



GE

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Eric H. Reber

Materials Safety Licensing Branch

Division of Material Safety, State, Tribal, and Rulemaking Programs

Office of Nuclear Material Safety and Safeguards

U.S. Nuclear Regulatory Commission

Mail Stop: T-8E24

Washington, DC 20555-0001

Re: License Renewal Application for License No. 16-17316-01E - GE Responses to NRC's Request for Additional Information dated February 11, 2016

Dear Mr. Reber,

General Electric Company (GE) is pleased to provide the U.S. Nuclear Regulatory Commission the following responses to your requests for additional information as they relate to your review of the subject license renewal application. Individual responses are presented below each of your numbered requests presented in *italics* next to the request number.

1. *The regulations in 10 CFR 32.14(b)(2) and (3) require applicants to submit information about the details of the construction and design of each product, and the method of containment or binding of the byproduct material in the product.*

Item 2 and Attachment A of your letter provide information about the details of the construction and design and method of containment or binding of the byproduct material for lamps that contain Kr-85 in an arc tube. In addition to arc tubes containing Kr-85, Item 5.b of your renewal application dated September 30, 2015 also listed Kr-85 gas contained in glow switches and Pm-147 plated on wire in glow switches; however, for these products, you have not provided information about the details of their construction and design, and the method of containment or binding of the byproduct material.

For glow switches containing Kr-85 gas and glow switches containing Pm-147 that is plated on wire, please provide the details of their construction and design, and the method of containment or binding of the byproduct material.

Response: Glow switches that contain either K-85 or Pm-147 and arc tubes that contain Pm-147 are no longer being distributed by GE. As such, GE requests that each of these product categories be removed from the subject license. The only products that are being distributed under this license are those that contain an arc tube and K-85.

2. *The regulations in 10 CFR 32.14(b)(6) require applicants, in part, to submit information about the proposed method of labeling or marking each unit and its container with the*

identification of the manufacturer or initial transferor of the product and the byproduct material in the product.

- a. *Item 2 of your letter requests an exemption from the labeling requirements in 10 CFR 32.15(d) for certain lighting products containing Kr-85 with design limitations that make it difficult or impossible to place a “Kr-85” label on the product itself. In such cases, alternate labeling or marking for each unit should be placed as close as possible to the product. For example, for products that are too small to label, the label should be placed on the next smallest container, such as the bubble pack containing the product.*

For the products for which you have requested an exemption from the labeling and marking requirements in 10 CFR 32.15(d), please describe alternate labeling or marking for each unit that will be implemented. (Please note that your exemption request would only apply to the labeling or marking of each Product; there is a separate requirement concerning the marking and labeling of the containers for these products).

2a. Response: For all products that contain arc tubes with K-85, the label is placed on the next smallest container such as the bubble wrap or paper or cardboard sleeve wrap containing the product. This labeling approach pertains to all products that contain arc tubes with K-85 covered under this license. Attachment A contains an example of the next smallest container with the appropriate labeling.

- b. *You requested an exemption from the labeling and marking requirements for certain lighting products; however, concerning the other products that you wish to distribute and the containers of the products for which an exemption would apply, you have not provided information about the proposed method of labeling or marking of these items.*

Please provide information about the proposed method of labeling or marking so that the manufacturer or initial transferor of the product and the byproduct material can be identified for each of the following:

- i. *Glow switches containing Kr-85 and their containers*
- ii. *Glow switches containing Pm-147 that is plated on wire and their containers*
- iii. *Arc tubes containing Kr-85 that would not fall under the labeling and marking exemption and their containers*
- iv. *Containers of the products to which the labeling and marking exemption would apply*

2b. Response:

- Products listed in i and ii above are no longer distributed under the subject license and, as such, GE requests that these products be removed from the subject license;

- Regarding item iii, GE requests exemption for labeling and marking for all lamp products that contain arc tubes with K-85. The next smallest containers used for products with the K-85 arc tubes do not apply to the labeling and marking exemption; and
 - Regarding item iv, all containers other than the next smallest container would apply to the exemption.
3. (Same as 4. included in NRC RAI letter dated February 11, 2016 which omitted an item 3.) - *The regulations in 10 CFR 32.14(b)(7) require that applicants submit information about the radiation level and the method of measurement at 1 centimeter from any surface when measured through 7 milligrams per square centimeter of absorber. Please note that 10 CFR 30.15(a)(8) requires that such levels of radiation may not exceed 1 millirad per hour.*

Item 4 of your letter provides information about the radiation level and the method of measurement for lighting products that contain Kr-85; however, you did not provide such information concerning glow switches containing Pm-147 plated on wire as listed in item 5.b of your renewal application dated September 30, 2015.

For glow switches containing Pm-147 plated on wire, please provide information about the radiation level and the method of measurement at 1 centimeter from any surface when measured through 7 milligrams per square centimeter of absorber.

Response: GE no longer distributes products that contain Pm-147. As stated in our response to Item 1, GE requests that this radionuclide and associated products, along with the other products as described above that are no longer being distributed, be removed from the subject license.

Lastly, in response to the issue of public disclosure, GE has determined that the information provided in our January 22, 2016 response letter to the NRC's RAI dated December 11, 2016, is no longer considered business confidential or proprietary and does not need to be held from public disclosure pursuant to procedures in 10 CFR 2.390(b).

Thank you for your consideration and review of our responses as you complete your review of the subject license application. GE looks forward to a favorable review outcome and issuance of the renewed license. Please do not hesitate to call or email me if you require further clarification to complete your review.

Sincerely,



Barry Hallock

EHS Operations Leader – Global Non-manufacturing and Services
GE Lighting

cc: Jack Buddenbaum, CHP (Plexus-IEM)

Attachments: A

ATTACHMENT A
Design Information



ORDER CODE
3449

HID LAMPS

MVR400/VBU/ED28/PA

WATTS

400

QTY

12

WEIGHT

7.00 LB

3.17 KG

ANSI CODE

M135/E, M155/E



10043168462713

FOR USE ON DIMMING SYSTEMS — Contact your local GE Lighting sales representative

R **WARNING** - This lamp can cause serious skin burn and eye inflammation from short-wave ultraviolet radiation if outer envelope of the lamp is broken or punctured and the arc tube continues to operate. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain types of lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available from the General Electric Company. **21 CFR 1040.30, SOR/80-381**

Arc tube fill gas contains Kr-85

This lamp certified to comply with FDA radiation performance standards, 21 CFR Subchapter J.

POUR UNE UTILISATION
— Contactez votre repré

R **AVERTISSEMENT** - Cette lampe peut causer de graves brûlures de la peau et de l'inflammation des yeux par rayonnement ultraviolet à onde courte si l'enveloppe externe de la lampe est brisée et que le tube à arc continue à fonctionner. Ne l'utilisez pas où des personnes pourraient rester plus de quelques minutes, à moins que des protections adéquates ou d'autres mesures de sécurité ne soient prises. Certains types de lampes qui s'éteignent automatiquement lorsque l'enveloppe externe est brisée ou percée sont commercialement disponibles de la General Electric Company. **21 CFR**

Le tube à ar

*Cette lampe
de la FDA c*

Manufactured for GE Consumer & Industrial / Fabriqué pour GE Produits
Fabriqué pour GE Consumer & Industrial