APPENDIX E

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 30-15184/90-01 License: 35-03176-05

Docket: 30-15184

Licensee: The University of Oklahoma
Health Sciences Center
Oklahoma City, Oklahoma

Facility Name: The University of Oklahoma
Health Sciences Center

Inspection Conducted: July 30 through August 3, 1990

Inspector: Linda L. Kasner — October 19, 1990
Linda L. Kasner, Health Physicist, Nuclear Materials and Safeguards Inspection Section — Date

Approved: Charles L. Cain — 10/23/90
Charles L. Cain, Chief, Nuclear Materials and Safeguards Inspection Section — Date

Inspection Summary

Inspection Conducted July 30 through August 3, 1990 (Report 30-15184/90-01)

Areas Inspected: This was a routine, unannounced, radiation safety inspection of a byproduct material program authorizing the receipt, packaging, and transfer of byproduct material wastes received from the University of Oklahoma Health Sciences Center (UOHSC) and other nonprofit institutions. This license also authorizes the storage of waste containing certain radionuclides for disposal by decay-in-storage and subsequent incineration of such material.

Results: The licensee had maintained an inventory tracking system which was adequate to identify all materials received and transferred under this license. All activities were conducted in accordance with license conditions with regard to the categorization, packaging, and transfer of waste materials to appropriately authorized burial sites. Within this inspection, no violations were identified.

DETAILS

1. Individuals Contacted

J. White, Assistant Provost
T. Godkins, Assistant Provost
B. Ahluwalai, Ph.D., Radiation Safety Officer
S. Danak, M.S., Assistant to the Radiation Safety Officer
E. Patterson, Ph.D., Assistant Professor of Pharmacology, Chairman of the Radiation Safety Committee

All individuals noted above were present at the exit briefing.

2. Program Overview

The UOHSC receives waste from the nuclear pharmacy and various research laboratories located at this campus as well as several other medical facilities located in the Oklahoma City area. The majority of this material consists of articles used in handling small quantities of carbon-14, hydrogen-3, and iodine-125 in research applications, and animal wastes generated from research laboratories at the UOHSC. The program also involves disposal of millicurie quantities of short-lived radionuclides by decay-in-storage.

The UOHSC radiation safety office staff are responsible for inventory of materials received; repackaging (as necessary), categorizing, and labeling waste storage drums; conducting required radiation surveys; and transporting wastes from individual research laboratories to the designated storage area. The radiation safety officer (RSO) supervises these activities and approves the completed manifests for transfer of materials to an authorized burial site.

3. Receipt, Inventory, and Transfer

a. Receipt

As previously noted, materials received under this license are initially transferred and transported for storage by UOHSC staff. The licensee had maintained proper records of materials received, and each package had been issued a unique identification number for the purpose of tracking the material in inventory.

b. Inventory

The licensee maintains inventory records which permit verification of the specific radionuclides and quantities on hand, the originating transferor, and final disposition of material. A cross check of records associated with materials which were in preparation for transfer to a burial site confirmed that materials had been properly

categorized, quantities for each radionuclide were appropriately determined, and that each package could be easily tracked from the time of receipt to final disposition.

The licensee had adequately segregated materials within the storage area, and had recently completed several training sessions with individual researchers at the UOHSC regarding segregation and packaging of waste materials. The inspector noted that these sessions had served to improve the segregation of waste materials by certain researchers and in nominally reducing the total waste volume generated in some of these laboratories.

c. Transfer

The licensee had transferred waste material to authorized burial sites on several occasions during this inspection period. Shipping manifests for these transfers were reviewed and found to be complete in content and had been certified by the RSO. All required records had been maintained acknowledging receipt of materials by the corresponding recipients. No incidents related to the transfer of waste material had occurred during this inspection period.

No violations were identified.

4. Surveys

a. Area Radiation Surveys

The licensee had conducted routine radiation surveys of areas used to store waste materials and had maintained records of surveys as required. The waste storage area had been surveyed following receipt of materials resulting in a significant increase of inventory. The licensee's routine surveys had also included vehicles designated for transporting licensed materials at the UOHSC campus.

An adequate number and type of survey instruments were available through the radiation safety office, and all had been calibrated annually according to procedures described in the UOHSC broad license (NRC License No. 35-03176-01).

b. Personnel Monitoring

Each individual involved in handling licensed materials under this license had been issued personal monitoring devices as required under the UOHSC broad license. These devices had been processed at monthly intervals and exposure records had been reviewed monthly by the RSO

throughout this inspection period. Whole body exposures for these individuals were well within the occupational limits described in 10 CFR 20.101 and are further documented in NRC Inspection Report 30-02885/90-01.

No violations were identified.

5. Transportation

The licensee had maintained responsibility for transporting waste packages from the original transferor to the UOHSC storage area. These shipments had included packages received from a single laboratory or facility at any given time in order to isolate any potential contamination which may have occurred during transport. Shipping documents had been prepared for transportation on public highways and were found to contain all required information. No incidents had occurred with regard to transportation of licensed material during this inspection period.

As previously noted, the licensee had also shipped licensed material to burial sites by means of contract carrier. Although this inspection did not include observation of final preparation for shipment, shipping documents completed for prior shipments indicated that packages had been properly categorized and labeled.

No violations were identified.

6. Exit Briefing

The inspector met with licensee representatives, as previously noted in Section 1, to review the inspection findings as documented in this report.