



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE**

Center for Coastal Fisheries and Habitat Research
101 Pivers Island Road
Beaufort, North Carolina 28516-9722

NMSB 3

May 17, 2004

Licensing Assistance Team
Division of Nuclear Material Safety
U.S. Nuclear Regulatory Commission, Region II
475 Allendale Road
King of Prussia, PA 19406-1415

03005594
X

Dear Licensing Agent;

Enclosed please find our renewal application for Nuclear Regulatory License 32-00426-02 for the Center for Coastal Fisheries and Habitat Research located in Beaufort, North Carolina. Since our last renewal or activity, the facility name has been altered slightly, however it remains the National Oceanic and Atmospheric Administration. If you have any questions, please feel free to contact me at 252-728-8718.

Sincerely,

Sabrina Pittillo

Sabrina Pittillo
Radiation Safety Officer
Safety, Health and Environmental Officer

Enclosures: Form 313
NUEG 1556, Vol. 7, Appendix C
Responses to Items 5-11
Diagrams

04
MAY 19 AM 1:06

RECEIVED
REGION I

135024

NMSB/RONI MATERIALS-002



(4-2004)
10 CFR 30, 32, 33,
34, 35, 36, 39, and 40

Estimated burden per response to comply with this mandatory collection request: 7 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 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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.

APPLICATION FOR MATERIAL LICENSE

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.

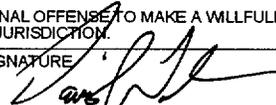
APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:	IF YOU ARE LOCATED IN:
DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555-0001	ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, 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
ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:	
IF YOU ARE LOCATED IN:	
ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, 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	ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, 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 611 RYAN PLAZA DRIVE, SUITE 400 ARLINGTON, TX 76011-4005

03005594
X

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) <input type="checkbox"/> A. NEW LICENSE <input type="checkbox"/> B. AMENDMENT TO LICENSE NUMBER _____ <input checked="" type="checkbox"/> C. RENEWAL OF LICENSE NUMBER <u>32-00426-02</u>	2. NAME AND MAILING ADDRESS OF APPLICANT (include ZIP code) Center for Coastal Fisheries and Habitat Research National Oceanic and Atmospheric Administration 101 Pivers Island Road, Beaufort, NC 28516
3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED 101 Pivers Island Road Beaufort, NC 28516	4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION Sabrina Pittillo TELEPHONE NUMBER (252) 728-8718
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 _____ AMOUNT ENCLOSED \$ _____
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.	

RECEIVED REGION I MAY 19 11:06

CERTIFYING OFFICER -- TYPED/PRINTED NAME AND TITLE David Johnson	SIGNATURE 	DATE 5-17-04
---	---	-----------------

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	135024

APPENDIX C

Item No.	Suggested Response	Yes	Description Attached
5.	<p>RADIOACTIVE MATERIAL</p> <p>Unsealed and/or Sealed Sources</p> <ul style="list-style-type: none"> • For unsealed materials: <ul style="list-style-type: none"> – Provide element name with mass number, chemical and/or physical form, and maximum requested possession limit. – For potentially volatile materials (e.g., I-125, I-131, H-3), specify whether the material will be free (volatile) or bound (non-volatile) and the requested possession limit for each form. • For sealed materials: <ul style="list-style-type: none"> – Identify each Radionuclide (element name and mass number) that will be used in each source. – Provide the manufacturer's (distributor's) name and model number for each sealed source and device requested. – Confirm that each sealed source, device, and source/device combination is registered as an approved sealed source or device by NRC or an Agreement State. – Confirm that the activity per source and maximum activity in each device will not exceed the maximum activity listed on the approved certificate of registration issued by NRC or by an Agreement State. • Provide an Emergency Plan (if required). <p>Financial Assurance and Recordkeeping for Decommissioning</p> <p>No response is needed from most applicants. If F/A or a DFP is required, submit the required documents as described in Regulatory Guide 3.66.</p>	<p>*</p> <p>*</p> <p>N/A</p>	<p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input type="checkbox"/></p>
6.	<p>PURPOSE FOR WHICH LICENSED MATERIAL WILL BE USED</p> <p>List the specific use or purpose of each radioisotope.</p>	<p>*</p>	<p><input checked="" type="checkbox"/></p>

Item No.	Suggested Response	Yes	Description Attached
7.	<p>INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE</p> <p>RSO</p> <p>Provide the name of the proposed RSO and information demonstrating that the proposed RSO is qualified by training and experience.</p> <p>AUs</p> <p>Provide the name of each proposed AU, with the types and quantities of licensed material to be used. Also provide information demonstrating that each proposed AU is qualified by training and experience to use the requested licensed materials.</p>	*	<p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p>
8.	<p>TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS (Occupationally Exposed Individuals and Ancillary Personnel)</p> <p>Submit a description of the radiation safety training program, including topics covered, groups of workers, assessment of training, qualifications of instructors, and the method and frequency of training.</p>	*	<p><input checked="" type="checkbox"/></p>

APPENDIX C

Item No.	Suggested Response	Yes	Description Attached
9.	<p>FACILITIES AND EQUIPMENT</p> <p>Describe the facilities and equipment to be made available at each location where radioactive material will be used. Include a description of the area(s) assigned for the receipt, storage, preparation and measurement of radioactive materials. Submit a diagram showing the locations of shielding, the proximity of radiation sources to unrestricted areas, and other items related to radiation safety. When applicable to facilities where radioactive materials may become airborne, the diagrams should contain schematic descriptions of the ventilation systems, with pertinent airflow rates, pressures, filtration equipment, and monitoring systems. Diagrams should be drawn to a specified scale, or dimensions should be indicated. For facilities where it is anticipated that more than one laboratory or room may be used, a generic laboratory or room diagram may be submitted.</p>	*	[✓]
10.	<p>RADIATION SAFETY PROGRAM</p> <p>Audit Program</p> <p>The applicant is not required to, and should not, submit its audit program to the NRC for review during the licensing phase.</p>	N/A	N/A

Item No.	Suggested Response	Yes	Description Attached
10.	<p>RADIATION SAFETY PROGRAM (Cont'd)</p> <p>Radiation Monitoring Instruments</p> <p>Describe the instrumentation that will be used to perform required surveys and state that: "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 Licenses of Limited Scope,' dated December 1999. We reserve the right to upgrade our survey instruments as necessary."</p> <p style="text-align: center;">OR</p> <p>Describe the instrumentation that will be used to perform required surveys and state that: "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 Licenses of Limited Scope,' dated December 1999. Additionally, we will implement the model survey meter calibration program published in Appendix M to NUREG - 1556, Vol. 7, 'Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope,' dated December 1999. We reserve the right to upgrade our survey instruments as necessary."</p> <p>Material Receipt and Accountability</p> <p>Develop and maintain procedures for ensuring material accountability,</p> <p style="text-align: center;">AND</p> <p>State that: "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."</p>	<p style="text-align: center;">*</p> <p style="text-align: center;">*</p>	<p style="text-align: center;"><input checked="" type="checkbox"/></p> <p style="text-align: center;">[]</p> <p style="text-align: center;"><input checked="" type="checkbox"/></p>

APPENDIX C

Item No.	Suggested Response	Yes	Description Attached
10.	<p>RADIATION SAFETY PROGRAM (Cont'd)</p> <p>Occupational Dose</p> <p>State that: "we have done a prospective evaluation and determined that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits in 10 CFR Part 20," or "we will monitor individuals in accordance with the criteria in the section entitled 'Radiation Safety Program - Occupational Dose' in NUREG - 1556, Vol. 7, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Academic, Research and Development and Other Licenses of Limited Scope,'" dated December 1999."</p> <p>Public Dose</p> <p>No response is required from the applicant in a license application.</p> <p>Safe Use of Radionuclides and Emergency Procedures</p> <p>Develop and maintain procedures for safe use and emergencies. State that such procedures have been developed.</p> <p>If an emergency response plan is needed, submit it as a separate part of the application.</p>	<p>*</p> <p>N/A</p> <p>*</p> <p>[]</p>	<p><input checked="" type="checkbox"/></p> <p>N/A</p> <p><input checked="" type="checkbox"/></p> <p>[]</p>

Item No.	Suggested Response	Yes	Description Attached
10.	<p>RADIATION SAFETY PROGRAM (Cont'd)</p> <p>Survey</p> <p>State that: "We will survey our facility and maintain contamination levels in accordance with the survey frequencies and contamination levels published in Appendix Q to NUREG - 1556, Vol. 7, 'Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope,' dated December 1999. Leak tests will be performed at the intervals approved by NRC or an Agreement State and specified in the SSD Registration Certificate. Leak tests will be performed by an organization authorized by NRC or an Agreement State to provide leak testing services to other licensees or using a leak test kit supplied by an organization authorized by NRC or an Agreement State to provide leak test kits to other licensees and according to the sealed source or plated foil manufacturer's (distributor's) and kit supplier's instructions."</p>	<p>*</p> <p>[✓]</p>	<p>[]</p>

APPENDIX C

Item No.	Suggested Response	Yes	Description Attached
10.	<p>RADIATION SAFETY PROGRAM (Cont'd)</p> <p style="text-align: center;">OR</p> <p>State that: "We will survey our facility and maintain contamination levels in accordance with the survey frequencies and contamination levels published in Appendix Q to NUREG - 1556, Vol. 7, 'Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope,' dated December 1999. Leak tests will be performed at the intervals approved by NRC or an Agreement State and specified in the SSD Registration Certificate. Leak tests will be performed by an organization authorized by NRC or an Agreement State to provide leak testing services to other licensees or using a leak test kit supplied by an organization authorized by NRC or an Agreement State to provide leak test kits to other licensees and according to the sealed source or plated foil manufacturer's (distributor's) and kit supplier's instructions. As an alternative, we will implement the model leak test program published in Appendix R to NUREG - 1556, Vol. 7, "Consolidated Guidance about Materials Licenses: 'Program-Specific Guidance About Academic, Research and Development, and Other Licensees of Limited Scope,' dated December 1999."</p> <p>Transportation</p> <p>No response is needed from applicants during the licensing phase.</p>	<p>[]</p> <p>N/A</p>	<p>N/A</p>

Item No.	Suggested Response	Yes	Description Attached
10.	<p>RADIATION SAFETY PROGRAM (Cont'd)</p> <p>Minimization of Contamination</p> <p>The applicant does not need to provide a response to this item under the following condition. NRC will consider that the above criteria have been met if the applicant's responses meet the criteria in the following sections: "Radioactive Material - Unsealed and/or Sealed Sources," "Facilities and Equipment," "Radiation Safety Program - Safe use of Radioisotopes and Emergency Procedures," "Radiation Safety Program - Surveys," and "Radiation Safety Program - Waste Management."</p>	N/A	N/A
11.	<p>WASTE MANAGEMENT</p> <p>State that: "We will use the model waste procedures published in Appendix T to NUREG - 1556, Vol. 7, 'Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope,' dated December 1999."</p> <p style="text-align: center;">OR</p> <p>"We will use the (<i>specify either (1) Decay-In-Storage, (2) Disposal of Liquids Into Sanitary Sewerage</i>) model waste procedures that are published in Appendix T to NUREG - 1556, Vol. 7, 'Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope,' dated December 1999."</p>	<p>*</p> <p><input checked="" type="checkbox"/></p> <p><input type="checkbox"/></p>	<p>[]</p>

5. Radioactive Materials

Radioisotope	Chemical/Physical Form	Maximum Possession	Proposed Use
^{14}C	Any	12 mCi	Tracer to measure biological and physiological processes, standard
^{137}Cs	Any	40 μCi	Sealed Source Beckman Coulter LS 6500
^{59}Fe	Nonvolatile	4 mCi	Tracer to measure biological, chemical and physiological processes
^3H	Any	3 mCi	Tracer to measure biological and physiological processes, standard
^{129}I	Any	2 mCi	Standard
^{35}S	Any	4 mCi	Tracer to measure biological, chemical and physiological processes
^{65}Zn	Nonvolatile	4 mCi	Tracer to measure biological, chemical, and physiological processes
^{14}C -DDT	Any	110 ml	Waste, slated for disposal *
Hexadecane	Volatile	10 ml	Waste, slated for disposal
Uranyl Acetate	Nonvolatile	26 g	Waste, slated for disposal
Uranyl Nitrate	Nonvolatile	26 g	Waste, slated for disposal

* Currently, no disposal facility for ^{14}C -DDT exists, once approved disposal facility is found waste will be managed per NRC and DOT regulations.

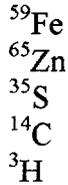
6. Purpose For Which Licensed Material Will Be Used

A. Instrument calibration and sealed sources:

^{14}C
 ^{137}Cs (sealed source)



B. Research and Development as defined in 10 CFR 30.4, laboratory studies and sample analysis



C. Storage Incident to Disposal

${}^{14}\text{C}$ -DDT	Any	110 ml
Hexadecane	Volatile	10 ml
Uranyl Acetate	Nonvolatile	26 g
Uranyl Nitrate	Nonvolatile	26 g

7. Individual Responsible for Radiation Safety Program and their Training

Radiation Safety Officer

Sabrina Pittillo, Primary Radiation Safety Officer

Training/Experience: 5-day Radiation Safety Seminar, by Englehardt & Associates, Inc., Radiation Safety Officer Certification. Training included regulatory agencies and licensing, radiation protection programs, radiation physics, radiation units and common sources of radiation, regulatory dose limits and radiation dosimetry, radiation biology, radiation detection and measurement, radiation protection, radiation incidents and emergency response, radioactive waste, packaging/transport/receipt of radioactive materials, responsibilities for radiation protection, radiation protection program audits and regulatory inspections. Experienced in safety procedures and permitting.

Rance Hardison, Secondary Radiation Safety Officer

Training/Experience: 40 hours Radiation Safety Seminar, Radiation Safety Academy Radiation Safety Officer Certification. Training included radiation fundamentals, radiation risk assessment, regulations, license application, dosimetry, radiation survey instruments, leak tests, radiation safety surveys, sealed sources and industrial gauges, transportation, interpreting radiation measurements and quality assurance, shipping and receiving radioactive materials, DOT training requirements, waste management and emergency response.

Authorized Users

Carolyn Currin, PhD., Research Microbiologist

Training/Experience: As part of PhD dissertation research she conducted radio assays with ^{14}C to measure rates of photosynthesis. Dr. Currin received training in the use of radioisotopes during this time, and conducted numerous experiments from 1989 to 1994. Dr. Currin has continued to use ^{14}C uptake techniques with colleagues at other institutions. Prior to this, while employed as a lab technician at the NOAA Laboratory, Dr. Currin received training in the use of tritiated thymidine and conducted numerous experiments with this substrate in order to measure microbial productivity.

Proposed licensed materials usage: ^{14}C : 5 mCi.

William Sunda, PhD., Research Chemist

Training/Experience: Twenty five years experience with the use of radioisotopes in both laboratory and field measurements of biological and chemical rate processes. He has published 32 papers in peer reviewed literature which involved the use of radiotracers. As an authorized user he has considerable practical experience and knowledge in radio-nuclide chemistry, radiation physics, counting procedures, and safety. Radiotracers used in the past include the beta-emitting isotopes ^{14}C , ^3H , ^{35}S , and ^{59}Fe and the gamma emitting isotopes ^{59}Fe , ^{54}Mn , ^{65}Zn , ^{57}Co , and ^{109}Cd .

Proposed licensed materials usage: ^{59}Fe , ^{65}Zn , ^{35}S : 4 mCi each; ^3H : 2 mCi; ^{14}C : 7 mCi

Pat Tester, PhD., Research Fisheries Biologist

Training/Experience: As part of her Postdoctoral research, Pat Tester conducted radio assays with ^{14}C to measure phytoplankton productivity. During this time Dr. Tester received training in the use of radioisotopes. Additional experience in radioisotope usage was gained while in her capacity as a Manager supervising principle investigators working on projects involving the use of radioisotopes.

Proposed licensed materials usage: ^{59}Fe , ^{65}Zn , ^{35}S : 4 mCi each; ^3H : 2 mCi; ^{14}C : 7 mCi

Rance Hardison, Research Technician

Training/Experience: 40 hours Radiation Safety Seminar, by Radiation Safety Academy, Radiation Safety Officer Certification. Radiation experience includes research using 1meV electron accelerator. The research included obtaining rate constants of aqueous electrons and hydroxyl radical reactions with various compounds. Also, research of the same kind was done with sealed high-energy Co^{60} sources. This research consisted of a total of about six weeks during the summer for two years.

Proposed licensed materials usage: ^{59}Fe , ^{65}Zn , ^{35}S : 4 mCi each; ^3H : 2 mCi; ^{14}C : 7 mCi

8. Training for Individuals Working in or Frequenting Restricted Areas

All employees will receive annual training based on level of usage. Non users and ancillary employees will have an initial classroom orientation regarding radioactive materials and radiation which will include where materials are stored, what radioactivity warning signs look like and who to contact in case of problems or concerns. Users will have additional

classroom and on-the-job training on health hazards, safe work procedures, proper isotope handling, record keeping, personal protection, emergency procedures and incident reporting, monitoring, spill clean-up, and isotope disposal. Training will be conducted by the Primary RSO, or qualified designee, with the qualifications listed in item 7 above. Assessment of the training will be evaluated periodically by reviewing the training materials and observation of employee activities and record keeping.

9. Facilities and Equipment

- A. A laboratory located at the facility will house a Liquid Scintillation Counter, a Gamma Counter and Photosynthetron where tracers will be used to measure physiological processes of marine organisms. This laboratory will be fitted with a fume hood system certified at 100 ft/min flow rate where all volatile/unbound radioactive materials are diluted and then added to cultures or water samples for measurement of rate processes using the above referenced equipment. Shielding will consist of a vault for storage of primary radionuclide stock solutions, lead pigs for premixed and diluted radioactive material storage, and lead shielding for employee protection while performing dilution and addition of radioactive materials to specimens. Access to this laboratory will be limited. See attached diagram.
- B. The secured radioactive material waste storage area in building 9 will be accessible by the RSO only. See attached diagram.
- C. Receipt of radioactive materials will occur at the Package Receiving Area. The Area can be secured and packages are only received during normal business hours. Acceptance of radioactive materials will be limited to the RSO or Secondary RSO. See attached diagram.

10. Radiation Safety Program

Radiation Monitoring Instruments

- 1) Biodex Model 14C – Survey Meter #051-104 with a Ludlum Measurement, Inc. pancake probe model # 44-9
- 2) Wm B. Johnson & Associates Model GSM10 – Survey meter with pancake probe

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 Licenses of Limited Scope,” dated December 1999. We reserve the right to upgrade our survey instruments as necessary. Calibrations will be performed by a Licensed Vendor.

Material Receipt and Accountability

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.

Occupational Dose

We will do a prospective evaluation to ensure that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits in 10 CFR Part 20 or we will monitor individuals in accordance with the criteria in the section entitled "Radiation Safety Program – Occupational Dose" in NUREG -1556, Vol. 7, "Consolidated Guidance about materials Licenses: Program-Specific Guidance about Academic, Research and Development and Other Licenses of Limited Scope," dated December 1999.

Safe Use of Radionuclides and Emergency Procedures

A Radiation Safety Plan has been developed to define procedures for the safe usage and for emergencies associated with the safe use of radionuclides.

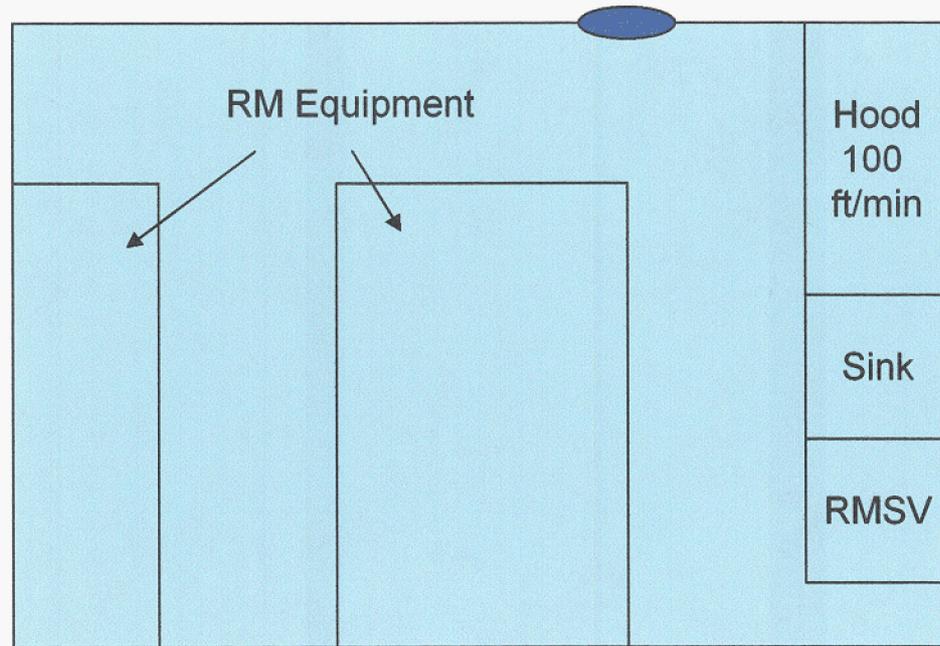
Survey

We will survey our facility and maintain contamination levels in accordance with the survey frequencies and contamination levels published in Appendix Q to NUREG - 1556, Vol. 7, 'Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope,' dated December 1999. Leak tests will be performed at the intervals approved by NRC or an Agreement State and specified in the SSD Registration Certificate. Leak tests will be performed by an organization authorized by NRC or an Agreement State to provide leak testing services to other licensees or using a leak test kit supplied by an organization authorized by NRC or an Agreement State to provide leak test kits to other licensees and according to the sealed source or plated foil manufacturer's (distributor's) and kit supplier's instructions. As an alternative, we will implement the model leak test program published in Appendix R to NUREG - 1556, Vol. 7, "Consolidated Guidance about Materials Licenses: 'Program-Specific Guidance About Academic, Research and Development, and Other Licensees of Limited Scope,' dated December 1999."

11. Waste Management

We will use the model waste procedures published in Appendix T to NUREG - 1556, Vol. 7, 'Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope,' dated December 1999.

Radioactive Materials Laboratory Item #9



RM = Radioactive Materials

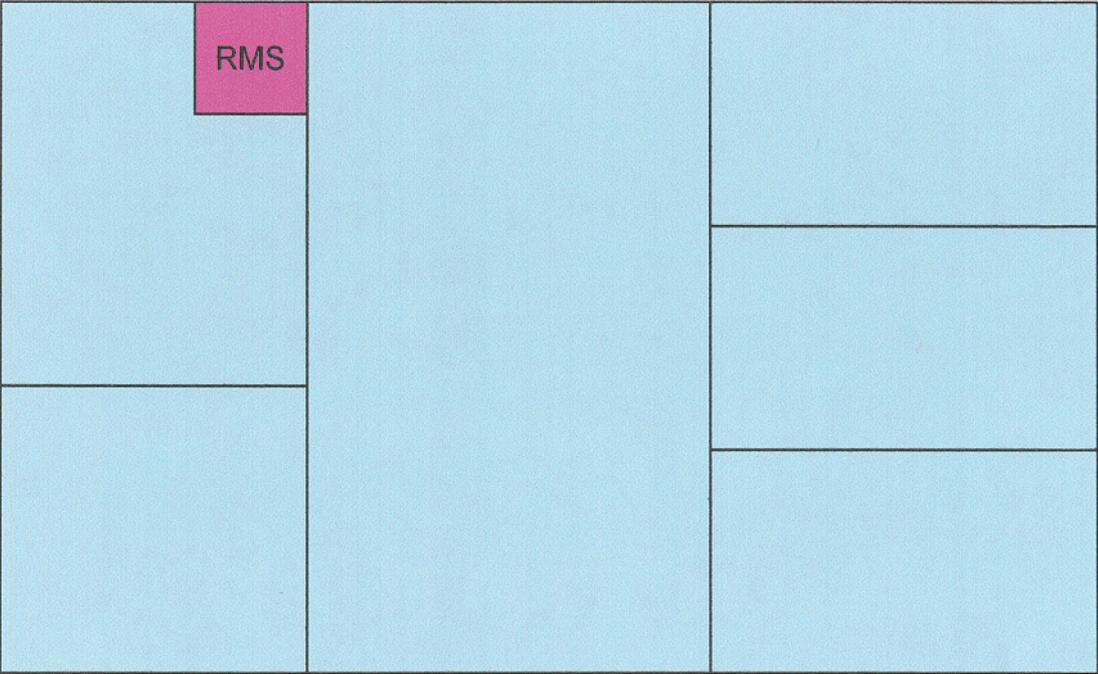
SV = Storage Vault

 Laboratory Door to Interior Hallway, Limited Access Area


2.5 ft

Radioactive Materials Waste Storage, Building 9

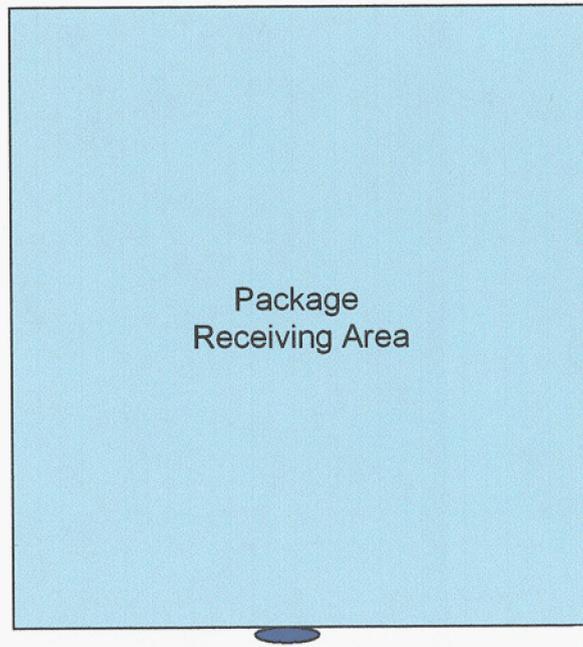
Item #9



RMS - Radioactive Material Waste Storage Area,
Secured with Access Only by RSO

┌──────────┐
5 ft.

Package Receiving Area



 Securable Door


2.5 ft.

This is to acknowledge the receipt of your letter/application dated

5/17/2004, and to inform you that the initial processing which includes an administrative review has been performed.

REVIEW 32-00426-02
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned Mail Control Number 135024.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

BETWEEN: : (FOR LFMS USE)
 : INFORMATION FROM LTS
 : -----
 :
 License Fee Management Branch, ARM : Program Code: 03620
 and : Status Code: 2
 Regional Licensing Sections : Fee Category: EX 3M 3P
 : Exp. Date: 20040630
 : Fee Comments: 3P/STORAGE/IRR
 : Decom Fin Assur Req'd: Y
 : ::

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
 Applicant/Licensee: COMMERCE, DEPARTMENT OF
 Received Date: 20040519
 Docket No: 3005594
 Control No.: 135024
 License No.: 32-00426-02
 Action Type: Renewal

2. FEE ATTACHED
 Amount: /
 Check No.: /

3. COMMENTS
 Signed M. A. Perkins
 Date 5/19/2004

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 _____