



Research Reactor Center  
University of Missouri-Columbia

*Rec'd 3/10/00*

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Research Park  
Columbia, MO 65211  
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*E10Y*

*50-186*

*221AID*

*L22679/L22680*

March 8, 2000

Ms. Gloria Bennington  
Spent Fuel Project Office  
U.S. NRC, MS OWFN 6 F-18  
1 Whiteflint North Bldg.  
11555 Rockville Pike  
Rockville, MD 20852-2738

**SUBJECT:** Shipment of Spent Fuel: Radioactive Material, Fissile, N.O.S., UN2918, Highway Route Controlled Quantity.

The enclosed envelope contains information regarding radioactive spent fuel shipments from the University of Missouri Research Reactor. This information has been classified as SAFEGUARDS INFORMATION as per 10CFR73.21(b)2. No person may have access to Safeguards Information unless the person has an established "need to know" for this information and is authorized per 10CFR73.21(c). Regulations prevent the disclosure of this information over unsecured telephone communications except that the reporting of schedule changes are permitted to be made by phone in the form of time deviations from the original schedule. Please deliver the enclosed envelope which contains Safeguards Information to the addressee on the envelope. If this person is no longer employed at your facility or will be absent for an extended period, please call (573) 882-5205 for the correct disposition of this material.

Armed escorts have been arranged for St. Louis, Nashville, Chattanooga, Atlanta, and Augusta, for these spent fuel shipments. Also, governors' designees of Missouri, Illinois, Kentucky, Tennessee, Georgia and South Carolina have been mailed notifications. All these shipments will be tracked by the Department of Energy's TRANSCOM tracking system.

The following information and the enclosed SAFEGUARDS INFORMATION are supplied to comply with 10CFR73.37(f)(i)(ii)(iii).

- Shipper: University of Missouri  
Research Reactor Center  
Columbia, MO 65211  
Phone: (573) 882-5205  
(Das Kutikkad)
- Carrier: Tri-State Motor Transit Co  
U.S. DOE Idaho Operations Office  
785 DOE Place  
Idaho Falls, ID 83403  
Phone: (208) 526-2415  
(Keith Nelson)
- Receiver: Department of Energy  
Westinghouse Savannah River Company  
Savannah River Site  
Building 105-L  
Aiken, SC 29802  
Phone: (803) 557-6087  
(Paul Gambill)

*NMAOS*  
*UMSS04 Public*

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49CFR172.202(a)(1)(2)(3)(4)

Proper shipping name, hazard class  
identification number, gross weight

RQ radioactive material, fissile, n.o.s., 7, UN2918,  
25,000 lbs.

172.203(c)

RQ (Reportable Quantity); 1.5 kg of fission products

Shipment 1: 4.73 kg U-235

Shipment 2: 4.70 kg U-235

49CFR172.203(d)(1)

(i) 173.435, radionuclides

MFP (Mixed Fission Products)

(ii) Physical and chemical form

Solid metallic,  $UAl_3$  and Al mixed with fission products  
trapped in this matrix. The  $UAl_x$ -Al-fission product  
material is clad with aluminum as fuel plates of MTR-  
type (Materials Testing Reactor) fuel elements.  
Original fuel enrichment > 93%.

(iii) Activity

Shipment 1: 5,550.0 TBq (150,000 Ci)

Shipment 2: 11,322.0 TBq (306,000 Ci)

49CFR173.403

Greater than 27,000 Ci or 3,000 x  $A_2$  (1,500 curies), so  
highway route controlled quantity.

(iv) Label category

RADIOACTIVE YELLOW III because it is highway  
route controlled quantity.

(v) Transport index

TI = 100 per BMI-1 shipping cask Certificate of  
Compliance.

(vi) Fissile material,  
controlled shipment

49CFR173.45(7)(b). This means by 49CFR173.457(b)(1)  
that transport must be with exclusive use of shipper.

(vii) Package identification number

USA/5957/B( )F (Model No. BMI-1)

Mode of transport

Highway truck, exclusive use. No transfer points.  
Route enclosed as Safeguards Information.

Sincerely yours,



Das Kutikkad  
Reactor Physicist