



December 11, 2008

Richard K. Struckmeyer
U.S. Nuclear Regulatory Commission
Materials Licensing Branch
Division of Material Safety and
State Agreements

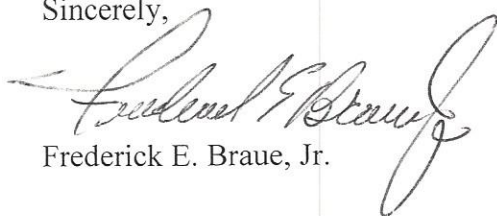
RE: Addendum to License # 10-23967-01E
(for lamps container KR-85)

Dear Mr. Struckmeyer,

This is in reply to your letter dated December 2nd, 2008. In the following pages we have tried to answer the questions in your letter to the best of our ability and have attached documentation accordingly.

Feel free to call or email (charlotte@wslusa.com) with any questions and thank you in advance for your cooperation.

Sincerely,



Frederick E. Braue, Jr.

The requirements generally pertain to individual product models. You should indicate in your response whether any of the models are part of a design series, in which case the questions to follow may be answered for the series rather than the individual models. However, please indicate the models belonging to each series, and explain how they differ.

Question 1: Title 10, Code of Federal Regulations, Section 32.14(b)(2) requires details of construction and design of each product. *Your letter dated October 2, 2008, with enclosures, did not fully address this requirement.* Please provide this information for each model that you would like to distribute.

A) Dimensions and thickness of the quartz arc tube and dimensions of the lamp:

Attachment: The Technical Drawing 400 watt, which also states that the lamp contains Kr-85. This is a typical arc tube, quartz burner and the lamp with a socket, the 400watt 230v R7x. This lamp is sold in the USA and is available as follows: 4500SI (7s), 4500WL (wirelead) and 3520PIJK (GY9.5), the parenthesis depicting the type of lamp socket used.

All dimensions on all drawings are in metric in millimetres (mm). And that this pertains to all model lamps in this series containing Kr-85.

The only variable is the length and diameter in each product. And of course description (i.e. 400w 230v) and part number.

B) How is the arc tube attached to the lamp body?

The lamp consists of the burner (sealed arc tube) and socket (fixed with cement) only. There is no lamp body, because there is no outer bulb.

Question 2: Title 10, Code of Federal Regulations, Section 32.14(b)(3) requires the method of containment or binding of the byproduct material in the product. In addition, 10 CFR 32.14(d)(1) requires that the byproduct material is properly contained in the product under the most severe conditions that are likely to be encountered in normal use and handling. Please describe how the byproduct material is securely contained in the product.

A) How is the arc tube attached to the lamp body?

The lamp consists of the burner (sealed arc tube) and socket (fixed with cement) only. There is no lamp body, because there is no outer bulb.

B) Test performed:

After the filling process the lamp voltages of all lamps are monitored. A burner which is not within the limits of the specification is regarded as a possible "leaker" and is discarded. After putting the socket on the burner all lamps are burnt in. A lamp passing this test is considered to be o.k. because a leaking lamp would not start up.

C) Quality Control:

After pinching, every burner is checked visually. Burners with cracks or channels in the pinch are discarded. After the filling every burner is lit and the lamp voltage is monitored. Burners not within the specified parameters are destroyed. After putting the socket on every lamp is burnt in. Lamps failing this test are being destroyed.

Throughout production, life and reliability tests are performed on a regular basis, e.g. 3 lamps per type and day are tested for electrical parameters and UV-output.

Question 3: Title 10, Code of Federal Regulations, Section 32.14(b)(6) requires 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.

Your letter provided copies of the labels for one model of lamp, but the relationship of these labels to any of the 32 listed lamp types is not clear. Please indicate to which model or series this label applies. If labels for all models / series are substantially the same, this should be clearly indicated in your response.

NOTE: For those products requiring labeling, NRC's policy is that the smallest item distributed must display the required label. If this is not possible, then the label should be placed as close as possible to the product. For example, if an electron tube is too small to label, then the label should be placed on the next smallest container, such as the bubble pack containing the electron tube.

Attachment(s):

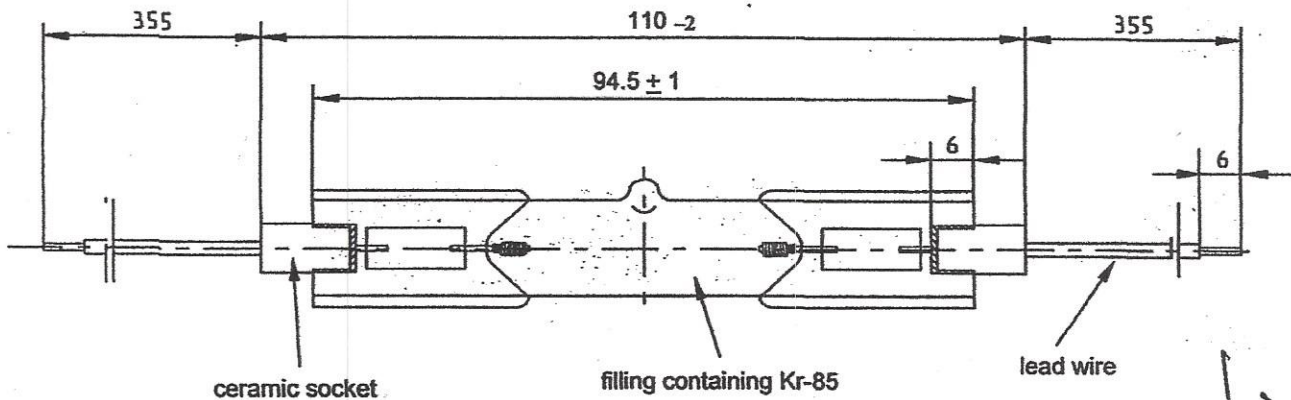
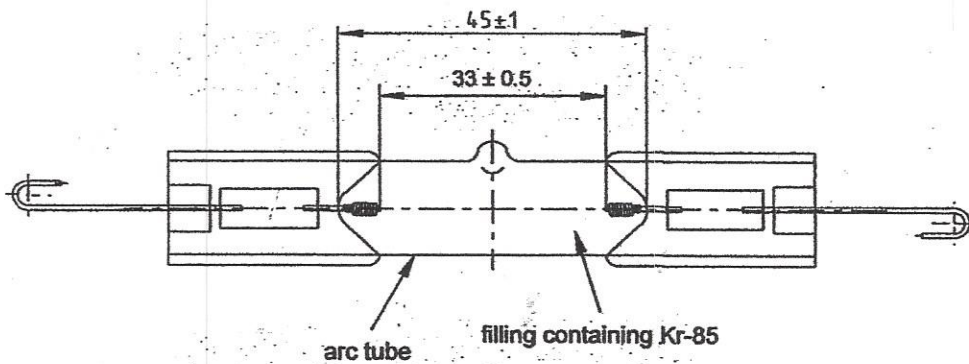
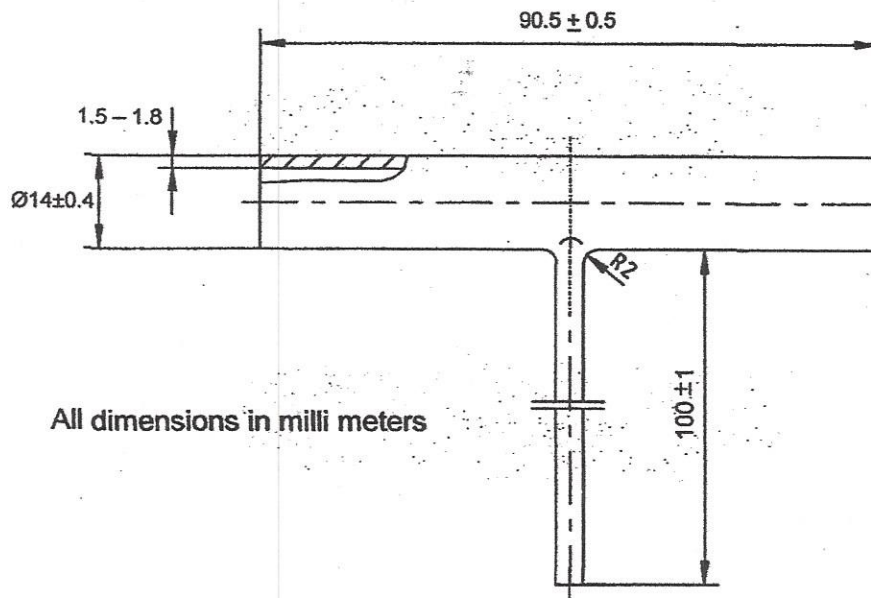
Copy of etch on lamp(s) and packaging which shows KR-85 documentation.

Please note: These labels apply to all model lamps in the series listed (see sheet attached). All lamps will contain these exact markings as shown. The only thing that will change would be the lamp description (i.e. 1400w 230v) and the part number.

Q3-1

Radium Lampenwerk, Wipperfurth, Germany October 16, 2007

This document shows a typical arc tube, quartz burner and lamp with socket (R7s in 400w/230 v.). This lamp contains Kr 85. Lamps sockets used: R7s, WL & GY9.5.



big

Q3-2

PURPOSE FOR WHICH THE LICENSED MATERIAL WILL BE USED:

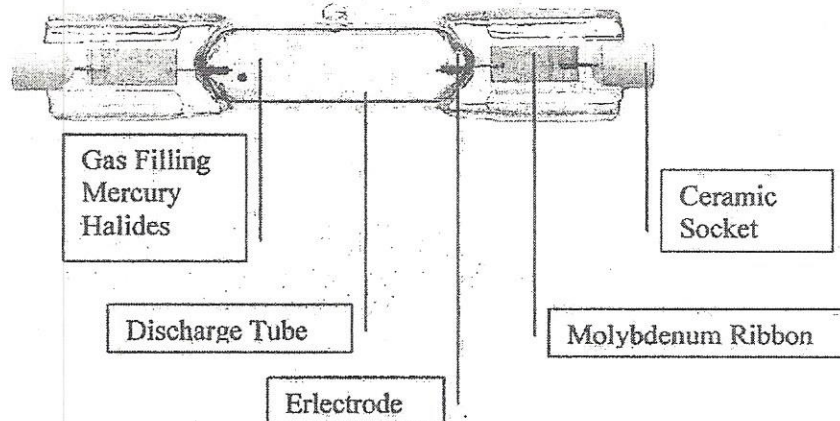
Krypton-85

As a constituent of the fill gas an (HID) UV lamp.

The following are the imported UV lamp types which contain Krypton-85 gas:

- | | |
|----------------------------------|------------------------------------|
| 1. Q-01000PIGY 800-1000 230V PI | 18. Q-1400LWL 1000-1400 230V LWL |
| 2. Q-01510BL 1450-1510 230V BL | 19. Q-1400WL 1000-1400 230V WL |
| 3. Q-01530R 1450-1510 230V R | 20. Q-1400WL4 1000-1400 400V WL |
| 4. Q-08100WL 800-1000 230V WL | 21. RAD-01400WL 1000W 230V WL |
| 5. Q-03520PIJK 300-520 230V PI | 22. RAD-01400WL4 1000W 380V WL |
| 6. Q-04500SI 400-500 230V SI | 23. RAD-01510BL 1510W 230V BL |
| 7. Q-04500WL 400-500 230V WL | 24. RAD-01530R 1530W 230V R |
| 8. Q-0600PIGH 600 230V PI | 25. RAD-08100PIGY 1000W 230V PI |
| 9. Q-0600PIGY 600 230V PI | 26. RAD-03520PIJK 400-500W 230V PI |
| 10. Q-0600WL 600 230V WL | 27. RAD-04500SI 400-500W 230V SI |
| 11. Q-0610LWL 600 230V LWL | 28. RAD-04500WL 400-500W 230V WL |
| 12. Q-06620BL 610 230V BL | 29. RAD-06620BL 610W 230V BL |
| 13. Q-06630R 630 230V R | 30. RAD-06630R 630W 230V R |
| 14. Q-0800SI 800W 230V SI | 31. SunX2 1000W 230V GY9,5 PI |
| 15. Q-08100PIGH 800-1000 230V PI | 32. Sunx2 1250W 400V AWL |
| 16. Q-08100PIGY 800-1000 230V PI | |
| 17. Q-08100PIX 800-1000 230V PI | |

TYPICAL PRODUCT PICTURE:



Q3-3

Case carton label

25 pieces	
	
<i>Evolution light</i>	
1400 W 230 V	
K14S	
MPI 14058	
CE	
Made in Germany contains Kr-85	323 14329

Sunlamp - DANGER - Ultraviolet radiation. Follow instructions. Use ONLY in fixture equiped with a timer. Use ONLY in fixture equiped with an appropriate filter. Follow sunlamp equipment manufacturers instructions. Avoid overexposure. As with natural sunlight overexposure can cause eye and skin injury and allergic reactions. Repeated exposure may cause premature aging of the skin and skin cancer.

WEAR PROTECTIVE EYEWEAR; FAILURE TO MAY RESULT IN SEVERE BURNS OR LONG-TERM INJURY TO THE EYES. Medications or cosmetics may increase your sensitivity to ultraviolet radiation. Consult physician before using sunlamp if you are using medications or have a history of skin problems or believe yourself especially sensitive to sunlight. If you do not tan in the sun you are unlikely to tan from the use of this product.

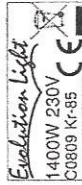
This product is in conformity with performance standards for sunlamp products under 21 CFR Part 1040 (F.D.A.) except with respect to those characteristics authorized by Variance Number: 85V-0417 effective: February 3, 1986.

The lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by:
World Wide Specialty Lamp Corp. - Technical Sales Manager.
6759 Oak Ridge Commerce Way S.W. Austell, GA 30168, USA - Tel.(800)547 9191.

Hg - LAMP CONTAINS MERCURY, Manage In Accord with Disposal Laws.
See: www.lamprecycle.org or 1-800-555-0050.

Q3-4

Individual Lamp carton label



Sunlamp - DANGER - Ultraviolet radiation. Follow instructions. Use ONLY in fixture equipped with a timer. Use ONLY in fixture equipped with an appropriate filter. Follow sunlamp equipment manufacturers instructions. Avoid overexposure. As with natural sunlight overexposure can cause eye and skin injury and allergic reactions. Repeated exposure may cause premature aging of the skin and skin cancer.

WEAR PROTECTIVE EYEWEAR; FAILURE TO MAY RESULT IN SEVERE BURNS OR LONG-TERM INJURY TO THE EYES. Medications or cosmetics may increase your sensitivity to ultraviolet radiation. Consult physician before using sunlamp if you are using medications or have a history of skin problems or believe yourself especially sensitive to sunlight. If you do not tan in the sun you are unlikely to tan from the use of this product.

This product is in conformity with performance standards for sunlamp products under 21 CFR Part 1040 (F.D.A.) except with respect to those characteristics authorized by Variance Number: 85V-0417 effective: February 3, 1986.

The lamp contains an argon tube with a filling gas containing Kr-85 and is distributed by: World Wide Specialty Lamp Corp. - Technical Sales Manager, 6759 Oak Ridge Commerce Way SW, Austell, GA 30168, USA - Tel: (800) 547 9191.

Hg - LAMP CONTAINS MERCURY, Manage In Accord with Disposal Laws. See: www.lamprecycle.org or 1-800-555-0050.

Question 4: Title 10, Code of Federal Regulations, Section 32.14© requires that each product will contain no more than the quantity of byproduct material specified for that product in 30.15.

You indicated in your letter that Radium ensures that the quantity of byproduct material specified for that product in 30.15, will not be exceeded.

Please provide procedures describing the measurement method and the frequency and method of calibration of the measurement device(s) Radium uses to ensure that the quantity of byproduct material specified for your product will not be exceeded.

A) Measurements:

The filling devices are tested and controlled once a week. This is done by controlling the filling pressure of a burner, one that is actually being produced. The quantity of Kr-85 in the arc tube is a function of the specific activity of the filling gas and the volume of the arc tube. Each tank of the Argon-Krypton-85-mixture received from the supplier, comes with a certification concerning the Krypton-85 concentration. The determining parameter for the volume with a given diameter, is the pinching distance. This value is controlled twice every shift for each different type of product produced. No lamp contains more than 4,440 Bq (=120 nanocuries).

Question 5: Title 10, Code of Federal Regulations, Section 32.15(a)(1) requires that each person licensed under 32.14 shall maintain quality assurance practices in the manufacture of the part or product, and the installation of the part into the product. Please provide Radium's quality control procedures for the manufacture of the quartz arc tube including procedures for testing and manufacturing check points during the manufacturing process.

A) Quality Control:

After pinching, every burner is checked visually. Burners with cracks or channels in the pinch are discarded. After the filling every burner is lit and the lamp voltage is monitored. Burners not within the specified parameters are destroyed. After putting the socket on every lamp is burnt in. Lamps failing this test are being destroyed.

Throughout production, life and reliability tests are performed on a regular basis, e.g. 3 lamps per type and day are tested for electrical parameters and UV-output.

Information was supplied by :

Mr. Uwe Kalmbach
Radium Lampenwerk GmbH
Development UV/IR
Dr. -Eugen-Kersting-StraBe 6
51688 Wipperfurth, Germany