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

November 2, 2011

SECRETARY

COMMISSION VOTING RECORD

DECISION ITEM: SECY-11-0097

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

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of November 2, 2011.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

/Andrew L. Bates

Andrew L. Bates
Acting Secretary of the Commission

Attachments:
1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Jaczko
Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff
OGC
EDO
PDR

VOTING SUMMARY - SECY-11-0097

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. JACZKO	X				X	10/20/11
COMR. SVINICKI	X				X	10/3/11
COMR. APOSTOLAKIS	X				X	9/19/11
COMR. MAGWOOD	X				X	9/22/11
COMR. OSTENDORFF	X				X	9/15/11

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: Chairman Gregory B. Jaczko

SUBJECT: SECY-11-0097 – DENIAL OF PETITION FOR RULEMAKING (PRM-32-6) ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS

Approved _X_ **Disapproved** _____ **Abstain** _____

Not Participating _____

COMMENTS: **Below** _X_ **Attached** ___ **None** ___

I approve the denial of the petition for rulemaking from the Association of State and Territorial Solid Waste Management Officials, subject to the edits of Commission Ostendorff.

SIGNATURE

10/27/11

DATE

Entered on "STARS" Yes _x_ No ___

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER SVINICKI

SUBJECT: SECY-11-0097 – DENIAL OF PETITION FOR RULEMAKING (PRM-32-6) ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS

Approved XX Disapproved _____ Abstain _____

Not Participating _____

COMMENTS: Below XX Attached XX None ___

I approve the letter to the Petitioner and *Federal Register* Notice as edited by Commissioner Apostolakis, with further edits attached.

SIGNATURE

10/3/11

DATE

Entered on "STARS" Yes ✓ No ___

Edits for the body of the text of all congressional letters.

Enclosed for your information is a copy of a Federal Register notice denying a petition for rulemaking submitted by the Association of State and Territorial Solid Waste Management Officials (the petitioner). The petitioner requests that the U.S. Nuclear Regulatory Commission (NRC) amend its regulations to improve the labeling and accountability of tritium exit signs. As is more fully explained in the enclosure, the NRC is denying the petition for rulemaking as we have determined that the NRC's existing regulations provide reasonable assurance that public health and safety is adequately protected in this area.

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trefoils in advertisements would act as a safeguard against customers unknowingly acquiring exit signs that require regulatory controls.

(4) Replacement of tritium exit signs with an alternative technology. The petitioner believes that the state of current photo-luminescent technology and other alternatives can effectively replace tritium exit signs.

(5) A national collection effort to prevent the improper disposal of tritium exit signs.

(6) Organize a meeting with ASTSWMO and interested stakeholders outside of the rulemaking process. The petitioner offered to provide input to the NRC on approaches to cease this improper disposal of tritium exit signs.

Because item 4 is outside the NRC's regulatory authority and mission, and items 5 and 6 are not specific requests to change NRC regulations, comments on these proposals are not being addressed further in this response.

Public Comments on the Petition

The notice of receipt of the petition for rulemaking (75 FR 1559) invited interested persons to submit comments. The petition was also shared with 37 Agreement States that regulate the manufacture and use of tritium exit signs within their States, under agreement with the NRC. The comment period closed on March 29, 2010. The NRC received responses from 13 commenters including 2 manufacturers, 6 Agreement States, 1 Federal agency, and other

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and information disclosure for tritium exit signs and that there is no significant risk to the ~~public~~ and health and safety.

Users of tritium exit signs are regulated under the general license provisions in 10 CFR 31.5. The general license in 10 CFR 31.5 requires users: 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 required to provide a copy of the regulatory requirements governing the use of such signs to the new user and must notify the NRC of the transfer. The user is also required to inform the NRC of a company name change or change of address, and to make certain other reports to the NRC.

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 controls for disposal. Vendors of these products must obtain a license from NRC or an Agreement State to distribute the signs to general licensees under 10 CFR 32.51 or equivalent provision of an Agreement State. NRC and Agreement State regulations includes requirements for labeling and safety instructions, which require providing certain information to customers prior to transfer of the signs, including copies of applicable regulations and information on options for and estimated costs of disposal.

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requirements associated with the product are clearly explained. Under 10 CFR 32.51a(a)–(c) or equivalent Agreement State regulation, distributors are required to supply to customers prior to the actual transfer of the sign(s), 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.

Prior to NRC receiving this petition, the State of Pennsylvania, contacted the NRC in 2006, relaying its concerns regarding possible improper disposal of tritium exit signs. The Conference of Radiation Control Program Directors also brought this issue to the attention of the NRC, via a 2007 resolution.

The NRC has previously implemented several measures to address this issue: The NRC implemented regulations to improve accountability of devices used under a 10 CFR 31.5 general license or an equivalent Agreement State provision (65 FR 79162; December 18, 2000, as amended at 65 FR 80991; December 22, 2000). 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 current regulations, NRC and Agreement States users or general licensees are required to report transfer or disposal of devices containing byproduct material.

The NRC, in an effort to improve compliance with the regulatory requirements for tritium exit signs, 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," dated December 7, 2006, which reiterated the requirements that distributors of tritium exit signs must follow when transferring them to general licensees. These requirements deal primarily with information that must be provided to customers. In addition, the RIS

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2006-25 reiterated the requirements for general licensees regarding transfer and disposal of the tritium exit signs, with the intent of minimizing the chance that tritium exit signs will be disposed of incorrectly.

The NRC issued a Demand for Information (DFI) on January 16, 2009, which required that general licensees who possessed at least 500 tritium exit signs perform an inventory and report the results to the NRC. The results of the DFI demonstrated there is still some lack of awareness among users of tritium exit signs concerning their regulatory responsibilities which could and in some cases did result in the improper disposal of tritium exit signs. The NRC took enforcement action against general licensees that were found not to have complied with the regulatory requirements. In one case in which one entity using the general licensee provisions failed to appoint an individual responsible for ensuring compliance with NRC requirements pertaining to tritium exit signs and improperly transferred signs, the NRC determined that a civil penalty of $369,300 could be appropriate for improper transfer or disposal of tritium exit signs.

In response to the DFI findings, the NRC contacted seven distributors of tritium exit signs in an effort to improve compliance with the reporting requirements of 10 CFR 32.52 and equivalent Agreement State provisions. The NRC initiated this contact with the goal of assisting distributors in their efforts to consistently provide the NRC with information that satisfies the reporting requirements in 10 CFR 32.52. This information reported under 10 CFR 32.52 pertains to the general licensees to whom distributors have transferred signs.

The petitioner asserted that "the majority" of unaccounted for tritium exit signs are disposed in solid waste landfills where they may become potential sources of groundwater and surface water contamination. The NRC concludes that the petitioner did not demonstrate that

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prevent leachate from leaking into the groundwater; gaseous extraction wells that remove gases building up within the landfill; and leachate collection systems that collect, process, and treat leachate.

In addition to reviewing these previously published reports and comparing tritium concentrations measured in leachate and drinking water to regulatory standards, the NRC reviewed the possible risks to landfill workers and the general public from exposure to tritium associated with landfill disposals. The NRC determined that tritium contamination involves such low levels of tritium that it would not pose a health and safety threat to the landfill worker or the general public.

Conclusion

The NRC is denying the petition for rulemaking because the NRC's current regulations in this area are adequate to protect public health and safety. In conclusion, the petitioner has not submitted any new information that indicates a health and safety issue that warrants rulemaking or calls into question the existing regulatory requirements. Existing NRC regulations provide reasonable assurance that public health and safety is adequately protected. For the reasons cited in this document, the NRC denies the petition.

Dated at Rockville, Maryland, this day of , 2011.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,
Secretary of the Commission.

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protection of the public health and safety and the common defense and security. For the reasons cited in this document, the NRC denies this petition. ¶

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: Commissioner Apostolakis

SUBJECT: SECY-11-0097 – DENIAL OF PETITION FOR RULEMAKING (PRM-32-6) ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS

Approved __X__ Disapproved _____ Abstain _____

Not Participating _____

COMMENTS: Below ___ Attached _X__ None ___

SIGNATURE

9/19/11

DATE

Entered on "STARS" Yes ✓ No ___

Commissioner Apostolakis' edits - SECY-11-0097

Mr. Gary Baughman
Association of State and Territorial
Solid Waste Management Officials
444 North Capitol Street, NW, Suite 315
Washington, DC 20010

Dear Mr. Baughman:

I am responding to the petition for rulemaking (PRM), dated November 6, 2009, that you submitted to the U.S. Nuclear Regulatory Commission (NRC) on behalf of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). Your petition was assigned Docket No. PRM-32-6. Your petition requested that the NRC amend its regulations regarding the labeling and accountability of tritium exit signs. The petition requests that the NRC revise its regulations and/or guidance to require or recommend that: 1) labeling be in several locations on the sign, with larger font; 2) the sign's expiration date be distinctly legible to a fire or building inspector without taking down the sign; and 3) the radiation trefoil be displayed on the front and back of product advertisements.

Also, your letter of November 6, 2009, states that a national collection effort with distinct milestones and goals should be undertaken to consolidate all expired and disused tritium exit signs. Finally, you request that the NRC organize a meeting with ASTSWMO and all interested stakeholders to set a new path forward on this issue.

The notice of receipt of the PRM was published in the *Federal Register* on January 12, 2010 (75 FR 1559). The comment period for the PRM closed on March 29, 2010. Thirteen comment letters were received.

The NRC has considered the petition, and the arguments raised therein, as well as the comments received in response to the petition. For the reasons stated in the enclosed *Federal Register* Notice (FRN), your petition for rulemaking is denied. In summary, the petition is being denied because the NRC's current regulations are adequate to protect public health and safety.

The NRC is currently revising its NUREG-1556 "Consolidated Guidance about Materials Licenses". We will be soliciting both industy and public comments on the revised licensing guidance at a future date. As explained in the *Federal Register* notice, your request for a meeting with ASTSWMO was not address as it was not a request to change a regulation, however, please contact Jack Foster at 301-415-6250, or email at Jack.Foster@nrc.gov to arrange a meeting to discuss possible enhancements to existing guidance. Since your petition is denied, the meeting will not be for the purposes of addressing your rulemkaing request.

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The FRN denying the petition is being transmitted to the Office of the Federal Register for publication.

Sincerely,

Annette Vietti-Cook
Secretary of the Commission

Enclosure:
Federal Register Notice

Edits for the body of the text of all congressional letters.

Enclosed for your information is a copy of a Federal Register notice denying a petition for rulemaking submitted by the Association of State and Territorial Solid Waste Management Officials (the petitioner). The petitioner requests that the U.S. Nuclear Regulatory Commision (NRC) amend its regulations to improve the labeling and accountability of tritium exit signs. As is more fully explained in the enclosure, the NRC is denying the petition for rulemaking as we have determined that the NRC's existing regulations provide reasonable assurance that public health and safety is adequately protected in this area.

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[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 32

Docket No. PRM-32-6

[NRC-2009-0547]

Association of State and Territorial Solid Waste Management Officials

Denial of Petition for Rulemaking

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking: denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking (PRM-32-6) submitted by the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) or the petitioner. The ASTSWMO requested that the NRC amend its regulations to improve the labeling and accountability of tritium exit signs. The ASTSWMO believes the majority of unaccounted tritium exit signs are disposed of in solid waste landfills where they become potential sources of groundwater and surface water contamination. The ASTSWMO requested that the NRC revise its regulations 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.

Although not a specific request for rulemaking, the petitioner recommends that a national collection effort with distinct milestones and goals be undertaken to consolidate all expired and disused tritium exit signs. The petitioner requested that the NRC organize a meeting with ASTSWMO and all interested stakeholders to set a new path forward on this issue. The NRC is denying PRM-32-6 for the reasons stated in this document.

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DATES: The docket for PRM-32-6 is closed as of [insert date of publication].

ADDRESSES: You can access publicly available documents related to this petition for rulemaking using the following methods:

- **NRC'S Public Document Room (PDR):** The public may examine and have copied, for a fee, publicly available documents at the NRC's PDR, Room O-1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.
- **NRC's Agencywide Document Access and Management System (ADAMS):** Publicly available documents created or received at the NRC are available online in the NRC Library at *http://www.nrc.gov/reading-rm/adams.html.* From this page, the public can gain entry into ADAMS, which provides text and image files of NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's PDR reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to *pdr.resource@nrc.gov*.
- **Federal Rulemaking Web Site:** Public comments and supporting materials related to this document can be found at *http://www.regulations.gov* by searching on Docket

ID NRC-2009-0547. Address questions about NRC dockets to Carol Gallagher, telephone: 301-492-3668; e-mail: Carol.Gallagher@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Gregory Trussell, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone: 301-415-6445, e-mail: Gregory.Trussell@nrc.gov.

SUPPLEMENTARY INFORMATION:

The Petition

More than 2 million tritium exit signs are estimated to have been sold in the United States. Tritium powered self luminous exit signs do not require electricity or batteries, and are commonly installed in areas where electrical power is not conveniently accessible or its use may be hazardous. The tritium exit sign remains lit during power outages and thus serve their intended purposes in emergencies. As tritium exit signs age, they do not glow as brightly and at some point will not meet the luminosity requirement of applicable building or fire safety codes and are replaced. A self-luminous exit sign is a non-electrical product that uses radioactive tritium gas to produce light. Specifically, the signs contain light sources that consist of glass tubes, internally coated with phosphor, and filled with tritium gas. Tritium (H-3) is an isotope of hydrogen that emits low-energy beta radiation in the form of electrons. These electrons excite the phosphor, causing the glass tubes to continuously emit light. This low-energy beta radiation cannot penetrate the glass tube. If the tubes in the exit signs are severely damaged, tritium may escape and disperse by diffusion in the air.

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On January 12, 2010 (75 FR 1559), the NRC published a notice of receipt of a petition for rulemaking filed by ASTSWMO. The ASTSWMO requested that the NRC amend its regulations to improve the labeling and accountability of tritium exit signs.

The ASTSWMO believes the majority of unaccounted for tritium exit signs are disposed of in solid waste landfills where they become potential sources of groundwater and surface water contamination. The ASTSWMO specifically requested that the NRC revise its regulations or guidance to state that: the labeling should 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. Also, the petitioner recommended that a national collection effort with distinct milestones and goals should be undertaken to consolidate all expired and disused tritium exit signs. The petitioner requested that the NRC organize a meeting with ASTSWMO and all interested stakeholders to set a new path forward on this issue. The petitioner stated that it would ideally like to see tritium exit sign technology immediately replaced by alternative technologies.

The ASTSWMO, after an evaluation of a case history of landfill leachate sampling, asserted that the majority of unaccounted for tritium exit signs are disposed in solid waste landfills where they become potential sources of groundwater and surface water contamination. The petitioner also claimed that a minority of tritium exit signs are returned to the manufacturer for recycling or disposed of as low-level radioactive waste.

The ASTSWMO also made the assertion that advances in photo-luminescent technology over the past decade have demonstrated that effective alternate technology exists for places without electricity, replacing the need for tritium self-luminescent exit signs.

Petitioner's Requests

The petitioner made several requests for rulemaking that would require revision to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 32, as well as requests that are outside the rulemaking process. The petitioner requested the following:

(1) Labeling should be in several locations on the sign with larger font. The basis for this request is the petitioner's belief that an increased number of labels on tritium exit signs will improve the ability to recognize the signs, which in turn will improve the accountability of the signs.

(2) An expiration date should be distinctly legible to a fire or building inspector without taking down the sign. As with adding labels in several locations on the sign, the basis for this request is the petitioner's belief that an expiration date that is legible without the need to remove the sign from where it is installed will improve the ability to recognize tritium exit signs, which in turn, will improve the accountability of the signs.

(3) The radiation trefoil should be displayed on the front and back of advertisements. The petitioner communicated several concerns as the basis for this request, a) manufacturers do not always demonstrate accountability in distributing tritium exit signs to the proper recipients; b) recipients of signs are not informed of the proper ownership and regulatory requirements provided in NRC guidance documents and regulations (i.e., NUREG-1556, Vol. 16, Appendix L, and 10 CFR 31.5); and c) online vendors do not always highlight the fact that tritium is radioactive and has special general licensing requirements. The petitioner believes that requiring the display of the radiation trefoil in advertisements is a way to make potential customers fully aware that tritium in exit signs is radioactive material. The petitioner believes

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trefoils in advertisements would act as a safeguard against customers unknowingly acquiring exit signs that require regulatory controls.

(4) Replacement of tritium exit signs with an alternative technology. The petitioner believes that the state of current photo-luminescent technology and other alternatives can effectively replace tritium exit signs.

(5) A National collection effort to prevent the Improper disposal of tritium exit signs.

(6) Organize a meeting with ASTSWMO and interested stakeholders outside of the rulemaking process. The petitioner offered to provide input to the NRC on approaches to cease this improper disposal of tritium exit signs.

Because item 4 is outside the NRC's regulatory authority and mission, and Items 5 and 6 are not specifc requests to change NRC regulations, comments on these proposals are not being addressed further in this response.

Public Comments on the Petition

The notice of receipt of the petition for rulemaking (75 FR 1559) invited interested persons to submit comments. The petition was also shared with 37 Agreement States that regulate the manufacture and use of tritium exit signs within their States, under agreement with the NRC. The comment period closed on March 29, 2010. The NRC received responses from 13 commenters including 2 manufacturers, 6 Agreement States, 1 Federal agency, and other

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industry representatives. The following provides a summary of the comments received on the petition.

Public Comments on Petitioner Requests Involving Rulemaking

The petitioner requested improving the labeling of tritium exit signs by requiring the placement of labels in several locations on the sign, in larger font to improve recognition, and thus accountability. The majority of commenters agreed that labeling should be improved and no commenter specifically disagreed with this request.

The petitioner requested requiring the placement of an expiration date on tritium exit signs, and making the date distinctly legible to a fire or building inspector without the need to take down the sign. The rationale is that the fire or building inspector will be aware of an expired sign and request the replacement. Four commenters agreed. Two vendors commented that their exit signs already clearly show the expiration date and further noted this issue does not fall under the jurisdiction of the NRC.

The petitioner requested placement of the radiation trefoil prominently on the front and back of advertisements for the exit signs to ensure that general licensees understand that these signs contain radioactive byproduct material and are subject to regulatory controls. Five commenters agreed with this request. One commenter who disagreed, questioned, in general, the effectiveness of this action. Another commenter stated that the assertion that customers are not properly sensitized to the fact that the signs contain radioactive material is "completely unwarranted." This commenter also stated that given that NRC regulations provide for the use of the trefoil where radioactive material is present, the placement of the trefoil in advertisements is inappropriate. Similarly, another commenter stated that placing the radiation trefoil on

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advertisements is not appropriate as advertisements do not contain radioactive material.

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Public Comments on Petitioner's Claims Concerning Tritium Exit Signs in Landfills

Three commenters disagreed with the petitioner's assertion 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 are accurate.

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Another commenter stated that while it is true that sampling of raw, untreated leachate from landfills in Pennsylvania and California confirmed 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.

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Reasons for Denial

After reviewing the information provided in the petition, and the comments received in response to the petition, the NRC has decided to deny PRM-32-6. In reaching this decision, the NRC reviewed the radiological risks presented by tritium exit signs 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 determined that the existing NRC regulations adequately direct the proper methods of use, disposal, labeling,

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and information disclosure for tritium exit signs and that there is no significant risk to the pulbic and health and safety.

Users of tritium exit signs are regulated under the general license provisions in 10 CFR 31.5. The general license in 10 CFR 31.5 requires users 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 required to provide a copy of the regulatory requirements governing the use of such signs to the new user and must notify the NRC of the transfer. The user is also required to inform the NRC of a company name change or change of address; and to make certain other reports to the NRC.

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 controls for disposal. Vendors of these products must obtain a license from NRC or an Agreement State to distribute the signs to general licensees, under 10 CFR 32.51 or equivalent provision of an Agreement State. NRC and Agreement State regulations includes requirements for labeling and safety instructions, which require providing certain information to customers prior to transfer of the signs, including copies of applicable regulations and information on options for and estimated costs of disposal.

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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 petitioner also requested that the expiration date be distinctly legible to a fire or building inspector without taking down the sign. To obtain a license to distribute tritium exit signs, an applicant must submit sufficient information related to its labeling of the exit signs. Specifically, under 10 CFR 32.51(a)(3), the applicant for a license to distribute tritium exit signs must ensure that the label on the signs be durable, legible, clearly visible, and include certain information including that use of the sign is subject to a general license and the regulations of the NRC or equivalent provisions of an Agreement State and that the label must be maintained in legible condition. The NRC or an Agreement State must approve the applicant's proposed labeling when authorizing distribution to users, at which time the regulator can address the appropriateness of fonts and proper placement on the sign. The expiration date (i.e., the date the sign should be replaced in order to meet fire safety standards), is not a matter of NRC regulation because it focuses on the visibility of the sign, not the safe use of the radioactive material and is more appropriately addressed by other agencies responsible for fire safety.

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

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requirements associated with the product are clearly explained. Under 10 CFR 32.51a(a)–(c) or equivalent Agreement State regulation, distributors are required to supply to customers prior to the actual transfer of the sign(s), 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.

Prior to NRC receiving this petition, the State of Pennsylvania, contacted the NRC in 2006, relaying its concerns regarding possible improper disposal of tritium exit signs. The Conference of Radiation Control Program Directors also brought this issue to the attention of the NRC, via a 2007 resolution.

The NRC has previously implemented several measures to address this issue: The NRC implemented regulations to improve accountability of devices used under a 10 CFR 31.5 general license or an equivalent Agreement State provision (65 FR 79162; December 18, 2000, as amended at 65 FR 80991; December 22, 2000). 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 current regulations, NRC and Agreement States users or general licensees are required to report transfer or disposal of devices containing byproduct material.

The NRC, in an effort to improve compliance with the regulatory requirements for tritium exit signs, 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," dated December 7, 2006, which reiterated the requirements that distributors of tritium exit signs must follow when transferring them to general licensees. These requirements deal primarily with information that must be provided to customers. In addition, the RIS

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2006-25 reiterated the requirements for general licensees regarding transfer and disposal of the tritium exit signs, with the intent of minimizing the chance that tritium exit signs will be disposed of incorrectly.

The NRC issued a Demand for Information (DFI) on January 16, 2009, which required that general licensees who possessed at least 500 tritium exit signs perform an inventory and report the results to the NRC. The results of the DFI demonstrated there is still some lack of awareness among users of tritium exit signs concerning their regulatory responsibilities which could and in some cases did result in the improper disposal of tritium exit signs. The NRC took enforcement action against general licensees that were found not to have complied with the regulatory requirements. In one case in which one entity using the general licensee provisions failed to appoint an individual responsible for ensuring compliance with NRC -requirements pertaining to tritium exit signs and improperly transferred signs, the NRC determined that a civil pentality of $369,300 could be appropriate for improper transfer or disposal of tritium exit signs.

In response to the DFI findings, the NRC contacted seven distributors of tritium exit signs in an effort to improve compliance with the reporting requirements of 10 CFR 32.52 and equivalent Agreement State provisions. The NRC initiated this contact with the goal of assisting distributors in their efforts to consistently provide the NRC with information that satisfies the reporting requirements in 10 CFR 32.52. This information reported under 10 CFR 32.52 pertains to the general licensees to whom distributors have transferred signs.

The petitioner asserted that "the majority" of unaccounted for tritium exit signs are disposed in solid waste landfills where they may become potential sources of groundwater and surface water contamination. The NRC concludes that the petitioner did not demonstrate that

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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," Safety and Ecology Corporation, Knoxville, TN, March 31, 2010, support this conclusion. The study incorporated the use of site-specific dilution factors based on factors such as discharge rates and known distances between leachate effluent release points and downstream water supply intakes to convert observed leachate tritium concentrations into diluted tritium concentrations assumed to be available for human consumption. The report concluded not only that the resulting concentrations of tritium were well below the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) of 20,000 pCi/L for tritium in drinking water, but that "average drinking water intake tritium concentrations...were more than 200 times less than the EPA 20,000 pCi/L MCL, ranging from 0 – 99 pCi/L."

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The petitioner also expressed concern that samples collected from leachate collection systems exceeded 20,000 pCi/L. It should be noted that 20,000 pCi/L is the EPA's MCL for tritium in drinking water and not leachate. Landfill monitoring reports show that despite high tritium concentrations in leachate, drinking water samples collected downstream of landfills maintain tritium concentrations well below the EPA's MCL. For example, the "Radiological Investigation Results for Pennsylvania Landfill Leachate: 2009 Tritium Update" report, referenced above, shows that "maximum drinking water [tritium] intake concentrations were over 100 times less than the EPA 20,000 pCi/L MCL ranging from 0 to 146 pCi/L."

While the NRC does not regulate solid waste landfills, the NRC staff also concluded that current landfill practices would mitigate the impacts from tritium released from any exit signs that may be disposed in landfills. These include: cover systems that minimize rainfall penetration and limit the migration of tritium due to erosion or interaction with animals; cell liners that

prevent leachate from leaking into the groundwater; gaseous extraction wells that remove gases building up within the landfill; and leachate collection systems that collect, process, and treat leachate.

In addition to reviewing these previously published reports and comparing tritium concentrations measured in leachate and drinking water to regulatory standards, the NRC reviewed the possible risks to landfill workers and the general public from exposure to tritium associated with landfill disposals. The NRC determined that tritium contamination involves such low levels of tritium that it would not pose a health and safety threat to the landfill worker or the general public.

Conclusion

The NRC is denying the petition for rulemaking because the NRC's current regulations in this area are adequate to protect public health and safety. In conclusion, the petitioner has not submitted any new information that indicates a health an safety issue that warrants rulemaking or calls into question the existing regulatory requirements. Existing NRC regulations provide reasonable assurance that public health and safety is adequately protected. For the reasons cited in this document, the NRC denies the petition.

Dated at Rockville, Maryland, this day of , 2011.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,
Secretary of the Commission.

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Using the same methodology as described in NUREG-1717, the NRC estimated the dose from improperly disposing 7,000 curies (i.e., 259 terabecquerels) of tritium into a single landfill. This activity is equivalent to the disposal of 1,000 exit signs that each contain 7 curies (i.e., 259 gigabecquerels) at a single landfill. The NRC concluded that the calculated dose to the landfill workers would be no more than 8 millirem (i.e., 0.08 millisieverts). Again, this is compared to the NRC's regulatory limit of 100 millirem (i.e., 1 millisievert) to members of the public. Under this conservative, hypothetical scenario, this is the expected dose to landfill workers

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protection of the public health and safety and the common defense and security. For the reasons cited in this document, the NRC denies this petition. ¶

protection of the public health and safety and the common defense and security. For the reasons cited in this document, the NRC denies this petition.

Dated at Rockville, Maryland, this day of , 2011.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,
Secretary of the Commission.

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The petitioner further suggested that the NRC organize a meeting with ASTSWMO and all interested stakeholders to set a new path forward on this important issue. Because this request is not related to a specific proposed change in the regulations, it is not being addressed in the context of closure of this Petition.

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these three requests are outside the scope of rulemaking or are

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER MAGWOOD

SUBJECT: SECY-11-0097 – DENIAL OF PETITION FOR RULEMAKING (PRM-32-6) ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS

Approved X Disapproved _____ Abstain _____

Not Participating _____

COMMENTS: Below X Attached X None ___

I approve of denial of the petition for rulemaking from the Association of State and Territorial Solid Waste Management Officials, subject to the edits of Commissioner Apostolakis and the additional attached edits.

Will Ostendorff

SIGNATURE

22 September 2011

DATE

Entered on "STARS" Yes X No ___

Mr. Gary Baughman
Association of State and Territorial
Solid Waste Management Officials
444 North Capitol Street, NW, Suite 315
Washington, DC 20010

Dear Mr. Baughman:

I am responding to the petition for rulemaking (PRM), dated November 6, 2009, that you submitted to the U.S. Nuclear Regulatory Commission (NRC) on behalf of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). Your petition was assigned Docket No. PRM-32-6. Your petition requested that the NRC amend its regulations regarding the labeling and accountability of tritium exit signs. The petition requests that the NRC revise its regulations and/or guidance to require or recommend that: 1) labeling be in several locations on the sign, with larger font; 2) the sign's expiration date be distinctly legible to a fire or building inspector without taking down the sign; and 3) the radiation trefoil be displayed on the front and back of product advertisements.

Also, your letter states that a national collection effort with distinct milestones and goals should be undertaken to consolidate all expired and disused tritium exit signs. Finally, you request that the NRC organize a meeting with ASTSWMO and all interested stakeholders to set a new path forward on this issue.

The notice of receipt of the PRM was published in the *Federal Register* on January 12, 2010 (75 FR 1559). The comment period for the PRM closed on March 29, 2010. Thirteen comment letters were received.

The NRC has considered the petition, and the arguments raised therein, as well as the comments received in response to the petition. For the reasons stated in the enclosed *Federal Register* Notice (FRN), your petition for rulemaking is denied. In summary, the petition is being denied because the NRC's current regulations are adequate to protect public health and safety.

However- the suggestions in your petition do have merit. The NRC is currently revising its NUREG-1556 "Consolidated Guidance about Materials Licenses". We will be soliciting both industy and public comments on the revised licensing guidance at a future date and appreciate the insights raised in your petition and hope you will participate in the guidance update. As ~~you see~~ discussed in the *Federal Register* notice, your request for a meeting with ASTSWMO was not addressed as it was not a request to change a regulation: however, please contact Jack Foster at 301-415-6250, or email at Jack.Foster@nrc.gov to arrange a meeting to discuss possible enhancements to existing guidance. Since your petition is denied, the meeting will not address rulemaking related to the issues in this petition but will focus on the update to the guidance.

Edits for the body of the text of all congressional letters.

Enclosed for your information isa copy of a Federal Register notice denying a petition for rulemaking submitted by the Association of State and Territorial Solid Waste Management Officials (the petitioner). The petitioner requests that the U.S. Nuclear Regulatory Commission (NRC) amend its regulations to improve the labeling and accountability of tritium exit signs. As is more fully explained in the enclosure, the NRC is denying the petition for rulemaking as we have determined that the NRC's existing regulations provide reasonable assurance that public health and safety is adequately protected in this area.

tritium exit signs, with the intent of minimizing the chance that tritium exit signs will be disposed of incorrectly.

The NRC issued a Demand for Information (DFI) on January 16, 2009, which required that general licensees who possessed at least 500 tritium exit signs perform an inventory and report the results to the NRC. The results of the DFI demonstrated there is still some lack of awareness among users of tritium exit signs concerning their regulatory responsibilities which could and in some cases did result in the improper disposal of tritium exit signs. The NRC took enforcement action agains general licensees that were found not to have complied with the regulatory requirements. In one case in which a one entity using the general licensee provisions failed to appoint an individual responsible for ensuring compliance with NRC -requirements pertaining to tritium exit signs and improperly transferred signs, the NRC determined that a civil ~~pentality~~ penalty of $369,300 could apply to improper transfer or disposal of tritium exit signs.

In response to the DFI findings, the NRC contacted seven distributors of tritium exit signs in an effort to improve compliance with the reporting requirements of 10 CFR 32.52 and equivalent Agreement State provisions. The NRC initiated this contact with the goal of assisting distributors in their efforts to consistently provide the NRC with information that satisfies the reporting requirements in 10 CFR 32.52. This information reported under 10 CFR 32.52 pertains to the general licensees to whom distributors have transferred signs.

The petitioner asserted that "the majority" of unaccounted for tritium exit signs are disposed in solid waste landfills where they may become potential sources of groundwater and surface water contamination. The NRC concludes that the petitioner did not demonstrate that the excess tritium being found in landfill leachate, even if resulting from improper disposal of

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER OSTENDORFF

SUBJECT: SECY-11-0097 – DENIAL OF PETITION FOR RULEMAKING (PRM-32-6) ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS

Approved __X__ Disapproved _____ Abstain _____

Not Participating _____

COMMENTS: Below ___ Attached __X__ None ___

I approve of denial of the petition for rulemaking from the Association of State and Territorial Solid Waste Management Officials, subject to the attached edits.

_____
SIGNATURE

9/15/11
DATE

Entered on "STARS" Yes __X__ No ___

requirements. Thus, the petitioner believes that requiring the display of the radiation trefoil in advertisements is a way to make potential customers fully aware that tritium exit signs contain radioactive material. Ostensibly, the petitioner believes trefoils in advertisements would act as a safeguard against customers unknowingly acquiring exit signs that require special regulatory controls.

Additional requests that go beyond NRC's authority or the rulemaking process include:

(1) Replacement of tritium exit signs with an alternative technology. The basis for this request is the petitioner's belief that non-radioactive self-luminescent technology (i.e., photo-luminescent technology) is a viable alternative to the use of radioactive self-luminescent technology. The petitioner believes that photo-luminescent technology and other alternatives can effectively replace tritium exit signs. NRC authority does not include the ability to require alternative technologies.

(2) National collection effort. The petitioner asserts that tritium exit signs are improperly disposed in landfills. On the basis of the petitioner's belief that a national collection effort is a way to cease this improper disposal, the petitioner requested the formation of a national collection effort with distinct milestones and goals on all expired and disused tritium exit signs. Conducting such an effort exceeds NRC's authority.

(3) Organization of a meeting with ASTSWMO and interested stakeholders. On the basis of the petitioner's belief that tritium exit signs are improperly disposed in landfills, the petitioner communicated a desire to allow solid waste management officials to provide input to the NRC on ways to cease this improper disposal. The petitioner further suggested that the NRC organize a meeting with ASTSWMO and all interested stakeholders to set a new path forward on this important issue. ~~Because this request is not related to a specific proposed change in the regulations, it is not being addressed in the context of closure of this Petition.~~

Because these three requests are outside the scope of rulemaking or are outside the scope of NRC's statutory authority and mission, comments related to those requests and the proposal themselves are not being more specifically addressed in thise response. ~~to this petition~~ The NRC will respond to the petitioner on these issues via separate correspondence.

Public Comments on the Petition

The notice of receipt of the petition for rulemaking (75 FR 1559) invited interested persons to submit comments. The petition was also shared with 37 Agreement States that regulate the manufacture and use of tritium exit signs within their States, under agreement with the NRC. The comment period closed on March 29, 2010. The NRC received responses from 13 commenters including 2 manufacturers, 6 Agreement States, 1 Federal agency, and other industry representatives. The following provides a summary of the comments received on the petition.

radioactive material).

Public Comments on Petitioner's Claims Concerning Tritium Exit Signs in Landfills

Three commenters disagreed with the petitioner's assertion 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 are accurate.

Another commenter stated that while it is true that relatively recent sampling of raw, untreated leachate from landfills in Pennsylvania and California confirmed 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.

Reasons for Denial

After reviewing the information provided in the petition, and the comments received in response to the petition, the NRC has decided to deny PRM-32-6. 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 NRC regulations adequately direct the proper methods of disposal, labeling, and information disclosure for tritium exit signs. However, the NRC believes that general licensee accountability may be strengthened by enhancing regulatory guidance and improving communications between the NRC (and Agreement states) and manufacturers. The NRC periodically revises its licensing guidance and will evaluate the need for additional guidance in the areas raised by the petitioner during this process.

Users of tritium exit signs are regulated under the general license provisions in 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 user is also required to inform the NRC of a company name change or change of address; and to make certain other reports to the NRC.

The petition 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 controls

for disposal. These requirements are primarily addressed by 10 CFR 32.51(a)(3), which includes ~~addresses~~ 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 petitioner also requested that the expiration date be distinctly legible to a fire or building inspector without taking down the sign. To obtain a license to distribute tritium exit signs, an applicant must submit sufficient information related to its labeling of the exit signs. Specifically, under 10 CFR 32.51(a)(3), the applicant for a license to distribute tritium exit signs must ensure that the label on the signs be durable, legible, clearly visible, and include certain information including 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 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 the visibility of the sign, not 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 NRC agrees with some of the commenters that the use of the trefoil on advertisements is not appropriate since use of the trefoil is utilized where radioactive material is actually present. That being said, the NRC has emphasized the importance of notifying end users of requirements for the use of generally licensed devices. For example, ~~i~~In an earlier

Mr. Gary Baughman
Association of State and Territorial
Solid Waste Management Officials
444 North Capitol Street, NW, Suite 315
Washington, DC 20010

Dear Mr. Baughman:

I am responding to the petition for rulemaking (PRM), dated November 6, 2009, that you submitted to the U.S. Nuclear Regulatory Commission (NRC) on behalf of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). Your petition was assigned Docket No. PRM-32-6. In your petition, you requested that the NRC amend its regulations regarding the labeling and accountability of tritium exit signs. The petition states that ideally you would like to see tritium exit sign technology replaced by alternative technologies. The petition requests that the NRC revise its regulations and/or guidance to require or recommend that: 1) labeling be in several locations on the sign, with larger font; 2) the sign's expiration date be distinctly legible to a fire or building inspector without taking down the sign; and 3) the radiation trefoil be displayed on the front and back of product advertisements.

Your petition also addressed issues that are outside of the rulemaking process. ~~Also,~~ For example, t~~t~~he petition states that a national collection effort with distinct milestones and goals should be undertaken to consolidate all expired and disused tritium exit signs. The NRC does not have the authority to implement such a program. Finally, the petition requests that the NRC organize a meeting with ASTSWMO and all interested stakeholders to set a new path forward on this issue.

The notice of receipt of the PRM was published in the *Federal Register* on January 12, 2010 (75 FR 1559). The comment period for the PRM closed on March 29, 2010. Thirteen comment letters were received.

The NRC has considered the petition, and the arguments raised therein, as well as the comments received in response to the petition. For the reasons stated in the enclosed *Federal Register* Notice (FRN), your petition for rulemaking is denied. In summary, the petition is being denied because the NRC's current regulations are adequate in this area. While the NRC has determined that rulemaking is not needed, general licensee accountability may be strengthened by enhancing regulatory guidance and improving communications between the NRC (and Agreement states) and manufacturers. The NRC is currently revising its NUREG-1556, "Consolidated Guidance about Materials Licensees". We will be soliciting both industry and public comments on the revised licensing guidance at a future date and we will evaluate the need for additional guidance on the areas of your petition during this process.
~~If you would like to meet with the staff to discuss possible enhancements to existing guidance that implements the current regulations~~As you see in the *Federal Register* Notice, your request for a meeting with ASTSWMO was not addressed in response to the petition because it was not

a request to change a regulation. P please contact Jack Foster at 301-415-6250, or email at Jack.Foster@nrc.gov to arrange a meeting to discuss possible enhancements to existing guidance. Since your petition is denied, the meeting will not address rulemaking related to issues in this petition. The FRN denying the petition is being transmitted to the Office of the Federal Register for publication.

Sincerely,

Annette Vietti-Cook
Secretary of the Commission

Enclosure:
Federal Register Notice