



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

August 6, 2018

Mr. William L. Ransohoff, President  
Neutron Products, Inc.  
22301 Mt. Ephraim Road  
P.O. Box 68  
Dickerson, MD 20842

SUBJECT: NEUTRON PRODUCTS, INC. – REQUESTS FOR ADDITIONAL INFORMATION  
FOR RENEWAL OF CERTIFICATE OF COMPLIANCE NO. 9215, MODEL NO.  
NPI-20WC-6 MkII

Dear Mr. Ransohoff:

By letter dated May 7, 2018, Neutron Products Inc. (NPI, the applicant) requested the U.S. Nuclear Regulatory Commission (NRC) to renew Certificate of Compliance (CoC) No. 9215 for Model No. NPI-20WC-6MkII transport package. NPI did not request any changes to the package design or authorized contents. On May 30, 2018, we issued a revised CoC extending the expiration date from May 31, 2018 to May 31, 2023. The NRC staff accepted the application on June 8, 2018, to continue the detailed technical review of the consolidated safety analysis report.

After further review, the NRC staff determined that additional information is needed. On July 24, 2018, the NRC staff provided draft requests for additional information (RAIs) to NPI by electronic mail. At your request, we held a clarification call on July 27, 2018.

Enclosed please find the official RAIs. Please provide your responses within three weeks from the date of this letter, as mutually agreed during the clarification call. Your timely responses will allow the NRC staff to complete its review on schedule.

If you have any questions regarding this certificate, please contact me or Mr. Siva P. Lingam of my staff at (301) 415-1564.

Sincerely,

**/RA/**

John McKirgan, Chief  
Spent Fuel Licensing Branch  
Division of Spent Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 71-9215  
EPID No. L-2018-LLA-0133

Enclosure:  
Requests for Additional  
Information

SUBJECT: NEUTRON PRODUCTS, INC. – REQUESTS FOR ADDITIONAL INFORMATION  
FOR RENEWAL OF CERTIFICATE OF COMPLIANCE NO. 9215, MODEL NO.  
NPI-20WC-6 MkII, DOCUMENT DATE: August 6, 2018

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**ADAMS Accession No.: ML18218A429**

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**REQUESTS FOR ADDITIONAL INFORMATION**  
**FOR NEUTRON PRODUCTS, INC. RENEWAL OF**  
**CERTIFICATE OF COMPLIANCE NO. 9215**  
**MODEL NO. NPI-20WC-6 MkII**  
**DOCKET NO. 71-9215**

By letter dated May 7, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18127B735), Neutron Products Inc. (NPI, the applicant) requested the U.S. Nuclear Regulatory Commission (NRC) to renew Certificate of Compliance (CoC) No. 9215 for Model No. NPI-20WC-6MkII transport package. NPI did not request any changes to the package design or authorized contents. On May 30, 2018, we issued a revised CoC (Revision No. 15) extending the expiration date from May 31, 2018 to May 31, 2023 (ADAMS Accession No. ML18150A418). The NRC staff accepted the application on June 8, 2018, to continue the detailed technical review of the consolidated safety analysis report (ADAMS Accession No. ML18157A017). The staff have reviewed the applicant's submittal in detail, and determined that the following additional information is required associated with shielding section in order to complete the review.

- 5-1 Please provide complete footnote information for Table 5.4.1 of your application.

The applicant referred to footnotes 1 through 9 except 2, for 8 items. However, footnotes exist for 5 to 9 only. No footnote information is included for 1 through 4.

This information is required to determine compliance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 71, Section 71.35.

- 5-2 Please specify an activity limit below which axial shielding plugs are not necessary.

In a letter dated May 7, 2018, the applicant requested the removal of the axial shielding plug requirement for "long, very low activity sources" but does not provide an activity limit for this new contents type. Prior staff review determined that at the current activity limit, this shielding material is necessary. The staff finds that without a specified contents activity limit, the staff cannot evaluate the applicant's request against the regulatory requirements.

This information is required to determine compliance with 10 CFR 71.47.

- 5-3 Please clarify the orientation of the package with respect to the dose locations in Table 5.4.1

In Section 5.3.1, the applicant states that "the areas of highest contact dose rate with the package itself can generally be found on the overpack in the areas extending outward from the End Cover flanges." However, as shown in Table 5.4.1, the maximum dose rates are shown to nearly always occur at a location referred to as "below." Further, "Back" dose rates are comparable to the dose rates for left/right locations, adding confusion in determining the package orientation from the dose rates listed in the Table.

Enclosure

In addition, the applicant only included "FWD" and "Back" dose rates for the two of the examples in Table 5.4-1. It is not clear if these examples are intended to indicate the locations of highest dose. The applicant's drawing in figure 5.3.1 further adds confusion as the line drawn from the areas of highest dose continues through the shielding material to the source location at the center of the package.

This information is needed to confirm expected dose rates required to determine compliance with 10 CFR 71.47.

- 5-4 Please complete the table information or provide more explanation regarding the inclusion of only two dose rate locations for the last two examples in Table 5.4.1.

As a result of the confusion regarding the package orientation discussed in the previous RAI, the staff cannot determine either a location or dose rate for evaluation.

This information is required to determine compliance with 10 CFR 71.47.