UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555 - 0001

October 13, 2009

Christopher Morie
Radiation Safety Officer
DRS Technologies
645 Anchors Street
Fort Walton Beach, FL 32548

Mail Control No. 022749

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION

Dear Mr. Morie:

This letter is in response to your application dated March 18, 2009, for an exempt distribution license for the DRS Technologies Model 07030620 Thermal Ionization Device, and to your response, dated August 17, 2009, to our Request for Additional Information. A review of your response indicated that it lacks required information to complete our review. We have summarized the issues that need to be addressed in an enclosure to this letter.

Please submit the requested information within thirty days of the date of this letter. If we have not received complete information within thirty days of the date of this letter, we will consider your application as having been abandoned by you. This action would be without prejudice to the resubmission of another application with the required information.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in NRC's Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

If you have any questions regarding your sealed source and device application, please contact Mr. Stephen Poy at (301) 415-7135 or Mr. Ujagar Bhachu at 301-415-7984. For questions regarding your exempt distribution license, please contact Mr. Richard Struckmeyer at (301) 415-5477. Any correspondence regarding the renewal application should reference the control number specified above.

Sincerely,
/RA/
Richard K. Struckmeyer
Licensing Branch
Division of Materials Safety and
State Agreements
Office of Federal & State Materials &
Environmental Management Programs
Washington, DC 20555

Docket No. 030-38022
Enclosure: As stated

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NAME:	RKStruckmeyer	SPoy	UBhachu	JJankovich
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OFFICIAL RECORD COPY

Enclosure

Follow-Up Request for Additional Information for
the DRS-C3 Model 07030620 Thermal Ionization Device

A. Questions related to the sealed source and device registration certificate application

1. Description

1.1 In the description portion of your application it is stated, "The TID will be located in power switchboards and power conversion equipment to continuously monitor equipment for overheated connections." Please clarify the location of your device with respect to how and where it is mounted.

1.2 In the description portion of your application it is stated, "The TID is designed operate and withstand without any degradation the harsh environmental experienced onboard US Naval Vessels (refer to paragraph 4.0)." Please specifically state these conditions and justify explicitly how the device integrity and operational capability will not be adversely impaired.

2. Conditions of Use

2.1 In the Conditions of Use section of your application, you list the conditions simply as:

- outer electrode to source potential: 9 V
- temperature: 20 C ± 3 C
- ambient pressure: atmospheric, near sea level, clean air

2.2 Please clarify that the conditions local to the device will be maintained at these conditions during its working life. We believe the conditions at sea have a broader range. Please describe in detail all of the environments to which the product will be subjected to during normal use and likely accident conditions.

2.3 In the section of your application labeled Environmental Qualification Testing, you list a series of tests that the device must pass prior to production. Test results were not provided. Please submit the test results regarding radiation safety as specified in our letter of June 23, 2009 for our review and records.

3. Prototype Testing

3.1 With regard to prototype testing, you have provided product information on the QSA source, but you need to provide us with results of tests performed by you on your device showing us that it will maintain its integrity when subjected to conditions of normal use and likely accident conditions.

4. Radiation Profiles

4.1 With regard to radiation profiles, you have provided product information from QSA, but you need to send us measured radiation levels by you from your device.

5. Quality Assurance Program

5.1 With regard to your Quality Assurance program, please submit the QA program.

6. Installation, Servicing, and Instructions to User's

6.1 It was stated in your response to the RAI that the device was mounted by double sided tape or #6 screws. Do these methods support the 10 year working life ?

6.2 Also, after the device has exceeded its working life, you need to discuss how the device will be disposed of.

7. Reproducible Illustrations

7.1 Please submit a drawing which clearly depicts internal components of the device that includes the source that is adequately labeled not unlike Figure 3-3 in your original application. Also, we need a drawing adequately labeled depicting how the device is mounted in a typical piece of equipment.

B. <u>Questions related to the exempt distribution license application</u>

These questions are numbered in accordance with those submitted in our previous request for information, dated June 23, 2009.

1. Your response to Question B.1 made reference to the table on page B40 of the attachment from QSA Global. However, we see nothing in that table or on that page that provides the requested information. Please provide the requested information, or indicate where it can be found in your application.

2. Your response to Question B.2 made reference to page C1 of the QSA Global Quality Control information sheets. However, we do not see the results of the testing described on that page. Please provide the requested information, or indicate where it can be found in your application.

3. Your response to Question B.3 made reference to the "QSA Global smoke detector ionization chambers DSCA2C and DSCA3C source information sheet" that you provided as an attachment. It is not clear where the required information can be found in this reference. Please be more specific as to the page numbers you are referencing, as well as to the paragraphs that discuss the construction and design as related to containment and shielding and other safety features under normal and severe conditions of handling, storage, use, and disposal, or provide other references that address this requirement.

4. Your response to Question B.4 indicated that the requested information may be found on page B40 of the attachment from QSA Global; however, it appears that the reference should be to page B41. Please confirm this, or provide further explanation.

5. Your response appears to be adequate.

6. Your response to Question B.6 appears to contain an error. Please confirm the total quantity of BPM expected to be distributed annually.

7. Your response appears to be adequate.

8. Your response to question B.8 refers to item 4.1 of the enclosure you provided, which in turn refers to QSA pages C1 & C2, and the CICAM Certificate. However, these appear to describe the tests in general terms, rather than an actual procedure for performing the tests. Please provide a complete description of the procedures for prototype testing.

9. Your response to question B.9 refers to item 4.1 of the enclosure you provided, which in turn refers to QSA pages C1 & C2, and the CICAM Certificate. However, these appear to describe only the tests, but not the results. Please provide a complete description of the results of prototype testing.

10. Sections 32.26(b)(13) and (14) require the applicant to provide a detailed evaluation which demonstrates that the product will meet the safety criteria of 10 CFR 32.27 and 32.28. Your response to question B.10 does not appear to address the requirements of Section 32.26(b)(13) and (14). Your response to part (a) of this question appears to address 32.26(b)(6); you must also address the requirements in 32.27(a), (b), and (c). One approach to this is to begin with an appropriate reference, and expand upon the analysis it provides. Examples are NUREG/CR-1156, "Environmental Assessment of Ionization Chamber Smoke Detectors Containing Am-241," which is no longer widely available, and NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials," available at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1717/nureg-1717.pdf. The information provided in these references primarily covers smoke detectors designed for household use. If you choose to utilize such a reference, you will need to explain how the information is applicable to your product and include additional information or analysis to demonstrate how the regulatory requirements are met.

11. Your responses to Question 11 did not appear to address the requirements of Section 32.26(b)(15), i.e., " . . . information concerning the Quality Control procedures followed in fabrication of production lots of product and Quality Control standards product must meet." Please provide the requested information.

12. Your responses to Questions 12.b. and 12.c.ii. did not appear to address the requirements of Section 32.29(b), i.e., "describe how the label or marking is located where it will be readily visible when the detector is removed from its mounting," and "identification of the person licensed to transfer the product." Please provide the requested information, or indicate where it can be found in your application.