

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Enforcement Conference Report Nos. 030-04530/90-022
030-06923/90-002

Docket Nos. 030-04530
030-06923

License Nos. 19-00915-03 Priority 1 Category E1A Program Code 03613
19-00915-06 Priority 3 Category E Program Code 03520

Licensee: U.S. Department of Agriculture
6505 Bellcrest Road
Hyattsville, Maryland 20782

Enforcement Conference At: Region I, King of Prussia, Pennsylvania

Enforcement Conference Conducted: July 11, 1990

Prepared by: Francis M. Costello 7-25-90
Francis M. Costello date
Senior Health Physicist

Approved by: John D. Kinneman 8/6/90
John D. Kinneman, Chief date
Nuclear Materials Safety Section B

Summary: The findings documented in Combined Inspection Report Nos. 030-04530/90-020 and 030-06923/90-002 were discussed. The licensee described corrective actions taken or planned. The NRC's enforcement policy was explained.

DETAILS

1. Persons Attending

Department of Agriculture

Mary Carter, Associate Administrator, Agricultural Research Service (ARS)
Lewis Smith, Acting Chairman, Radiation Safety Committee
Thomas Clark, Deputy Administrator, ARS
Arthur Nies, Associate Deputy Administrator, ARS
David Zimmer, Director, Russell Research Center, ARS
John Jensen, Radiation Safety Officer

Nuclear Regulatory Commission

Dick Cooper, Deputy Director, Division of Radiation Safety and Safeguards
Lee Bettenhausen, Chief, Nuclear Materials Safety Branch
John Kinneman, Chief, Nuclear Materials Safety Section B
Daniel J. Holody, Enforcement Officer
Francis Costello, Senior Health Physicist
Eric Reber, Health Physicist
Lydia Roche, Acting Chief, Nuclear Materials Safety Section C

2. Conference Summary

After a brief introduction by Mr. Cooper, Dr. Carter acknowledged the violations which had been identified during the NRC inspections and also acknowledged that insufficient program oversight by USDA management had contributed to these violations. She stated that USDA first became aware of these management deficiencies in early 1989 and had made personnel changes which were intended to correct the situation. These changes include the selection of a new Director of the Radiological Safety Staff (RSS), the increasing of the staffing level of the RSS to three health physicists in addition to the Director, and the establishment of a health physicist position dedicated solely to the Beltsville Agricultural Research Center.

Dr. Carter also described the roles of USDA management, the Radiation Safety Committee, the Radiation Safety Officer, and line management in the operation of the radiation safety program. Dr. Smith described the role of the Radiation Safety Committee (RSC) in greater detail and described plans to make the RSC more accountable. He described the Committee's plan to arrange for an outside audit of the radiation safety program.

Dr. Clark described the licensee's plan to expand the resources available to perform inspections of USDA licensed facilities by employing Health and Safety representatives from the Agricultural Research Service and the National Forest Service. This plan will be implemented over the next six

to eighteen months. The licensee representatives acknowledged the need to request a license amendment to have these inspections replace those which are currently required to be performed by the Radiological Safety Staff. Dr. Clark described the discussions of NRC violations which have taken place with area directors and others to ensure that field offices know of the problems identified and the desire to correct them.

Dr. Zimmer described the corrective and preventive actions which were put into effect at the Russell Research Center in Athens, Georgia. The actions include management initiatives to increase oversight of regulatory compliance. Some of these initiatives include periodic audits by the USDA Area Office Safety and Health Management organization, elevation of audit results to the Center Director, review of progress of corrective actions with the Center Director, establishing a technical contact for questions relating to radiation safety, and conducting monthly meetings with authorized users.

Mr. Jensen provided copies of organization charts, inspection checklists which will be used to audit USDA facilities, and a questionnaire used to evaluate the radiation safety programs at these facilities. The documents provided by Mr. Jensen are included as an attachment to this report.

One of these documents, Enclosure 5, outlined specific corrective actions. These were summarized by Dr. Carter. She stated that the corrective actions taken and planned are adequate to assure safe use of radioactive material and reiterated USDA's commitment to this safe use. In response to a question, the USDA representatives had no disagreement with information provided in the inspection report.

Mr. Holody described the NRC enforcement options.

Mr. Cooper stated that the licensee should include a list of milestones for its corrective actions with the licensee's response to the NRC enforcement action. He also requested that the licensee's response include their position on whether other Category I facilities will be required to develop and implement similar initiatives to those in place at the Athens, Georgia facility to increase oversight of regulatory compliance.

ATTACHMENT 1 - ENFORCEMENT CONFERENCE REPORT
NOS. 030-04530/90-22 and 030-06923/90-02

USDA DOCUMENTS PROVIDED AT ENFORCEMENT CONFERENCE

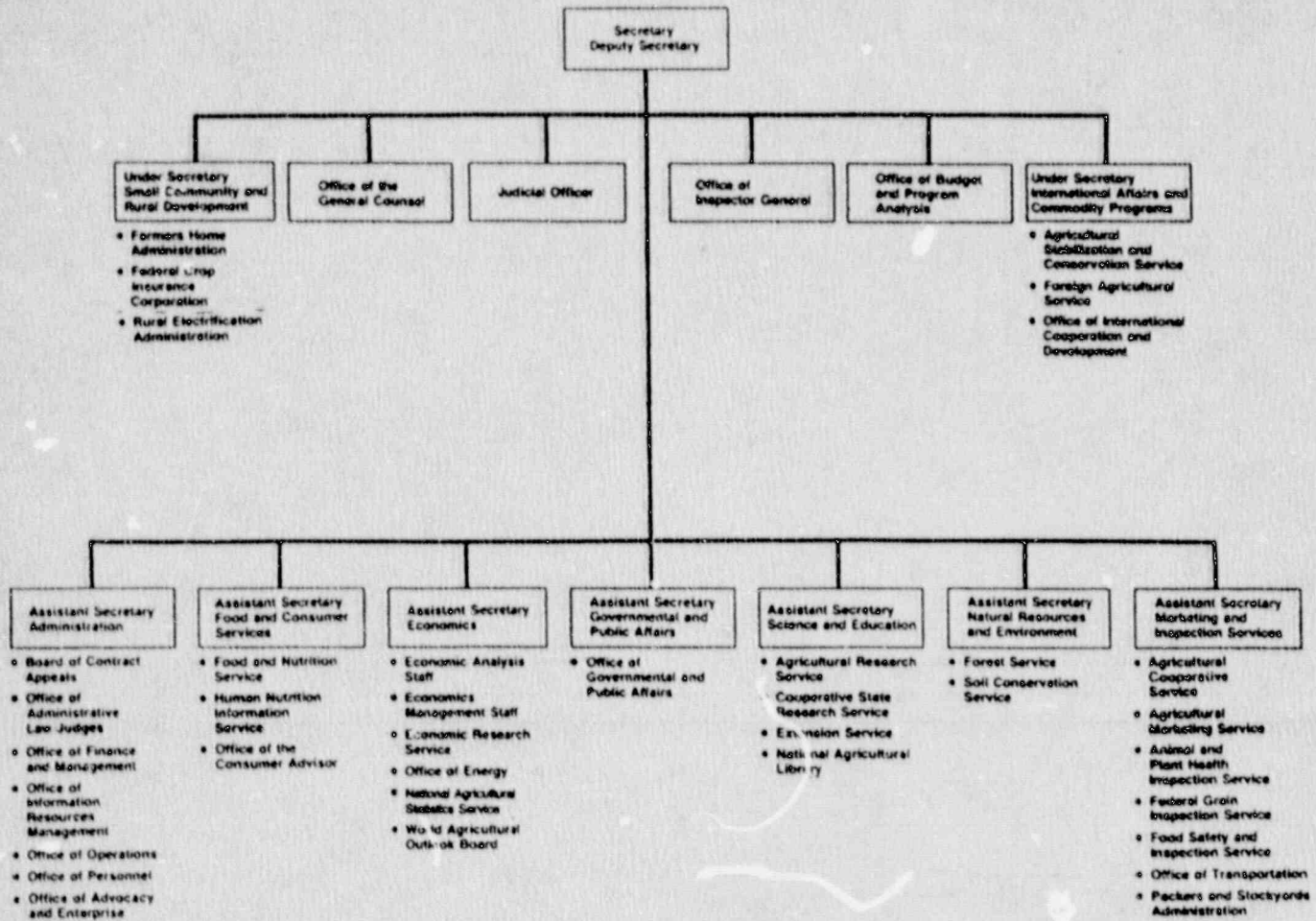
USDA Radiation Safety Program

US Nuclear Regulatory Commission

Enforcement Conference

July 11, 1990

USDA Organizational Chart



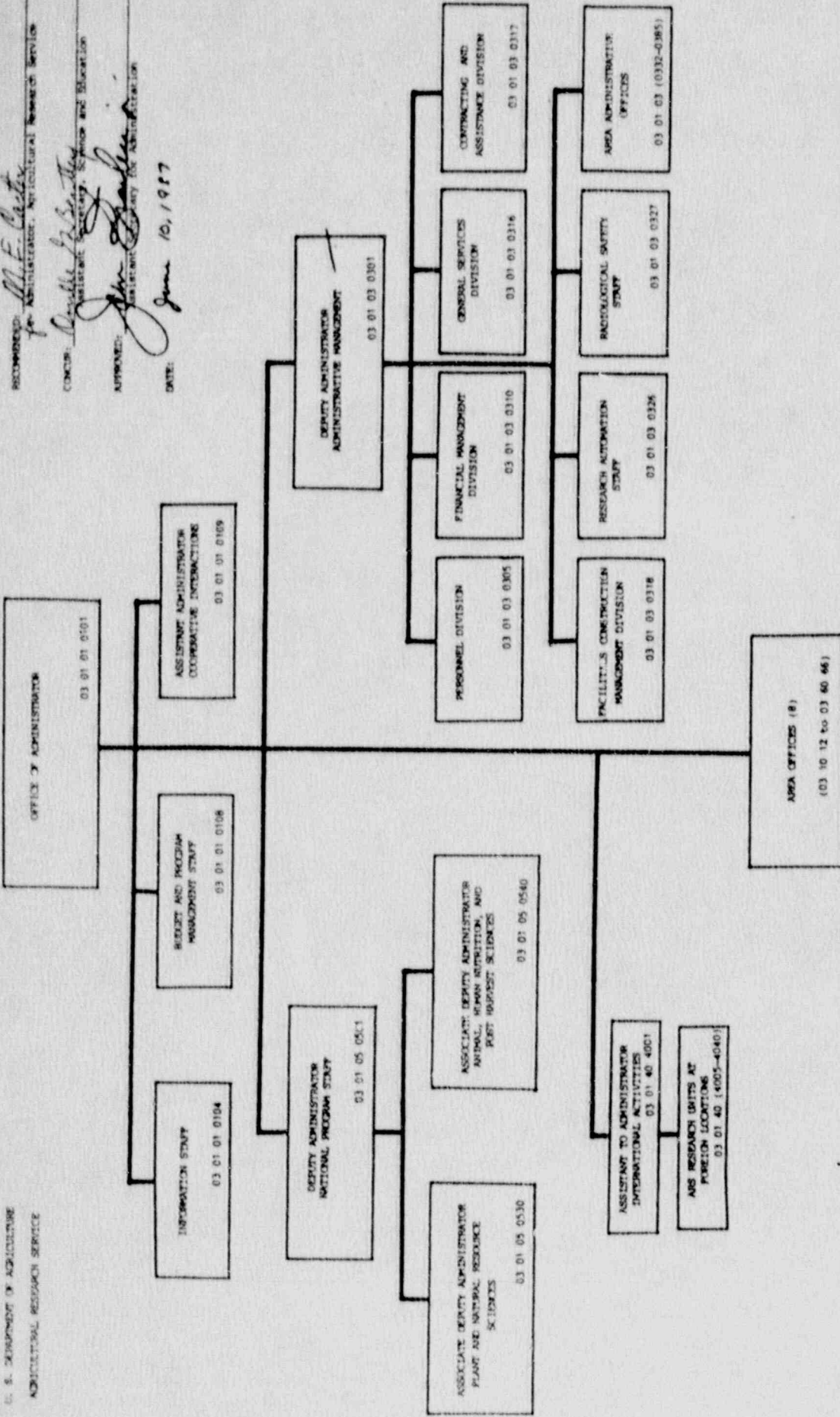
U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

RECOMMENDED: *M.F. Carter*
for ASSISTANT DIRECTOR, Agricultural Research Service

CONCERN: *Charles L. ...*
ASSISTANT DIRECTOR, AGRICULTURAL RESEARCH SERVICE

APPROVED: *John ...*
DIRECTOR, AGRICULTURAL RESEARCH SERVICE

DATE: *June 10, 1957*



MISSION: Develops through basic, applied, and developmental research, new knowledge and technology which will insure an abundance of high quality nutritious, reasonably priced food and other agricultural products to meet domestic and world needs while maintaining natural resources and environmental quality. This mission focuses on the development of technical information and technical products which bear directly on the needs to: (1) manage and use the Nation's soil, water, air, and climate resources and improve the Nation's environment; (2) provide an adequate supply of agricultural products by practices that will maintain a permanent and effective agriculture; (3) improve the nutrition and well-being of the American people; (4) improve living in rural America; (5) strengthen the Nation's balance of payments; and (6) promote world peace.

PREPARED BY THE PERSONNEL MANAGEMENT BRANCH, PERSONNEL DIVISION
SUPERSEDES CHART DATED JANUARY 6, 1956

Radiation Safety Audit Form

Audits of Unsealed Radioisotope Users

(Please check or fill-in appropriate blanks)

Name of Responsible User: _____
RSC#: _____

1. Are individuals who use radioactive material in laboratory approved by RSS? YES _____ NO _____

Names of individuals who use radioactive material and are not approved by RSS: _____, _____, _____, _____

2. Are radioactive materials used in rooms/laboratories/areas that are indicated on responsible users RSC approval form? YES _____ NO _____

3. Are rooms/laboratories/areas where radioactive materials are used labeled "Caution - Radioactive Materials"? YES _____ NO _____

4. Which radioisotopes are used in responsible users laboratory (indicate maximum activity in millicuries on hand for each radioisotope in blank)?

H-3 _____ C-14 _____ P-32 _____ S-35 _____
Ca-45 _____ Cr-51 _____ Rb-86 _____ I-125 _____ I-131 _____
Other _____, _____, _____

5. Are stock solutions of radioactive materials stored in locked containers (i.e., refrigerator, cabinets)? YES _____ NO _____
-
- OR is laboratory locked when not attended by authorized users?
-
- YES _____ NO _____

6. What survey instruments are used for radiation level surveys?
-
- Manufacturer _____ Model No. _____
-
- Calibration Date _____

Is a label indicating the date of the calibration affixed to the side of the meter? YES _____ NO _____

Is a check source available in the laboratory to test instruments for proper operation? YES _____ NO _____

How often are the meter tested with the check source?
DAILY _____ WEEKLY _____ OTHER _____

Who calibrates the meter? AUTHORIZED COMPANY _____ OTHER _____

Audits of Unsealed Radioisotope Users (Page 2)

7. How often are removable radioactive contamination surveys performed?
WEEKLY_____ MONTHLY_____ OTHER_____

What instrument is used to analyze the "wipes"?

LIQUID SCINTILLATION COUNTER_____ GAMMA SCINTILLATION COUNTER_____
OTHER_____

Are records of results of surveys maintained? YES_____ NO_____

What units are the survey results recorded in?

COUNTS PER MINUTE(CPM)_____ DISINTEGRATIONS PER MINUTE(DPM)_____
OTHER_____

8. Does responsible user transfer radioactive material to other users at location? YES_____ NO_____ To other USDA locations? YES_____ NO_____

9. Do individuals who use gamma emitting radioisotopes (Cr-51, I-125) or hard beta emitting radioisotopes (P-32, Rb-86) wear film badges? YES_____ NO_____ Do they wear ring badges? YES_____ NO_____

10. Are radioiodinations performed? YES_____ NO_____

How often are radioiodinations performed?

DAILY_____ WEEKLY_____ MONTHLY_____ OTHER_____

What is the maximum activity used in any one radioiodination?

< 1 millicurie_____ > 1 millicurie_____

What instrument is used for removable contamination surveys

Manufacturer_____ Model No._____

What instrument is used for thyroid monitoring?

Manufacturer_____ Model No._____

Are all individuals who perform radioiodinations in thyroid monitoring program? YES_____ NO_____

Who performs thyroid monitoring? LABORATORY PERSONNEL_____

OTHER_____

What instrument is used for radiation level surveys?

Manufacturer_____ Model No._____

Is thyroid monitoring performed between 24 and 72 hours after radioiodination? YES_____ NO_____ OTHER_____

Is instrument calibrated with I-125 or I-129 check source?

YES_____ NO_____

Is a neck phantom used to calibrate instrument? YES_____ NO_____

Who calibrates the thyroid monitoring instrument?

RESPONSIBLE USER_____ AUTHORIZED COMPANY_____ OTHER_____

11. Are surveys of incoming packages of radioactive material performed according to required procedures? YES _____ NO _____
IF NOT, EXPLAIN _____

Are records of surveys maintained? YES _____ NO _____

12. Has responsible user received material from other users without notifying RSS? YES _____ NO _____

13. Do laboratory workers perform radiation level surveys of hands, feet clothing before leaving restricted area? YES _____ NO _____

14. What methods are used to dispose of aqueous liquid waste (check appropriate boxes)? POURED DOWN DRAIN _____ TRANSFER TO AUTHORIZED WASTE BROKER _____ OTHER _____

What methods are used to dispose of organic liquid waste?
TRANSFER TO AUTHORIZED WASTE BROKER _____ OTHER _____

What methods are used to dispose of dry, solid waste?
INCINERATION _____ BURIAL _____
TRANSFER TO AUTHORIZED WASTE BROKER _____ OTHER _____

What is the name and address of the authorized waste broker (if used)?

If short half-life radioisotopes are used (i.e., P-32, I-125, S-35), is the waste held for decay and then disposed as normal trash?
YES _____ NO _____

Is short half-life waste labeled with date and activity during storage? YES _____ NO _____

Is short half-life waste held for at least 10 half-lives?
YES _____ NO _____

Are records of survey and disposal of short half-life waste maintained in accordance with Radiation Safety Manual Procedures?
YES _____ NO _____

15. Is there evidence that suggests that or did you witness individuals eating, drinking or smoking in laboratories where radioactive materials are used? YES _____ NO _____

Are food and beverages stored in refrigerators where radioactive materials are stored? YES _____ NO _____

16. Have any spills or unusual events occurred since the last inspection?

RADIATION SAFETY AUDIT FORM
Audit of Nuclear Gauge Users

(Please check or fill-in appropriate blank)

Name of Responsible User: _____
RSC #: _____

1. Are individuals who use gauges aproved by RSS? YES _____ NO _____

Names of individuals who use gauges and are not approved by RSS:

_____, _____, _____

2. Are gauges stored in romms/ locations as indicated on responsible users RSC approval form? YES _____ NO _____

3. Are rooms/areas where gauges are stored labeled "Caution - Radioactive Materials"? YES _____ NO _____

Are rooms/areas locked when not attended by an authorized user?
YES _____ NO _____

4. What type and number of gauges are possessed by responsible user?

Mftr	_____	Model No.	_____	#	_____
	_____		_____		_____
	_____		_____		_____
	_____		_____		_____

5. Do technicians wear film badges when using gauges?
YES _____ NO _____

6. When gauges are at field site, are they locked or otherwise secured when not in use? YES _____ NO _____

7. Do users carry shipping papers while transporting gauges?
YES _____ NO _____

Where are shipping papers located during transport of gauges?
IN CAB, WITHIN REACH OF DRIVER _____ STORED WITH GAUGE _____
OTHER _____

Do shipping papers contain correct information according to the examples in the Radiation Safety Manual? YES _____ NO _____

8. Is a log maintained to indicate where each gauge was used, who operated the gauge and the date of use? YES _____ NO _____

9. Does the responsible user possess gauges which he no longer needs and does not know how to dispose? YES _____ NO _____

Enclosure 5

I. Corrective Actions for Apparent Violations Which Indicate Programmatic Weaknesses

A. Failure to perform internal inspections of Category I and II locations at required frequency.

All Category I facilities will be inspected by RSS within 12 months. ARS, SCS and FS health safety professionals will be trained for radiation safety audit program within 6 months and will begin audits immediately thereafter. All Category II facilities will be audited within 18 months and most Category III facilities will be audited within 24 months.

B. Failure to secure licensed material in an unrestricted area.

Corrective actions for these violations were addressed at the time of the inspections. The RSS will contact the locations within 30 days to assure that corrective actions have been taken. RSS will require written documentation from locations that corrective actions were taken. These violations have been corrected.

C. Failure to provide copies of license and procedures to users.

Copies of the USDA NRC License were recently distributed to all responsible users, who were instructed to make the license available to all individuals who use radioactive materials or work in areas where radioactive materials are used. This violation has been corrected.

D. Failure to provide required training to radiation workers.

The RSO provided training to individuals who use radioactive materials and to individuals who work in areas where radioactive materials are used at the Russell Research Center in Athens, Georgia. The RSS provided training to the individual at BARC who was identified as having had insufficient training in the safe use of radioactive materials. The RSS has asked responsible users to identify what training has been provided to researchers in their laboratories in the Radiation Safety Questionnaire which will indicate which locations need to revamp their radiation safety training program. RSS will provide guidance to these locations in setting-up a training program. This violation will be corrected within 6 months.

E. Failure to survey laboratories and waste areas at required frequency.

The RSO provided training in the requirements of the NRC license to individuals at the RRC for laboratory and waste area surveys. The Radiation Safety questionnaire requires users to indicate the frequency with which they survey laboratory and waste storage areas and RSS will contact users who are not in compliance with this requirement to assure they correct this deficiency. In addition, the Radiation Safety Manual will be updated in the near future and will

more clearly state the current requirements. This violation will be corrected within 6 months.

F. Failure to evaluate incinerator ash prior to disposal as normal trash.

The RSO will review all incinerator ash evaluation methods (for 11 approved incinerators) within 14 days and will assure that locations do not use adequate methods will discontinue such disposals until they submit and RSS approves new methods. All incinerator locations will have adequate evaluations programs in place within 60 days.

G. Failure to perform leak tests of sealed sources at six-month intervals.

The RSO will contact all sealed source users who are delinquent in performing the leak tests within 60 days and will assure that they promptly submit a leak test or lose the authority to use the sources.

H. Failure to evaluate discharges to the sewer, to evaluate airborne releases to the environment, and to evaluate material disposed to the normal trash.

The Radiation Safety Questionnaire addresses these issues and will alert RSS to locations which are not complying with these requirements. RSS will contact locations which are not in compliance and assure that they develop adequate evaluation procedures within 90 days. In the future, RSS will make a Health Physicist responsible for each facility that is required to perform such evaluations and they will monitor and work with the facilities closely to assure continued compliance. These violations will be corrected within 6 months.

II. Corrective Actions for Other apparent violations

A. Failure to prepare proper shipping papers for the transport of a portable gauge.

This violation was corrected in the field immediately after the inspection. The Radiation Safety questionnaire will alert RSS to other individuals who do not correctly complete shipping papers. RSS will contact these individuals within 60 days to assure corrective actions are taken. The RSO will stress review of shipping papers to the SCS and FS safety and health professionals who will audit the gauge users. This violation has been corrected.

B. Failure to perform iodinations in a properly operating hood.

This violation was corrected in April, 1990 when a properly operating hood, which included a charcoal filter, was identified at the RRC. The ARS safety and health professionals will be instructed to check the operation of hoods during their audits. This violation has been corrected.

- C. Failure to provide proper safety equipment and follow safety procedures during iodinations.

In April, 1990 the RSO instructed individuals who perform iodinations at RRC in proper iodination safety procedures and the proper use of safety equipment during iodinations. This violation has been corrected.

- D. Failure to monitor workers thyroids after iodinations.

Individuals who had performed iodinations at the RRC within the last 6 months had had their thyroids monitored in April, 1990. Results of this monitoring indicated that one individual had a thyroid burden of approximately 16 nanocuries, well below investigational limits. The Radiation Safety questionnaire addresses this requirement and will be reviewed by RSS to determine other locations which are not in compliance. This violation has been corrected.

- E. Failure to have check source available.

Check sources were purchased by users at the RRC in April, 1990. RSS monitors compliance with this requirement for users at RRC by reviewing laboratory survey records which they submit to RSS each month. Records submitted by RRC users have indicated compliance with this requirement. The Radiation Safety Questionnaire addresses this requirement and RSS contact facilities which are not in compliance to assure corrective actions are taken within 6 months. This violation has been corrected.

- F. Failure to post and label radioactive materials.

These violations were corrected at the time of the inspections. The safety and health professionals will be instructed to review posting and labeling requirements during their audits. This violation has been corrected.

RADIATION SAFETY QUESTIONNAIRE

(Please check or fill-in appropriate blanks)

1. Which radionuclides do you use? H-3_____ C-14_____ P-32_____
S-35_____ Ca-45_____ Cr-51_____ I-125_____
Other_____

2. How often are hoods where radioactive materials are used checked for adequate air flow?

quarterly_____ biannually_____ annually_____ not checked_____

2. How often do you perform hand-held meter surveys of your lab?

weekly_____ monthly_____ quarterly_____ not at all_____

How often do you perform removable contamination surveys (wipe tests) in your laboratory?

weekly_____ monthly_____ quarterly_____ not at all_____

What is the maximum activity you use per experiment?

<200 microcuries_____ >200 microcuries_____

3. How do you dispose of radioactive waste:

Dry solid waste - transfer to a radioactive waste broker_____

incineration_____ hold for decay, then dispose as trash_____

other(specify)_____

Aqueous liquids - transfer to a radioactive waste broker_____

pour down drain_____ hold for decay, then dispose as non-radioactive_____

other(specify)_____

Organic liquids - transfer to a radioactive waste broker_____

hold for decay, then dispose as hazardous waste_____

other(specify)_____

4. Are materials stored in a locked container (i.e., refrigerator, cabinet)? YES_____ NO_____ OR is the laboratory locked when authorized users are not in attendance? YES_____ NO_____

RADIATION SAFETY QUESTIONNAIRE (PAGE 2)

5. Have all individuals in your laboratory who use radioactive materials been trained in the radiation safety and disposal requirements?
YES _____ NO _____

Who provided the training? Name: _____
affiliation: _____

Have all individuals in your laboratory submitted a Radiation Safety Training and Experience (AD-803) form to this office?
YES _____ NO _____

6. Are iodinations performed in your laboratory?
YES _____ NO _____ Not Applicable _____

Do you monitor the thyroids of all individuals who perform iodinations in your laboratory? YES _____ NO _____

What instrument is used for thyroid monitoring?
Manufacturer _____ Model No. _____

7. Do you possess radioactive materials which are difficult to dispose? YES _____ NO _____
IF YES, EXPLAIN _____

