.6 Removal of License Condition C.(15)

Condition C.(15) states:

CEG shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application for approval of the transfer of the Zion, [Unit 1 and Unit 2] license and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting the Order.

The content of license conditions C.(15) for Zion Unit 1 and Unit 2 is addressed in 10 CFR 50.75(h)(5), which states:

The provisions of paragraphs (h)(1) through (h)(3) of this section 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. If a licensee with existing license conditions relating to decommissioning trust agreements elects to amend those conditions, the license amendment shall be in accordance with the provisions of paragraph (h) of this section.

Consistent with 10 CFR 50.75(h)(5), CEG proposes to delete the license conditions. Upon the deletion of these license conditions, the provisions of 10 CFR 50.75(h) that specify the regulatory requirements for decommissioning trusts will apply to CEG. As noted in Section 2.2 of this safety evaluation, 10 CFR 50.75(h)(5) provides licensees with the option of retaining their existing license conditions relating to decommissioning trust agreements or eliminating them in favor of complying with the generic requirements for decommissioning trust agreements in 10 CFR 50.75(h). Therefore, the staff finds it acceptable to delete the license conditions.

### 3.2.7 Conclusion

The NRC staff reviewed CEG's request to delete the license conditions C.(14) and C.(15) in both of the FOLs for Zion Unit 1 and Unit 2, relating to the terms and conditions of decommissioning trust agreements and, instead, to comply with the regulations in 10 CFR 50.75(h). Based on its evaluation above, the NRC staff finds the licensee's proposed deletions to be reasonable and there will be reasonable decommissioning funding assurance needed to carry out decommissioning activities because the licensee must comply with the decommissioning trust fund requirements in 10 CFR 50.75(h). Therefore, the NRC staff concludes the licensee's request to be acceptable.

## 3.3 Removal of License Termination Plan License Conditions

CEG proposes to delete from the FOLs for Zion Units 1 and 2, the license condition C.(17) related to the LTP. As part of the NRC approval of the LTP, Amendment Nos. 191 and 178 incorporated License Condition C.(17) into the FOLs for both Zion Units 1 and 2, respectively (ML18164A223). This license condition established the criteria under which the licensee may make changes to the LTP without prior NRC approval and required that the provisions of the LTP remain in effect while the licensee is conducting the decommissioning and license termination activities described in the approved LTP.

The LTP addresses the decommissioning of the Zion site, excluding the ISFSI area. The LTP notes the end state for the decommissioning of the Zion site, as presented in the LTP, is

decommissioning and release of the site excluding the ISFSI area, which will be maintained under the Part 50 licenses.

The NRC approved the Partial Site Release of Zion on November 8, 2023 (ML23286A304). The NRC concluded that the remaining dismantlement had been performed in accordance with the approved LTP, and the final status surveys and associated documentation demonstrated that the entire site, with the exception of the ISFSI which will remain under the License Nos. DPR-39 and DPR-48, have met the criteria for decommissioning in 10 CFR Part 20, Subpart E. The NRC concluded that the requirements for license termination in 10 CFR 50.82(a)(11), for the Zion site outside the boundary of the ISFSI, were satisfied.

Because the decommissioning of the Zion site beyond the ISFSI area and the activities addressed in the LTP are now complete, the LTP is no longer applicable, and thus the LTP license condition C.(17) is no longer needed.

Prior to final license termination of the Zion Units 1 and 2 FOLs, the licensee will be required to demonstrate to the NRC that it has reduced the residual radioactivity at the ISFSI to the levels specified in 10 CFR Part 20, Subpart E. Therefore, once the spent fuel is removed from the Zion site in the future, a new LTP will need to be submitted for NRC approval, in accordance with 10 CFR 50.82(a)(9), to address decommissioning of the Zion ISFSI and final termination of the Zion Units 1 and 2 FOLs.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the license amendments on August 22, 2025. The State official responded by letter dated September 4, 2025 (ML25252A226), noting that the Illinois Emergency Management Agency and Office of Homeland Security finds no basis for denial of amendments approval.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The license amendments relate to changes in surety, recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

#### 6.0 CONCLUSION

The 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Date of issuance: December 2, 2025