



**DEPARTMENT OF VETERANS AFFAIRS
Veterans Health Administration
National Health Physics Program
2200 Fort Roots Drive
North Little Rock, AR 72114**

NOV 18 2005

In Reply Refer To: 598/115HP/NLR

Kevin G. Null
Division of Nuclear Material Safety
Nuclear Regulatory Commission (NRC), Region III
2443 Warrenville Road, Suite 210
Lisle, Illinois 60532-4352

Dear Mr. Null:

Per NRC License 03-23853-01VA, we are enclosing closeout survey documentation for the VA Illiana Health Care System, Danville, Illinois, for your review and approval. The documentation supports a request to release the location of use, identified as Building 13, for unrestricted use.

This building was renovated several years ago and currently used for housing. A closeout survey was completed before renovation; however, the survey methods are not consistent with the NUREG 1575 guidelines.

For review and approval of this request, we are enclosing the following documentation: undated closeout survey results, historical site assessment, health care system response of April 8, 2005, to a routine, core inspection, and health care system amendment request of September 22, 2005.

The historical site assessment provides basic information under 10 CFR 30.36 to evaluate the site for a decommissioning action and supports a conclusion residual fixed or removable radioactive contamination is unlikely.

If you have any questions or comments, please contact Gary E. Williams, VHA National Health Physics Program, at (501) 257-1572.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Lynn McGuire".

E. Lynn McGuire
Director, National Health Physics Program

Enclosures

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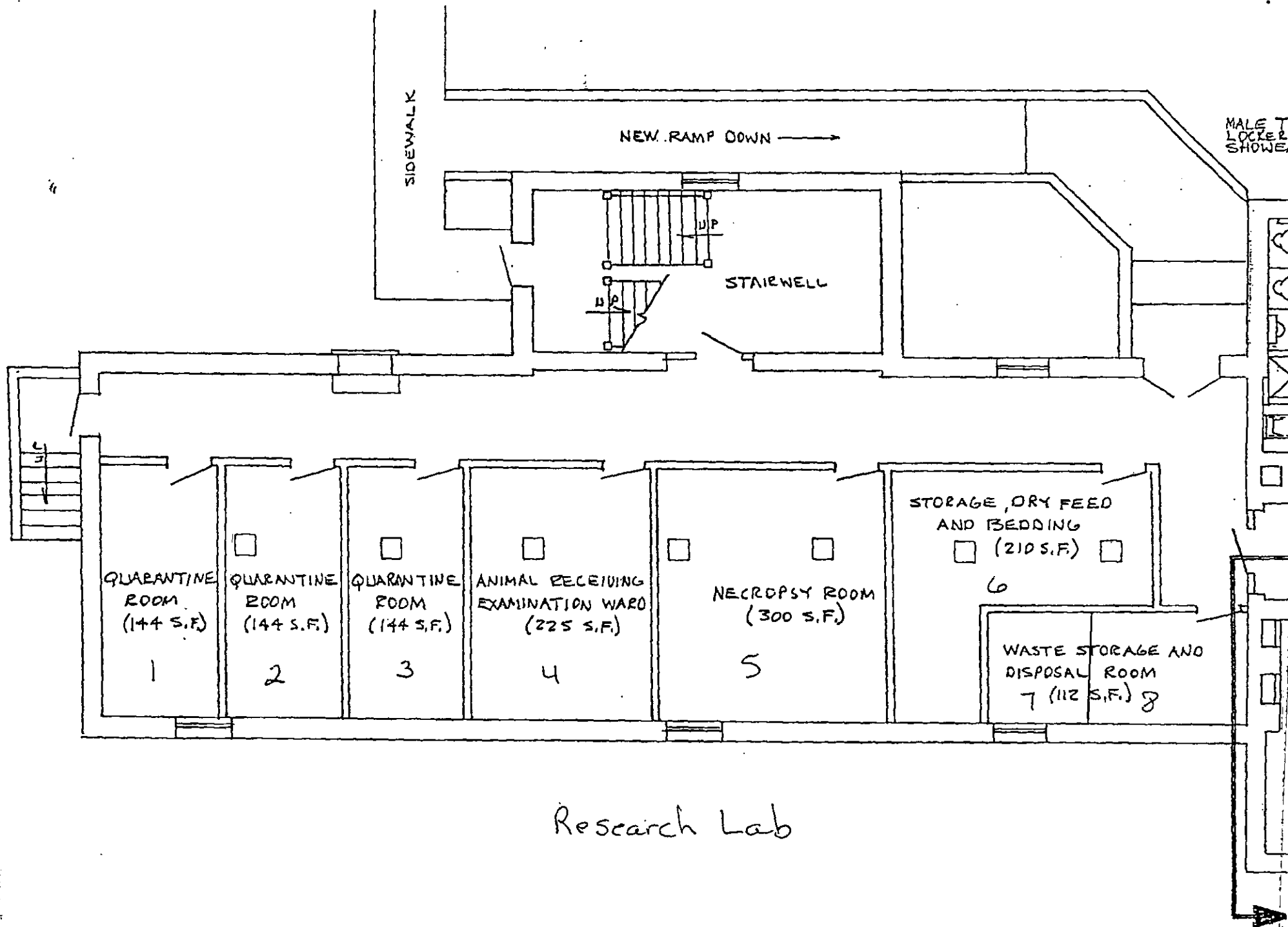
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**Historical Site Assessment
VA Illiana Health Care System, Danville, Illinois**

1. Scope of historical site assessment:

a. For this historical site assessment, the VA Illiana Health Care System, Danville, Illinois, is referred to as "Danville."

b. This limited historical site assessment is for the use of ^3H and ^{14}C in a research building at Danville.

(1) NRC License Amendment No. 2 of July 31, 1981, approved use of ^3H .

(2) NRC License Amendment No. 3 of June 1, 1983, approved use of ^{14}C .

(3) The research radioactive materials use and possession most likely ended with a disposal of radioactive waste in 1994.

(4) A review of the available records and discussions with Danville staff do not identify any objective evidence of radioactive materials use in timeframe between 1985 to 1994 when the above waste disposal occurred.

(5) Circa 1998, the research building was surveyed for removable radioactive contamination, released for unrestricted use, and subsequently renovated.

(6) Circa 1999, the liquid scintillation counter used in research was disposed as scrap.

(7) NRC License Amendment No. 18 of January 31, 2003, approved use of ^3H and ^{14}C for storage only.

c. The areas or locations of interest for the historical site assessment are in Building 13, in the west wing of the first floor. The rooms on this floor were authorized for research radioactive materials use beginning with NRC License Amendment No. 2 in 1981.

d. This historical site assessment is based on the information collected during a routine, core inspection, review of records including the NRC docket files, staff interviews, and review of an undated closeout survey report.

(1) The closeout survey was conducted circa July, 1998, and is included as a separate enclosure to the letter to NRC requesting review and approval for the survey documentation.

(2) The Danville response of April 8, 2005, to the routine, core inspection is included as a separate enclosure to the letter to NRC requesting review and approval for the survey documentation. This response outlines available historical information.

Historical Site Assessment

e. This historical site assessment is included as a separate enclosure to the letter to NRC requesting review and approval for the survey documentation to support release of Building 13.

2. Site identification:

a. The primary areas or locations of interest are Building 13, Rooms 112A, 112B, 112C, and an "Instrument Room."

b. Building 13 is a four-story brick structure. Specific rooms on the first floor were approved and designed for research uses. The rooms are constructed with gypsum wallboard and resilient vinyl flooring. All workbenches were standard laboratory non-reactant solid surfaces.

c. All buildings at Danville, including Building 13, were connected to a public sewer system. Interviews with Danville engineering staff confirms the health care system did not have or use septic tanks or on-site sewage treatment facilities when the research was conducted.

3. Past and current uses:

a. Based on available records and discussions with Danville staff, first floor rooms were first approved for research use with radioactive materials during 1981. When the research program approved to include radioactive materials ended, the building was vacated and then renovated for a senior citizen housing area in 1998. The building is currently a housing area.

b. The radioactive materials were initially approved for use in the first floor rooms in 1981.

(1) The research is presumed to have involved cell proliferation studies, based on types and quantities of radioactive materials used and information provided by the Danville staff such as radioactive waste records and research equipment descriptions.

(2) The authorized users and staff who participated in the use of the radioactive materials were not available for interview to confirm this information about possible uses.

c. Survey records exist for the time period September 17, 1980, to May 18, 1981, although Danville did not receive approval to use ^3H until July 31, 1981. These survey records refer to a cell harvester, which supports a conclusion research involved cell proliferation assays.

d. Objective evidence of radioactive materials use is not available after this 1981 time period except for references to two liquid waste disposals involving microcurie amounts of radioactive materials disposed into the sanitary sewer followed by up to five hours of running water.

(1) The March 18, 1988, and July 13, 1988, Radiation Safety Committee minutes note disposal for remaining radioactive waste and storage of the remaining stock vials in the nuclear medicine department. Another record dated June 6, 1994, indicates disposal of two jugs of the remaining liquid scintillation solution with an estimated 0.079 microcuries ^3H and 0.22 microcuries ^{14}C .

Historical Site Assessment

(2) NRC License Amendment No. 18 of January 31, 2003, approved use of ^3H and ^{14}C for storage only.

(3) The stock vials in nuclear medicine contained one millicurie of ^3H labeled thymidine, and four glass ampules of ^{14}C labeled ethanol. All of the vials were undated and unopened. These vials were disposed via a commercial radioactive waste broker on June 23, 2005.

(4) An interview with the health physics consultant who provided services from about 1985 to the present indicates no active research was being conducted using radioactive materials during that time, based on his recollection of the Radiation Safety Committee discussions that included progress and update reports from a research staff member who continued to seek funding.

(5) The available Danville records and Radiation Safety Committee minutes did not indicate any spills of radioactive materials, excessive concentrations, or contamination in the research locations of use.

(6) All of the rooms used for research in Building 13 were surveyed by two nuclear medicine technologists before release of the building for unrestricted use circa 1998. The surveys did not identify any removable radioactive contamination. The survey methods were not consistent with the standard practices to measure and evaluate ^3H and ^{14}C .

e. NRC inspected Danville in 1982, 1984, 1991, 1993, 1996, and 2002.

(1) The field notes for the 1984 inspection noted research had not been conducted nor had any radioactive materials been obtained.

(2) The field notes for the 1991 inspection noted research uses had not been conducted since at least 1987.

(3) The inspection record for the 2002 inspection noted small quantities of ^3H and ^{14}C were in safe storage in the nuclear medicine hot laboratory.

(4) The inspection results did not cite any violations related to use of ^3H and ^{14}C .

4. Most recent inspection results/survey description:

a. NHPP inspected Danville on February 10, 2005. The inspector performed a walk-through and visual observation in Building 13, first floor.

(1) The inspector confirmed the building and rooms had been entirely renovated and none of the research locations of use or areas remained intact.

(2) The inspector also confirmed all research laboratory equipment had been removed.

b. The closeout surveys were completed circa July, 1998. Two nuclear medicine technologists completed surface scans for fixed radioactivity and wipe surveys for any removable radioactive

Historical Site Assessment

contamination for all rooms in the research area, i.e., the surveys were not limited to only those rooms authorized for use of radioactive materials.

- (1) The surveys were performed by assigning reference grids to each of the rooms.
- (2) The surface scanning surveys included 100% coverage of work surfaces, floors, and sinks. The detector was moved carefully, and as close as possible, over the survey locations at a distance not exceeding one centimeter, and at a rate of approximately one detector width per second.
- (3) Wipe surveys were performed using alcohol prep wipes which covered 100% of the floors, counters, and sinks within each of the assigned grids. A total of 40 swipes were obtained from the eight rooms identified on the survey map.
- (4) The survey locations included judgmental sampling for any known historical locations of radioactive materials use.
- (5) A Ludlum Model 14C with a Model 44-7 GM detector was used for the surface scanning surveys. The survey equipment efficiency was probably very low for ^{14}C , typically around 2-3%. The survey equipment was tested for constancy before and after use.
- (6) The scanning surveys did not indicate any results above background.
- (7) The wipe materials were analyzed using a gamma counter normally used for counting RIA samples.
- (8) The wipe surveys did not indicate any results above background for removable radioactive contamination.
- (9) The survey methods were not consistent with standard practices to measure and evaluate ^3H and ^{14}C .
- (10) The survey map for the closeout surveys was different from facility diagram submitted for approval of the research location of use. The facility diagram had an instrument room across the hall from the laboratory areas. This instrument room is not on the survey map.

5. Status of radioactive material:

- a. Danville disposed all remaining liquid radioactive waste present in the research building on June 6, 1994.
- b. The unopened stock vials of radioactive material were removed from the research building and stored in the RIA laboratory until October 2001, when the vials were moved to the nuclear medicine department hot laboratory refrigerator.
- c. The former RIA laboratory was released for unrestricted use in October 2001.

Historical Site Assessment

d. Danville disposed the remaining stock vials of radioactive material to a radioactive waste broker on June 23, 2005.

7. Conclusion:

a. This historical site assessment is limited in scope based on available records and discussions with Danville staff and consultants.

b. The circa 1998 closeout surveys did not identify any results above background. The survey methods were not consistent with standard practices to measure and evaluate ^3H and ^{14}C .

c. The limited use, storage, and possession of ^3H and ^{14}C support a conclusion residual fixed or removable radioactive contamination is unlikely and, if present, was less than the DCGLs for ^3H and ^{14}C when the building was released for unrestricted use.

**Department of
Veterans Affairs**

Memorandum

Date: APR 08 2005
From: Director (550/00), VA Illiana Health Care System, Danville, Illinois
Subj: February 10, 2005 Inspection of VHA Permit #12-16473-01
To: Joseph Wissing
Director, VHA National Health Physics Program (115HP/NLR)

This is in response to your March 18, 2005 report concerning the February 10, 2005 inspection of our facilities.

- (1) According to our excess disposition records, the Beckman Liquid Scintillation counter was scrapped. Scrapped materials are disposed of at a local landfill and typically buried. We are confident of appropriate final disposition.
- (2) We are contacting commercial waste brokers to obtain quotes for disposal of the remaining H-3 and C-14 currently in storage. We intend to dispose of the waste within the next 3 months.
- (3) We have completed a search of available records concerning the past usage of H-3 and C-14 in the research lab at our facility. The researcher(s) who used these materials no longer work at the facility and were not available to interview about the historical use of H-3 and C-14. Radiation Safety Committee minutes from the early 1980's are not available and only minutes from about March 1988 to present were reviewed. The records are incomplete, but we have been able to reconstruct the following from the available records.

The liquid scintillation counter was obtained in early 1980. H-3 authorization was added to the NRC license in 1980. C-14 was added to the license on May 11, 1983.

A book of wipe test records, assayed with the Beckman LS7000 liquid scintillation detector, contains records of monthly wipe tests of the research lab from September 17, 1980 to May 18, 1981. The wipe tests include 14 areas in the lab and all results are low, well within acceptable action levels. The highest wipe test value was given as 102 cpm, inside the cell harvester. With standard efficiencies of a liquid scintillation detector, it is expected this value is below 200 dpm.

There were disposals of radioactive waste, 0.9 mCi H-3 in 2 gallons of liquid on 6/25/81 and 0.9 mCi in 2 gallons of liquid on 7/23/81. The 6/25/81 disposal indicates the disposal was followed by 5 hours of water.

The March 18 and July 13, 1988 Radiation Safety Committee minutes discuss disposal of remaining H-3 and C-14 waste and storage of the remaining stock C-

14 and H-3 vials in nuclear medicine. Because of the possibility of restarting the research work, the vials would be held in nuclear medicine and returned to the research lab if needed.

On June 6, 1994 there was a disposal of 2 jugs of remaining liquid scintillation solution containing an estimated 0.079 microcuries and 0.22 microcuries H-3 and C-14.

Amendment #18 to the NRC license, dated 1/31/03 converted the H-3 and C-14 authorization to "storage only".

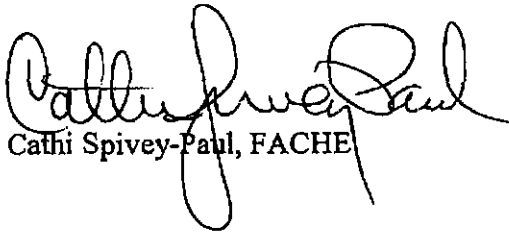
The nuclear medicine hot lab refrigerator currently contains a 1 ml vial of H-3 thymidine. The label indicates 1 millicurie (no date given). It is not evident if the vial was ever opened. Also present are 4 glass ampules, unopened, labeled as containing 50 microcuries each of C-14 ethanol (no date given). This is the material that will be disposed in the near future as discussed in item 2.

Stan Buhr, health physics consultant, recollects attending all Radiation Safety Committee meetings from about 1985 to present. The researcher attended most meetings during that time and reported on the status of research involving radioactive materials. Mr. Buhr does not remember reports of actual usage of material, only the possibility that the research may start up again in the future. Also, Mr. Buhr does not remember any discussion of any past spills or other incidents in the research lab, which might cause contamination.

Based on the available wipe test results and the recollections from previous meetings, it is expected that there was not any remaining contamination in the research lab at the time it was released for unrestricted use.

- (4) We confirm that an amendment to remove H-3 and C-14 authorization from the permit will be requested within 30 days after the materials have been disposed.

Please contact us if any further information is needed.


Cathi Spivey-Paul, FACHE

DEPARTMENT OF
VETERANS AFFAIRS

Memorandum

Date: SEP 22 2005

From: Director (550/00), VA Medical Center, Danville, Illinois

Subj: Amendment to VHA Permit #12-16473-01

To: Director, VHA National Health Physics Program (115HP/NLR)

In follow up to the February 10, 2005 inspection of our facilities, we have now disposed of the remaining H-3 and C-14 research materials. Attached is the record of disposal. Please remove this material from our permit.

At the same time, we also request that Mukund Prabhudesai, M.D. be removed as an authorized user from our permit.

Please contact us if any further information is needed.


Robert H. Beller

Attachment

CORE VALUES: *TRUST *RESPECT *EXCELLENCE *COMMITMENT *COMPASSION

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CONSIGNEE ORIGINAL (MUST ACCOMPANY WASTE IN TRANSIT)

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| NRC FORM 542 (5-1592) | | | U.S. NUCLEAR REGULATORY COMMISSION | | | | 1. WASTE COLLECTOR/PROCESSOR | | | 2. MANIFEST NUMBER | |
|---|--|-------------------------------------|---|---|------------------|-----------|----------------------------------|---------------|----------------------|--------------------|--|
| UNIFORM NARM RADIOACTIVE WASTE MANIFEST | | | NAME Chase Environmental Group, Inc. | | | | SHIPPER USE ONLY | | AL-2005-122 | | |
| | | | IDENTIFICATION NUMBER T-KY003-L05 | | | | | | | | |
| | | | SHIPPING DATE 6/23/2005 | | | | | | | | |
| MANIFEST INDEX AND REGIONAL COMPACT TABULATION List all original "PROCESSED WASTE" before "COLLECTED WASTE". | | | | | | | | | | | |
| 4. GENERATOR IDENTIFICATION NUMBER | 5. GENERATOR NAME PERMIT NUMBER AND TELEPHONE NUMBER | 6. GENERATOR FACILITY ADDRESS | 7. PREPROCESSED WASTE (OR MATERIAL) VOLUME (m3) | 8. MANIFEST NUMBER (OR SOURCE NAME) RECEIVING DATE OF ACCEPT | 9. WASTE CODE | 10. STATE | 11. AS PROCESSED/COLLECTED TOTAL | | | | |
| | | | | | | | A. SOURCE MATERIAL (kg) | B. SNM (g) | C. ACTIVITY (MBq) | D. VOLUME (m3) | |
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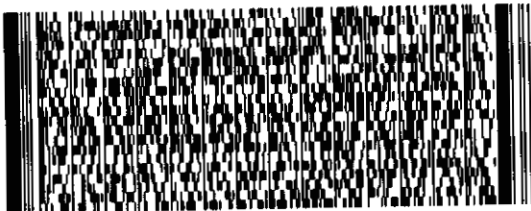
Page 1 of 1

From: Origin ID: (501)257-1571
KELLY MAYO
VETERANS HEALTH ADMINISTRATION
2200 FORT ROOTS DR
B101 R208E
NORTH LITTLE ROCK, AR 72114



CLS 90270509/16

SHIP TO: (501)257-1571 **BILL SENDER**
Kevin Null
Nuclear Regulatory Commission
2443 Warrenville Rd
STE 210
Lisle, IL 605324352



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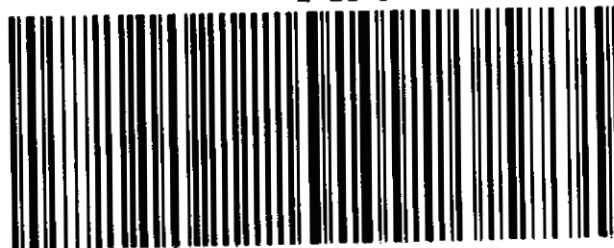
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