

*R. Purpitt*

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*SD*  
*James*

JUN 28 1979

② *File*

MEMORANDUM FOR: Robert Burnett, Director, Division of Safeguards, NMSS

FROM: James R. Miller, Assistant Director for Site and Safeguards, DOR

SUBJECT: NEW COMMISSION PAPER ON "UPGRADE RULE"

I understand that you are proceeding on the subject paper on a schedule that would have the paper to the Commission by Monday, July 2, 1979. Since some of the Commission's questions were directed at reactors, I am available to assist you on whatever schedule you desire. My basic interests are:

- 1) As suggested by Commissioner Kennedy, the following footnote should be added to §73.55:

Footnote: In the physical protection of all nuclear reactors, the term "High Assurance" has the same meaning as the term "Reasonable Assurance" as is used in reactor public health and safety determinations.

- 2) We suggest that an urgent meeting be held with ELD to discuss some of the language that you presented to the Commission dealing with "...objective to provide high assurance. . . ." My specific concern is legal backup during a public hearing.
- 3) As we have discussed, non-power reactors must be deferred from the Upgrade Rule. Attached is NRR and Standards final commission paper on this subject. NRR believes the deferral will be for a period of about 2 - 3 years because of the indepth studies we will be conducting. During this period, we will rely on §73.60 for those facilities with greater than formula quantities of SSNM and §§73.40 and 73.47 for all others. This will maintain the status quo and closely parallels the comments of Chairman Hendrie. Also NRR will continue studying the need for a separate rule for non-power reactor facilities and commence preparing such a rule should it be determined necessary.
- 4) As to any investigation into the Surry incident, it must be fully coordinated with NRR and I&E. We will provide any assistance necessary in this matter and a joint meeting laying out the plan of attack should be held prior to any efforts expended.

*151*

James R. Miller, Assistant Director  
for Site and Safeguards  
Division of Operating Reactors

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SURNAME →									
DATE →									13

Robert Burnett

- 2 -

JUN 28 1979

cc: E. Howard, I&E  
R. Purple, SD  
F. Pagano  
S. Ramos

DISTRIBUTION:

Central Files  
NRR Reading (P-428)  
S&S Reading  
J. Miller

OFFICE →	S&S/DOR	ADYS&S/DOR			
SURNAME →	SRamos	JM Miller/vg			
DATE →	6/28/79	6/28/79			



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION V

1990 N. CALIFORNIA BOULEVARD  
SUITE 202, WALNUT CREEK PLAZA  
WALNUT CREEK, CALIFORNIA 94596

August 10, 1979

C. Files

#19

Docket No. 50-142

University of California at Los Angeles  
Los Angeles, California 90024

Attention: Dr. Harold Brown  
Campus Safety Officer

Gentlemen:

Enclosed is IE Bulletin No. 79-19 which requires action by you with regard to your reactor facility(ies) with an operating license.

Should you have questions regarding this Bulletin or the actions required of you, please contact this office.

Sincerely,

*R. H. Engelken*  
R. H. Engelken  
Director

Enclosures:

1. IE Bulletin No. 79-19
2. List of Bulletins Issued  
in Last Six Months

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PDR

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555

August 10, 1979

IE Bulletin No. 79-19

PACKAGING OF LOW-LEVEL RADIOACTIVE WASTE FOR TRANSPORT AND BURIAL

Description of Circumstances:

Low-level radioactive waste is that waste which can be transferred and shipped to one of three waste burial facilities which are located in and licensed by the Agreement States of Nevada, South Carolina, and Washington. On July 10, 1979, the Governors of the three states notified NRC Chairman Hendrie of the serious and repeated disregard for rules governing the shipments of low-level radioactive wastes to these burial facilities.

Examples of violations of Agreement State, DOT and NRC rules follow:

Improperly packaged uranium fines igniting packaged liquid scintillation vials in combustible waste is believed to have caused a fire and destruction of a truck at the Beatty, Nevada burial facility on May 14, 1979.

On July 2, 1979, three of twelve steel containers shipped to the Beatty burial facility were found to be leaking radioactive material. The material was described on the bill of lading as being a solid inorganic salt (evaporator concentrates solidified with urea formaldehyde) from a reactor facility. The Governor of the State of Nevada ordered the drums to be shipped out of the state and the burial facility was temporarily closed.

On July 30, the first shipment into the reopened Beatty facility contained free liquid in "solid" material. The radioactive contents were sand filters used at an insitu leaching process at a uranium mill.

Forty-three shipments with sixty-three deficiencies were observed during the package inspection program between April 10 and July 5, 1979, by the Agreement State of South Carolina, at the Barnwell, S.C. burial facility. The shipments were from reactor, medical, industrial and military facilities.

On June 28, 1979, the Federal Highway Administration issued a Notice of Violation to a reactor facility proposing a \$10,000 fine for truck contamination resulting from improper closures on 55-gallon drums of LSA material and for improper loading of the drums on the vehicle.

These are a few examples of shipments of radioactive material to burial facilities which did not fully meet NRC, DOT and Agreement State requirements which were developed to protect the health and safety of the public. The Governors of the three States with licensed burial facilities have indicated that if the situation is not rectified, they may have to initiate actions which would deny use of the three burial sites by violators.

### Sources of Information:

The DOT regulatory requirements can be found in 49 CFR Parts 170-179. The NRC regulatory requirements can be found in 10 CFR Parts 19 to 71. The NRC regulatory requirements for Agreement State licensees in non-agreement states are in 10 CFR Part 150. Copies of the regulations may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402.

Information about licensing requirements for NRC packages can be obtained from the NRC Transportation Branch (301-427-4122). Information about DOT packaging and transport requirements can be obtained by calling the DOT Office of Hazardous Materials (202-426-2311).

### Action To Be Taken By Licensees:

To assure the safe transfer, packaging, and transport of low-level radioactive waste, each licensee is expected to:

1. Maintain a current set of DOT and NRC regulations concerning the transfer, packaging and transport of low-level radioactive waste material.
2. Maintain a current set of requirements (license) placed on the waste burial firm by the Agreement State of Nevada, South Carolina, or Washington before packaging low-level radioactive waste material for transfer and shipment to the Agreement State licensee. If a waste collection contractor is used, obtain the appropriate requirements from the contractor.
3. Designate, in writing, people in your organization who are responsible for the safe transfer, packaging and transport of low-level radioactive material.
4. Provide management-approved, detailed instructions and operating procedures to all personnel involved in the transfer, packaging and transport of low-level radioactive material. Special attention should be given to controls on the chemical and physical form of the low-level radioactive material and on the containment integrity of the packaging.
5. Provide training and periodic retraining in the DOT and NRC regulatory requirements, the waste burial license requirements, and in your instructions and operating procedures for all personnel involved in the transfer, packaging and transport of radioactive material. Maintain a record of training dates, attendees, and subject material for future inspections by NRC personnel.
6. Provide training and periodic retraining to those employees who operate the processes which generate waste to assure that the volume of low-level radioactive waste is minimized and that such waste is processed into acceptable chemical and physical form for transfer and shipment to a low-level radioactive waste burial facility.

7. Establish and implement a management-controlled audit function of all transfer, packaging and transport activities to provide assurance that personnel, instructions and procedures, and process and transport equipment are functioning to ensure safety and compliance with regulatory requirements.
8. Perform, within 60 days of the date of this bulletin, a management-controlled audit of your activities associated with the transfer, packaging and transport of low-level radioactive waste. Maintain a record of all audits for future inspections by NRC or DOT inspectors. (Note: If you have an established audit function and have performed such an audit of all activities in Items 1-6 within the past six months, this audit requirement is satisfied.)
9. Report, in writing within 45 days, your plan of action and schedule with regard to the above items. In addition, provide responses to the three questions below. Reports should be submitted to the Director of the appropriate NRC Regional Office and a copy should be forwarded to the NRC Office of Inspection and Enforcement, Division of Fuel Facility and Materials Safety Inspection, Washington, D.C. 20555.

Provide answers for 1978 and for the first six months of 1979 to the following questions:

1. How many low-level radioactive waste shipments did you make? What was the volume of low-level radioactive waste shipped?  
  
(Power reactor licensees who report this information in accordance with Technical Specifications do not need to respond to this question.)
2. What was the quantity (curies) of low-level radioactive waste shipped? What were the major isotopes in the low-level radioactive waste?  
  
(Power reactor licensees who report this information in accordance with Technical Specifications do not need to respond to this question.)
3. Did you generate liquid low-level radioactive waste? If the answer is 'yes,' what process was used to solidify the liquid waste?

Licensees who do not generate low-level radioactive waste should so indicate in their responses and do not need to take other actions specified in the above items.

Approved by GAO, B180225 (R0072); clearance expires 7-31-80. Approval was given under a blanket clearance specifically for identified generic problems.

LISTING OF IE BULLETINS  
ISSUED IN LAST SIX MONTHS

Bulletin No.	Subject	Date Issued	Issued To
79-18	Audibility Problems Encountered on Evaluation of Personnel From High Noise Areas	8/7/79	All Power Reactor facilities with an OL
79-17	Pipe Cracks in Stagnant Borated Water Systems at PWR Plants	7/26/79	All PWR's with operating license
79-16	Vital Area Access Controls	7/26/79	All Holders of and applicants for Power Reactor Operating Licenses who anticipate loading fuel prior to 1981
79-15	Deep Draft Pump Deficiencies	7/11/79	All Power Reactor Licensees with a CP and/or OL
79-14	Seismic Analyses for As-Built Safety-Related Piping System	6/2/79	All Power Reactor facilities with an OL or a CP
79-13	Cracking In Feedwater System Piping	6/25/79	All PWRs with an OL for action. All BWRs with a CP for information.
79-02 (Rev. 1)	Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts	6/21/79	All Power Reactor Facilities with an OL or a CP
79-12	Short Period Scrams at BWR Facilities	5/31/79	All GE BWR Facilities with an OL
79-11	Faulty Overcurrent Trip Device in Circuit Breakers for Engineered Safety Systems	5/22/79	All Power Reactor Facilities with an OL or a CP
79-10	Requalification Training Program Statistics	5/11/79	All Power Reactor Facilities with an OL

LISTING OF IE BULLETINS  
ISSUED IN LAST SIX MONTHS

Bulletin No.	Subject	Date Issued	Issued To
79-09	Failures of GE Type AK-2 Circuit Breaker in Safety Related Systems	4/17/79	All Power Reactor Facilities with an OL or CP
79-08	Events Relevant to BWR Reactors Identified During Three Mile Island Incident	4/14/79	All BWR Power Reactor Facilities with an OL
79-07	Seismic Stress Analysis of Safety-Related Piping	4/14/79	All Power Reactor Facilities with an OL or CP
79-05C&06C	Nuclear Incident at Three Mile Island - Supplement	7/26/79	To all PWR Power Reactor Facilities with an OL
79-06B	Review of Operational Errors and System Misalignments Identified During the Three Mile Island Incident	4/14/79	All Combustion Engineering Designed Pressurized Water Power Reactor Facilities with an Operating License
79-06A (Rev 1)	Review of Operational Errors and System Misalignments Identified During the Three Mile Island Incident	4/18/79	All Pressurized Water Power Reactor Facilities of Westinghouse Design with an OL
79-06A	Review of Operational Errors and System Misalignments Identified During the Three Mile Island Incident	4/14/79	All Pressurized Water Power Reactor Facilities of Westinghouse Design with an OL
79-06	Review of Operational Errors and System Misalignments Identified During the Three Mile Island Incident	4/11/79	All Pressurized Water Power Reactors with an OL except B&W facilities



LISTING OF IE BULLETINS  
ISSUED IN LAST SIX MONTHS

Bulletin No.	Subject	Date Issued	Issued To
79-05B	Nuclear Incident at Three Mile Island	5/21/79	All B&W Power Reactor Facilities with an OL
79-05A	Nuclear Incident at Three Mile Island	4/5/79	All B&W Power Reactor Facilities with an OL
79-05	Nuclear Incident at Three Mile Island	4/2/79	All Power Reactor Facilities with an OL and CP
79-04	Incorrect Weights for Swing Check Valves Manufactured by Velan Engineering Corporation	3/30/79	All Power Reactor Facilities with an OL or CP
78-12B	Atypical Weld Material in Reactor Pressure Vessel Welds	3/19/79	All Power Reactor Facilities with an OL or CP
79-03	Longitudinal Welds Defects In ASME SA-312 Type 304 Stainless Steel Pipe Spools Manufactured by Youngstown Welding and Engineering Co.	3/12/79	All Power Reactor Facilities with an OL or CP
79-01A	Environmental Qualification of Class 1E Equipment (Deficiencies in the Environmental Qualification of ASCO Solenoid Valves)	6/6/79	All Power Reactor Facilities with an OL or CP



SCHOOL OF ENGINEERING AND APPLIED SCIENCE  
LOS ANGELES, CALIFORNIA 90024

August 27, 1979

Robert W. Reid, Chief  
Operating Reactors Branch #4  
Division of Operating Reactors  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

REGULATORY DOCKET FILE COPY  
Docket 50-14274

Dear Mr. Reid,

Recently we received a letter dated August 14, 1979 from Exxon Nuclear Idaho Company, Inc. giving UCLA approval to ship to them five fuel sections and three canned loose plates of MTR-type fuel. At this time, we have received most of the necessary permissions, made most of the notifications of intent to ship the fuel via Tri-State using the GE700 shipping cask.

At roughly the same time I received a call from Mr. Dick Curtis of NRC Region #5 stating that we must have a Quality Assurance Program which conforms to 10CFR 71.51 and Appendix E. After reading this, it appeared to us that we do not have the time, manpower, or experience in QA to satisfy this requirement. We therefore request guidance in this matter from your office.

Sincerely,

*Charles E. Ashbaugh*

Charles E. Ashbaugh

CEA/jb

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5/10 7009040583

*PDR*

CAT II FUEL CYCLE LICENSEE HOLDINGS AS OF 9/79

	RIS#	.SNM#	>20% U <sup>-235</sup>	U <sup>233</sup>	Pu	>10%<20% U <sup>-235</sup>
Naval SWC Center	YBG		44g		936g	
Intercom Industries Inc.	XBX				366g	2,155
Rad Tech	LBV				10g	
Rad Tech	LBV		113g		192g	
David Witherspon, Inc.	YEL		1760g			
Eastman Kodak	XJG		1583g			
Teledyne Isotopes, Inc. (Westwood)	ZKD		2075g			
NBS	YBC		2464		821	
Union Carbide (Tuxedo)	ZWN		4600		80	
Lowell Technical Institute	ZLV		4185	10	192	



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION V

1990 N. CALIFORNIA BOULEVARD  
SUITE 202, WALNUT CREEK PLAZA  
WALNUT CREEK, CALIFORNIA 94596

September 10, 1979

Docket No. 50-142

University of California at Los Angeles  
Los Angeles, California 90024

Attention: Dr. Harold Brown  
Campus Safety Officer

Gentlemen:

Enclosed is Information Notice No. 79-21, "Transportation and Commercial Burial of Radioactive Material," which provides information on packaging and disposal of radioactive material.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. H. Engelken".

R. H. Engelken  
Director

Enclosure:

1. IE Information Notice  
No. 79-21

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Accession No: 7908220108  
SSINS: 6870

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555

September 7, 1979

IE Information Notice No. 79-21

TRANSPORTATION AND COMMERCIAL BURIAL OF RADIOACTIVE MATERIAL

On July 10, 1979, the Governors of the Agreement States of Nevada, South Carolina, and Washington notified NRC Chairman Hendrie of the serious and repeated disregard for the rules governing the shipments of low-level radioactive wastes to their burial facilities. The problems causing the Governors' concern may be summarized as contaminated packages; improper loading of packages which results in unnecessary radiation exposure; packages containing liquids when liquids or free-standing water are not authorized to be buried; leaking packages; improper labeling of packages; and improper paperwork for shipments.

Recently, you should have received either IE Bulletin No. 79-19 or 79-20 on this subject. The enclosures to this Notice provide information regarding the regulatory requirements for the packaging, transportation and disposal of radioactive material. The requirements for packaging and transport referenced herein are applicable to shipments of all radioactive material.

The enclosed summary of radioactive waste burial criteria defines the current burial-site license and State requirements on waste form and packaging. A summary of the requirements for transportation is in the enclosed DOT publication, "A Review of the DOT Regulations for Transportation of Radioactive Materials." The enclosures are intended only as a convenient reference; they are neither a substitute for the actual regulations nor a copy of the burial site license or other burial site documents. The DOT regulatory requirements can be found in 49 CFR Parts 170-179 (Oct. 1, 1977). The NRC requirements are in 10 CFR Part 71.

To conduct your waste disposal operations properly you must comply with NRC and DOT requirements for packaging and transportation, and the waste packaged for eventual disposal at any of the three operating waste-burial sites must be in a form authorized in the particular burial-site license and State requirements. To assure that the latter requirements are met, you should coordinate your waste disposal activities with the waste collection companies and/or the waste burial site operators. The sites receiving wastes for burial are operated either by the Nuclear Engineering Co., Inc. (502-426-7160), or Chem-Nuclear Systems, Inc. (206-827-0711).

Questions about licensing requirements for NRC packages can be addressed to the NRC's Transportation Branch (301-427-4122). Questions about DOT packaging and transport requirements can be addressed to the Materials Transportation Bureau of DOT (202-426-2311). Questions about the IE Bulletins or this Information Notice can be addressed to the appropriate NRC Regional Office listed in 10 CFR Part 20, Appendix D.

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IE Information Notice No. 79-21

September 7, 1979  
Page 2 of 2

No written response to this Information Notice is required.

Enclosures:

1. Burial Criteria
2. DOT Publication

LOW-LEVEL RADIOACTIVE WASTE BURIAL CRITERIA  
AS OF JULY 11, 1979

WASTE FORM	SITE		
	South Carolina <sup>1</sup>	Nevada <sup>2</sup>	Washington <sup>3</sup>
1. Liquid scintillation fluids packed in 2x absorbent <sup>4</sup> :			
(a) vermiculite as absorbent	Disposal not permitted	Disposal permitted but specific approval required	Disposal permitted but specific approval required
(b) diatomaceous earth as absorbent	Not permitted	Permitted	Permitted
(c) other absorbents (not rags, tissue etc.)	Not permitted	Specific approval required	Specific approval required
2. Other liquids packed in 2x absorbent <sup>4</sup> for immobilization	Not permitted	Not Permitted	Permitted, but no free standing liquid
3. Unpackaged bulk solids (e.g. ores, rubble)	Permitted but specific approval required	Permitted but specific approval required	Not Permitted
4. Solidification media:			
(a) cement, urea for formaldehyde, Dow media, Delaware custom	Permitted for aqueous wastes	Permitted	Permitted
(b) other	Not permitted	Permitted	Permitted
5. Radiological hazard greater than chemical unless specifically approved	Permitted	Permitted	Permitted
6. Pyrophoric material	Not permitted	Not permitted unless specifically approved	Not permitted unless specifically approved

<sup>1</sup> Barnwell, S.C., operated by Chem-Nuclear.  
<sup>2</sup> Beatty, Nevada, operated by NECO.  
<sup>3</sup> Hanford, Washington, operated by NECO.  
<sup>4</sup> Liquids alternated with layers of absorbent form the most effective packaging (2x absorbent for liquid present or likely to be formed in transit).

LOW-LEVEL RADIOACTIVE WASTE BURIAL CRITERIA  
AS OF JULY 11, 1979  
-Continued-

WASTE FORM	SITE		
	South Carolina <sup>1</sup>	Nevada <sup>2</sup>	Washington <sup>3</sup>
7. Biological wastes (e.g., carcasses) packed in equivalent to 2x absorbent <sup>4</sup>	Permitted, but rock salt to preserve is preferred.	Permitted	Permitted
8. Oil Content	No more than 1% by volume.	No specification	No specification
9. Dewatered resins	Permitted	Permitted	Permitted
10. Evaporator bottoms	Must be solidified with agents in #4.	Must be a solid	Must be a solid
11. KE 85 and Xe 133	Permitted in DOT pkg, 1.5 atm, 100 Ci/pkg.	Permitted in DOT pkg, 1 atm, 100 Ci/pkg, 1000 Ci in special pkg.	Permitted in DOT pkg, 1.5 atm, 100 Ci/pkg.
12. Curie content per package for radiation control and handling.	Special if > 2500 Ci.	Special if > 1600 Ci for dispersed or if > 50 Ci for sealed sources.	Special handling for large quantities.
13. Transuranics greater than 10 nanocuries/gram	Not permitted	Not permitted	Permitted
14. SNM package content	Special if > 50 g.	350 g U-235 or 200 g U-233 or ratio $\leq 1$ .	100 g U-232 or 60 g U-233 or Pu or ratio $\leq 1$ or $\leq 15\text{g}/\text{ft}^3$ .
15. DOT containers as received at the site.	Permitted	Permitted except fiberboard or cardboard or similar materials	Permitted
16. Liners removed from DOT shipping containers	Permitted	Permitted	Permitted



*release*

UNIVERSITY OF CALIFORNIA, LOS ANGELES

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2567 Boelter Hall  
SCHOOL OF ENGINEERING AND APPLIED SCIENCE  
LOS ANGELES, CALIFORNIA 90024

29 May 1980

R. H. Engelken, Director  
U.S. Nuclear Regulatory Commission, Region V  
1990 N. California Blvd.  
Suite 202, Walnut Creek Plaza  
Walnut Creek, California 94596

Docket 50-142  
License R-71

Dear Mr. Engleken:

The attached letter to Mr. Lohse (Exxon Nuclear) forwards a request for serial number identification. This is in fulfillment of a verbal request made to us on February 12, 1980 by Mr. G. H. Hamada of your office.

This will also advise you of our intent to ship a small quantity of spent fuel from UCLA to Exxon Nuclear on June 21, 1980.

Sincerely,

*Neill C. Ostrander*

Neill C. Ostrander, Manager  
Nuclear Energy Laboratory

NCO/jb

enc.

cc: Dr. Walter F. Wegst, Director  
Research and Occupational Safety  
Office of Campus Community Safety  
UCLA  
C. E. Ashbaugh, Security Officer  
Nuclear Energy Laboratory  
UCLA

*8204020273*  
*PDR*

18



2567 Boelter Hall

SCHOOL OF ENGINEERING AND APPLIED SCIENCE  
LOS ANGELES, CALIFORNIA 90024

29 May 1980

Mr. G. E. Lohse, Manager  
Production Department  
Fuel Receiving and Utilities  
Exxon Nuclear Idaho Co., Inc.  
P.O. Box 2800  
Idaho Falls, Idaho 83401

Dear Mr. Lohse:

A completed, but unsigned copy of DOE/NRC Form Number 741 is enclosed. Your comments concerning its completeness and correctness will be appreciated.

As I mentioned on the telephone, we would like Exxon, if possible, to attempt to determine the serial numbers of the individual fuel plates in our shipment. Apparently some early modifications of the FHU's led to a serial number mix-up. We, and the NRC, would like to remove the unknown serial numbers from our inventory list.

We are still trying for June 21 as the shipping date from UCLA.

Sincerely,

*Neill C. Ostrander*

Neill C. Ostrander, Manager  
Nuclear Energy Laboratory

NCO/jb

cc: R. H. Engelken, USNRC, Region V  
C. E. Ashbaugh, NEL, UCLA

*2004020275*  
*PDR*