



ENERGYSOLUTIONS

ATTN: Document Control Desk
Director, Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Letterbook No.: ES/NRC 14-001

January 9, 2014

Subject: Request for authorization to ship activated metal

Reference: 8-120B Package, Certificate No. USA/9168/B(U)-96, Docket No. 71-9168

Dear Sir or Madam:

EnergySolutions hereby submits a request for authorization to ship a limited number of packages of Zion decommissioning waste exceeding the specified radiological source strength currently specified in Revision 20 of the referenced Certificate of Compliance (CoC). Similar shipments were made in 2012 under a previous revision of the CoC, in accordance with the radiological contents specification at that time. These previous shipments exhibited a large margin between measured package dose rates and the regulatory limits specified in 10 CFR 71.47. Due to conservatism in the shielding safety analyses supporting the current CoC, the shipments would no longer be qualified. EnergySolutions will submit a license amendment request to better accommodate this type of payload. However, the current shipping delays are impacting public dose at the plant site, as well as the decommissioning schedule for this time-critical project. Therefore, to minimize these impacts, we request this authorization at the soonest possible date.

Background

The Zion decommissioning project made 2 shipments of activated metal prior to September 30, 2013, at which time CoC Revision 19 became effective and the shipping campaign was suspended because the contents could no longer be qualified. For activated reactor components, package exterior dose rates are driven primarily by the activity density in Ci of ^{60}Co per gram of activated steel. The maximum ^{60}Co activity density shipped under CoC Revision 18 was 384 $\mu\text{Ci/g}$, and the corresponding package measured exterior peak dose rates were 17 mrem/hr on contact and 4 mrem/hr at 2 meters.

The shielding safety analyses for CoC Revisions 19 and 20 were generic in nature and did not take credit for the substantial shielding afforded by the steel waste liners used for Zion activated metal shipments (approximately 1" thick). Additional conservatism in the safety analyses, such as the generic treatment of the payload mass attenuation factor and the energy binning methodology, were compounding factors. EnergySolutions therefore submits a proprietary calculation tailored to shipments of activated steel in steel liners that we propose to be the basis for our upcoming license amendment request. The calculation package includes Loading Specification 8-120B-2 for shipments of activated steel, which specifies maximum activity

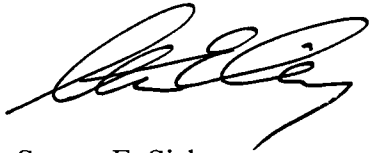
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density limits for various steel liner thicknesses. The operational experience from past Zion shipments, plus the new evaluations in the enclosed calculation package, supports our proposal for authorization of interim shipments using the radiological limits in Loading Specification 8-120B-2.

Request

EnergySolutions requests authorization for up to 36 shipments of activated steel from the Zion decommissioning project to be made using the radiological limits specified in Loading Specification 8-120B-2 in the enclosed calculation package. All other conditions of the current CoC shall apply, except that for activated steel shipments, the radiological limits specified in Attachment 1 to Chapter 7 of the SAR may be replaced by the limits in Loading Specification 8-120B-2 in the enclosed calculation. The time frame requested for shipments under the authorization begins February 11, 2014 for a period of up to 9 months from the date of authorization, or upon NRC's approval of the related amendment request.

Sincerely,



Steven E. Sisley
Cask Licensing Manager
EnergySolutions

Attachment:

Affidavit pursuant to 10 CFR 2.390

Enclosure:

EnergySolutions Calculation Package, "Shielding Calculation for Loading Specification 8-120B-2 (Activated Steel)," Document No. CALC-12GCL1-001, Revision 0
(Proprietary– Withhold Under 10 CFR 2.390).

cc: Mr. Pierre Saverot, Division of Spent Fuel Storage and Transportation
Mr. Dan Shrum, EnergySolutions
Mr. Mike Wiskerchen, ZionSolutions

State of California)
)
) SS.
County of Santa Clara)

- (1) I am Cask Licensing Manager of EnergySolutions Products and Technology Group, and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been duly authorized to apply for its withholding.
- (2) The information sought to be withheld is contained in the document listed in Table 1. This document has been appropriately designated as proprietary on the basis of (4)(ii)(a) and (c), as described below.

Document No.	Document Title	Rev/Date
CALC-12GCL1-001	Shielding Calculation for Loading Specification 8-120B-2 (Activated Steel)	0

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- (i) The information sought to be withheld from public disclosure is included in the report documenting information which is owned and has been held in confidence by *EnergySolutions*.
- (ii) The information is of a type customarily held in confidence by *EnergySolutions* and not customarily disclosed to the public. *EnergySolutions* has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute *EnergySolutions* policy and provide the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

- (a) The information reveals the distinguishing aspects of a process or component, structure, tool, method, etc., and the prevention of its use by *EnergySolutions*' competitors, without license from *EnergySolutions*, gives *EnergySolutions* a competitive economic advantage.
- (b) The information consists of supporting data (including test data) relative to a process or component, structure, tool, method, etc. and gives *EnergySolutions* a competitive economic advantage, e.g., by optimization or improved marketability.
- (c) The information, if used by a competitor, would reduce the competitor's expenditure of resources or improve the competitor's advantage in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.

- (d) The information reveals cost or price information, production capacities, budget levels, or commercial strategies of *EnergySolutions*, its customers or suppliers.
 - (e) The information reveals aspects of past, present, or future *EnergySolutions* or customer funded development plans and programs of potential commercial value to *EnergySolutions*.
 - (f) The information contains patentable ideas, for which patent protection may be desirable.
 - (g) The information is third-party Proprietary Information.
- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.
 - (iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
 - (v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked and being transmitted by *EnergySolutions* to the Document Control Desk. The proprietary information has been presented to the Nuclear Regulatory Commission and is being voluntarily provided by *EnergySolutions*.
 - (vi) Public disclosure of the information is likely to cause substantial harm to the competitive position of *EnergySolutions* because:
 - (a) Similar products are manufactured and sold by competitors of *EnergySolutions*.

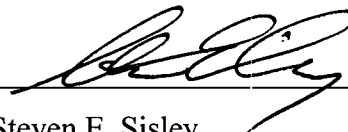
- (b) The development of this information by *EnergySolutions* is the result of a significant expenditure of staff effort and a considerable sum of money. To the best of my knowledge and belief, a competitor would have to undergo similar effort and expense in generating equivalent information.
- (c) In order to acquire such information, a competitor would also require considerable time and inconvenience.
- (d) The information consists of detailed descriptions, properties and test data. The availability of such information to competitors would enable them to modify their product to better compete with *EnergySolutions*, take marketing or other actions to improve their product's position or impair the position of *EnergySolutions'* product, and avoid developing fabrication data in support of their processes, methods, and/or apparatus.
- (e) In pricing *EnergySolutions'* products and services, significant research, development, engineering, analytical, licensing, fabrication, quality assurance and other costs must be included. The ability of *EnergySolutions'* competitors to utilize such information without similar expenditure of resources may enable them to sell their product at prices reflecting significantly lower costs.

Further the deponent sayeth not.

I declare under penalty of perjury that the forgoing is true and correct.

Executed on 09- January - 2014

Date



Steven E. Sisley
Cask Licensing Manager
EnergySolutions