



HITACHI

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28 January 2011

Ms. Michele M. Sampson, Sr. Project Manager
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-001

ATTN: Document Control Desk

Copy to:

Associate Administrator for Hazardous Material Safety
Pipeline and Hazardous Materials Safety Administration
U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590-0001

Attn: Special Permits, PHH-31

Subject: APPLICATION FOR LIMITED CONTINUED USE OF THE MODEL NO. 100
TYPE B PACKAGE, CERTIFICATE OF COMPLIANCE No. 5926

- References:
- 1) NRC Letter to D.R. Krause, GEH, "Authorization for Limited Shipments in the Model No. GE-100 Package, Certificate of Compliance No. 5926, Revision No. 2", Dated May 13, 2010.
 - 2) GEH Letter, D.R. Krause to NRC, "RAI Responses for Review of the Model No. GE-100 Package Limited Authorization", Dated April 14, 2010.
 - 3) GEH Letter, D.R. Krause to NRC, "Request for License Extension Package identification Nos. USA/5926/B()F and USA 5939/B()F", Dated September 29, 2008.

Dear Ms. Sampson:

GE - Hitachi Nuclear Energy Americas, LLC ("GEH"), with operations at the Vallecitos Nuclear Center (VNC), Sunol, California respectfully request an extension to the Authorization for limited continued use of the GEH Model No. 100 Type B Package, Certificate of Compliance No. 5926, from March 31, 2011 to December 30, 2011 and for the authorization to make use of the Model 100 to accomplish a maximum of three (3) Cobalt-60 shipments and ten (10) Molybdenum shipment in calendar year 2011, as detailed herein. ^[1, 2, 3]

Please note that GEH does not request any changes to the Model 100 design nor currently authorized contents, and that GEH will continue to maintain the Model 100, Serial Nos.102 and 107 in

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accordance with the maintenance and operating procedures on file with the NRC through the requested time period. Further, GEH understands that this request will not be considered a form of certificate renewal, either under 10 CFR 71.38 or any other NRC regulation.

GEH shall continue to operate the Model 100 Type B Package in accordance with the Quality Assurance Program Approval for Radioactive Material Packages, No. 0170, approved by the NRC under Docket No. 71-0170.

If there are any questions on this request, or additional information is required, please contact me, or our Technical Contact Mr. Carlos Martinez at (925) 862-4481.

Sincerely,



Donald R. Krause
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2011.01.28 15:27:25 -08'00'

Donald R. Krause
Mgr., Regulatory Compliance & EHS

Attachment: Model 5926 Supplemental Information

Docket No. 71-5926
TAC No. L24426

cc: Gaby Francis (GEH)
Andrew Langston (GNF-A)
Carlos Martinez (GEH)
Louis Quintana (GEH)
Michael Schrag (GEH)
David Turner (GEH)

NRC RIS 2008-18, Information on Requests for Extending Use of Expiring Transportation Packages

GEH Model No. 100 Type B Package, Certificate of Compliance No. 5926
Docket No. 71-5926; TAC No. L24426

GEH currently operates two (2) Model No. 100 Packages, Serial Nos. 102 and 107. The use of this Package is for the transport of Cobalt-60, meeting the requirements of Special form, and Molybdenum-99, as solid metal, in accordance with Certificate of Compliance No. 5926. The Package is operated and maintained under GEH's Quality Assurance Program, Approval No. 0170, approved by the NRC under Docket No. 71-0170.

(1) Package Information.

NRC Certificate of Compliance Number. 5926

(2) Identification of Shipments.

(a) Number of shipments; (b) number of packages per shipment; (c) packaging serial numbers; (d) package contents; (e) end use of the radioactive material; (f) shipment origin and destination; (g) mode; (h) general timeframe; and (i) date last shipment will be completed.

- (a) Three (3) Cobalt-60 (Co-60) shipments, and ten (10) Molybdenum-99 (Mo-99) shipments in calendar year 2011.
- (b) Each shipment shall be accomplished using one (1) Model 100 Package.
- (c) Each shipment shall make use of Model 100 Package, Serial No. 102 or 107.
- (d) Each shipment shall be comprised of **Co-60, meeting the requirements of Special form, or Mo-99, as solid metal, in accordance with Certificate of Compliance No. 5926.**
- (e) The end-use of the Co-60 sealed sources is predominantly for industrial, sterilization applications, with some limited research applications. The end-use of the Mo-99 is to support a demonstration project, pursuant to a Cooperative Agreement with the U.S. Department of Energy, to utilize existing facilities for post-irradiation processing of irradiated molybdenum material with the objective of developing a domestic supply of this vital medical isotope.
- (f) The three (3) proposed Co-60 shipments would originate at the GE-Hitachi's Vallecitos Nuclear Center (VNC), Sunol, California (location of the Co-60 special form encapsulation facility) and terminate at QSA Global, Inc. ("QSA"), Burlington, Massachusetts. The ten (10) proposed Mo-99 shipments would be accomplished to Oak Ridge National Laboratory (Oak Ridge, TN), the MIT Research Reactor (Cambridge, MA), the University of Missouri Research Reactor (Columbia, MO), GEH Vallecitos Nuclear Center (Sunol, CA), Lantheus Medical Imaging (North Billerica, MA) or GE Healthcare (Arlington Heights, IL), with GEH as the "shipper" on record.
- (g) All Co-60 and Mo-99 shipments shall be accomplished by truck, as "Exclusive-Use", and are subject to security measures applicable to Radioactive Materials Quantities of Concern (RAMQC) or Highway Route Control Quantity (HRQC) shipments, as applicable.
- (h) GEH anticipates to makes one Co-60 shipment to QSA three of the four quarters in calendar year 2011 and up to ten (10) Mo-99 shipments in 2011, about one shipment every month.

- (i) The last proposed Co-60 or Mo-99 shipment using the Model 100 Package (under this application) would be completed on or before December 30, 2011.

(3) Reasons for Requesting Extended Use.

Justification for Requesting Extended Use. Justification for extending the use of expiring packages must describe why acquiring replacement packages is not practical and why shipments cannot be made before the October 1, 2008, expiration date. The justification must demonstrate that: (a) there are no alternative domestically approved packages available; (b) the contents cannot be reconfigured such that transport can be conducted in accordance with the regulations; and (c) the transport schedule cannot be adjusted so as to be conducted in accordance with the regulations. The justification must also describe any good-faith efforts to acquire replacement packages that meet the current package performance requirements, including a detailed description of past activities and the current status of acquiring replacement packages. In addition, any adverse impacts that will result if the shipment is not conducted should be fully described.

Without an extension for the Model 100 through CY-2011, QSA and GEH may not be able to deliver on existing customer commitments, including the aforementioned DOE agreement. A change to a different Type B package would impact program schedule, costs, and deliverables, and would necessitate procedural modifications, personnel re-training, re-tooling and possibly some form of facility modifications at the receiver's end.

Section (5) delineates GEH's plans to acquire a replacement package for the Model 100.

(4) Safety Justification for Continued Use and Proposed Compensatory Measures

Safety Justification for Continued Use and Proposed Compensatory Measures. Since the expiring package designs may lack safety enhancements included in newer designs, the request must include a safety justification for continued use and a description of compensatory measures that will be used to provide an equivalent level of safety. Examples of compensatory measures that may be considered are: (a) special package inspections, tests, or determinations that ensure that the packaging is in unimpaired physical condition; (b) transport by exclusive use; (c) transport during time of low road usage; and (d) accompaniment of shipment by escort equipped to effect a recovery in an emergency situation or in case of a transportation accident.

GEH has approximately 30-years experience safely operating and maintaining the Model 100 Package. GEH shall operate the 5926 Type B Package, Serial Nos. 102 and 107 in accordance with the Quality Assurance Program Approval for Radioactive Material Packages, No. 0170, approved by the NRC under Docket No. 71-0170.

The Transport Index (TI), the external packaging surface dose readings and Curie content for the proposed Co-60 and Mo-99 shipments will be below the exclusive use criteria for radioactive materials shipments, i.e., 200 mRem/hr not to exceed 1000 mRem/hr at the surface of the Package (per 49CFR173.441). Historically, past shipments using the Model 100 Package have not exceeded a TI value of 5.

GEH is committed to transporting the Model 100 Package as "Exclusive-Use", as defined in 49CFR173.403 mode of motor transport. The shipments shall include the use of either closed

transport or flat-bed style transport vehicles. The Package shall be secured during transport so that its position remains fixed during transport. Unless there is an emergency situation, no loading or unloading operations shall be performed during transit, i.e., between the start and end of the transport, and all work shall be performed under the direction of the Shipper or Receiver. Radiological trained personnel shall perform all loading and unloading operations. Resources for the safe handling of the Package will be provided, including written instructions to the carrier to avoid unnecessary delays or unnecessarily radiation levels or radiation exposures to transport workers or members of the general public. In addition, written instructions pertaining to security measures and emergency response shall be reviewed with the carrier for RAMQC and HRCQ shipments, should the carrier not have something comparable provided by their employer. The applicable security and emergency response measures will not be delineated in this application.

The shipment of empty Packages will be exempt from exclusive-use transport requirements. The Model 100 Packages contain no exterior surface residual radioactivity above "background levels".

Best efforts shall be made to initiate and deliver a radioactive material shipment during off-rush hour traffic, and to use all loops within major cities. Transport restrictions associated with exclusive-use vehicles carrying RAMQC or HRCQ cargo will not be delineated in this application.

While a hazardous materials recovery escort is not practical to implement, there is a prior shipment notification process for all RAMQC and HRCQ shipments (that will not be addressed in this application). Affected State agencies would have the discretion and option as part of the prior shipment notification process to provide escorts for said shipment, if deemed necessary.

Please note that GEH does not request any changes to the 5926 Package authorized contents listing, and that GEH will observe all operating and maintenance procedures on file with the NRC through the extended period. Further, GEH understands that this request will not be considered a form of certificate renewal, either under 10 CFR 71.38 or any other NRC regulation.

(5) A Plan and Schedule to Acquire Replacement Packages

Details about the planned acquisition of replacement packages must be provided, along with key milestones, and proposed implementation dates, unless the licensee can show why acquiring a replacement package is not practical and why shipments cannot be made before the October 1, 2008, expiration date.

In February 2005, AOS entered into a contract with GEH to develop a Type B Transport Packaging System, in accordance with the provisions of 10 CFR Part 71, to replace the Model 100. The application was submitted by AOS to the NRC in October 2007, and supplemented November 2007, under Docket No. 71-9316. In a conference call between AOS and the NRC on April 7, 2008, the NRC staff informed AOS of major technical deficiencies found in the application. On April 29, 2008, AOS informed the NRC staff, by letter, of its withdrawal of the AOS Transport Packaging System application, and intent to re-submit the application upon revising it to address the open technical issues identified by the NRC staff.

Revision B of the SAR was submitted by AOS to the NRC in September 2009. AOS received a Request for Supplemental Information (RSI) in July 2009. Revision C of the SAR and responses to the July 2009 RSI's was submitted to the NRC on September 2009. AOS then received Request for Additional Information (RAI) in December 2009. Due to the number and extent of the RAI's, the RAI responses and Revision D of the SAR was submitted on September 30, 2010. NRC design and licensing approval is expected in 2011 and the first package ready-for-use is anticipated 6-9 months thereafter.