Best® Theratronics

413 March Road
Ottawa, Ontario
Canada K2K 0E4
Tel: 613-591-2100

July 29, 2019

Director, Division of Spent Fuel Management
Office of Nuclear Materials Safety & Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

71-9310

Attn: Document Control Desk

Subject: Request for Information (Renewal of Model No. 9310)

References: Garcia Santos, Norma. "Re: Request for information: Renewal of Model No. F431." Email message to Edna Sacay. 14 June 2019.

This letter is in response to your request for information dated June 14, 2019 regarding the clarification and missing information within the F431 consolidated renewal application. The Safety Analysis Report for the F-431 Transport Package, IN/TR 1913 F-431, has been revised to version D, where the information described below has been incorporated. Enclosed are two copies of the IN/TR 1913 F-431 document, one proprietary and one non-proprietary. An affidavit accompanies this written response requesting to withhold parts of the IN/TR 1913 F-431 document, including drawings containing proprietary information, from public disclosure.

The revisions to the SAR document are stated below. The response follows in the same format as the email received from Ms. Garcia:

1. ML041970402 (April 16, 2004)

   a. Consolidated application clarification:

      i. Item 2.4 – Please see drawing F643101-001, Sheet 1 of 2 (left top). The warning statement is visibly painted on the top of the transport package.

      ii. Item 2.6 – The ASTM A193, Gr. B8 bolts are referred to in Para 2.6.4.3. And again they are listed in the drawing F643101-001, Sheet 1 of 2 as item 19. Related hex. nuts ASTM A194, Grade 8, Class 2 are listed in the drawing F643101-001, Sheet 1 of 2 as item 20.

      iii. Drawing is to read F643101-001. The section 7.2 contains now the detailed listing for preparing GC100/3000 for shipment and the reference to IN/DS 1892 F431 was removed. On the drawing F643101-001, Rev K, the Note 8 is still relevant and not to be removed.

   b. Table 4.2 was updated from 2004 to include the currently manufactured and used C3100 source model.

   c. The total maximum activity of the gamma cell, source models C-3000 and C-3001 are 113 TBq, which has been updated from revision C.

2. ML042040293 (July 16, 2004)

   This letter was to advise the USNRC about the increase in bolt length for two USNRC registered transport packages: F-430 & F-431. DWG No. 643001-001(Sheet 1, Revision K and Sheet 2, Revision D) was not included in the consolidated application as it contains information on the F-430 transport package only. Relevant information pertaining to the F-431 transport container is provided in DWG No. 643101-001.

3. ML042080284 (July 21, 2004)

   The "Assessment of the F-430 Tie-Down Collar Bolted Connection" calculation has been added to the SAR as Section 2.4.6 and Appendix 2.10.8.

NMSSZD

4. ML042180352 (July 23, 2004)

   The "Assessment of the F-430 Tie-Down Collar Bolted Connection" calculation has been added to the SAR as Section 2.4.6 and Appendix 2.10.8.

5. ML11308A474 (October 21, 2011)

   Fig. 1.1 Main Components in IN/TR 1913 SAR has been replaced with pages 4 and 5 from IN/TR 6087 and are named 1.1a and 1.1b. No affidavit is required.

6. ML16224A932 / ML16224A930 (Feb 15, 2012)

   Fig. 1.1 Main Components in IN/TR 1913 SAR has been replaced with pages 4 and 5 from IN/TR 6087 and are named 1.1a and 1.1b. No affidavit is required.

7. ML120790138 (Mar 9, 2012)

   The Supplementary SAR for the F430 Transport Package IN/TR 6088 F430 (C) has been added to the Appendix 2.10.3 under 2.10.3b. All references in IN/TR 1913 to Appendix 2.10.3 has been changed to Appendices 2.10.3a and 2.10.3b.

8. ML15198A208 / ML15181A090 (June 8, 2015)

   Appendix 5.5.1 has been added to include the current Registry of Radioactive Sealed Sources and Devices No. NR-1307-D-102-S, dated May 15, 2015.

9. As per Condition 5.(a)(3), "Drawings," Revision 6, of the CoC for the Model No. F-431 includes on Drawing No. F643101-001, Sheet 1, Revision J, and Sheet 2, Revision E. These drawings are enclosed and no affidavit required. Updates between the revisions are described below:

   a. F643101-001 sheet 1 of 2: From Rev. J to K – There was no design change from Rev J to K. The change in revision is only to reflect change to revision of the sheet 2 of 2. Please see small table "Revision Status" on the bottom of the drawing.

   b. F643101-001 sheet 2 of 2: From Rev. E to F – Revision from E to F was to introduce improvement and standardization to the plywood bracing construction. The same bracing can be used for unit with or units without additional security feature.

Thank you for your consideration on this matter. If you have any further questions please contact me at the information below, or Edna Sacay at edna.sacay@thertaronics.ca.

Sincerely,

Mojgan Soleimani
Director of Quality & Regulatory Affairs, RSO
Phone: 613-591-2100 x2766

Enclosures:
1. IN/TR 1913 F-431 (D), July 24, 2019 – F-431 Transport Package Safety Analysis Report – Proprietary Information
2. IN/TR 1913 F-431 (D), July 24, 2019 – F-431 Transport Package Safety Analysis Report – Non-proprietary Information
3. Affidavit
4. Drawing No. F643101-001, Sheet 1, Revision J
5. Drawing No. F643101-001, Sheet 2, Revision E

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Affidavit in Support of Withholding Information from Public Disclosure Request

I, *Victor Moga*, the undersigned, being duly sworn, hereby make the following statements in conformance with the provisions of 10 CFR 2.390:

1. I am over the age of 18 and am a resident of Ottawa, Ontario Canada. I have personal knowledge of the facts herein and I suffer no legal disabilities.

2. I am the *Manager of Technical Services* for Best Theratronics Ltd. and in this role I am authorized to review the information provided and make these statements.

3. Best Theratronics is providing the USNRC documents in support of a Request for Renewal of USNRC Certificate of Compliance USA/9310/B(U)-96 (Certificate No. 9310, expiring June 30, 2019) and the listed sections, as per attachment, contain information that should be withheld from public disclosure.

4. Best Theratronics Ltd. is the owner of these documents.

5. The basis for this withholding request is that the information contained within the documents is proprietary and commercial confidential. The documents provide in-depth manufacturing and servicing information pertaining to products sold by Best Theratronics. Additionally, document IDs denoted with an asterisk are considered security related information, based on content revealing access to source drawers and detailed drawings.

6. These documents are held in confidence by Best Theratronics Ltd. and has been transmitted to and received by the United States Nuclear Regulatory Commission in confidence.

7. Document contents are not available through public means. Documents are only provided to Best Theratronics' subcontracts and regulators on an as-needed basis.

8. Release of the documents to the public could result in commercial harm to Best Theratronics for the following reasons:
   a. Best Theratronics has spent considerable funding on developing the products and servicing procedures,
   b. Public release of the information would provide competitors inside knowledge to Best Theratronics' products and servicing procedures, and
   c. Best Theratronics currently holds the majority market share within this specific product area and could lose that competitive advantage if the information contained within the documents is publicly available.

9. The information contained in this affidavit is to the best of my knowledge true and correct.

Sworn before me this 23 day of July, 2019 in the City of Ottawa, Ontario, Canada.

per:

Victor Moga
Manager of Technical Services
Best Theratronics Ltd.

Information to be Withheld from Public Disclosure

Listed below are the relevant sections to be withheld from public disclosure and are blacked-out in or removed from the non-proprietary copy of IN/TR 1913 F-431 document:

- IN/TR 1913 F-431 approval signatures
- Appendix 2.10.5 title
- Section 3.3.2 title
- Appendix 3.7.3 title
- Section 1.2.1 – information related to the detailed construction of the overpack, including the use of polyurethane foam
- Section 1.2.2 – information related to the detailed construction of the overpack
- Figure 1.1 – Drawing detailing the construction of the container and contents
- Figure 1.2 – Drawing detailing the construction of the container and contents
- Appendix 1.3.1 – Specification sheet removed
- Appendix 1.3.2 – Referenced engineering drawing removed
- Section 2.1.1 – Various areas detailing the structural components
- Sections 2.1.2.2.1 and 2.1.2.2.2 - Information related to brittle fracture and fatigue
- Section 2.3, including Table 2.1 – Information related to material components used in construction of container
- Figure 2.1
- Section 2.4.1
- Section 2.4.2 – Number and type of fasteners
- Section 2.5.1 – Information related to the yield stress of the stainless steel and safety factor
- Sections 2.6.4.2 and 2.6.4.3
- Table 2.3 – Number and type of fasteners
- Section 2.7.1.4 – Information regarding foam crush
- Section 2.7.1.5 – Information regarding G's and deceleration
- Section 2.7.2 – Information related to tearing of the outer skin and the polyurethane foam
- Section 2.7.3 – Information related to the foam, foam compression, and its ability to provide thermal protection
- Section 2.7.4 – Justification number 1
- Section 2.10 – Appendix 2.10.5 title
- Reference number [7] blacked out
- Section 3.1 – Packages components
- Section 3.2 – Specific stress values and the type and yield strength of the bolts
- Section 3.3 – Yield strength of the 304L stainless steel
- Section 5 – Yield strength information
- IN/TR 1691 GC3000 (1) referenced in Appendix 2.10.4:
    - Figures 1, 2, 6 – 17
    - All pictures in Appendix E
    - Appendix F, pages 1 and 2 of 3 page engineering drawing removed
- Appendix 2.10.5 – Title and entire appendix removed
- Section 3.2 – Information regarding Stainless steel and its sheer strength
- Section 3.2.1 – Information regarding welds and stresses

- Section 3.2.2 – Information regarding shear stress
- Sections 3.3 and 3.4
- Sections 3.5.1 - 3.5.3
- Section 3.6
- Table A2.10.7-1
- Figure A2.10.7-1 – Two components
- Figure A2.10.7-2
- Section 3.1.1
- Table 3.1 – Specific information
- Section 3.3.2
- Table 3.2 - Partially
- Section 3.4.1.2 – Last two paragraphs
- Section 3.4.6 – Temperature sensitive materials
- Section 3.5.1.1 – Last two paragraphs
- Section 3.5.1.2 – Last two paragraphs
- Section 3.5.2
- Table 3.3 – Entire table and detail about thermal conductivity of crushed foam
- Section 3.5.4 – Second paragraph
- Section 3.5.5 – Reference to ductility of SS type 304L
- Section 3.6 – Reference [3]
- Section 3.7 – Appendix 3.7.3 title
- Appendix 3.7.3 – Title and entire Appendix removed
- C-1001 Special Form Certificate
- C-3001 Special Form Certificate
- C-1001 Sealed Source Test Certificate
- C-3001 Sealed Source Test Certificate
- Section 7.3 – Number and type of fasteners
- Figure 7.1
- Section 7.4.2 – Number and type of fasteners
- Section 7.5 – Type and torque value of fasteners
- Section 8.1.4.3 – Entire paragraph
- Section 8.1.6 – Last sentence regarding polyurethane foam
- Appendices 9.3.2 and 9.3.3 – All contents removed

Security-Related Information Figure Withheld Under 10 CFR 2.390

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