March 10, 2010

Ms. Kelley Richardt
Regulatory and Quality Manager
Source Production & Equipment Co., Inc.
113 Teal St.
St. Rose, Louisiana 70087

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR REVIEW OF THE CERTIFICATE OF COMPLIANCE NO. 9263, REVISION FOR THE MODEL NO. SPEC-150 PACKAGING (TAC NO. L24385)

Dear Ms. Richardt:

By application dated October 19, 2009, as supplemented November 13, 2009, Source Production & Equipment Co., Inc. (SPEC or the applicant), requested a revision to Certificate of Compliance (CoC) No. 9263 for the Model No. SPEC-150 packaging. SPEC requested changes in the packaging drawings and additional authorized contents.

In connection with our review, we need the information identified in the enclosure to this letter. To assist us in scheduling staff review of your response and to meet your identified shipping needs, we request that you provide this information by April 12, 2010. If you are unable to provide a response by that date, our review may be delayed.

Please reference Docket No. 71-9263 and TAC No. L24385 in future correspondence related to this request. The staff is available to meet to discuss your proposed responses. If you have any questions regarding this matter, I may be contacted at (301) 492-3339.

Sincerely,

/RA/

Kimberly J. Hardin, Senior Project Manager
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9263
TAC No. L24385

Enclosure: Request for Additional Information

cc w/encl: E. Redmond, NEI

Ms. Kelley Richardt
Regulatory and Quality Manager
Source Production & Equipment Co., Inc.
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Request for Additional Information
Source Production & Equipment Co., Inc.
Docket No. 71-9263
Certificate of Compliance No. 9263
Model No. SPEC-150

By application dated October 19, 2009, as supplemented on November 13, 2009, Source Production & Equipment Co., Inc. (SPEC or the applicant), requested an amendment to Certificate of Compliance (CoC) No. 9263 for the Model No. SPEC-150 packaging. SPEC requested changes in the packaging drawings and additional authorized contents.

This request for additional information (RAI) identifies information needed by the U.S. Nuclear Regulatory Commission staff in connection with its review of the application. NUREG-1609, "Standard Review Plan for Transportation Packages for Radioactive Material," was used by the staff in its review of the application.

Each individual RAI describes information needed by the staff for it to complete its review of the application and to determine whether the applicant has demonstrated compliance with the regulatory requirements of 10 CFR Part 71.

RAI-1 Specify which joins are "structural" and which are "non-structural" on the licensing drawings.

The licensing drawings should unambiguously describe the welds on the package.

This information is needed to determine compliance with 10 CFR 71.31(c) and 10 CFR 71.33(a)(5)(iii).

RAI-2 Clarify why internal structural joins do not undergo dye-penetrant testing.

External structural joins are examined using dye-penetrant methods. There is no justification in the SAR to explain why internal joins are not also inspected using dye-penetrant methods.

This information is needed to determine compliance with 10 CFR 71.33(a)(5)(iii).

RAI-3 Citing a standard industrial code, specify that all thermal metal joins (structural and non-structural) will be examined. State the examination methodologies and the acceptance criteria used in weld fabrication by citing a standard industrial code. This information should be clearly listed on the licensing drawings.

All thermal metal joins should be examined using a widely-accepted industrial code. Non-structural welds, when attached (even temporarily) to structural components can influence the performance of structural components.

Ensure that Section 8.1.2 of the application is consistent with the licensing drawings.

This information is needed to determine compliance with 10 CFR 71.31(c) and 10 CFR 71.33(a)(5)(iii).

RAI-4 Specify the American Society of Mechanical Engineers (ASME) code of construction (e.g., Section VIII, Division I) which is used as the basis for welding and the acceptance criteria for the thermal metal joins on the package.

Welding variables, such as pre- or post welding heat treatment, are not governed by Section IX of the ASME Code. Section VIII, Division I, of the ASME Code does not contain acceptance criteria for visual examination of thermal metal joins. Examples of visual acceptance standards for welds under the ASME Code include Articles NF-5360, and NG-5360 of Section III, Division I.

This information is needed to determine compliance with 10 CFR 71.31(c).

RAI-5 Clarify why the American Society for Testing and Materials (ASTM) E-165 is used as the basis for the examination procedures of thermal metal joins on the package, and not Section V of the ASME Code. Alternatively, specify the use of Section V of the ASME Code as the basis for examination of thermal metal joins in the licensing drawings.

The mixing of fabrication/examination codes can create the potential for permitting procedures which would have been otherwise unacceptable under one individual code, and therefore, compromise the safety of the package.

This information is needed to determine compliance with 10 CFR 71.31(c).

RAI-6 Specify a standard industrial code, e.g., ASTM or ASME, which mandates the minimum mechanical properties and level of fabrication quality for all materials used to construct components that are safety-related, with the exception of zirconium, and depleted uranium alloys.

Specifying industrial codes on the licensing drawings which govern the materials used in the manufacture of the package is consistent with Section 3.1.1 of NUREG/CR-5502, “Engineering Drawings for 10 CFR Part 71 Package Approvals.”

Standards such as the American Institute for Steel and Iron (AISI), and the Unified numbering system (UNS) for alloys are generally not acceptable for safety related materials, since these standards do not establish requirements for material properties, heat treatment, form, or quality.

The material specification “18-8” listed on drawing 15B001-3 is a generic term used to describe austenitic stainless steel, and is not a standard industrial code.

This information is needed to determine compliance with 10 CFR 71.31(c).

RAI-7 Provide the safety classification of the polymer foam used in the package.

Section 5.4.1 of NUREG/CR-6407 lists impact limiters as Category A items.

This information is needed to determine compliance with 10 CFR 71.37(a).

RAI-8 Provide dimensional information of the join near component 3 on licensing drawing 15B002A, labeled “TMJ.” Clarify if this join is welded or brazed.

There is no dimensional information for this join.

This information is needed to determine compliance with and 10 CFR 71.33(a)(5)(iii).

RAI-9 State in SAR Section 7.1.1 that visual inspection of exposed fasteners and welds will occur during preparations for loading.

The development of fatigue cracks in welds and fasteners can effect the safe operation of the package.

This information is needed to determine compliance with 10 CFR 71.37(a).

RAI-10 Specify a minimum weight and density for the depleted uranium shield on sheet 1 of drawing B15008.

The mass and density of the depleted uranium shield determines the shield's effectiveness.

This information is needed to determine compliance with 10 CFR 71.33(a)(5)(iii), 10 CFR 71.51(a)(1), and 10 CFR 71.51(a)(2).

RAI-11 Provide the citation for the source from which the specific gamma ray constants were taken. If these constants were calculated in-house, provide the calculation.

The relative values of specific gamma ray constants for some of these nuclides are not consistent across references. The source needs to be provided to allow staff to confirm the claims made in the application.

This information is needed to verify compliance with 10 CFR 71.33(b), 10 CFR 71.43(f), 10 CFR 71.47, and 10 CFR 71.51(a)(1) and (a)(2).

RAI-12 Reword the discussion in the second paragraph of Section 5.2 in the SAR (page 34) and the similar discussion on page 36 (at the end of Section 5.3) dealing with the justification for not performing measurements at one meter.

The statement about 1-meter dose rates appears to be over simplified and does not seem to follow from the preceding text. The intent may have been to infer that when comparing the adjusted and extrapolated post-test surface readings to pre-test surface readings and their associated one-meter measurements that the post-test one-meter readings would not be expected to exceed the limits. However, that is not clear from the present text.

This information is needed to verify compliance with 10 CFR 71.43(f), 10 CFR 71.47, and 10 CFR 71.51(a)(1) and (a)(2).

RAI-13 Justify the use of an 8-curie or 4-curie source for the normal conditions of transport and hypothetical accident conditions tests.

The standard cited in the SAR (ANSI N432-1980) specifies activity of the source used in the test should be within a factor of 10 of the limiting content (See note 2 in Section 8.1.2).

This information is needed to verify compliance with 10 CFR 71.43(f), 10 CFR 71.47, and 10 CFR 71.51(a)(1) and (a)(2).

RAI-14 Explain/justify the difference between the “Maximum” column in the first table in Section 5.1 and the “Maximum Before” column in the table in Section 5.2.

The first table in Section 5.1 of the SAR has a column titled “Maximum.” It appears that this is the maximum value from the pre-test measurements for each location. The table in Section 5.2 has a column labeled “Maximum Before” which seems like it should be the same as the Maximum column in Section 5.1, but it is not.

This information is needed to verify compliance with 10 CFR 71.43(f).