University of South Florida

Radiation Safety Office
12901 Bruce B. Downs Blvd., MDC 35
Tampa, FL 33612-4799
813-974-1194

February 9, 2001

Regional Administrator
Division of Nuclear Material Safety
Attn: Reciprocity Request
U.S. Nuclear Regulatory Commission, Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, S.W., Suite 23T85
Atlanta, GA 30303-8931

Dear Sir or Madam:

The University of South Florida, a State of Florida Agreement State licensee (SFRML 806-1), submits a NRC form 241. We request reciprocity for using 5 millicuries of carbon-14 on board a research vessel in offshore waters (west Florida shelf).

The University of South Florida is a non-profit educational institution and is exempted by 10 CFR 170.11(a)(4) from payment of Reciprocity Recognition Fee required by CFR 170.31(16).

I have attached:
NRC form 241, for 2/18 – 2/23/2001 cruise (original & 3 copies)
Copy of research cruise plan for R/V Suncoaster.
Copy of State of Florida license, 806-1, expires 12/31/2004.

If you have any questions about this request, please call me at 813-974-1194 or E-mail at aweaver@research.usf.edu.

Sincerely,

Adam Weaver, CHP
Radiation Safety Officer
University of South Florida

NRC FORM 241 (7-1999) U.S. NUCLEAR REGULATORY COMMISSION

REPORT OF PROPOSED ACTIVITIES IN NON-AGREEMENT STATES, AREAS OF EXCLUSIVE FEDERAL JURISDICTION, OR OFFSHORE WATERS

(Please read the instructions before completing this form)

APPROVED BY OMB: NO. 3150-0013 EXPIRES: 07/31/2002
Estimated burden per response to comply with this mandatory collection request: 15 minutes. This notification is required so that NRC may schedule inspection of the activities to ensure that they are conducted in accordance with requirements for protection of the public health and safety. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0013), 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.

1. NAME OF LICENSEE *(Person or firm proposing to conduct the activities described below)*
University of South Florida

2. TYPE OF REPORT
[X] INITIAL [ ] REVISION [ ] CLARIFICATION

3. ADDRESS OF LICENSEE *(Mailing address or other location where licensee may be located)*
Radiation Safety Office
12901 Bruce B. Downs Blvd., MDC 35
Tampa, FL 33612-4799

4. LICENSEE CONTACT AND TITLE
Adam S. Weaver, RSO

5. TELEPHONE NUMBER *(Include Area Code)*
813-974-1194

6. FACSIMILE NUMBER *(Include Area Code)*
813-974-7091

7. ACTIVITIES TO BE CONDUCTED UNDER THE GENERAL LICENSE GIVEN IN 10 CFR 150.20

[ ] WELL LOGGING [ ] LEAK TESTING AND/OR CALIBRATIONS [ ] TELETHERAPY/IRRADIATOR SERVICE

[ ] PORTABLE GAUGES [X] OTHER (Specify) ⇒ Marine Research sampling: on board vessel In-vitro assays

[ ] RADIOGRAPHY ⇒ REGISTERED AS USER OF PACKAGING (CERTIFICATES OF COMPLIANCE NUMBERS)

8. CLIENT NAME, ADDRESS, CITY/COUNTY, STATE, ZIP CODE
FIO - FL Institute of Ocean
State Of Florida
St. Petersburg
Vessel: R/V Suncoaster

9. ACTUAL PHYSICAL ADDRESS OF WORK LOCATION *(Street and Number or other location. Give as complete an address or directions as possible.)*
Cruise from Tampa bay on transect to 27° N 82° W, return to Tampa bay.

10. CLIENT TELEPHONE NUMBER *(Include Area Code)*
727-553-1187

11. WORK LOCATION TELEPHONE NUMBER *(Include Area Code)*
Vessel - Radio

12. DATES SCHEDULED FROM	TO	13. NUMBER OF WORK DAYS	14. ADD	15. DELETE	16. LOCATION REFERENCE NUMBER
2/18/2001	2/23/2001	6			NUMBER TO BE ASSIGNED BY NRC

LIST ADDITIONAL WORK SITES ON SEPARATE SHEET(S) TO INCLUDE ALL INFORMATION CONTAINED IN ITEMS 9-16 ABOVE.

17. LIST RADIOACTIVE MATERIAL, WHICH WILL BE POSSESSED, USED, INSTALLED, SERVICED, OR TESTED *(Include description of type and quantity of radioactive material, sealed sources, or devices to be used.)*
Five (5) millicuries of carbon-14, biocarbonate.

18. AGREEMENT STATE SPECIFIC LICENSE WHICH AUTHORIZES THE UNDERSIGNED TO CONDUCT ACTIVITIES WHICH ARE THE SAME, EXCEPT FOR LOCATION OF USE, AS SPECIFIED IN ITEM 9. ABOVE *(Four copies of the specific license must accompany the initial NRC Form 241.)*	LICENSE NUMBER	STATE	EXPIRATION DATE
	SFRML 806-1	FL	12-31-2004

19. CERTIFICATION *(MUST BE COMPLETED BY APPLICANT)*

I, THE UNDERSIGNED, HEREBY CERTIFY THAT:

a. All information in this report is true and complete.

b. I have read and understand the provision of the general license 10 CFR 150.20 reprinted on the instructions of this form; and I understand that I am required to comply with these provisions as to all byproduct, source, or special nuclear material which I possess and use in non-Agreement States or offshore waters under the general license for which this report is filed with the U.S. Nuclear Regulatory Commission.

c. I understand that activities, including storage, conducted in non-Agreement States under general license 10 CFR 150.20 are limited to a total of 180 days in calendar year. With the exception of work conducted in off-shore waters, which is authorized for an unlimited period of time in the calendar year.

d. I understand that I may be inspected by NRC at the above listed work site locations and at the Licensee home office address for activities performed in non-Agreement States or offshore waters.

e. I understand that conduct of any activities not described above, including conduct of activities on dates or locations different from those described above or without NRC authorization, may subject me to enforcement action, including civil or criminal penalties.

CERTIFYING OFFICER - RSO or Management Representative *(Name and Title)*	SIGNATURE	DATE
USF Radiation Safety Officer	Adam S. Weaver	2/9/2001

WARNING: False statements in this certificate may be subject to civil and/or criminal penalties. NRC regulations require that submissions to the NRC be complete and accurate in all material respects. 18 U.S.C. Section 1001 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.

FOR NRC USE ONLY	REVIEWING OFFICIAL *(Typed/Printed Name and Title)*	SIGNATURE	DATE	TOTAL USAGE -- DAYS TO DATE

Cruise Plan
R/V Suncoaster
Feb 18-23, 2001

Dr. Cynthia Heil, Principal Investigator, College of Marine Science, University of South Florida, St. Pete Fl (tel 727-553-1667, fax 727-553-1189, e-mail: cheil@seas.marine.usf.edu)

Tracy Sutton, Cruise Chief Scientist, College of Marine Science, University of South Florida, St. Pete Fl (tel 727-553-1187, fax 727-553-1189, e-mail: tsutton@seas.marine.usf.edu)

Destination: Tampa Bay and West Florida Shelf (offshore transect to 50 m isobath off Sarasota) 27° N, 82° W (JSW)

Project:
USF Center of Technology (COT) will collect synoptic nutrient, phytoplankton, and zooplankton data in Tampa Bay and on the west Florida shelf using a towed submersible. Concurrent measurements of primary production will be with a FRRF (Chelsea Fast Rapid Repetition Rate Fluorometer) on the submersible and with established ^{14}C methodology on water samples retrieved from the submersible.

Summary of Radioisotope Use:
During this cruise, measurements of phytoplankton primary production will be measured by ^{14}C uptake on water samples retrieved from the COT towed submersable. It is expected that ~5 experiments (=measurements) will be conducted which will require use of ^{14}C-biocarbonate. ^{14}C emits beta particles and has a $T_{1/2}$ of 5,739 yrs. It is anticipated that the total activity of ^{14}C brought on board will not exceed ~~X~~ mCi. 5mCi (JSW)

Experimental Protocol:
General: During the cruise primary production will be measured ~4 times. Each measurement will be conducted on samples from 5 depths retrieved from the towed submersible. Duplicate light, dark and Initial treatments from each depth will be spiked with 20 μCi ^{14}C bicarbonate/flask in 250 ml flasks (200 ml seawater/flask) and incubated in a container with flowing seawater (to maintain temperature) for ~3-4 hrs. Samples will be filtered onto 0.45 μm nucleopore filters at the end of incubation, placed in scintillation vials with scintillation fluid for counting upon return to USF.

All isotope usage will be confined to the wet lab area of the R/V Suncoaster (which will dedicated solely for radiation use during this cruise) and the on-deck incubation container. Isotopes will be stored in a small refrigerator in the wet lab. Liquid waster will be stored in carboys within drums lashed to the starboard side of the boat.

Specific: Experiments measuring Primary Production

1. Measurements will be made 4 times, one for each tow retrieved from the COT submersible. Measurements are expected to be made at a rate of one/day.

RSO
Note: C-14 biocarbonate only comes in a 5mCi vial, Researcher only plans to use 2mCi on this cruise,
(of 5mCi in vial) (JSW) (JSW) 2/8/2001

2. Five water samples (~1 L each) from the submersible tow will be collected per day and placed in 1 L ml Nalgene bottles.
3. Treatments for each of the 4 water depths will consist of six bottles/depth (2 light, 2 dark and 2 initials) for at total of 24 bottles/tow. Each bottle will be inoculated with ~20 microCi of 14C labelled bicarbonate from a secondary stock solution of ^{14}C (made by placing a known amount of ^{14}C into ~25 ml sterile filtered seawater). Note: One secondary 14C stock solution will be made up at the start of the cruise which will be used for the entire cruise. Total activity used in each experiment will be ~480 µCi ^{14}C (4 depths/expt * 6 bottles/depth * 20 µCi/bottle = 480 µCi/expt). Total activity for cruise for 4 experiments = 1920 µCi (4*480 µCi)
4. Triplicate 100 microliters samples of the secondary stock solution of $1^{14}C$ bicarbonate will be sampled at the start of the each of the four experiments by placing directly into a scint vial with scint fluid.
5. All bottles will be incubated in 30 L Coleman coolers under *in situ* light conditions with flowing seawater.
6. After 4 hrs incubation, the contents of each bottle will be filtered 0.2 µm filters using a 6 head manifold. For each experiment, it is anticipated that isotope activity on filters will be ~4.8 µCi ^{14}C, activity in solid wast will be 19.2 µCi and the activity in liquid waste will be 456 µCi. Total activity used in 4 experiments with will be 1920µCi ^{14}C, with final activities of 19.2 50 µCi on filters, 76.8 µCi in solid waste and 1824 µCi in waste liquids (~20 L).
7. Particulate samples will be counted immediately on return to shore with a Packard 211A scintillation counter in the lab of Dr. John Paul at USF Marine Science.

Radioisotope Labeling Protocol for ^{14}C-biocarobate

All radioisotope experiment and sample processing will be conducted in the wet lab of the R/V Suncoaster and in incubation coolers on deck out of the way of shipboard operations.

A survey of the proposed usage area (wet lab) on the R/V Suncoaster will be conducted using a Geiger counter survey meter and swipe(at least 6 wipe samples per survey) prior to loading the isotope aboard the ship, after each experiment, and after lab clean up immediately prior to return to the dock. Upon return to the dock the radiation use area on board will be sealed until activity of swipes are read. If no activity above background is found, then the radiation use area will be reopened.

Only personnel authorized for the use of ^{14}C by USF Division of Compliance Services (C. Heil) will conduct the experiments and handle radioactive samples and waste. Double gloves and lab coats will be used during all experiments.

All areas for radioisotope use will be clear labeled with tape and covered with benchcote. All equipment used for radioisotopic work will be labeled with "Caution Radioactive Material" tape and dedicated solely for use with ^{14}C.

All stock solutions of ^{14}C bicarbonate will be stored in containers in a Plexiglass box inside a refrigerator located within the wet lab. Solid ^{14}C waste will be separated into solid waste and vials, each of which will be double-bagged and stored separately inside the wet lab. All waste solutions will be stored in 20 L carboys provided by Dr G. Vargo, which will be double bagged, placed with solid-A-Sorb inside a large plastic waste container and returned to USF for proper disposal. All waste will be tagged with the appropriate USF waste tag.

All additions of ^{14}C to sample bottles and filtering of samples will be conducted inside the wet lab.

All incubations will be conducted in Coleman coolers to contain any spills and drips. These coolers will never be used for storage of food or ice for human consumption and will be appropriately labeled with "Caution Radioactive Material" tape.

All isotopes, waste (dry and liquid), samples etc will be kept separated from 125I waste material (the only other isotope currently used in the Vargo Lab).

Summary of Radiation Use and Storage
Solid Waste: Stored under bench in wet lab
Liquid Waste: Stored in 20 L Nalgene plastic carboys (2) within larger plastic barrels stored in the wet lab
Vials: stored within wet lab
Isotope Storage: stored in locked box within small refrigerator in wet lab.

Experimental Protocol

1. All manipulations of ^{13}C stock solutions and filtering of samples will be conducted in the wet lab.
2. 200 ml of seawater containing water samples will be added to 250 ml glass Wheaton bottles. Treatments will consist of 6 bottles/depth * 4 depths.
    a. Duplicate initial, light and dark bottle treatments for each depth; 6 bottles total/depth
    b. 4 depths = 24 bottles total
3. Add ~20 μCi of ^{14}C-bicarbonate from stock solutions to each flask for a final concentration of 0.1 μCi per ml.
4. Remove triplicate initial samples (100 μl each) from the stock solution with pipette and place in scintillation vial with scintillation fluid
5. Incubate sample bottles in coolers to contain spills.
6. After incubation, filter entire contents of each bottle onto 0.45 μm nucleopore filters. Place filters immediately into scintillation vials with scintillation fluid.
7. All liquid waste from filtration and sample bottles will be stored in plastic containers double bagged with plastic, placed in larger plastic waste barrels with solid-A-sorb.
8. It is anticipated that 4 experiments examining uptake will be conducted during the cruise

9. Surveys of the radiation van will be conducted immediately at the start of the cruise, after each experiment and after clean up prior to return to dock.

STATE OF FLORIDA
DEPARTMENT OF HEALTH
BUREAU OF RADIATION CONTROL

RADIOACTIVE MATERIALS LICENSE

Pursuant to Chapter 404, Florida Statutes, and Chapter 64E-5, Florida Administrative Code (F.A.C.), and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to receive, acquire, possess and transfer the radioactive material(s) designated below and to use such radioactive material(s) for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the state of Florida, Department of Health now or hereafter in effect and to any conditions specified below.

Licensee	
1. Name: **UNIVERSITY OF SOUTH FLORIDA**	3. License Number: **806-1** is hereby amended in its entirety, with reference to correspondence dated February 24, 2000.
2. Address: **Office of Research 4202 E. Fowler Avenue ADM 200 Tampa, FL 33620-5950**	4. Expiration Date: **12/31/2004** 5. Category: **3M(I)**

6. Radioactive Material (element and mass number)	7. Chemical And/Or Physical Form	8. Maximum Quantity Licensee May Possess At Any One Time
A. Any radioactive material between Atomic numbers 3 and 83, inclusive, except as listed below	A. Any form	A. 250 millicuries each of any radioactive material between atomic numbers 3 and 83, inclusive, except as listed below. Total possession limit shall not exceed 2.5 curies.
B. Hydrogen 3	B. Any form	B. 20 curies
C. Nickel 63	C. Foils (U.S. Radium Corp. Model Number LAB-784 or NRD Model Number N-1001)	C. 5 foils not to exceed 15 millicuries each
D. Cobalt 57	D. Sealed source (E.I. DuPont Corp. Model Number NER-072)	D. 2 source not to exceed 50 millicuries

STATE OF FLORIDA
DEPARTMENT OF HEALTH
BUREAU OF RADIATION CONTROL

6.	Radioactive Material (element and mass number)	7.	Chemical And/Or Physical Form	8.	Maximum Quantity Licensee May Possess At Any One Time
E.	Cesium 137	E.	Sealed source (3M Co. Model Number 4P6E, 4D6L, 4F68, or U.S. Nuclear Corp. Model Number 375, or Amersham Corp. Model Number X.9, X.8 or Industrial Reactor Lab Inc. Model Number 2-4, 2-10, or J.L. Shepherd and Associates Model Number 6810, or Isotope Product Type 255)	E.	1 source not to exceed 120 curies
F.	Polonium 210	F.	Any form	F.	50 millicuries
G.	Hydrogen 3	G.	Sealed sources (Safety Light Corp. Model Number 508-3	G.	1 source not to exceed 150 millicuries
H.	Any radioactive material between Atomic numbers 3 and 83, inclusive, and Hydrogen 3	H.	Any form	H.	1 millicuries each of any radioactive material between atomic numbers 3 - 83. Total possession limit shall not exceed 20 millicuries, except for 2 millicuries of hydrogen 3 and 10 millicuries of phosphorus 32.
I.	Radioactive material distributed to a general licensee per 64E-5.206(1) and (4), F.A.C.	I.	Sealed or contained source(s)	I.	No single source to exceed that quantity authorized for the general license

6.	Radioactive Material (element and mass number)	7.	Chemical And/Or Physical Form	8.	Maximum Quantity Licensee May Possess At Any One Time
J.	Radioactive material distributed to a general licensee per 64E-5.206(6), F.A.C.	J.	Sealed or contained source(s)	J.	No single source to exceed that quantity authorized for the general license described in 64E-5.206(6), F.A.C.
K.	Radioactive material distributed to a general licensee per 64E-5.206(7), F.A.C.	K.	Any form authorized by the general license described in 64E-5.206(7), F.A.C.	K.	See item 9.K. below
L.	Radioactive material distributed to a general licensee per 64E-5.206(8), F.A.C.	L.	Any form authorized by the general license described in 64E-5.206(8), F.A.C.	L.	See item 9.L. below
M.	Hydrogen 3	M.	Contained sources	M.	12 curie total; no single source to exceed 2 curies each

9. Authorized Use

A. - G. To be used for research and development as defined in 64E-5.101, F.A.C.; teaching, training, for use as components of analytical instruments and for calibration of instruments.

H. To be used at temporary job sites, such as research vessels and mobile laboratories, for the purpose of research and development as defined in 64E-5.101, F.A.C.; teaching, training, for use as components of analytical instruments and for calibration of instruments.

I. To be used in devices approved for receipt under general license provisions as described in Items 6, 7 and 8.

9. Authorized Use (continued:)

J. To be used as calibration and reference sources in accordance with the regulation and possession limits described in subsection 64E-5.206 (6), F.A.C.

K. To be used for In-vivo testing in accordance with the regulations described in subsection 64E-5.206 (7), F.A.C. Each laboratory shall not exceed the possession limits allowed under this general license.

L. To be used for In-vivo testing in accordance with the regulations described in subsection 64E-5.206 (8), F.A.C. Each laboratory shall not exceed the possession limits allowed under this general license.

M. For storage only in ConRad beta lights.

CONDITIONS

10. A. Licensed material may be used and stored at the following University owned locations listed below:

University of South Florida (USF) Tampa campus located at 4202 E. Fowler Avenue, Tampa, Florida 33620 in the following locations:

College of Art and Science:
- Bioscience Facility (BSF)
- Life Science Annex (LSA)
- Physics Building (PHY)
- Science Center Building A, (SCA)
- Social Science (SOC)

College of Engineering:
- Engineering Research, (ENG)

College of Public Health (CPH)

Florida Mental Health Institute:
- Building H (MHH)

Hazardous Waste Facilities:
- Hazardous Waste Building A, (HWA)
- Hazardous Waste building B, (HWB)

Medical Center Building, (MDC) located at 12901 Bruce B. Downs Boulevard, Tampa, FL 33612:
- Med Center Laboratories, (MLC)
- Med Center Receiving, (MDR)
- Med Center Vivarium, (MDV)

10. A. Psychiatric Hospital, (PSH) located at 3515 east Fletcher Avenue, Tampa, FL 33613.

USF Sarasota Campus located at 5700 Tamiami Trail, Sarasota, FL 34243-2197 in the following location:
Hansen Building, (HAN)
Selby Building, (SEL)

USF St. Petersburg Campus located at 830 1st Street South, Steet and Bayboro Campus Petersburg, FL 33701 in the following location:
Knight Research Center, (KRC)
Knights Oceanographic Research Building, (KOR)
Marine Science Building A, (MLS)

Children's Research Institute, (CRI), 420 6th Avenue S., St. Petersburg, FL 33701.

Non University owned locations listed below:
All Children's Hospital, (ACH), 824 4th Street, St. Petersburg, FL 33701.
Archbold Biological Station, located near, Lake Placid, FL on Old State Road 8, 2 miles south of County Road 70 33862.
Moffitt Cancer Research Hospital, (MCC), 12902 Magnolia Drive, Tampa, FL 33612.
Moffitt Cancer Research Center, (MRC), 13131 Magnolia Drive, Tampa FL 33612.
Shriners Hospital, (SHC), 12502 North Pine Drive, Tampa, FL 33612-9449.
Tampa General Hospital, (TGH), Davis Island, Tampa, FL 33606.
USF Dialysis Center 13101 Bruce B. Downs Boulevard, Tampa, FL 33612.

B. All records will be kept at the physical address located at 3500 E. Fletcher Ave., Suite 523, Tampa, FL 33613.

C. Licensed material described in Items 6, 7, 8, Subitem H shall be used and stored on research vessels and mobile laboratories at temporary job sites throughout the State of Florida in accordance with the correspondence dated September 1, 1988.

D. This condition does not prohibit use in other agreement states and states under the jurisdiction of the U.S. Nuclear Regulatory Commission (NRC) under reciprocity which has been approved by an agreement state or the NRC.

11. Failure to comply with the provisions of this license is a felony of the third degree pursuant to section 404.161, Florida Statutes. Also, violations may warrant an administrative fine of up to $1,000.00 per violation per day, pursuant to section 404.162, Florida Statutes.

12. A. Licensed materials shall be used by, or under the supervision of, individuals designated by the University of South Florida Radiation Safety Committee, George R. Newkome, Ph.D., Vice President of Research.

B. The radiation safety officer is Dennis L. Freeman.

13. The licensee shall comply with the provisions of Chapter 64E-5, F.A.C., Part IX, "Notices, Instructions and Reports to Workers; Inspections" and Part III, "Standards for Protection Against Radiation."

14. The licensee shall not transfer possession or control of radioactive material, or products containing radioactive material as a contaminant except:

    A. By transfer to a specifically licensed recipient; or

    B. As provided otherwise by specific provision of this license pursuant to the requirements of Chapter 64E-5, F.A.C.

15. Radioactive material transported on public thoroughfares shall be packaged, prepared for shipment and transported in accordance with Title 49, Code of Federal Regulations and Chapter 64E-5, F.A.C.

16. A. The licensee shall assure that each sealed source is tested for leakage or contamination and follow the appropriate actions as required by section 64E.5.1303, F.A.C. Licensed material shall be tested at least semiannually. The test sample (smear) shall be taken by the licensee using an approved leak test kit. Analysis of the test sample shall be performed by licensee, individuals who are licensed by the department, NRC, agreement state, or licensing state to provide these services. The licensee is required to retain leak test records containing the manufacturer's name, model and serial number of each sealed source tested, identity of each sealed source radionuclide and its estimated activity, the measured activity of each test sample expressed in microcuries, the date of the test and signature of the radiation safety officer or designee. The records shall be maintained for 3 years for inspection by the department.

    B. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to use or transfer as a sealed source. If the inspection or test reveals any construction defects or 0.005 microcurie or greater of contamination, the source shall not be used or transferred as a sealed source until it has been repaired, decontaminated and re-tested.

17. The licensee shall conduct a physical inventory and inspection at least annually to account for all sealed sources received and possessed under this license as required by section 64E-5.1304, F.A.C. Inventory records shall be maintained for 3 years from the date of the inventory for inspection by the department, and shall include the manufacturer's name, model and serial numbers of each sealed source, the identity of each sealed source radionuclide and its estimated activity, the location of each sealed source, the date of the inventory and the signature of the radiation safety officer or designee.

18. Detector cells containing nickel 63 shall only be used in conjunction with a properly operating temperature control mechanism which prevents the temperature from exceeding 360 degrees Celsius.

19. The licensee shall not use radioactive material in or on human beings nor in field applications where radioactive material is released to the environment, except as provided otherwise by a specific provision of this license.

20. Animals and plants administered radioactive materials, and their products, shall not be used for human consumption.

21. Radioactive material shall not be used in or on human beings, nor in products distributed to the public.

22. The licensee shall notify the Bureau of Radiation Control at least 48 hours in advance of shipping its low-level radioactive waste to a commercial treatment, storage or disposal facility. Notification shall consist of either calling (407) 297-2095 or writing the Bureau of Radiation Control, Department of Health, Post Office Box 680069, Orlando, Florida 32868-0069.

23. The following conditions pertain to device(s) received under general license provisions as described in item 6, Subitem I:

    A. Sealed sources containing radioactive materials authorized for distribution under a general licenses shall not be opened or removed from their source holders by the licensee.

    B. Installation, relocation, maintenance, repair, removal from service and initial radiation survey of devices containing radioactive material and installation, replacement and disposal of sealed sources containing radioactive material used in devices shall be performed only by persons specifically authorized by the NRC, a licensing state, or an agreement state to perform such services.

    C. The licensee shall maintained record showing date of receipt, site of use and date and method of disposal.

    D. At intervals not to exceed 12 months, an inventory and inspection of all devices containing radioactive material shall be conducted which determine, where applicable, at least the general physical condition of the device, proper shutter operation and adequate posting of radiation caution signs. records shall be maintained for inspection by the department and shall include the date and name of the individual taking the inventory, the location and identification of the devices, the quantity and kinds of radioactive material, and the findings of the physical inspection.

23. E. required test for leakage and contamination of the sealed sources containing radioactive materials shall be performed by the licensee, persons specifically authorized by the NRC, a licensing state, or an agreement state to perform such services.

24. A. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, 8, and 9 of this license in accordance with statements, representations and procedures contained in the licensee's application dated April 13, 1999, signed by George R. Newkome, Ph.D., Vice President of Research, and correspondence dated:

August 13, 1999, signed by George R. Newkome, Ph.D., Vice President for Research;
October 25, 1999, signed by Robert B. Vomacka, Radiation Safety Officer; and
December 1, 1999, signed by George R. Newkome, Ph.D., Vice President for Research.

B. The licensee shall comply with all applicable requirements of Chapter 64E-5, Florida Administrative Code, and these regulations shall supersede the licensee's statements in applications or correspondence, unless the statements are more restrictive than the regulations.

For the Bureau of Radiation Control:

Issuance Date: MAR 0 7 2000

Richard N. Le
Environmental Specialist
Bin #C21
2020 Capital Circle SE
Tallahassee, FL 32399-1741
(850) 487-2437

STATE OF FLORIDA
DEPARTMENT OF HEALTH
BUREAU OF RADIATION CONTROL

RADIOACTIVE MATERIALS LICENSE
SUPPLEMENTAL SHEET

UNIVERSITY OF SOUTH FLORIDA
Office of Research
4202 E. Fowler Avenue
ADM 200
Tampa, FL 33620-5950

With reference to correspondence dated October 16, 2000, State of Florida Radioactive Materials License Number 806-1 is hereby amended.

TO CHANGE CONDITIONS 10 AND 12 TO READ:

CONDITIONS

10. A. Licensed material may be used and stored at the following University owned locations listed below:

University of South Florida (USF) Tampa campus located at 4202 E. Fowler Avenue, Tampa, Florida 33620 in the following locations:

College of Art and Science:
- Bioscience Facility (BSF)
- Life Science Annex (LSA)
- Physics Building (PHY)
- Science Center Building A, (SCA)
- Social Science (SOC)

College of Engineering:
- Engineering Research, (ENG)

College of Public Health (CPH)

Florida Mental Health Institute:
- Building H (MHH)

Hazardous Waste Facilities:
- Hazardous Waste Building A, (HWA)
- Hazardous Waste building B, (HWB)

RADIOACTIVE MATERIALS LICENSE
SUPPLEMENTAL SHEET

10. A. Medical Center Building, (MDC) located at 12901 Bruce B. Downs Boulevard, Tampa, FL 33612:
Med Center Laboratories, (MLC)
Med Center Receiving, (MDR)
Med Center Vivarium, (MDV)

Psychiatric Hospital, (PSH) located at 3515 east Fletcher Avenue, Tampa, FL 33613.

USF Sarasota Campus located at 5700 Tamiami Trail, Sarasota, FL 34243-2197 in the following locations:
Hansen Building, (HAN)
Selby Building, (SEL)

USF St. Petersburg Marine Science and Bayboro Campus located at 830 1st Street South, St. Petersburg, FL 33701, to include the following locations:
Receiving Department
Knights Oceanographic Research Building, (KOR)
Marine Science Building A, (MSL)

Children's Research Institute, (CRI), 420 6th Avenue S., St. Petersburg, FL 33701.

Non University owned locations listed below:
All Children's Hospital, (ACH) and Children's Health Clinic (CHC), 824 4th Street, South, St. Petersburg, FL 33701 to include the following:
General Receiving Department.
Research labs located: ACH 2nd floor room 2NE and CHC 5TH and 6TH floors
All children's Hospital (ACH) to include:
Shipping/Receiving Department located at 801 6th Street South, St. Petersburg, FL 33701

Archbold Biological Station, located near, Lake Placid, FL on Old State Road 8, 2 miles south of County Road 70 33862.
Moffitt Cancer Research Hospital, (MCC), 12902 Magnolia Drive, Tampa, FL 33612.
Moffitt Cancer Research Center, (MRC), 13131 Magnolia Drive, Tampa FL 33612.
Shriners Hospital, (SHC), 12502 North Pine Drive, Tampa, FL 33612-9449.
Tampa General Hospital, (TGH), Davis Island, Tampa, FL 33606.
USF Dialysis Center 13101 Bruce B. Downs Boulevard, Tampa, FL 33612.

B. All records will be kept at the physical address located at 3500 E. Fletcher Ave., Suite 523, Tampa, FL 33613.

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10. C. Licensed material described in Items 6, 7, 8, Subitem H shall be used and stored on research vessels and mobile laboratories at temporary job sites throughout the State of Florida in accordance with the correspondence dated September 1, 1988.

D. This condition does not prohibit use in other agreement states and states under the jurisdiction of the U.S. Nuclear Regulatory Commission (NRC) under reciprocity which has been approved by an agreement state or the NRC.

12. A. Licensed materials shall be used by, or under the supervision of, individuals designated by the University of South Florida Radiation Safety Committee, George R. Newkome, Ph.D., Vice President of Research.

B. The radiation safety officer is Adam Weaver, CHP.

For the Bureau of Radiation Control:

Issuance Date: OCT 30 2000

Paul E. Vause, Jr.
Environmental Manager
Bin #C21
4052 Bald Cypress Way
Tallahassee, FL 32399-1741
(850) 245-4545

STATE OF FLORIDA
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UNIVERSITY OF SOUTH FLORIDA
Office of Research
4202 E. Fowler Avenue
ADM 200
Tampa, FL 33620-5950

With reference to correspondence dated November 16, 2000, State of Florida Radioactive Materials License Number 806-1 is hereby amended.

TO DELETE ITEMS 6, 7, 8 AND 9, SUBITEMS M AND G

TO CHANGE ITEMS 6, 7, 8 AND 9, SUBITEM H TO READ:

6.	Radioactive Material (element and mass number)	7.	Chemical And/Or Physical Form	8.	Maximum Quantity Licensee May Possess At Any One Time
H.	Any radioactive material between atomic numbers 3 and 83	H.	Any form	H.	25 millicuries each of any radioactive material between atomic numbers 3 and 83. Total possession limit shall not exceed 75 millicuries.

9.	Authorized Use
H.	To be used at temporary job sites, such as research vessels and mobile laboratories, for the purpose of research and development as defined in 64E-5.101, F.A.C.; teaching, training, for use as components of analytical instruments and for calibration of instruments.

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TO CHANGE CONDITION 24 TO READ:

CONDITIONS

24. A. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, 8, and 9 of this license in accordance with statements, representations and procedures contained in the licensee's application dated April 13, 1999, signed by George R. Newkome, Ph.D., Vice President of Research, and correspondence dated:

August 13, 1999, signed by George R. Newkome, Ph.D., Vice President for Research;
October 25, 1999, signed by Robert B. Vomacka, Radiation Safety Officer; and
December 1, 1999; and
November 16, 2000, both signed by George R. Newkome, Ph.D., Vice President for Research.

B. The licensee shall comply with all applicable requirements of Chapter 64E-5, Florida Administrative Code, and these regulations shall supersede the licensee's statements in applications or correspondence, unless the statements are more restrictive than the regulations.

For the Bureau of Radiation Control:

Issuance Date: NOV 30 2000

Paul E. Vause, Jr.
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