

BETWEEN:

Accounts Receivable/Payable  
and  
Regional Licensing Branches

[ FOR ARPB USE ]  
INFORMATION FROM LTS

Program Code: 02400  
Status Code: Pending Renewal  
Fee Category: 3P  
Exp. Date:  
Fee Comments:  
Decom Fin Assur Req: N

### License Fee Worksheet - License Fee Transmittal

#### A. REGION

##### 1. APPLICATION ATTACHED

Applicant/Licensee: VCA UNIVERSITY ANIMAL HOSPITAL  
Received Date: 10/25/2010  
Docket Number: 3035579  
Mail Control Number: 573905  
License Number: 53-27684-01  
Action Type: Renewal

##### 2. FEE ATTACHED

Amount: \_\_\_\_\_

Check No.: \_\_\_\_\_

##### 3. COMMENTS

Signed: Colleen Murnahan

Date: 11-16-2010

#### B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered / / )

1. Fee Category and Amount: \_\_\_\_\_

2. Correct Fee Paid. Application may be processed for:

Amendment: \_\_\_\_\_

Renewal: \_\_\_\_\_

License: \_\_\_\_\_

3. OTHER \_\_\_\_\_

\_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

**APPLICATION FOR MATERIALS LICENSE**

Estimated burden per response to comply with this mandatory collection request: 4.3 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects.resource@nrc.gov](mailto:infocollects.resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

**INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.**

**APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:**

OFFICE OF FEDERAL & STATE MATERIALS AND ENVIRONMENTAL MANAGEMENT PROGRAMS  
DIVISION OF MATERIALS SAFETY AND STATE AGREEMENTS  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

**ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:**

**IF YOU ARE LOCATED IN:**

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM  
DIVISION OF NUCLEAR MATERIALS SAFETY  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

**IF YOU ARE LOCATED IN:**

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
612 E. LAMAR BOULEVARD, SUITE 400  
ARLINGTON, TX 76011-4125

**RECEIVED**  
**OCT 25 2010**  
**DNMS**

**PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.**

1. THIS IS AN APPLICATION FOR (Check appropriate item)

A. NEW LICENSE

B. AMENDMENT TO LICENSE NUMBER \_\_\_\_\_

C. RENEWAL OF LICENSE NUMBER **53-27684-01**

2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)

**VCA University Animal Hospital**  
**2728 Woodlawn Drive**  
**Honolulu, HI 96822**

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

**Same as 2.**

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

**Ronald Frick, M.S. CHP, DABR**

TELEPHONE NUMBER

**(808) 373-7009**

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL  
a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY	<b>3P</b>	AMOUNT ENCLOSED	<b>\$ 0.00</b>
--------------	-----------	-----------------	----------------

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

**Russell Shoji, DVM, Radiation Safety Officer**

SIGNATURE  DATE **10/6/10**

**FOR NRC USE ONLY**

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	
					<b>F: 573905</b>

**VCA University Animal Hospital**

2728 Woodlawn Drive

Honolulu, HI 96822

**Tel.:** (808) 988-2111

**Fax:** (808) 988-7657



October 6, 2010

Nuclear Materials Licensing Branch  
U.S. Nuclear Regulatory Commission, Region IV  
612 E. Lamar Blvd. Suite 400  
Arlington, TX 79011-4125

Subject: License Renewal  
NRC License No. 53-27684-01  
Docket No. 030-35579

Dear License Reviewer:

We wish to renew our byproduct materials license. Enclosed are duplicate copies of the license renewal package.

If you require any additional information please contact our Radiation Safety Consultant, Ronald Frick at 808-373-7009.

Sincerely,  
VCA University Animal Hospital

  
Russell Shoji, DVM

Enclosures

**Item 5      Radioactive Material****Item 6      Purpose**

	<b>Byproduct Material</b>	<b>Chemical/physical form</b>	<b>Amount</b>		<b>Purpose</b>
5.a	Iodine-131	Sodium Iodide/liquid	50 mCi	6.a	Treatment of thyroid disease in casts. No unit dose to exceed 30 mCi.

**Item 7      Individuals Responsible for Radiation Safety Programs****7.1      Radiation Safety Officer**

Information on training and experience for the Radiation Safety Officer is enclosed as ATT 7.1.

**7.2      Authorized Users**

Information on training and experience for authorized users is enclosed as ATT 7.2.

**Item 8      Training for Individuals Working in or Frequenting Restricted Areas****8.1      Training Program**

A description of our training program is appended as ATT 8.1.

**Item 9      Facilities and Equipment****9.1      Annotated Drawing**

A description of the facilities and an annotated drawing of the room and adjacent areas where byproduct material will be used is appended as ATT 9.1.

**Item 10     Radiation Safety Program****10.1     Radiation Monitoring Instruments**

A description of the instrumentation that will be used to perform required surveys is appended as ATT 10.1.

**10.2     Material Receipt and Accountability**

Procedures for ensuring material accountability are appended as ATT 10.2. Physical inventories will be conducted at intervals not to exceed 6 months to account for all sealed sources and devices received and possessed under the license.

**10.3     Occupational Dose**

Procedures for monitoring occupational dose are appended as ATT 10.3.

**10.4 Safe Use of Radiopharmaceuticals**

Procedures for the safe use of licensed materials, handling of animals treated with radioactive materials, security of materials, and emergency procedures have been developed and are appended as ATT 10.4.

**10.5 Surveys**

Survey procedures are appended as ATT 10.5.

**Item 11 Waste Management**

**11.1 Waste Disposal**

Waste disposal procedures are appended as ATT 11.1.

<b>Radiation Safety Officer</b>	<b>Record of Training and Experience</b>
Russell Shoji, DVM	Dr. Shoji is currently the Radiation Safety Officer for this license.

<b>Authorized User</b>	<b>Authorized Use</b>	<b>Record of Training and Experience</b>
Russell Shoji, DVM	Item 5.a	Dr. Shoji is currently listed as an Authorized User on this license.

### **Training for Individuals Working In or Frequenting Restricted Areas**

1. All individuals who handle radioactive materials or animals treated with radioactive material, individuals who work routinely within the restricted area, and all other individuals likely to receive an annual dose greater than 100 mrem, shall receive training commensurate with their duties and responsibilities, as required by 10 CFR 19.12. Instruction shall include the following topics:
  - a. Potential hazards associated with radioactive material;
  - b. Areas where radioactive materials are used or stored;
  - c. Radiation safety procedures and in-house work areas appropriate to their respective duties;
  - d. Pertinent NRC regulations and license conditions;
  - e. Obligations to report unsafe conditions to the radiation safety officer;
  - f. Appropriate response to emergencies or unsafe conditions;
  - g. Locations where the licensee has posted or made available notices, copies of pertinent regulations, and copies of pertinent licenses and license conditions;
  - h. Worker's right to be informed of occupational radiation exposure and bioassay results, and;
  - I. Question and answer period.

A quiz will be given following training to assess retention of the topics presented. Instruction will be given at the beginning of their employment and during annual refresher training thereafter, or as required by a change of duties.

2. Other individuals who may occasionally enter the restricted area during the course of their duties, such as housekeeping and other ancillary personnel, will receive a brief radiation safety orientation at the beginning of their employment. This orientation will cover recognition of warning signs and labels within the restricted area, appropriate response to emergencies or unusual situations within the restricted area, areas and objects which should be avoided, and other topics commensurate with their duties and responsibilities.

### **Facilities and Equipment**

1. A diagram of the area where treated animals will be housed and waste will be stored is attached (Item 9 - Attachment 1).
2. The animals are housed in cages within the locked restricted area. The area has a concrete floor which will be lined with vinyl flooring to facilitate decontamination.
3. I-131 sodium iodide will be received in pre-calibrated unit doses from a local radiopharmacy. Doses will be held in the shipping container, locked within the treatment cage until needed for administration. Radioactive waste will be held for decay-in-storage in the locked cabinet noted on the enclosed drawing. areas within the restricted area.
4. Waste Storage areas will be shielded adequately to reduce the dose rates in restricted and unrestricted areas to be below 10 CFR 20 limits.
5. Syringe shields will be available for use during injection of radiopharmaceuticals.
6. Decontamination materials will be available for use as necessary.

### **Radiation Monitoring Instruments**

1. The following radiation monitoring instruments will be available for performing required surveys:
  - a. Ludlum Model 14-C survey meter with 44-38 energy-compensated GM probe, capable of measuring 0.1 to 2000 mrem/hr. Survey meters will be calibrated annually by Gamma Corporation or any other facility licensed to perform such calibrations. Survey meter function will be checked at the beginning of each day of use by measuring the exposure rate from a dedicated check source, and by testing the meter's battery.
  - b. Ludlum 2200 scaler/SCA with drilled scintillation detector for measuring wipe samples and performance of bioassay measurements. The performance of this system will be checked at least annually by Gamma Corporation or any other company licensed to perform instrument calibrations.
2. We will use instruments that meet the radiation monitoring instrument specifications published in Appendix M to NUREG-1556 Vol. 7, 'Program-Specific Guidance About Academic, Research and Development, and Other Laboratory Licenses of Limited Scope,' dated December 1999. We reserve the right to upgrade our survey instruments as necessary.

### **Procedures For Ordering And Receiving Radioactive Material**

1. The RSO or authorized user will approve or place all orders for radioactive materials and will ensure that the requested materials and quantities are authorized by the license and that possession limits are not exceeded.
2. During normal working hours, carriers will be instructed to deliver packages containing radioactive material directly to the RSO, authorized user, or individual working under the supervision of the authorized user.
3. During off-duty hours, or if no trained individuals are available to accept the package, laboratory staff will accept delivery of the package. The packages will be taken immediately to and locked within the isolation cage.
4. If the package is wet or appears to be damaged, immediately contact the Radiation Safety Officer or alternate. Ask the carrier to remain at the building until it can be determined that neither the carrier nor the delivery vehicle is contaminated.

## **Procedures for Safely Opening Packages Containing Radioactive Material**

1. All packages with a RADIOACTIVE WHITE I, YELLOW II, or YELLOW III label must be monitored for surface contamination within 3 hours after receipt if received during working hours or within 3 hours after the beginning of the next working day if received after working hours, in accordance with the requirements of paragraphs 20.1906(b) and (c). The NRC Regional Office must be notified if removable contamination exceeds the limits specified in 49 CFR 173.443 (2,200 dpm/100 cm<sup>2</sup> for common carrier shipments, or 22,000 dpm/100 cm<sup>2</sup> for exclusive use shipments) or if external radiation levels exceed the limits specified in paragraphs 71.47(a) through (d) (200 mrem/hr at the package surface and 10 mrem/hr at one meter), in accordance with the requirements of paragraph 20.1906(d).
2. For packages received under the specific license, the following procedure for opening each package will be followed:
  - a. Put on gloves to prevent hand contamination.
  - b. Visually inspect the package for any sign of damage (e.g., wet or crushed). If damage is noted, stop the procedure and notify the Radiation Safety Officer (RSO).
  - c. Wipe an area of 300 cm<sup>2</sup> of the external surface of the package and remove the wipe sample to a low-background area. Assay the wipe sample to determine if there is any removable radioactivity with the scintillation well counter. Use previously determined efficiency factors to convert the measured counts per minute to dpm contamination levels. Take precautions against the potential spread of contamination.
  - d. Wipe an area of 300 cm<sup>2</sup> of the external surface of the package and remove the wipe sample to a low-background area. Assay the wipe sample to determine if there is any removable radioactivity with the scintillation well counter. Use previously determined efficiency factors to convert the measured counts per minute to dpm contamination levels. Take precautions against the potential spread of contamination.
  - e. Open the package with the following precautionary steps:
    - i. Remove the packing slip.
    - ii. Open the outer package following the supplier's instructions, if

- provided.
- iii. Open the inner package and verify that the contents agree with the packing slip.
  - iv. Check the integrity of the final source container. Look for broken seals or vials, loss of liquid, condensation, or discoloration of the packing material.
  - v. If anything is other than expected, stop and notify the RSO.
- f. If there is any reason to suspect contamination, wipe the external surface of the final source container and remove the wipe sample to a low-background area. Assay the wipe sample to determine if there is any removable radioactivity with the GM pancake probe or gamma scintillation well counter. Use previously determined efficiency factors to convert the measured counts per minute to dpm contamination levels. Take precautions against the potential spread of contamination.
- g. Check the user request to ensure that the material received is the material that was ordered.
- h. Monitor the packing material and the empty packages for contamination with a radiation detection survey meter before discarding.
- i. If contaminated, treat this material as radioactive waste.
  - ii. If not contaminated, remove or obliterate the radiation labels before discarding in in-house trash.
- i. Make a record of the receipt.

### **Personnel External Exposure Monitoring Program**

1. All individuals who work within the restricted area, handle radioactive materials or treated animals, or have the potential to receive an occupational radiation dose in excess of 10% of the allowable limits in 10 CFR Part 20 will be issued a film, TLD, or OSL whole body monitor that will be processed by a NVLAP approved contract service on a quarterly basis.
2. All individuals who handle radioactive material or treated animals will be issued a film, TLD, or OSL extremity monitor that will be processed by a NVLAP approved contract service on a quarterly basis.
3. Other individuals who are exposed to radiation on an occasional basis, such as secretarial or housekeeping personnel will not normally be issued exposure monitors.
4. The RSO will promptly review all exposure reports to look for workers or groups of workers whose exposure is unexpectedly high or low.

## **Procedures for Maintaining Occupational Radiation Exposures As Low As Reasonable Achievable**

### **1. Management Philosophy and Responsibilities**

- a. The management is committed to the philosophy of maintaining occupational radiation exposures as low as reasonably achievable (ALARA) and to keeping the sum of radiation doses received by all exposed personnel as low as practical. The procedures described below outline the methods by which the management philosophy will be implemented.
- b. The management will perform an annual audit of the ALARA program of this medical facility. This review will include review of personnel exposure records, inspections, radiation safety operating procedures, and consultation with the Radiation Safety Officer or alternate. The results of the audit will be documented.
- c. The management encourages changes to facilities or operating procedures where such changes will reduce occupational radiation exposure at reasonable costs.
- d. The management will review suggestions by employees of ways to reduce occupational radiation exposure. Where suggestions are not implemented, the reasons for not implementing them will be documented.

### **2. Responsibilities of the Radiation Safety Officer (RSO)**

- a. The RSO will review the qualifications of each potential authorized user with respect to the types and quantities of materials and uses for which he has applied to assure that appropriate measures will be taken to maintain exposures ALARA.
- b. When considering a new use of by-product material, the RSO will review the measures taken to maintain exposures ALARA. The measures to be taken to maintain exposures ALARA, such as procedures or special equipment, should be outlined in the proposal to the RSO.
- c. The RSO will audit the effectiveness of the radiation protection program on an annual basis. Included in this audit will be a review of the effectiveness of the ALARA program.
- d. The RSO will review personnel occupational radiation exposures quarterly. He will perform an investigation of all exposures exceeding control levels and document in the summary report the cause of the high exposure and the steps taken to reduce exposures.
- e. The RSO will establish contamination and dose rate action levels for areas surveyed that conform to 10 CFR Part 20 and Regulatory Guide 8.23 Table 2 limits, review

quarterly radiation levels in restricted and unrestricted areas, and review records of releases to unrestricted areas.

f. The RSO will instruct all affected workers in the philosophy of ALARA, the management's commitment to ALARA, the control levels established by this medical facility, and the procedures to be taken when occupational exposure exceeds the control level.

g. The RSO will instruct workers in recourses available if they feel ALARA is not being promoted on the job and establish a means for soliciting employee suggestions for reducing occupational radiation exposure.

**3. Authorized User Responsibilities**

a. Authorized users will consult with the RSO for proper procedures to maintain exposures ALARA for all new radioisotope procedures.

b. Authorized users will inform all people they supervise of the ALARA concept and their support for it.

**4. Occupational Worker Responsibilities**

a. Occupational workers will follow radiation safety procedures and use any special equipment designated to keep his exposure ALARA.

b. Occupational workers will report instances to the RSO where they think their exposure may have exceeded the control levels, or where they think their personnel monitoring device may have been inadvertently exposed.

c. Occupational workers are encouraged to suggest any changes to operating procedures or special equipment that they think may reduce occupational radiation exposures. Such suggestions will be evaluated by the RSO.

**5. Establishment of Control Levels for Maintaining Occupational Radiation Exposures ALARA**

a. In order to maintain exposures ALARA, this medical facility has established control levels for occupational radiation exposure. The control levels are as follows:

Investigational Levels		
	Investigational Levels (mrems per calendar quarter)	
	<table border="1"> <tr> <td>Level I</td> <td>Level II</td> </tr> </table>	Level I
Level I	Level II	

Whole body: effective dose equivalent	125	375
Whole body: individual organ	1250	3750
Lens of the eye	375	1125
Shallow dose equivalent to skin or any extremity	1250	3750

- b. The RSO will review the results of personnel monitoring not less than once per calendar quarter and document the results of the review.
- c. If personnel exposures are below Level I investigation level, no action is necessary.
- d. If personnel exposures are greater than Level I but less than Level II, and the exposure is considered in context with overall department exposures and the exposure history of the individual, no further action is required, unless deemed appropriate by the RSO.
- e. If personnel exposures are above Level II, the RSO will in a timely manner determine the cause of the exposures and, if necessary, take action. A report of the investigation, actions taken, and exposures recorded will be kept on file.

**General Rules for Safe Use of Radioactive Material**

1. Wear protective clothing in areas where radioactive materials are used.
2. Wear disposable gloves while handling radioactive materials and animals treated with radioactive materials.
3. Monitor hands and clothing for contamination after each procedure or before leaving the area.
4. Use syringe shields for injection of doses.
5. Do not eat, drink, smoke, or apply cosmetics in any area where radioactive material is stored or used. Do not store food, drink, or personal effects with radioactive material.
6. Wear personnel monitoring devices (film badges or TLD's) when required at all times while in areas where radioactive materials are used or stored. Whole body dosimeters should be worn on the collar. When not used, store the devices in a designated low background area.
7. Wear TLD finger badges while handling radiopharmaceuticals, radioactive waste, or animals treated with radioactive materials. Wear finger badges with the detector towards the palm of the hand.
8. Dispose of radioactive waste only in the specially designated waste containers.
9. Confine radioactive solutions in covered containers plainly identified and labeled.
10. Secure all radioactive materials when they are not under constant surveillance and immediate control.

## Emergency Spill Procedures

### Minor Spills

1. NOTIFY persons in the area that a spill has occurred.
2. PREVENT THE SPREAD by covering the spill with absorbent paper.
3. CLEAN UP the spill wearing disposable gloves. Carefully fold the absorbent paper and wipe from the outer edge to the center of the spill area. Dispose of the absorbent paper into a plastic bag, along with the gloves and treat as radioactive waste.
4. SURVEY the area with a low-range GM survey meter. Check the spill area, the area around the spill, and your hands and clothing.
5. REPORT the incident to the Radiation Safety Officer or the Radiation Safety Consultant.

### Major Spills

1. CLEAR THE AREA and notify all persons not involved in the spill to vacate the room.
2. PREVENT THE SPREAD by covering the spill with absorbent paper, but do not attempt to clean up. Confine the movement of all personnel potentially contaminated to prevent the spread.
3. SHIELD THE SOURCE if there is a direct radiation source problem, but only if it can be done without further contamination or without significantly increasing your radiation exposure.
4. CLOSE THE ROOM and lock the door behind you.
5. CALL FOR HELP by notifying the Radiation Safety Officer or the Radiation Safety Consultant.
6. STAND BY FOR MONITORING and decontamination if necessary. Contaminated clothing should be removed and stored for further evaluation by the Radiation Safety Officer or the Radiation Safety Consultant. If the spill is on the skin, flush thoroughly and then wash with mild soap and lukewarm water.

Radiation Safety Officer:	Russell Shoji
Office Phone:	988-2111
Beeper:	998-7768

Radiation Safety Consultant:	Ronald Frick, M.S., CHP, DABR
Office Phone:	373-7009
Cell:	282-0169

## Other Emergency Procedures

### Fire

#### Minor Fires

1. Immediately attempt to extinguish fire by approved methods (i.e. fire extinguisher) if other fire hazards or radiation hazards are not present.
2. Notify all persons present to vacate the area and have one individual immediately call the RSO and fire department (as instructed by RSO).
3. Once the fire is out, isolate the area to prevent the spread of possible contamination.
4. Survey all the persons involved in combating the fire for possible contamination. Decontaminate as necessary following decontamination procedure.
5. The RSO will determine a plan of decontamination for the area. No one may return to work in the area until approved by the RSO.
6. Survey, decontaminate, and perform bioassays as directed by the RSO.

#### Major Fires

- a. Notify all personnel to leave immediately.
- b. Notify the fire department.
- c. Notify the RSO and other safety personnel.
- d. Upon arrival of firefighters, inform them where radioactive materials are stored or where radioisotopes were being used; inform them of the present location of the licensed material and the best possible entrance route to the area, as well as any precautions to avoid exposure or risk of creating radioactive contamination.
- e. Setup a control area where the firefighters can be surveyed for contamination of their protective clothing and equipment after the fire extinguished.
- f. Allow no one to return to work unless authorized by the RSO.

- g. Survey, decontaminate, and perform bioassays as directed by the RSO.
- h. Notify the NRC if necessary.

### **Loss of material**

If radioactive material is lost or stolen, notify the Radiation Safety Officer immediately.

If more than 1,000 uCi (1 mCi) of I-131 is lost or stolen, the NRC Operations Center must be notified by telephone immediately. Within 30 days after making the telephone report, a written report must be submitted setting forth the following information:

1. A description of the licensed material involved, including kind, quantity, and chemical and physical form; and
2. A description of the circumstances under which the loss of theft occurred; and
3. A statement of disposition, or probable disposition, of the licensed material involved; and
4. Exposures of individuals to radiation, circumstances under which the exposures occurred, and the possible total effective dose equivalent to persons in unrestricted areas; and
5. Actions that have been taken, or will be taken, to recover the material, and
6. Procedures or measures that have been, or will be, adopted to ensure against a recurrence of the loss or theft of licensed material.

Reports shall be submitted to the Administrator of the NRC Region IV office. Subsequent to filing the written report, the licensee shall also report any additional substantive information on the loss or theft within 30 days after the licensee learns of such information.

If more than 10 uCi of I-131 is lost or stolen, the NRC Operations Center must be notified within 30 days if the material is still missing.

NRC Operations Center: 301-816-5100  
Backup: 310-951-0550  
FAX: 301-816-5151

## Personnel Contamination

Have the RSO notified immediately.

If hands are contaminated, wash hands first. If they are not contaminated, put on gloves to prevent contamination.

In case of suspected or obvious radioactive personnel contamination, survey the individual(s) to identify areas of contamination. Make a record of survey meter readings for later use in dose calculations.

Immediately remove any contaminated articles of clothing. Take care not to spread contamination to other areas of the body, especially the face or open wounds, while removing clothing. Place in plastic bags for treatment as radioactive waste or for decontamination.

Wet contaminated areas of skin with copious amounts of tepid water. Rub area gently with a mild soap for at least 3 minutes. Apply water frequently. Avoid using high alkaline soaps, as this may result in fixation of contamination. Do not use organic solvents, as these may increase skin penetration. Limit water to contaminated areas to prevent the spread of contamination.

Note: Use of hot water may cause contamination to penetrate further into skin, making decontamination more difficult and increasing skin dose. Do not use an abrasive methods for preliminary decontamination. Skin should not be rubbed as to induce reddening, and skin should not be broken.

Continue washing until survey readings have fallen below detectable levels. Gently scrub with a soft brush if necessary. If, after repeated washings, there is still measureable contamination, use more harsh methods listed below after consultation with the RSO:

1. mild abrasive soap
2. complexing solution
3. mild organic acid (citric acid)

To aid the removal of stubborn contamination, the contaminated area may be covered in plastic wrap to induce perspiration.

If the tips of the fingers are contaminated, clipping fingernails may remove much or all of the contamination. If residual contamination remains on the hands after decontamination, wearing rubber gloves for a day or so will induce sweating and help remove contamination, as well as prevent the spread of contamination to other areas.

All decontamination supplies shall be surveyed and held for decay as necessary. The decontamination area will be surveyed and decontaminated as necessary following standard survey procedures.

All contaminated personnel and those involved in radioactive spills shall have a thyroid bioassay performed between 24 and 72 hours following the incident.

The details of the incident shall be recorded, including personnel involved, areas and levels of contamination, results of decontamination, bioassay results and estimates of personnel dose.

### **Guidelines for Radioiodine Treatment of Cats**

- a. All animals treated with I-131 will be placed in a cage within the locked restricted area. The area surrounding the cage will be covered with absorbent material to prevent spread of contamination.
- b. The restricted area shall remain locked and be properly posted with a RADIOACTIVE MATERIALS sign.
- c. The restricted area and surrounding areas will be surveyed as soon as practical after administration of therapeutic dose. Exposure rates will be measured at the cage surface, at three feet from the cage, and in nearby unrestricted areas.
- d. Radiation levels in unrestricted areas will be maintained less than 2 mR/hr. Calculations will be performed to show that a member of the public will not receive more than 100 mrem per year.
- e. All equipment will be surveyed for contamination before being removed from the isolation room and, if necessary, held for decay.
- f. Before the isolation room is released for unrestricted use, the room will be surveyed for contamination and decontaminated if necessary, and all radioactive waste and waste containers will be removed.
- g. Animals will not be discharged until the exposure rate measured at one foot from the animal is less than 1 mR/hr.
- h. The form, Release of Animals Treated with I-131, must be completed before the patient is released and kept on file.
- i. All owners of released animals must receive instruction on how to maintain doses to other individuals ALARA. Instructions will include information on handling litter, animal handling, and isolation.
- j. If the treated animal should require emergency surgery or other medical treatment during its isolation, appropriate radiological controls must be implemented. Surveys of treatment areas, equipment, and personnel must be performed following any treatment. The Radiation Safety Officer shall be consulted before surgery is performed on an animal treated with I-131, and the RSO or authorized user shall be present during the surgery.

### **Procedures For Administering I-131 Doses**

1. Personnel administering therapeutic doses of I-131 shall wear their personnel dosimeters, including ring dosimeters, with detector towards the palm of the hand.
2. Never handle an unshielded therapeutic dose of I-131 directly with the hands. I-131 doses will always be administered using a syringe shield.
3. Always wear disposable gloves and a lab coat or other protective clothing when administering a therapeutic dose. After the administration is complete, dispose of the gloves as waste and monitor hands and clothing for contamination.
4. Immediately after injection, the animal will be placed in the special isolation cage within the restricted area.
5. The number of personnel caring for the animal should be minimized. All personnel involved in the care of the animal must have bioassays performed of their thyroid burden between 24 and 72 hours after the administration, and weekly until the animal is released. Refer to the procedure 'Bioassay for I-131'.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
612 EAST LAMAR BLVD, SUITE 400  
ARLINGTON, TEXAS 76011-4125

November 22, 2010

VCA University Animal Hospital  
ATTN: Ronald Frick  
Radiation Safety Officer  
2728 Woodlawn Drive  
Honolulu, Hawaii 96822

SUBJECT: DEEMED TIMELY LETTER

We acknowledge receipt of your application dated October 06, 2010, requesting your byproduct materials license be renewed. Your application is deemed timely filed and, accordingly, the license will not expire until final action has been taken by this office.

We have completed a preliminary review of your submittal. This review was cursory in nature and should not be considered a complete technical review. A complete technical review of the submitted information will be conducted within 180 days.

Any correspondence regarding this application should reference the identifying numbers specified below. If you have questions or require clarification on any of the information stated above, we encourage you to contact us at (817) 860-8103. Thank you for your cooperation.

Sincerely,

A handwritten signature in cursive script that reads "Colleen Murnahan".

Colleen Murnahan,  
Licensing Assistant  
Nuclear Materials Safety Branch B

Docket: 030-35579  
License: 53-27684-01  
Control: 573905

US 10

# FedEx Express US Airbill

FedEx Tracking Number **8664 6309 5332**

fedex.com 1.800.GoFedEx 1.800.463.3339

RECIPIENT: PEEL HERE

### 1 From This portion can be removed for Recipient's records.

Date **10-25-10** FedEx Tracking Number **866463095332**

Sender's Name **FAVE** Phone **808 488-3111**

Company **NSA WASH DC**

Address **2729 WOODLAWN DR** Dept./Floor/Suite/Room

City **HONOLULU** State **HI** ZIP **96825**

### 2 Your Internal Billing Reference

### 3 To

Recipient's Name **Nuclear Mater 's Learning Branch** Phone

Company **U.S. Nuclear Regulatory Comm**

Recipient's Address **612 E. Lincoln Blvd Suite 400** Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address To request a package be held at a specific FedEx location, print FedEx address here.

City **Arlington** State **TX** ZIP **76011-4125**



8664 6309 5332

### 4a Express Package Service

- FedEx Priority Overnight**  
Next business morning.\* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Standard Overnight**  
Next business afternoon.\* Saturday Delivery NOT available.
- FedEx First Overnight**  
Earliest next business morning delivery to select locations.\* Saturday Delivery NOT available.
- FedEx 2Day**  
Second business day.\* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Express Saver**  
Third business day.\* Saturday Delivery NOT available.

### 4b Express Freight Service

- FedEx 1Day Freight\***  
Next business day.\*\* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx 2Day Freight**  
Second business day.\*\* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx 3Day Freight**  
Third business day.\*\* Saturday Delivery NOT available.

### 5. Packaging

- FedEx Envelope\***
- FedEx Pak\***  
Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- FedEx Box**
- FedEx Tube**
- Other**

### 6 Special Handling

- SATURDAY Delivery**  
Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
  - HOLD Weekday at FedEx Location**  
Not available for FedEx First Overnight.
  - HOLD Saturday at FedEx Location**  
Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.
- Does this shipment contain dangerous goods?  
One box must be checked.
- No**
  - Yes**  
As per attached Shipper's Declaration.
  - Yes**  
Shipper's Declaration not required.
  - Dry Ice**  
Dry Ice, 9, UN 1845 x \_\_\_\_\_ kg
  - Cargo Aircraft Only**

### 7 Payment Bill to:

- Sender**  
Acct. No. in Section 7 will be billed.
- Recipient**
- Third Party**
- Credit Card**
- Cash/Check**

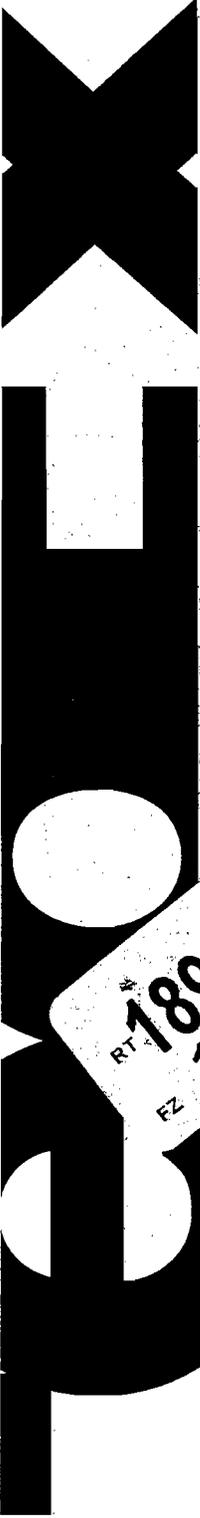
Total Packages Total Weight Credit Card Acct. No.

\*Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

### 8 Residential Delivery Signature Options

- No Signature Required**  
Package may be left without obtaining a signature for delivery.
- Direct Signature**  
Someone at recipient's address may sign for delivery. *Fee applies.*
- Indirect Signature**  
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

Rev. Date 10/06/Part #15279 ©1994-2006 FedEx-PRINTED IN U.S.A.-SRF



RT 189 188  
EZ

A  
5332  
10.25

# The World On Time

FedEx  
TRK# 8664 6309 5332  
0215

MON - 25 OCT A1  
PRIORITY OVERNIGHT

XH FWHA

76011  
TX-US  
DFW



UNI A 50AC1/26EF/183F