

RULEMAKING ISSUE NOTATION VOTE

July 19, 2011

SECY-11-0097

FOR: The Commissioners

FROM: R. W. Borchardt
Executive Director for Operations

SUBJECT: DENIAL OF PETITION FOR RULEMAKING (PRM-32-6),
ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE
MANAGEMENT OFFICIALS

PURPOSE:

To obtain Commission approval to deny a petition for rulemaking (PRM) submitted by the Association of State and Territorial Solid Waste Management Officials (ASTSWMO or the petitioner).

BACKGROUND:

By letter dated November 6, 2009, the ASTSWMO submitted PRM-32-6 requesting the U.S. Nuclear Regulatory Commission (NRC) amend its regulations to improve the labeling and accountability of tritium exit signs (Enclosure 1). The petitioner requested that the NRC revise its regulations and/or guidance to require that: the labeling be in several locations on the sign and printed with larger font; an expiration date should be distinctly legible to a fire or building inspector without taking down the sign; and the radiation trefoil should be displayed on the front and back of advertisements. The petitioner, after an evaluation of a case history of landfill leachate sampling, made the assertion that most unaccounted for tritium exit signs are disposed of in solid waste landfills where they become potential sources of groundwater and surface water contamination. The petitioner claimed that a minority of tritium exit signs are returned to the manufacturer for recycling or disposed of as low-level radioactive waste.

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SECY NOTE: THIS SECY PAPER TO BE RELEASED TO THE PUBLIC 5 WORKING DAYS AFTER DISPATCH OF THE LETTER TO THE PETITIONER.

A notice of receipt of the petition was published in the *Federal Register* on January 12, 2010 (75 FR 1559), with the comment period ending March 29, 2010. The NRC received responses from 13 commenters including 2 manufacturers, 6 Agreement States, 1 Federal agency, and other industry representatives. The majority of commenters agreed that labeling should be improved and no commenter specifically disagreed with this request. Three commenters disagreed with the petitioner's assertions that unaccounted for tritium exit signs disposed of in solid waste landfills are a potential source of groundwater and surface water contamination. One commenter stated it did not believe that the inadvertent disposal of tritium exit signs poses a significant public health and safety issue, even if the relatively large numbers suggested by ASTSWMO were accurate. Another commenter stated that while it is true that relatively recent sampling of raw, untreated leachate from landfills in Pennsylvania and California resulted in the discovery of above background levels of tritium, it has been determined that, considering the treatment, dilution, and discharge processes to which this leachate is subjected, there is currently no risk to drinking water supplies or possible human exposure.

Additionally, ASTSWMO requested NRC take the following actions: 1) replacement of tritium exit signs with an alternative technology; 2) a national collection effort with distinct milestones and goals on all expired and disused tritium exit signs; and 3) organization of a meeting with ASTSWMO and interested stakeholders. Because these requests are outside the scope of rulemaking, and in some cases are outside the scope of NRC's statutory authority and mission, they were not considered in the context of resolving this petition. Currently, staff has not allocated resources for a public meeting with ASTSWMO and interested stakeholders and does not plan to do so unless the Commission directs otherwise.

DISCUSSION:

The staff has considered the petition and its supporting rationale. For the reasons set forth in a draft *Federal Register* notice addressing the petitioner's requested actions (Enclosure 2), the staff recommends denial of the petition for rulemaking.

In reaching this decision, the NRC reevaluated the radiological risks presented by tritium exit signs in general and from the levels of tritium reported in landfill leachate and determined that there is a lack of significant radiological risk to the public health and safety related to the petitioner's assertions. The NRC believes that even if the petitioner's assertions are credible, the NRC already has specific regulations in place that address the rulemaking requests contained in the petition. The NRC believes that the existing regulations adequately direct the proper methods of disposal, labeling, and information disclosure for tritium exit signs and provide reasonable assurance that common defense and security and public health and safety are adequately protected.

Users of tritium exit signs are regulated under the general license provisions in Title 10 of the *Code of Federal Regulations* (10 CFR) 31.5, along with users of many other types of devices containing byproduct material. The general license in 10 CFR 31.5 requires users of tritium exit signs: to not remove the labeling from the sign; to follow instructions and precautions on the label; to not abandon a sign; to properly dispose of signs by transferring them to a distributor or radioactive waste broker specifically licensed by the NRC or an Agreement State; to report any lost, stolen or broken sign(s) to the NRC; and to not give away or sell the sign to another individual, company, or institution unless it is to remain in use at a particular location, e.g., in a transfer of ownership of a building. In this latter case, under 10 CFR 31.5(c)(9)(i), the user of a

tritium exit sign is obligated to provide a copy of the regulatory requirements governing the use of such signs to the new general licensee and must notify the NRC of the transfer.

The petitioner raised questions about the requirements placed on distributors related to whether users and others who come into contact with the sign are properly informed of the fact that the sign contains radioactive material and is subject to certain controls, in particular those for disposal. These requirements are primarily addressed by 10 CFR 32.51(a)(3), which includes requirements for labeling and providing safety instructions, and 10 CFR 32.51a(a)–(c), which requires certain information that must be provided to customers prior to transfer of the signs, including copies of applicable regulations and information on options for and estimated costs of disposal. The petitioner stated that there needs to be multiple labels in several locations and that the labels need to be printed in larger font. The current 10 CFR 32.51(a)(3) requires the applicant for a license to distribute tritium exit signs to ensure that the label on the signs be durable, legible, clearly visible, and include certain information including a statement that use of the sign is generally licensed by the NRC or an Agreement State and that the label must be maintained in legible condition. The NRC must approve the applicant's plans for labeling when authorizing distribution to users, at which time the NRC can address the appropriateness of fonts and proper placement on the sign.

The petitioner requested that the expiration date be distinctly legible to a fire or building inspector without taking down the sign. The expiration date (i.e., the date the sign should be replaced in order to meet fire safety standards because as the tritium decays the brightness of the sign is reduced), is not a matter of NRC regulation because it focuses on visibility of the sign, not the safe use of the signs, and is more appropriately in the jurisdiction of other agencies responsible for fire safety.

The petitioner also requested that the radiation trefoil be displayed on the front and back of advertisements. The staff agrees with some of the commenters that the use of the trefoil on advertisements is not appropriate. In an earlier action related to misleading advertising, the staff issued Information Notice (IN) 99-26, "Safety and Economic Consequences of Misleading Marketing Information," dated August 24, 1999. The IN 99-26 alerted addressees to the fact that misleading marketing information and inadequate explanation of end-user regulatory requirements can lead to mishandling of generally licensed devices, and encouraged manufacturers and distributors to market generally licensed devices in such a way that the radioactive nature of the product is clearly understood and the regulatory requirements associated with the product are clearly explained.

With respect to tritium exit sign disposal, under 10 CFR 32.51a(a)–(c) or equivalent Agreement State regulation, distributors are required to supply customers prior to the actual transfer of the sign(s): with copies of relevant regulations, information on acceptable disposal options including estimated costs of disposal, and indication of the NRC's policy of issuing high civil penalties for improper disposal. Although disposal by transfer to a properly authorized specific licensee was always required, the previous regulatory framework did not require NRC or Agreement State notification of the transfer and disposal of tritium exit signs. Under the current regulatory framework, the NRC now receives many reports demonstrating proper transfer to a distributor. Because of the long useful lifetime of the signs and the more limited reporting requirements prior to 2001 (and later for those in Agreement States), it is not possible to determine exactly what fraction of signs may have been improperly disposed of by general licensees.

The petitioner asserted that “the majority” of unaccounted for tritium exit signs are disposed of in solid waste landfills where they may become potential sources of groundwater and surface water contamination. The staff concludes that the petitioner did not demonstrate that the excess tritium being found in landfill leachate, even if resulting from improper disposal of tritium exit signs, could result in hazardous levels of tritium in drinking water. Published reports such as “Radiological Investigation Results for Pennsylvania Landfill Leachate: 2009 Tritium Update,” by Safety and Ecology Corporation, Knoxville, TN, March 31, 2010, support this conclusion. More information is in Enclosure 2 with respect to staff’s conclusion that tritium concentrations associated with the possible improper disposal of exit signs into landfills would pose minimal risk to the health and safety of workers and the general public.

In January 2009, the staff received a final report from Wal-Mart indicating they could not account for a large number of tritium exit signs. The Wal-Mart report indicated that Wal-Mart did not adequately understand their status as a general licensee with associated responsibilities to account for their tritium exit signs. Subsequently, the staff issued a Demand for Information (DFI) to general licensees believed to possess at least 500 tritium exit signs. The purpose of the DFI was to ascertain whether other general licensees adequately understood their general licensee status, and had adequate control of their tritium exit signs.

As mentioned previously in this paper, the staff issued IN 99-26, to encourage manufacturers to be forthright with their customers concerning the radioactive nature of generally-licensed devices, and the associated responsibility that comes with owning them. Similarly, the staff issued Regulatory Issue Summary (RIS) 2006-25, “Requirements for the Distribution and Possession of Tritium Exit Signs and the Requirements in 10 CFR 31.5 and 32.51a,” to both remind distributors of generally-licensed devices of their regulatory responsibilities, and to remind general licensees of their responsibility to properly account for generally-licensed devices (which include tritium exit signs). Because of the staff’s experience with Wal-Mart and the results of the DFI, the accountability of tritium exit signs continues to be a challenge. General licensees’ accountability may be strengthened through enhancing regulatory guidance, as well as more effective communications between the NRC (and Agreement States) and manufacturers. The staff has analyzed issues identified by the petitioner and concluded that the issues raised in the petition do not result in a demonstrable safety impact to the general public that would justify additional requirements in the form of rulemaking. The staff will continue efforts to ensure that general licensees better understand the need to comply with existing requirements.

For these reasons, the staff finds that the arguments presented in the petition do not support rulemaking to revise the labeling and accountability of tritium exit signs.

RECOMMENDATIONS:

That the Commission:

1. Approve the denial of the petition for rulemaking and publication of the *Federal Register* notice announcing the closure;
2. Inform appropriate Congressional committees; and

The Commissioners

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3. Note that a letter is enclosed for the Secretary's signature (Enclosure 3), informing the petitioner of the Commission's decision on the petition.

COORDINATION:

The Office of the General Counsel has no legal objection to the denial of this petition.

/RA Martin Virgilio for/

R. W. Borchardt
Executive Director
for Operations

Enclosures:

1. Petitioner Petition, dated 11/06/09
2. *Federal Register* Notice
3. Letter to the Petitioner

3. Note that a letter is attached for the Secretary's signature (Enclosure 3), informing the petitioner of the Commission's decision on the petition.

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