



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

August 8, 2017

Chemring Sensors & Electronic Systems
ATTN: Camille Gagnon
HSE Manager / Assistant Radiation
Safety Officer
4205 Westinghouse Commons Drive
Charlotte, NC 28273

SUBJECT: SECOND REQUEST FOR ADDITIONAL INFORMATION

Dear Ms. Gagnon:

This letter refers to your license renewal application request dated May 22, 2017, for U.S. Nuclear Regulatory Commission (NRC) Exempt Distribution License No. 32-23947-01E, and your response dated July 22, 2017 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML17215A422).

We do not have sufficient information to complete the review of your application. Please note that the intent of our previous request was to obtain a complete and up-to-date application from you to ensure that all of the relevant documentation supporting a renewed license is contained under one cover letter. Please provide a new, complete response letter with the information required by the regulations contained in the enclosure to this letter, and include the attachments that you provided with your response dated July 22, 2017. Your response letter should not refer to your previous application or amendment requests.

The enclosure indicates those requirements for which you have not provided the necessary information. These may be the originals assuming they are current, or updated versions if appropriate. This applies to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 32.26(b)(5), Section 32.26(b)(7), Section 32.26(b)(11), and Section 32.26(b)(12).

The enclosure also indicates those requirements for which it may be appropriate to refer to the information in your original application; namely Section 32.26(b)(8) and Section 32.26(b)(9). Other than for these requirements, statements such as "this represents no change from information provided in the original application process" are not necessary.

Please note that an application for an exempt distribution license, including renewals, should not contain information concerning the possession and use of radioactive material since that is covered in your separate possession license.

We will continue our review upon receipt of this information. If we do not receive your reply within 30 calendar days from 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.

C. Gagnon

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Please be aware that upon your request, proprietary information submitted to the NRC may be withheld from public disclosure. To do this, you must follow the procedures in 10 CFR 2.390(b) including requesting withholding at the time the information is submitted and complying with the document marking and affidavit requirements set forth in 10 CFR 2.390(b)(1).

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Any correspondence regarding this renewal application should reference control number 599819.

If you have any questions, please feel free to contact me at (301) 415-5477 or by e-mail at Richard.Struckmeyer@nrc.gov.

Sincerely,

/RA/

Richard K. Struckmeyer
Materials Safety Licensing Branch
Division of Material Safety, State, Tribal,
and Rulemaking Programs
Office of Nuclear Material Safety
and Safeguards

Docket No.: 030-37431
License No. 32-23947-01E

Enclosure:
Request for Additional Information

CHEMRING SENSORS & ELECTRONIC SYSTEMS, SECOND REQUEST FOR ADDITIONAL INFORMATION

Date: August 8, 2017

Certified Mailing No. 7015 3010 0000 7901 7236

ML17165A210 (pkg.)		ML17219A142 (Letter)	
OFC	NMSS/MSTR/MSLB	NMSS/MSTR/MSLB	NMSS/MSTR/MSLB
NAM E	RStruckmeyer	Deborah Weaver	RStruckmeyer
DAT E	08/8/2017	08/8/2017	08/8/2017

OFFICIAL RECORD COPY

**Request for Additional Information for Renewal of
Chemring Sensors & Electronic Systems, License Number 32-23947-01E**

The information requested in the following paragraphs is required by Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter 32. Each paragraph is derived from a section within this chapter.

1. Section 32.26(b)(1) requires a description of the product and its intended use or uses;
2. Section 32.26(b)(2) requires information concerning the type and quantity of byproduct material in each unit;
3. Section 32.26(b)(3) requires the applicant to submit information concerning the chemical and physical form of the byproduct material in the product and changes in chemical and physical form that may occur during the useful life of the product.
4. Section 32.26(b)(4) requires the applicant to submit information concerning the solubility in water and body fluids of the forms of the byproduct material contained in the product.
5. Section 32.26(b)(5) requires the applicant to submit information concerning details of construction and design as related to containment and shielding and other safety features under normal and severe conditions of handling, storage, use, and disposal.

Your response to this requirement should include any original attachments, if they are current, or updated versions if appropriate.

6. Section 32.26(b)(6) requires the applicant to submit information concerning maximum external radiation levels at 5 and 25 cm from external surface of product and the method of measurement.
7. Section 32.26(b)(7) requires the applicant to submit information concerning the degree of access to human beings during normal use.

Your response stated that “the original application ... contains detailed drawings for this process.” Please submit these drawings. Your response to this requirement should include any original attachments, if they are current, or updated versions if appropriate.

8. Section 32.26(b)(8) requires the applicant to submit information concerning the total quantity of byproduct material (BPM) expected to be distributed annually.

For this requirement, your previous experience with quantities distributed may have some bearing on your future expectations. However, rather than the number of units, you should provide the amount of byproduct material in curies.

9. Section 32.26(b)(9) requires the applicant to submit information concerning the expected useful life of the product.

Your previous experience with the expected useful life of the product may have some bearing on your future expectations.

Enclosure

10. Section 32.26(b)(10) requires the applicant to submit information concerning the proposed method of labeling or marking the product and its point of sale package to satisfy the requirements of §32.29(b).
11. Section 32.26(b)(11) requires the applicant to submit information concerning the procedures for prototype testing (containment, shielding and other safety features) under both normal and severe conditions of handling, storage, use, and disposal of the product.

Your response to this requirement should include any original attachments, if they are current, or updated versions if appropriate.

12. Section 32.26(b)(12) requires the applicant to submit information concerning the results of prototype testing including any change in form, extent of release to environment, increase in radiation levels and changes in safety features.

Your response to this requirement should include any original attachments, if they are current, or updated versions if appropriate.

13. 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. These sections require that the applicant demonstrate that under normal conditions of handling, storage, use, and disposal, it is unlikely that the dose commitments for an exposed individual would exceed the values in 32.28.
 - a. Section 32.26(b)(13) requires the estimated dose commitments relevant to the safety criteria in Section 32.27 and the basis for such estimates.
 - b. Section 32.26(b)(14) requires a determination that the probabilities in Section 32.27(c) (related to scenarios such as bulk storage and fires) will not be exceeded with respect to the dose commitments referred to in Section 32.28, Column II. This is usually done using a methodology and scenarios similar to those found in Section 2, Exemptions for Byproduct Material, of NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials."

Please provide an evaluation which demonstrates that the product will not exceed the probabilities in 10 CFR 32.27(c) and will not exceed the dose commitments in Section 32.28, Column II.

14. Section 32.26(b)(15) requires the applicant to submit information concerning the Quality Control procedures followed in fabrication of production lots of product and Quality Control standards product must meet. Section 10.7, "Quality Assurance and Quality Control," of NUREG-1556, Vol. 3, Rev. 2, states that an applicant must provide details of the quality assurance program that will be implemented to ensure that the product is manufactured and distributed in accordance with the representations made in the application, and the statements contained in the registration certificate for the product.

15. Section 32.29(b) requires the applicant to submit the following information concerning product labeling:

With regard to items "a" and "c", below, please provide copies of the labels showing the required information. NOTE: Copies are sufficient; originals need not be submitted.

- a. Each detector must contain a durable, legible, readily visible label or marking on the external surface of the detector containing:
 - i. The statement "CONTAINS RADIOACTIVE MATERIAL"
 - ii. Name and quantity of activity of BPM
 - iii. Identification of the person licensed to transfer the product
- b. Describe how the label or marking is located where it will be readily visible when the detector is removed from its mounting.
- c. The external surface of the point-of-sale package has a legible, readily visible label or marking containing:
 - i. Name and quantity of activity of BPM
 - ii. Identification of the person licensed to transfer the product
 - iii. The following or similar statement:

THIS DETECTOR CONTAINS RADIOACTIVE MATERIAL AND HAS BEEN MANUFACTURED IN COMPLIANCE WITH U.S. NRC SAFETY CRITERIA IN 10 CFR 32.27. THE PURCHASER IS EXEMPT FROM ANY REGULATORY REQUIREMENTS