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Southern Illinois University  
School of Medicine  
P.O. Box 3926  
Springfield, Illinois 62708

September 17, 1979

Director,  
U.S. Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Enclosed you will find the response for Southern Illinois University School of Medicine to IE Bulletin No. 79-19. If you need further information or clarification, please contact Nicholas A. Detorie, Ph.D., our Radiation Safety Officer, at 217-788-3260.

Sincerely,

A handwritten signature in cursive script, reading "William T. Kabisch".

William T. Kabisch, Ph.D.  
Associate Dean for Research

WTK/plb

Enclosure

cc: NRC Office of Inspection and Enforcement  
Division of Fuel Facility & Materials Safety Inspection  
Washington, D.C. 20555

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Southern Illinois University  
School of Medicine  
P.O. Box 3926  
Springfield, Illinois 62708

Memorandum

To: Director, United States  
Nuclear Regulatory Commission  
Region III  
700 Roosevelt Road  
Glen Ellyn, Illinois 60137

From: William T. Kabisch, Ph.D.  
Associate Dean for Research  
Southern Illinois University  
School of Medicine

*William T. Kabisch*

Subject: Southern Illinois University School of Medicine's  
Item-by-Item reply to IE Bulletin No. 79-19

Date: September 17, 1979

1. The appropriate NRC regulations are on hand. We will obtain the appropriate updated DOT regulations.
2. The requirements for packaging low-level waste material for transfer and shipment to Nevada and Washington have been supplied by the Nuclear Engineering Co., our waste disposal contractor. Copies are included with this letter.
3. Nicholas A. Detorie, Ph.D., our Radiation Safety Officer, is responsible for the safe packaging and transfer of low-level radioactive waste. He may on occasion, delegate supervision of this function to Randy B. Maxey, M.S., Ray R. Capestrain, M.S., or Abdul Asiz Hassan, M.S.
4. Instructions and operating procedures as described in Item 4 (page 2) will be provided.
5. The training described in Item 5 (page 2) is being and will continue to be provided. A retraining session will be conducted annually. The records described in Item 5 (page 2) will be maintained for future inspection by NRC personnel.
6. Training as described in Item 6 of IE Bulletin No. 79-19 will be provided at least annually.

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7. The audit described in Item 7 of IE Bulletin No. 79-19 will be performed by RSO or his designate at least semi-annually.
8. The audit described in Item 8 of IE Bulletin No. 79-19 will be performed by the RSO or his designate within the time period specified. All records will be maintained for future inspection by NRC or DOT inspectors.
9. Three low-level radioactive waste shipments were made by Southern Illinois University School of Medicine in 1978 and the first six months of 1979. The total volume of waste shipped was 90.5 cubic feet.

A total of 6.85 millicuries consisting of tritium, carbon-14, calcium-45, phosphorus-32, and iodine-125 was shipped during the period in question.

Liquid low-level radioactive waste was generated. On June 5, 1978, 4.0 cubic feet of liquid waste was shipped in double-wall (55/30) containers supplied by Nuclear Engineering Company. On October 9, 1978, 4.0 cubic feet of liquid waste was shipped in the same format as June 5, 1978. No liquid waste was shipped on May 8, 1979.

WTK/plb

cc: NRC Office of Inspection and Enforcement  
Division of Fuel Facility & Materials Safety Inspection  
Washington, D.C. 20555

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## Nuclear Engineering Company, Inc.

9200 SHELBYVILLE ROAD, SUITE 526 • P. O. BOX 7246

LOUISVILLE, KENTUCKY 40207 PHONE (502) 426-7160

August 31, 1979

**POOR ORIGINAL**

### PACKAGING INSTRUCTIONS

Gentlemen:

Effective October 1, 1979, all absorbed liquid, scintillation vials and/or animal carcasses must be packaged in the manner outlined on the attached sheets. Please be advised that these are the minimum requirements.

The procedure for packaging animal carcasses parallels ANSI Standard N 14.3, "Packaging and Transportation of Radioactively Contaminated Biological Materials".

You are cautioned that mixing of radioactive waste types within a single container is not permitted.

Should you have any questions, please do not hesitate to call.

Sincerely yours,

*Alice M. Spann*

Alice M. Spann  
Assistant Manager, Radioactive Sales

AMS:ck

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WASHINGTON NUCLEAR CENTER (ONLY)

PACKAGING ABSORBED LIQUIDS

1. CONTAINER MUST BE A DOT APPROVED 17H DRUM EITHER 30 GALLON OR 55 GALLON.
2. CONTAINER MUST BE LINED WITH A 4 MIL PLASTIC LINER AND SEALED AT THE TOP WHEN CONTAINER IS PACKED.
3. CONTAINER MUST BE FILLED WITH A TWO-TO-ONE RATIO OF ABSORBENT TO LIQUID LAYERED IN APPROXIMATELY ONE FOOT LAYERS TO ENSURE EVEN DISPERSION.
4. APPROVED ABSORBENTS ARE:

PERLITE (MEDIUM GRADE)  
DIATOMACEUS EARTH (MEDIUM GRADE)  
PEL-E-CEL  
SUPER FINE (DIATOMITE)  
SPEEDI DRY

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WASHINGTON AND NEVADA NUCLEAR CENTERS  
PACKAGING SCINTILLATION VIALS

1. CONTAINER MUST BE DOT APPROVED 17H DRUM EITHER 30 OR 55 GALLON.
2. CONTAINER MUST BE LINED WITH A 4 MIL PLASTIC LINER AND SEALED AT THE TOP WHEN CONTAINER IS PACKED.
3. PLACE APPROXIMATELY 3" OF ABSORBENT AT THE BOTTOM OF THE CONTAINER. VIALS AND ABSORBENT MUST BE PLACED IN THE CONTAINER IN LAYERS NOT EXCEEDING 6" IN DEPTH. BETWEEN EACH LAYER AT LEAST 1" OF ABSORBENT MUST BE PLACED. THE TOP LAYER MUST BE APPROXIMATELY 3" OF ADSORBENT.
4. THE VIALS ARE NOT TO BE OPENED.
5. THE CONTAINER MUST BE FILLED WITH A TWO-TO-ONE RATIO OF ADSORBENT TO LIQUID IN THE VIALS.
6. APPROVED ADSORBENTS ARE:
  - PERLITE (MEDIUM GRADE)
  - DIATOMACEOUS EARTH (MEDIUM GRADE)
  - SUPER FINE (DIATOMITE)
  - SPEEDI DRY

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WASHINGTON AND NEVADA NUCLEAR CENTERS  
PACKAGING ANIMAL CARCASSES

1. CONTAINER MUST BE A DOT APPROVED DOUBLE WALL 30 GALLON SIZE INSIDE 55 GALLON.
2. LINE 30 GALLON DRUM WITH 4 MIL PLASTIC LINER.
3. PLACE ANIMAL CARCASSES INTO 30 GALLON DRUM WITH ABSORBENT AND LIME. RATIO: ONE PART LIME TO TEN PARTS ABSORBENT.
4. SEAL PLASTIC LINER & 30 GALLON DRUM.
5. PLACE INSIDE 55 GALLON DRUM.
6. PLACE ABSORBENT BETWEEN WALLS OF 30 GALLON DRUM AND 55 GALLON DRUM.
7. SEAL 55 GALLON DRUM.
8. APPROVED ABSORBENTS ARE:

PERLITE (MEDIUM GRADE)  
DIATOMACEOUS EARTH (MEDIUM GRADE)  
SUPER FINE (DIAMOTE)  
SPEEDI DRY

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