



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION V

1450 MARIA LANE, SUITE 260  
WALNUT CREEK, CALIFORNIA 94596

March 17, 1982

Robert Nelson, Ph.D., Co-Chairperson  
Los Angeles Federation of Scientists  
P. O. Box 67941  
Los Angeles, CA 90067

Dear Dr. Nelson:

Enclosed is my response to the questions transmitted to me by your letter dated January 4, 1982. I regret the delay. We were not able to consider your questions as part of the Freedom of Information Act request. Therefore, I had to work on my response as time permitted. It has been a rather busy period and my time for such work has been limited.

In order to keep the time spent on the response to your questions within reason, I did not attempt any significant file or literature search. The answers are based on my general knowledge of the situation and my recollections of the specific area in which you are interested.

I hope the enclosed information is useful to you.

Sincerely,

Herbert E. Book, Chief  
Radiological Safety Branch

Enclosure:  
As stated

A/67

ENCLOSURE

1. NRC regulations require licensees to maintain records of disposal "until the Commission authorizes their disposition." The regulations are contained in 10 CFR Part 20 which was first adopted effective February 28, 1957. I do not know the requirements prior to that time.
2. No prior approval was required.
3. No prior approval was required.
4. No prior approval was required.
5. This Regional Office did not maintain any detailed or complete records of disposal. That was considered to be the responsibility of the licensee. Licensee records were reviewed and some information was recorded during periodic inspections. Any such information in NRC files would be in inspection reports and other documents which have been supplied to you separately.
6. When the AEC reviewed the VA disposal area in 1969, records were reviewed covering the period 1960 through 1968. It is my understanding that the first burials on the property were in about 1960.
7. It is my understanding that burials were first made on the property in about 1960. We have no information on any burials made prior to 1960. If you have any such information we would like to receive it. We have no information that would indicate our records are not complete.
8. Prior to opening of commercial low-level waste burial sites, radioactive waste was disposed of in the following ways:
  - a. Short half-life isotopes were frequently stored until they decayed to background levels.
  - b. Disposals were made to the sanitary sewer under controlled conditions.
  - c. Radioactive wastes were sometimes transferred to other organizations for eventual disposal at sea.
  - d. A few licensees buried limited quantities of radioactive waste on their own property, under controlled conditions.
  - e. Some radioactive materials, sealed sources in particular, were disposed of by return to the manufacturer.
  - f. Some users simply packaged radioactive wastes and stored them onsite under the assumption that other methods of disposal were being developed and would become available.

I have no information on the disposal of specific wastes from any facilities prior to the establishment of the AEC Regulatory Program in about 1959.

9. We have no evidence or information to indicate that wastes from offsite were buried at the VA facility.
10. See answer to question 9, above.
11. All information we have indicates the burials were not in the streambed, but were on high ground nearby.
12. Prior to 1960, radioactive wastes at the VA facility were probably disposed by one or more of the methods outlined in the answer to question 8, above. Any information the NRC has will be in the documents being supplied to you as a result of your Freedom of Information Act request.
13. In many cases, sealed sources were (and still are) disposed by returning them to the manufacturer. Such items may also have been transferred to other organizations for eventual burial or disposal at sea.
14. I have no information concerning transfer of radioactive waste from the V.A. Hospital to UCLA. Transfers of radioactive materials between licensed users were (and still are) authorized by AEC and NRC regulations and could have taken place.
15. I have no information on this matter, but see the answer to question 14.
16. AEC Regulation 10 CFR Part 20 was first adopted effective February 25, 1957. I do not know the requirements prior to that time.
17. Burial of limited quantities of radioactive waste under controlled conditions by individual licensees was authorized in the original 10 CFR Part 20. That section of the regulations is no longer in effect. It was deleted from the NRC regulations effective January 28, 1981. Such burials may still be made, but must be specifically authorized in each case by the NRC.
18. I have no specific information on controls, inspections, requirements, regulations, or use of radioactive materials prior to the establishment of the AEC Regulatory Program in about 1959. Therefore, I cannot respond to the question.
19. I have no specific information on this matter, but see the answer to question 8.
20. Three inspectors were involved in inspection 81-02 for an elapsed time of two hours. Two of the NRC representatives present were not considered to be inspectors. Everything associated with that inspection is recorded in the report, which you have. No samples were collected during that inspection.
21. The first licenses issued to the V.A. site in the Regional Office files were issued in 1956. All information in NRC files on possession and use is in the documents being supplied to you as a result of your Freedom of Information Act request. In general, the availability and permission

to use radioactive materials were much more restricted in the years prior to 1960. Therefore, it is safe to say that smaller quantities and fewer different types of radioactive materials were used then than in later years.

22. Depleted uranium is licensed. The information in Report 80-01 is unclear. The intent was to say the depleted uranium blocks were not included on the license being inspected. These blocks are termed "generally licensed" items, and no specific license document is required for possession. These items are utilized to calibrate instruments used for measuring surface beta dose rates.
23. The NRC has no jurisdiction over machine generated radiation. I have no information on this matter.
24. You have all of the information that we have. If you have additional information we would appreciate receiving it. We have no information that would indicate our records are not complete.
25. No. The instruments used would not respond to beta or alpha radiations. If the radioactive material is covered by many feet of earth, there is no point in surveying for beta or alpha radiation.
26. I am not sure I understand the question. The first request for release was made in 1969. The AEC determined at that time that no restrictions were necessary on future use of the property. However, for some reason, the property remained under the jurisdiction of the Veterans Administration. The question arose again in 1981. The NRC evaluated the situation for a second time, using current knowledge and probably improved methods. The results again revealed no restrictions were necessary on the property. Any possible hazard in a situation such as this can be expected to grow increasingly smaller as time passes. Should such an evaluation be made now or at some later date, the results would still indicate no restrictions are necessary.
27. NRC inspectors reviewed records, interviewed people involved, and observed the disposal site. I do not know whether any actual burial operations were observed. It would be our policy to assume that the Veterans Administration is a responsible organization and would conduct their operations in a safe and competent manner and in compliance with regulations. It should be noted that quantities were small. Only about 10% of the total permissible quantities were buried at this site.
28. I believe it was Mr. Buchanan's intent to indicate that the program of burials began in about 1960. We have no information to indicate earlier burials, and we have no evidence or information to indicate that our records are not complete. If you have any information on earlier burials, we would appreciate receiving it.

EXPERT SYSTEM LICENSE EVALUATION  
REPORT FOR LICENSE 04-00181-01

NAME OF LICENSEE: VETERANS ADMINISTRATION CENTER, RADIOISOTOPE SER.  
LISTED SITE: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA  
INVENTORIED FILES FOR THIS LICENSE ARE IN THE FOLLOWING JOB/BOX NUMBERS:  
JOB NUMBER: 1722 / BOX: 31

\*\*\*\*\*  
THIS LICENSE WAS LISTED AS A LICENSE WITH PROBABLE HUMAN USE.  
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\*\*\*\*\*  
THIS LICENSE WAS LISTED AS A LICENSE WITH NONROUTINE HUMAN USE.  
\*\*\*\*\*

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

-----  
THE LICENSEE WAS AUTHORIZED 10 MILLICURIES OF I-131 FOR USE IN DIAGNOSTIC  
STUDIES OF PATIENTS WITH PANCREATIC INSUFFICIENCY AND DIABETES.  
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----- MATERIALS INFORMATION FOR THIS LICENSE -----

---Material--	-SEALED OR LOOSE--	POSS. LIMIT	Unit	Initial score
I-131	LOOSE	0.010000	CI	

FINAL DECISION FOR SITE, BASED ON LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:  
ELIMINATED FROM CONSIDERATION FOR SITE CONTAMINATION  
Reason for elimination: SUPERCEDED BY NEW LICENSE

SEQUENCE OF EXPERT SYSTEM REASONING

1. License is nonsuspect because it was superceded by another license

COMMENTS FOR LICENSE EVALUATION

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

-----  
THE LICENSEE WAS AUTHORIZED 10 MILLICURIES OF I-131 FOR USE IN DIAGNOSTIC  
STUDIES OF PATIENTS WITH PANCREATIC INSUFFICIENCY AND DIABETES.  
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END OF COMMENTS FOR LICENSE EVALUATION

*A/08*

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REGION RESPONSIBLE: V

LICENSEE NAME: VETERANS ADMINISTRATION CENTER, RADIOISOTOPE SER.  
STREET ADDRESS: WILSHIRE & SAWTELLE BLVDS. City: LOS ANGELES 25

FIPS state code (principal operation): CA

This license was listed as SUPERCEDED BY ANOTHER LICENSE

Contents of the new license field 04-00181-02

Site used: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA

Disposition information present: NO DISPOSITION INFORMATION GIVEN

This license was listed as expired on 03/31/58

A P P L I C A T I O N I N F O R M A T I O N

There WAS a licensee application contained in the file

The application contained some information on material use.

INVENTORY RECORD COMMENTS:

JOB NUMBER: 1722

BOX NUMBER: 31

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COMMENTS ON INVENTORY ENTRY FOR 04-00181-01

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A HANDWRITTEN NOTE ON THE FRONT OF THE FILE INDICATED THAT THE LICENSE WAS  
SUPERSEDED BY 04-00181-02.

.....  
Date of last evaluation or revision: 10/06/94

Reviewer's initials: CJL

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License number: 04-00181-01

ORNL License Evaluation System Report

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EXPERT SYSTEM LICENSE EVALUATION  
REPORT FOR LICENSE 04-00181-02

NAME OF LICENSEE: VETERANS ADMINISTRATION CENTER, RADIOISOTOPE SER.  
LISTED SITE: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA  
INVENTORIED FILES FOR THIS LICENSE ARE IN THE FOLLOWING JOB/BOX NUMBERS:  
JOB NUMBER: 1722 / BOX: 31

\*\*\*\*\*  
THIS LICENSE WAS LISTED AS A LICENSE WITH PROBABLE HUMAN USE.  
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\*\*\*\*\*  
THIS LICENSE WAS LISTED AS A LICENSE WITH NONROUTINE HUMAN USE.  
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Description of LICENSEE ACTIVITY UNDER THIS LICENSE

-----  
THE LICENSEE WAS AUTHORIZED C-14 AND I-131 FOR USE IN STUDIES ON DIABETIC  
PATIENTS, PANCREATIC INSUFFICIENT PATIENTS, AND LOWER ANIMALS.  
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----- MATERIALS INFORMATION FOR THIS LICENSE -----

---Material--	-SEALED OR LOOSE--	POSS. LIMIT	Unit	Initial score
C-14	LOOSE	0.002000	CI	
I-131	LOOSE	0.010000	CI	

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FINAL DECISION FOR SITE, BASED ON LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:  
ELIMINATED FROM CONSIDERATION FOR SITE CONTAMINATION  
Reason for elimination: DISPOSITION INFO ADEQUATE  
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SEQUENCE OF EXPERT SYSTEM REASONING

1. License had some indication of improper disposal of some kind. However the materials score was low, & the reviewer indicated that evidence was not significant enough to override elimination of the license from further consideration.
2. License had disposition information which was adequate to disqualify the loose materials.

*Handwritten signature: A/69*

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COMMENTS FOR LICENSE EVALUATION

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Description of LICENSEE ACTIVITY UNDER THIS LICENSE

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THE LICENSEE WAS AUTHORIZED C-14 AND I-131 FOR USE IN STUDIES ON DIABETIC PATIENTS, PANCREATIC INSUFFICIENT PATIENTS, AND LOWER ANIMALS.

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- GENERAL COMMENTS ENTERED BY THE REVIEWER CONCERNING THE EVALUATION -  
-- THE LICENSEE'S METHOD OF DISPOSAL WAS NOT CONSIDERED SERIOUS BECAUSE THE  
-- HALF LIFE OF C-14 WAS EXTERMELY LONG AND THE HALF LIFE OF I-131 WAS SHORT.

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END OF COMMENTS FOR LICENSE EVALUATION

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REGION RESPONSIBLE: V

LICENSEE NAME: VETERANS ADMINISTRATION CENTER, RADIOISOTOPE SER.  
STREET ADDRESS: WILSHIRE & SAWTELLE BLVDS. City: LOS ANGELES 25

FIPS state code (principal operation): CA  
Site used: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA  
Disposition information present: OTHER DOCUMENT PRESENT IN FILE  
Contents of other disposition information:APPLIATION  
Inventory record indicates some definite reference to disposal in file.  
This license was listed as expired on 03/31/58

A P P L I C A T I O N I N F O R M A T I O N

There WAS a licensee application contained in the file  
The application had some information on waste disposal practices.  
The application contained some information on material use.

INVENTORY RECORD COMMENTS:

JOB NUMBER: 1722

BOX NUMBER: 31

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COMMENTS ON INVENTORY ENTRY FOR 04-00181-02

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INFORMATION ON LICENSEE APPLICATION FOR 04-00181-02

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ACCORDING TO THE APPLICATION, THE MATERIAL WAS DISPOSED VIA OCEAN DUMPING. THE MATERIALS WERE GIVEN TO THE AEC AND PLACED INTO CEMENT BLOCKS AND DROPPED ON THE BOTTOM OF THE OCEAN.

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Date of last evaluation or revision: 10/06/94

Reviewer's initials: CJL

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License number: 04-00181-02

ORNL License Evaluation System Report

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EXPERT SYSTEM LICENSE EVALUATION  
REPORT FOR LICENSE 04-00181-03

NAME OF LICENSEE: VETERANS ADMINISTRATION CENTER, HOSPITAL  
LISTED SITE: MEDICAL HOSPITAL, LOS ANGELES 25, CALIFORNIA  
INVENTORIED FILES FOR THIS LICENSE ARE IN THE FOLLOWING JOB/BOX NUMBERS:  
JOB NUMBER: 1722 / BOX: 31

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

THE LICENSEE WAS AUTHORIZED 350 MILLICURIES OF C-14 FOR USE IN LABORATORY  
BIOSYNTHESIS AND ADSORPTION STUDIES IN LOWER ANIMALS.

MATERIALS INFORMATION FOR THIS LICENSE

---Material--	-SEALED OR LOOSE--	POSS. LIMIT	Unit	Initial score
C-14	LOOSE	0.350	CI	1.2

REVIEWER INDICATED ONE OR MORE OF THE MATLS MAY HAVE BEEN DISPOSED BY FLUSHING  
THE INITIAL SITE SCORE, based on the LOOSE material possession limits: : 1.21

FINAL DECISION FOR SITE, BASED ON LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:  
ELIMINATED FROM CONSIDERATION FOR SITE CONTAMINATION  
Reason for elimination: DISPOSITION INFO ADEQUATE

SEQUENCE OF EXPERT SYSTEM REASONING

1. License had some indication of improper disposal of some kind, However the materials score was low, & the reviewer indicated that evidence was not significant enough to override elimination of the license from further consideration.
2. License had disposition information which was adequate to disqualify the loose materials.

COMMENTS FOR LICENSE EVALUATION

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

THE LICENSEE WAS AUTHORIZED 350 MILLICURIES OF C-14 FOR USE IN LABORATORY  
BIOSYNTHESIS AND ADSORPTION STUDIES IN LOWER ANIMALS.

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END OF COMMENTS FOR LICENSE EVALUATION

REGION RESPONSIBLE: V

LICENSEE NAME: VETERANS ADMINISTRATION CENTER, HOSPITAL  
STREET ADDRESS: GENERAL MEDICAL & SURGICAL City: LOS ANGELES 25

FIPS state code (principal operation): CA  
Site used: MEDICAL HOSPITAL, LOS ANGELES 25, CALIFORNIA  
Disposition information present: CERTIFICATE AND OTHER DOCUMENT  
Contents of other disposition information: APPLICATION  
Matl. Transfrd to: REGENTS OF THE UNIVERSITY OF CALIFORNIA  
License to which transferred: 04-00650-01  
Inventory record indicates some definite reference to disposal in file.  
This license was listed as expired on 07/31/60

A P P L I C A T I O N I N F O R M A T I O N

There WAS a licensee application contained in the file  
The application had some information on waste disposal practices.  
The application contained some information on material use.

INVENTORY RECORD COMMENTS:

JOB NUMBER: 1722

BOX NUMBER: 31

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COMMENTS ON INVENTORY ENTRY FOR 04-00181-03

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INFORMATION ON LICENSEE APPLICATION FOR 04-00181-03

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ACCORDING TO THE APPLICATION, THE MATERIAL WAS TO BE DISPOSED VIA BURIAL AND SEWER FLUSHING.

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Date of last evaluation or revision: 10/06/94

Reviewer's initials: CJL

EXPERT SYSTEM LICENSE EVALUATION  
REPORT FOR LICENSE 04-00181-05

NAME OF LICENSEE: VETERANS ADMINISTRATION CENTER, RADIOISOTOPE SER.  
LISTED SITE: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA  
INVENTORIED FILES FOR THIS LICENSE ARE IN THE FOLLOWING JOB/BOX NUMBERS:  
JOB NUMBER: 1722 / BOX: 31

\*\*\*\*\*  
THIS LICENSE WAS LISTED AS A LICENSE WITH PROBABLE HUMAN USE.  
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\*\*\*\*\*  
THIS LICENSE WAS LISTED AS A LICENSE WITH NONROUTINE HUMAN USE.  
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Description of LICENSEE ACTIVITY UNDER THIS LICENSE

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THE LICENSEE WAS AUTHORIZED 8 MILLICURIES OF C-14 FOR USE IN THE STUDY OF  
TURNOVER RATES AND OXIDATION IN PATIENTS WITH MUSCULAR DYSTROPHY. THE  
MATERIAL WAS ALSO USED IN BIOLOGICAL LABORATORY STUDIES OF LOWER ANIMALS.  
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MATERIALS INFORMATION FOR THIS LICENSE  
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---Material--	-SEALED OR LOOSE--	POSS. LIMIT	Unit	Initial score
C-14	LOOSE	0.008000	CI	

FINAL DECISION FOR SITE, BASED ON LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:  
ELIMINATED FROM CONSIDERATION FOR SITE CONTAMINATION  
Reason for elimination: SUPERCEDED BY NEW LICENSE  
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SEQUENCE OF EXPERT SYSTEM REASONING

1. License is nonsuspect because it was superceded by another license

COMMENTS FOR LICENSE EVALUATION

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

-----  
THE LICENSEE WAS AUTHORIZED 8 MILLICURIES OF C-14 FOR USE IN THE STUDY OF  
TURNOVER RATES AND OXIDATION IN PATIENTS WITH MUSCULAR DYSTROPHY. THE  
MATERIAL WAS ALSO USED IN BIOLOGICAL LABORATORY STUDIES OF LOWER ANIMALS.  
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END OF COMMENTS FOR LICENSE EVALUATION

LICENSEE NAME: VETERANS ADMINISTRATION CENTER, RADIOISOTOPE SER. REGION RESPONSIBLE: V  
STREET ADDRESS: WILSHIRE & SAWTELLE BLVDS. City: LOS ANGELES 25

FIPS state code (principal operation): CA

This license was listed as SUPERCEDED BY ANOTHER LICENSE

Contents of the new license field 04-00181-07

Site used: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA

Disposition information present: NO DISPOSITION INFORMATION GIVEN

This license was listed as expired on 08/31/58

A P P L I C A T I O N I N F O R M A T I O N

There WAS a licensee application contained in the file

The application contained some information on material use.

INVENTORY RECORD COMMENTS:

JOB NUMBER: 1722

BOX NUMBER: 31

COMMENTS ON INVENTORY ENTRY FOR 04-00181-05

ACCORDING TO A HANDWRITTEN MEMO ON THE FRONT OF THE LICENSE, THE MATERIAL WAS COVERED BY LICENSE 04-00181-07.

Date of last evaluation or revision: 10/06/94

Reviewer's initials: CJL

License number: 04-00181-05

ORNL License Evaluation System Report

EXPERT SYSTEM LICENSE EVALUATION  
REPORT FOR LICENSE 04-00181-06

NAME OF LICENSEE: VETERANS ADMINISTRATION CENTER, CARDIOLOGY SECTION  
LISTED SITE: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA  
INVENTORIED FILES FOR THIS LICENSE ARE IN THE FOLLOWING JOB/BOX NUMBERS:  
JOB NUMBER: 1722 / BOX: 31

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

THE LICENSEE WAS AUTHORIZED NA-24 AND K-42 FOR USE IN IN-VITRO STUDIES ON  
ERYTHROCYTE SPECIMENS.

MATERIALS INFORMATION FOR THIS LICENSE

---Material--	-SEALED OR LOOSE--	POSS. LIMIT	Unit	Initial score
NA-24	LOOSE	0.002000	CI	
K-42	LOOSE	0.010000	CI	

FINAL DECISION FOR SITE, BASED ON LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:  
ELIMINATED FROM CONSIDERATION FOR SITE CONTAMINATION  
Reason for elimination: DISPOSITION INFO ADEQUATE

SEQUENCE OF EXPERT SYSTEM REASONING

1. License had some indication of improper disposal of some kind, However the materials score was low, & the reviewer indicated that evidence was not significant enough to override elimination of the license from further consideration.
2. License had disposition information which was adequate to disqualify the loose materials.

COMMENTS FOR LICENSE EVALUATION

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

THE LICENSEE WAS AUTHORIZED NA-24 AND K-42 FOR USE IN IN-VITRO STUDIES ON

ERYTHROCYTE SPECIMENS.

- GENERAL COMMENTS ENTERED BY THE REVIEWER CONCERNING THE EVALUATION -  
-- THE MATERIAL WAS LOW HAZARD AND THE DISPOSAL DID NOT REPRESENT A SERIOUS  
-- PROBLEM.

END OF COMMENTS FOR LICENSE EVALUATION

REGION RESPONSIBLE: V

LICENSEE NAME: VETERANS ADMINISTRATION CENTER, CARDIOLOGY SECTION  
STREET ADDRESS: WILSHIRE & SAWTELLE BLVDS. City: LOS ANGELES 25

FIPS state code (principal operation): CA

Site used: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA

Disposition information present: CERTIFICATE

Text of certificate of disposition:

MATERIAL WAS DISPOSED VIA DECAY AND IN COMPLIANCE WITH 10 CFR 20.

Material was listed as disposed of by decay:

There was a reference to disposal in accordance with 10CFR20

This license was listed as expired on 09/30/58

A P P L I C A T I O N I N F O R M A T I O N

There WAS a licensee application contained in the file

The application contained some information on material use.

INVENTORY RECORD COMMENTS:

JOB NUMBER: 1722

BOX NUMBER: 31

COMMENTS ON INVENTORY ENTRY FOR 04-00181-06

Date of last evaluation or revision: 10/06/94

Reviewer's initials: CJL

License number: 04-00181-06

ORNL License Evaluation System Report

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EXPERT SYSTEM LICENSE EVALUATION  
REPORT FOR LICENSE 04-00181-07

NAME OF LICENSEE: VETERANS ADMINISTRATION CENTER, RADIOISOTOPE SER.  
LISTED SITE: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA  
INVENTORIED FILES FOR THIS LICENSE ARE IN THE FOLLOWING JOB/BOX NUMBERS:  
JOB NUMBER: 1722 / BOX: 31

\*\*\*\*\*  
THIS LICENSE WAS LISTED AS A LICENSE WITH PROBABLE HUMAN USE.  
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\*\*\*\*\*  
THIS LICENSE WAS LISTED AS A LICENSE WITH NONROUTINE HUMAN USE.  
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Description of LICENSEE ACTIVITY UNDER THIS LICENSE

-----  
THE LICENSEE WAS AUTHORIZED H-3 AND C-14 FOR USE IN METABOLIC STUDIES,  
LOWER ANIMAL STUDIES, AND TUROVER RATES IN MUSCULAR DYSTROPHIC SUBJECTS.  
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----- MATERIALS INFORMATION FOR THIS LICENSE -----

---Material--	-SEALED OR LOOSE--	POSS. LIMIT	Unit	Initial score
H-3	LOOSE	0.100000	CI	
C-14	LOOSE	0.008000	CI	

REVIEWER INDICATED ONE OR MORE OF THE MATLS MAY HAVE BEEN DISPOSED BY FLUSHING

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FINAL DECISION FOR SITE, BASED ON LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:  
ELIMINATED FROM CONSIDERATION FOR SITE CONTAMINATION  
Reason for elimination: DISPOSITION INFO ADEQUATE  
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SEQUENCE OF EXPERT SYSTEM REASONING

1. License had some indication of improper disposal of some kind, However the materials score was low, & the reviewer indicated that evidence was not significant enough to override elimination of the license from further consideration.
2. License had disposition information which was adequate to disqualify the loose materials.

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COMMENTS FOR LICENSE EVALUATION

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Description of LICENSEE ACTIVITY UNDER THIS LICENSE

---

THE LICENSEE WAS AUTHORIZED H-3 AND C-14 FOR USE IN METABOLIC STUDIES,  
LOWER ANIMAL STUDIES, AND TUOVER RATES IN MUSCULAR DYSTROPHIC SUBJECTS.

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- GENERAL COMMENTS ENTERED BY THE REVIEWER CONCERNING THE EVALUATION -  
-- THE MATERIAL WAS LOW HAZARD MATERIAL, SO THE DISPOSAL DID NOT REPRESENT A  
-- SERIOUS PROBLEM.

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END OF COMMENTS FOR LICENSE EVALUATION

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REGION RESPONSIBLE: V

LICENSEE NAME: VETERANS ADMINISTRATION CENTER, RADIOISOTOPE SER.  
STREET ADDRESS: WILSHIRE & SAWTELLE BLVDS. City: LOS ANGELES 25

FIPS state code (principal operation): CA  
Site used: WILSHIRE & SAWTELLE BOULEVARDS, LOS ANGELES 25, CALIFORNIA  
Disposition information present: OTHER DOCUMENT PRESENT IN FILE  
Contents of other disposition information: APPLICATION  
Inventory record indicates some definite reference to disposal in file.  
This license was listed as expired on 03/31/59

A P P L I C A T I O N I N F O R M A T I O N

There WAS a licensee application contained in the file  
The application had some information on waste disposal practices.  
The application contained some information on material use.

INVENTORY RECORD COMMENTS:

JOB NUMBER: 1722

BOX NUMBER: 31

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COMMENTS ON INVENTORY ENTRY FOR 04-00181-07

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INFORMATION ON LICENSEE APPLICATION FOR 04-00181-07

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ACCORDING TO THE APPLICATION, THE MATERIAL WAS TO BE DISPOSED VIA BURIAL IN  
SOIL, DILUTION WITH WATER, AND FLUSHING INTO THE PUBLIC SEWER SYSTEM.

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Date of last evaluation or revision: 10/06/94

Reviewer's initials: CJL

License number: 04-00181-07

ORNL License Evaluation System Report

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ATOMIC ENERGY COMMISSION  
**APPLICATION FOR BYPRODUCT MATERIAL LICENSE**

**INSTRUCTIONS:** Complete Items 1 through 19 if this is a new application. If renewal is requested, complete only Items 1 through 11 provided that with respect to the other items there has been no change in the information previously submitted. Mail two copies to: U. S. Atomic Energy Commission, P. O. Box E, Oak Ridge, Tennessee, Attention: Isotopes Extension, Division of Civilian Application. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. General requirements for issuance of an AEC Byproduct Material License are contained in Title 10, Code of Federal Regulations, Part 30.

1. (a) NAME AND SHIPPING ADDRESS OF APPLICANT <i>(Institution, firm, hospital, person, etc.)</i> <b>Veterans Administration Center Wilshire and Sawtelle Bldgs. Los Angeles 25, California</b>	(b) ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED <i>(If different from shipping address)</i> <b>Same</b>
2. DEPARTMENT TO USE BYPRODUCT MATERIAL <b>Radioisotope Service</b>	
3. INDIVIDUAL USER <i>(Name and title of individual(s) who will use or directly supervise use of byproduct material)</i> <b>Nome Baker, Ph.D.</b>	
4. RADIOLOGICAL SAFETY OFFICER <i>(Name of person qualified in radiological safety, if other than individual user)</i> <b>William H. Bland, M.D.</b>	
5. PREVIOUS LICENSE OR AUTHORIZATION NUMBER <i>(If this is an application for renewal of a license for byproduct material obtained under a prior license or authorization for radioisotope procurement)</i>	

**BYPRODUCT MATERIAL OR IRRADIATION SERVICE DESIRED**

6. BYPRODUCT MATERIAL <i>(Element and mass number)</i> <b>Hydrogen<sup>3</sup></b>	7. CHEMICAL AND/OR PHYSICAL FORM <i>(Or catalog number)</i> <b>Heparin</b>	8. MAXIMUM AMOUNT OF RADIOACTIVITY IN MILLICURIES THAT YOU WILL POSSESS AT ANY ONE TIME <b>100 mc.</b>
9. IF IRRADIATION SERVICE IS DESIRED, STATE PERTINENT DETAILS SUCH AS: CHEMICAL COMPOSITION AND WEIGHT IN GRAMS OF TARGET MATERIAL, RADIOACTIVITY, IRRADIATION TIME IN DAYS, AND NEUTRON FLUX		

**STATEMENT OF USE**

10. (a) DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. *(If material is for "human use" complete Supplement A in lieu of this item. If material is to be used in or manufactured as a "sealed source" complete Supplement B in addition to this item.)*

**To study the metabolism of Heparin in Cancer Tissues in mice.  
(Heparin is to be tritiated by a commercial source.)**

(b) DESCRIBE PROCEDURES WHICH WILL BE OBSERVED TO MINIMIZE HAZARD FROM HANDLING, STORAGE, AND DISPOSAL OF THE BYPRODUCT MATERIAL

**See Items 16, 17, 18, and 19; License No. 4-181-2; and in addition disposal by burial in the soil, by dilution method with a stable isotope, and in public sewers.**

**CERTIFICATE**

11. The applicant and any official executing this certificate on behalf of the applicant named in Item 1, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and do solemnly swear (or affirm) that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

State of .....  
County of .....  
Subscribed and sworn to before me this ..... day of .....

By **William H. Bland**  
**William H. Bland, M.D., Ch., Radioisotope Serv**  
Title of Certifying Official

Notary Public ..... Date .....

**WARNING**

18 U. S. C., Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a false representation to any department or agency of the United States as to any matter within its jurisdiction.

**A. GRAHAM MOSLEY, JR.**  
Director  
**Burial**  
**Dilution**  
**Sewer**

**ATOMIC ENERGY COMMISSION  
APPLICATION FOR BYPRODUCT MATERIAL LICENSE**

INSTRUCTIONS: Complete Items 12 through 19 if this is a new application. This information may be omitted from subsequent applications provided there is no change in the information previously submitted, and reference is made in Item 5 to the application on which this information appears.

**TRAINING AND EXPERIENCE WITH RADIOACTIVITY OF INDIVIDUAL USER NAMED IN ITEM 3**

12. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)		FORMAL COURSE (Circle answer)	
			Yes	No	Yes	No
1. Principles and practices of radiological health safety. . . . .	See previous applications from this station					
2. Radioactivity measurement standardization and monitoring techniques and instruments . . . . .						
3. Mathematics and calculations basic to the use and measurement of radioactivity. . . . .						
4. Biological effects of radiation. . .						
5. Actual use of radioisotopes in the types and quantities for which application is being made, or equivalent experience . . . . .						

**13. ISOTOPE HANDLING EXPERIENCE**

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
See previous	applications from	this station.		

14. If Radiological Safety Officer named in Item 4 is different from individual user named in Item 3, use supplementary sheet to provide equivalent information on "Training and Experience With Radioactivity of Radiological Safety Officer." Supplementary sheet is attached (Circle answer) Supple-  
Yes No

**PHYSICAL FACILITIES, EQUIPMENT, AND RADIATION INSTRUMENTATION**

**15. RADIATION DETECTION INSTRUMENTS (Use separate sheet if necessary)**

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm <sup>2</sup> )	USE (Monitoring, surveying, measuring)
See License No. 4-181-2					

**16. FILM BADGES, DOSIMETERS, AND OTHER PERSONNEL MONITORING DEVICES INCLUDING BIO-ASSAY PROCEDURES**

Same as listed in License No. 4-181-2 except that badges will have a sensitivity range of 10 mr to 25,000 mr.

**17. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE (For film badges specify method of calibration and processing, or name supplier)**

See License No. 4-181-2

**18. (a) DESCRIBE BRIEFLY REMOTE HANDLING EQUIPMENT, STORAGE CONTAINERS, SHIELDING, AND LABORATORY FACILITIES (Working areas, fume hoods, etc.)**

See License No. 4-181-2

(b) SKETCHES OF SUCH FACILITIES ARE ATTACHED (Circle answer)

Yes No

**19. DESCRIBE BRIEFLY RADIATION SURVEYING PROCEDURES AND METHODS OF DISPOSING OF RADIOACTIVE WASTES**

See License No. 4-181-2

Type of Instruments (Include Make and Model of Each)	Number Avail- able	Radiation Detected	Sensitivity Range (mr/hr)	Window Thickness (mg/cm <sup>2</sup> )	Use: (Monitoring, Surveying, Measuring)
<b>Tracerlab:</b>					
SC-33A "1000" Scaler	1	Beta		4 G.M. Tubes	Measurement
SC-18A Superscaler	1	Beta		TGC2 Tracerlab Mica Window, 1.3 mg/cm <sup>2</sup>	Measurement
SC-36A Plug-in Pulse Amplifier (used with Super- scaler)	2	Beta and Gamma		to < 2 mg./cm <sup>2</sup> / 2 glass liquid G.M. tubes	Measurement
SC-40 Plug-in Rate Meter (used with Superscaler)	2	Beta and Gamma			Measurement
SC-45 Plug-in Discriminator (used with Superscaler)	1	Beta and Gamma			Measurement
SC-51 Autoscaler	2	Beta and Gamma (used with G.M. Tubes and Scintillation)			Measurement
SC-16 Windowless Flow Counter	1	Alpha and Beta	2 $\pi$ geometry		Measurement
SC-32 Ampliscaler	1	Gamma			Measurement
SC-19 Utility Scaler	1	Gamma			Measurement
SC-34A Precision Rate Meter	1	Gamma			Measurement
R-C Scientific Model DAX-10 Spectrometer	1	Gamma			Measurement

<u>of Instruments Make and Model of Each)</u>	<u>Number Avail- able</u>	<u>Radiation Detected</u>	<u>Sensitivity Range (mr/hr)</u>	<u>Window Thickness (mg/cm<sup>2</sup>)</u>	<u>Use: (Monitoring, Surveying, Measuring)</u>
<b>Berkeley Scientific:</b>					
Decimal Scaler #1000	1	Beta and Gamma			Measurement
Decimal Scaler #2000	1	Beta and Gamma			Measurement
Rate Meter #2850	1	Gamma			Measurement
Counting Rate Computer #1600	1	Gamma			Measurement
Custom made Scaler	1	Beta and Gamma			Measurement
<b>R-C Scientific:</b>					
Model #CX1WC1 Scaler	1	Gamma (Used with Scintillation Counters)			Measurement
Model #C214S1 Scaler	1	" " " "			Measurement
Model #CAX14S-C-307 Scaler	3	" " " "			Measurement
Custom Made Scintilla- tion Counter	1	Gamma		Tracerlab SPG-3, 1-3/4" D x 2" NaI(Tl) Well Gamma Crystal.	Measurement
R-C Scientific Scintillation Counters	8	Gamma		2-Harshaw Thallium Activated Sodium Iodide Deep Well Crystals, 1-3/4" D x 2"	Measurement
Tracerlab P-20A Scintillation Detector	2	Gamma		SPG-1 1" D x 1" Sodium Iodide Crystal.	Measurement

All Scintillation Counters have RCA Photo Tubes #5819, plus one spare tube

All Scintillation Tubes have Thallium Activated Sodium Iodide Crystals ranging from 1" D x 1" to 2" D x 3"  
with the exception of 1 - Calcium Tungstate Crystal.

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DUPLICATED

FOR DIV. OF INSP.

<u>of Instruments Make and Model of Each)</u>	<u>Number Avail- able</u>	<u>Radiation Detected</u>	<u>Sensitivity Range (mr/hr)</u>	<u>Window Thickness (mg/cm<sup>2</sup>)</u>	<u>Use: (Monitoring Surveying Measuring)</u>
Tracerlab SU-1H Ionization Chamber Radiation Survey Meter	3	Beta and Gamma	3 rate ranges up to 1.5 R/hr--150 mr Dosage Range	Pliofilm window 2 to 3 mg/cm <sup>2</sup>	Health Monitoring
Technical Associates Ionization Chamber Survey Meter - Juno	1	Alpha, Beta, and Gamma	0-50, 0-500, 0-5000 mr per hour.		Health Monitoring
Victoreen Ionization Chamber Survey Meter	1	Beta and Gamma			Health Monitoring
Victoreen Beta-Gamma Survey Meter	2	Beta and Gamma			Health Monitoring
Beckman Survey Meters	2	Beta and Gamma			Health Monitoring
Technical Associates Survey Meter	1	Beta and Gamma			Health Monitoring
Instrument Development Laboratory Survey Meter	1	Beta and Gamma			Health Monitoring
Tracerlab SU-3C Wall Monitors	3	Beta and Gamma	3 ranges from 200 to 20,000 CPM		Monitoring
Nuclear Wall Monitor #1615A	1	Beta and Gamma	5 ranges 500, 1500, 5000, 15,000 and 50,000 CPM full scale with choice of 2, 5, or 15% Statistical accuracy on each range.		Monitoring

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