



Research Reactor Center  
University of Missouri-Columbia

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Mr. Douglas Weaver  
Deputy Director, Licensing and Inspection Directorate  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

30 October 2012

RE: Request for renewal of authorization to ship Type B quantities of radioactive material

Dear Mr. Weaver,

This letter is a request per Regulatory Issue Summary (RIS) 2008-018 for renewal of authorization to ship limited Type B quantities of radioactive material in DOT Specification 20WC-1 and 6M packages. This authorization was originally granted by NRC to the University of Missouri Research Reactor (MURR) and is scheduled to expire on December 31, 2012.

MURR currently operates a Type B package fleet under DOT Special Permit SP-14657. We request that NRC authorization to ship under this special permit be renewed for a period of one (1) year from December 31, 2012 in tandem with the timely renewal of our DOT Special Permit. This timely renewal request is attached for your reference.

#### **Authorized Shipment Totals**

As of this writing, 1253 shipments of Type B quantities of material have been made under this NRC authorization with no adverse incidents. We are currently authorized by NRC to make 1500 total shipments.

#### **Regulatory Approval and Production Efforts**

We continue our efforts (through our vendor, Croft Associates, Ltd.) to replace our fleet of DOT Specification packages with packages that are compliant with 10CFR71.

#### ***SAFKEG-LS***

The SAFKEG-LS (Croft Model 3979A) has been issued a Certificate of Compliance by NRC (CoC) and a Competent Authority Certification by **DOT (USA/9337/B(U), Revision 0)**.



Manufacturing of forty-five (45) SAFKEG-LS packages is in the final stages. An NRC quality assurance (QA) inspection team will be at Croft's manufacturing sub-contractor's facility the week of November 12<sup>th</sup> to conduct final checks of the packages. Delivery of the packages to MURR is scheduled for the last week of November, 2012.

We have implemented a training program for our shipping personnel and have created educational materials on the handling of this package for customers who will receive the materials shipped in an LS package. Upon receipt of the packages, MURR will transition as many radioactive shipments as allowed under the Certificate of Compliance.

### ***SAFKEG-HS***

The Safety Analysis Report for Packaging (SARP) for the SAFKEG-HS (Croft Model 3977A) was submitted to NRC on September 28, 2012. We anticipate a swifter approval process for the HS package design than that for the LS package, though this cannot be guaranteed. We have estimated a nine (9) month review period for the SARP with NRC, resulting in a projected delivery of the HS package fleet in Q3 of 2013. We continue to work with the appropriate NRC staff to ensure an efficient and thorough review of the package.

While we work with NRC staff on the review of the SARP, MURR has instructed Croft to begin an accelerated manufacturing program in support of the HS package and provided a payment of \$242,352 to fund this effort. We have instructed the vendor to begin portions of the manufacturing program "at risk" while the package design is still under review at NRC.

### **Summary and Contact**

All background information provided in our letter to Mr. Waters on August 10, 2012, in response to the Public Meeting of July 11<sup>th</sup> remains valid. We are weeks away from deploying the SAFKEG-LS fleet and, with the initiation of the at-risk manufacturing program, less than a year away from deployment of the SAFKEG-HS fleet.

The point of contact for inquiries is Mr. Michael Flagg, who may be reached at (573) 882-5364 or via email at [flaggm@missouri.edu](mailto:flaggm@missouri.edu).

Sincerely,

Ralph A. Butler

Director, University of Missouri Research Reactor

Date

Enclosure (Timely Renewal letter to DOT)



Dr. Magdy El-Sibaie  
Associate Administrator for Hazardous Materials Safety  
Attention: Special Permits, PHH-31  
Pipeline and Hazardous Materials Safety Administration  
U.S. Department of Transportation  
East Building, 1200 New Jersey Avenue, SE.  
Washington, DC 20590-0001

30 October 2012

Dear Dr. El-Sibaie,

This letter serves as a timely renewal request for Special Permit **DOT-SP 14657 (Rev. 4)** which is scheduled to expire on December 31, 2012. We request that the special permit be renewed for a period of one (1) year from December 31, 2012 until December 31, 2013. Details associated with Revision 4 of this permit remains accurate.

**Contact Information:**

University of Missouri Research Reactor  
1513 Research Park Dr.  
Columbia, MO 65211  
D&B #: 030000603

Business Contact: Michael Flagg, [flaggm@missouri.edu](mailto:flaggm@missouri.edu), (573) 882-5364

Director of the Reactor: Ralph Butler (CEO Equivalent)

All shipments of radioactive material in the packages covered under this special permit will originate from the University of Missouri Research Reactor (MURR), at the address above and MURR will act as the shipper (offeror) under the terms of this special permit.

**Special Permit SP 14657 (Revision 4) Renewal Request**

MURR was granted Special Permit SP 14657, which is scheduled to expire on December 31, 2012. We request that the special permit be renewed for a period of **one (1) year** from December 31, 2012 until December 31, 2013.

As of this writing, 1253 shipments of Type B quantities of medical, industrial and research radioisotopes have been made under this special permit with no adverse incidents and no loss of contents.



Class 1 materials are not covered by this request and our shipping personnel will not participate in the transportation of Class 1 material under this permit.

### **Replacement Efforts**

We continue our efforts (through our vendor, Croft Associates, Ltd.) to replace our fleet of DOT Specification packages with a new fleet that is compliant with 10CFR71.

### **SAFKEG-LS**

The SAFKEG-LS (Croft Model 3979A) has been issued a Certificate of Compliance by NRC (CoC) and a Competent Authority Certification by DOT (USA/9337/B(U), Revision 0).

Manufacturing of forty-five (45) SAFKEG-LS packages is in the final stages. An NRC quality assurance (QA) inspection team will be at Croft's manufacturing sub-contractor's facility the week of November 12<sup>th</sup> to conduct final checks of the packages. Delivery of the packages to MURR is scheduled for the last week of November, 2012.

We have implemented a training program for our shipping personnel and have created educational materials on the handling of this package for customers who will receive the materials shipped in an LS package. Upon receipt of the packages we will transition as many radioactive shipments as allowed under the Certificate of Compliance.

The manufacturing and delivery schedule for the LS packaging is provided as Attachment A.

### **SAFKEG-HS**

The Safety Analysis Report for Packaging (SARP) for the SAFKEG-HS (Croft Model 3977A) was submitted to NRC on September 28, 2012.

While we expect the approval process for the HS package design to proceed more rapidly than that for the LS package, this cannot be guaranteed. We have provided an estimated schedule in Appendix A, which calls for a nine (9) month review period with NRC and delivery of the HS package fleet in Q3 of 2013. We will continue to work with the appropriate NRC staff to ensure an efficient and thorough review of the package.

MURR has instructed Croft to begin an accelerated manufacturing program in support of the HS package and provided a payment of \$242,352 to fund this effort. We have instructed the vendor to begin portions of the manufacturing program "at risk" while the package design is still under review at NRC.

An estimated manufacturing and delivery schedule for the HS is shown in Attachment A.



### Transition Activities

MURR continues to push for the deployment of replacement packages as rapidly as possible within the established regulatory framework. We are weeks away from deploying the SAFKEG-LS fleet and, with the initiation of the at-risk manufacturing program, less than a year away from deployment of the SAFKEG-HS fleet and the end to our need to operate packages under SP-14657.

One portion of the HS package manufacturing program that has not been initiated at-risk is the acquisition of the DU forms. The only uncertainty that we foresee with this package review is with the Depleted Uranium (DU) shield material. As we are using a class of DU material that is well-characterized and that has been used in a previously approved package, this uncertainty is small. We will request NRC to expedite review of the DU aspects of this package and once they are satisfied with our answers, we will authorize the acquisition of the DU forms.

All materials used in the HS package excepting the DU are the same as found in the LS package.

### Contact

The point of contact for inquiries is Mr. Michael Flagg, who may be reached at (573) 882-5364 or via email at [flaggm@missouri.edu](mailto:flaggm@missouri.edu).

Thank you for your time and consideration of this request.

Sincerely,

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Ralph A. Butler  
Director, University of Missouri Research Reactor

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Date

Item	Q4 2012			Q1 2013			Q2 2013			Q3 2013			Q4 2013		
Delivery of CALT 9 Leak Test Devices [COMPLETE]															
LS - Manufacture of Package & Inserts	*	*													
LS - Delivery of Package & Inserts		*													
HS - SARP Compilation [COMPLETE]															
HS - NRC review of SARP	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
HS - Issue of NRC certificate										*					
HS - Manufacture of Package & Inserts	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
HS - Delivery of Package & Inserts												*			

Appendix A: Regulatory and Manufacturing Timelines for the Croft LS and HS Packages for Delivery to MURR