



NUCLEAR REGULATORY COMMISSION

[Docket No. 50-320; NRC-2023-0117]

TMI-2 Solutions, LLC; Three Mile Island Nuclear Station, Unit 2

AGENCY: Nuclear Regulatory Commission.

ACTION: Exemption; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has issued an exemption in response to a request dated May 17, 2023, from TMI-2 Solutions, LLC (TMI-2S), for the Three Mile Island Nuclear Station, Unit 2 (TMI-2), that permits TMI-2S to investigate, trace, and report to the NRC any low-level radioactive waste shipment or part of a shipment for which acknowledgement of receipt is not received by TMI-2S within 45 days after transfer, rather than the 20 day requirement that is currently delineated in the NRC's regulations.

DATES: The exemption was issued on July 5, 2023.

ADDRESSES: Please refer to Docket ID **NRC-2023-0117** when contacting the NRC about the availability of information regarding this document. You may obtain publicly available information related to this document using any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2023-0117**. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; email: Stacy.Schumann@nrc.gov. For technical questions, contact the individual listed in the "For Further Information Contact" section of this document.

- **NRC's Agencywide Documents Access and Management System**

(ADAMS): You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, at 301-415-4737, or by email to PDR.Resource@nrc.gov. The ADAMS accession number

for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document.

- **NRC's PDR:** The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Amy M. Snyder, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-6822, email: Amy.Snyder@nrc.gov.

SUPPLEMENTARY INFORMATION: The text of the exemption is attached.

Dated: July 14, 2023.

For the Nuclear Regulatory Commission.

Shaun M. Anderson,
Chief,
Reactor Decommissioning Branch,
Division of Decommissioning, Uranium
Recovery and Waste Programs,
Office of Nuclear Material Safety
and Safeguards.

Attachment – Exemption.

NUCLEAR REGULATORY COMMISSION

Docket No. 50-320

TMI-2Solutions, LLC

Three Mile Island Station, Unit 2

Exemption from Certain Low-Level Waste Shipment Tracking Requirements

I. Background

The U.S. Nuclear Regulatory Commission (NRC, the Commission) license for Three Mile Island Station, Unit 2 (TMI-2) is Possession Only License No. DPR-73. TMI-2Solutions, LLC (TMI-2S) is the holder of Possession Only License (POL) No. DPR-73 for Three Mile Island Nuclear Station, Unit No. 2 (TMI-2). The POL provides, among other things, that the facility is subject to all rules, regulations, and orders of the NRC now or hereafter in effect. TMI-2 is located in Dauphin County, Pennsylvania.

TMI-2S is currently decommissioning the TMI-2 facility. Inherent to the decommissioning process, large volumes of low-level radioactive waste are generated. This low-level radioactive waste requires processing and disposal or disposal without processing, as appropriate. To this end, TMI-2S will transport, by truck or by mixed mode shipments like a combination of truck and rail, low-level radioactive waste from TMI-2 to locations such as waste disposal facilities owned by *EnergySolutions* in Clive, Utah, and Waste Control Specialists in Andrews, TX.

II. Request/Action

By letter dated May 17, 2023, TMI-2 Solutions, LLC (TMI-2S) submitted an exemption request (Agencywide Document Access and Management System (ADAMS) Accession No. ML23137A282). TMI-2S requests an exemption from certain requirements of 10 CFR 20, appendix G, section III.E, "Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifests." Specifically, TMI-2S requests an exemption from the requirement to investigate and report to the Nuclear Regulatory Commission (NRC) when notification of receipt of a shipment, or part of a shipment, of low-level

radioactive waste is not received within 20 days after transfer. TMI-2S is requesting that the time to receive acknowledgement that a shipment has been received by the intended recipient be extended from 20 days to 45 days for low-level radioactive waste shipments from the TMI-2 facility. Further, TMI-2S states that the requested exemption would be applicable to shipments from TMI-2 by rail or by mixed transportation modes, such as a combination of truck/rail shipments.

III. Discussion

The NRC's regulations at 10 CFR 20.2301, "Applications for exemptions," allow the Commission to grant exemptions from the requirements of the regulations in 10 CFR part 20 if it determines the exemption is authorized by law and would not result in undue hazard to life or property.

A. The Exemption is Authorized by Law

The requested exemption from 10 CFR part 20, appendix G, section III.E would extend the receipt acknowledgment period from 20 days to 45 days before TMI-2S would have to investigate, trace, and report on the status of a low-level radioactive waste shipment being transported from TMI-2 to a licensed low-level radioactive waste processing or land disposal facility. As stated above, 10 CFR 20.2301 allows the NRC to grant exemptions from the requirements of 10 CFR part 20 when, in part, the exemptions are authorized by law. The NRC determined that the requested exemption is permissible under the Atomic Energy Act of 1954, as amended, and other regulatory requirements. Therefore, the NRC finds that the requested exemption is authorized by law.

B. The Exemption Would Not Result in Undue Hazard to Life or Property

As stated in Enclosure 1 to SECY-18-0055, "Proposed Rule: Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning" (ADAMS Package Accession No. ML18012A019), the underlying purpose of 10 CFR part 20, appendix G, section III.E is to require licensees to investigate, trace, and report on low-level radioactive waste shipments that have not reached their destination, as scheduled, for unknown reasons.

In its exemption request, TMI-2S stated that for rail shipments from TMI-2, a tracking system will be utilized that allows daily monitoring of a shipment's progress to its destination. Shipping procedures prescribe the expectations for tracking and communications during transit. As a result of these controls that will remain in place during the extended time, granting an exemption to TMI-2S for shipments of low-level radioactive waste to disposal facilities or waste processors from 20 to 45 days will not result in an undue hazard to life or property. In its exemption request, TMI-2S stated that it will be transporting low-level radioactive waste from the TMI-2 facility to distant locations such as the waste disposal facilities owned by *EnergySolutions* in Clive, Utah, and Waste Control Specialists in Andrews, TX. TMI-2 plans to ship most of the waste to these disposal facilities or intermediate processors by rail. TMI-2S stresses that industry experience from other decommissioning projects shipping large quantities of low level radwaste to offsite disposal facilities, has shown that rail and mixed mode shipments can routinely take longer than 20 days, resulting in an excessive administrative burden due to the required investigations and reporting. Further, TMI-2S states that there are various reasons for these delays that cannot be anticipated or avoided and that are beyond the control of the shipper. Extending the time for receipt notification to 45 days before requiring investigation and reporting is a reasonable upper limit on shipment duration if a shipment is delayed, and does not create an undue hazard to life or property.

In support of its exemption request, TMI-2S identified the NRC staff statement in Enclosure 1 to SECY-18-0055 that "operating experience indicates that, while the 20-day receipt notification window is adequate for waste shipments by truck, other modes of shipment such as rail, barge, or mixed-mode shipments, such as combinations of truck and rail, barge and rail, and barge and truck shipments, may take more than 20 days to reach their destination due to delays in the route that are outside the shipper's control (e.g., rail cars in switchyards waiting to be included in a complete train to the disposal facility)." On this basis, the NRC staff proposed to amend 10 CFR part 20, appendix G, section III.E requirement to extend the receipt notification window to 45 days. TMI-2S also stated that its exemption request is similar to those previously submitted to and approved by the NRC for San Onofre Nuclear

Generating Station (ML20287A358), Fort Calhoun Station (ML20162A155), Vermont Yankee Nuclear Power Station (ML20017A069), La Crosse Boiling Water Reactor (ML17124A210), and Zion Nuclear Power Station (ML15008A417). Also, TMI-2S states that “[B]ased on ample industry decommissioning experience, TMI-2S anticipates the total transit time between when a waste shipment leaves the TMI-2 site until verification of receipt is received for the shipment at the waste disposal facility will, at times, exceed 20 days. The NRC staff note that all of the licensees that requested and were granted this exemption, previously had at least once missed 20-day receipt notification window. The NRC staff believe that due to the location of TMI-2 to low level waste disposal facilities (located at West) and the use of the rail system, that it is likely that without the exemption, TMI-2 would likely be in a similar situation to the licensees referenced above due to the rail transport system practices. Such rail delays, though, is not indicative of loss, but has shown in the past by other licensees to be a consequence of the complexity involved in shipping by rail.

TMI-2S further stated that although the proposed exemption from certain reporting requirements of 10 CFR 20, appendix G, section III.E is unrelated to any facility operation. TMI-2S said in its request that it will request daily updates be provided identifying the location of the shipment from the appropriate carrier. As a result, TMI-2S explains that it will be unlikely that a shipment could be lost, misdirected, or diverted without the knowledge of the carrier or TMI-2S personnel. According to TMI-2S, exceeding the 20-day requirement results in the “excessive administrative burden” of investigating and reporting, even though the shipments continue to be under requisite controls.

The NRC staff notes that the shipments are compliant with the Department of Transportation and NRC requirements for low-level radioactive waste packaging, placarding, and radiation levels for health and safety purposes during transit, including during switchyard staging. Therefore, there are no potential health or safety concerns associated with these shipments sitting in a switchyard for an extended period of time or taking more than 20 days overall.

Based on the history of low-level radioactive waste shipments from other Nuclear Power Plants in decommissioning and the lack of potential health or safety concerns associated with these shipments sitting in a switchyard for an extended period of time or taking more than 20 days overall, the need to investigate, trace, and report on these shipments that take longer than 20 days but not longer than 45 days is inappropriate. The NRC staff believes that the application of 45 days as an upper bound is appropriate for the same reasons as presented in Enclosure 1 to SECY-18-0055.

Additionally, as indicated in the exemption request, for truck and rail shipments from TMI-2, TMI-2S will use a tracking system that allows daily monitoring of a shipment's progress to its destination and TMI-2 shipping procedures prescribe the expectations for tracking and communications during transit. The NRC staff notes that this will allow for monitoring the progress of shipments on a daily basis, if needed, in lieu of the 20-day requirement, and will initiate an investigation as provided for by 10 CFR part 20, appendix G, section III.E after 45 days. Because of this oversight and the ability to monitor low-level radioactive waste shipments throughout the entire journey from TMI-2 to a disposal or processing facility, the staff concludes that it is unlikely that a shipment could be lost, misdirected, or diverted without the knowledge of the carrier or TMI-2S and that, therefore, there is no potential health or safety concern presented by the requested exemption. Furthermore, by extending the time for receipt acknowledgment to 45 days before requiring investigations, tracing, and reporting, a reasonable upper limit on shipment duration is maintained in the event that a breakdown of normal tracking systems was to occur.

Based on the above, the NRC staff finds that the requested exemption would not result in undue hazard to life or property.

C. Environmental Considerations

With respect to compliance with section 102(2) of the National Environmental Policy Act of 1969, as amended (NEPA), the NRC staff has determined that the proposed action, the approval of the TMI-2S exemption request, is within the scope of the categorical exclusion at 10 CFR 51.22(c)(25). The proposed granting of the exemption from certain requirements of the

NRC's regulations at 10 CFR part 20, appendix G, section III.E, would: (i) present no significant hazards consideration; (ii) not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (iii) not result in a significant increase in individual or cumulative public or occupational radiation exposure; (iv) have no significant construction impact; and (v) not result in a significant increase in the potential for or consequences from radiological accidents. Additionally, the requirements from which the exemption is sought involve reporting requirements under 10 CFR 51.22(c)(25)(vi)(B) and inspection or surveillance requirements under 10 CFR 51.22(c)(25)(vi)(C). Given the applicability of a relevant categorical exclusion, no further analysis is required under NEPA.

IV. Conclusions

Accordingly, the Commission has determined that, pursuant to 10 CFR 20.2301, the exemption is authorized by law and will not result in undue hazard to life or property. Therefore, effective immediately, the Commission hereby grants TMI-2S an exemption from 10 CFR part 20, appendix G, section III.E, to extend the receipt of notification period from 20 days to 45 days after transfer for rail or mixed-mode shipments of low-level radioactive waste from TMI-2 to a licensed land disposal or processing facility.

Dated: July 5, 2023.

For the Nuclear Regulatory Commission.

/RA/

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