

UNITED STATES NUCLEAR REGULATORY COMMISSION

REGION III 2443 WARRENVILLE ROAD, SUITE 210 LISLE, ILLINOIS 60532-4352

December 17, 2004

Hugh Smith, Chief Executive Officer Mayo Clinic Rochester 200 First Street SW Rochester, MN 55905

SUBJECT: NRC ROUTINE INSPECTION AND NOTICE OF VIOLATION

Dear Mr. Smith:

This refers to our letter to you dated August 9, 2004, referencing the inspection conducted on July 19 through 23, 2004, at Mayo Clinic Rochester in Rochester, Minnesota, and two unresolved items that required additional NRC in-office review. The unresolved items pertained to security of licensed material from unauthorized access or removal and radiation surveys of packages containing licensed material upon receipt. We have concluded our review of the unresolved items. The inspection findings were discussed with Richard Vetter, Ph.D. on December 1, 2004.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. These violations were evaluated in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. The current Enforcement Policy is included on the NRC's Web site at <u>www.nrc.gov</u>; select **What We Do, Enforcement**, then **Enforcement Policy**." The violations are cited in the enclosed Notice of Violation (Notice). The violations are being cited in the Notice because they were identified by the inspectors and they represent more than minor safety concern.

During the site exit meeting on July 23, 2004, your staff did not agree that the violations cited in the Notice had occurred. Specifically, Violation 1 pertains to Title 10 CFR 20.1801, which requires that licensees secure licensed material from unauthorized access. Your staff interpreted "access" in the context of the requirement to apply only to non-employees because they trusted that employees would not attempt to access licensed material because they were not authorized to do so. However, the regulation does not provide any exception for employees who are not authorized to have access to licensed material. Violation 2 pertains to Title 10 CFR 20.1906, which requires, in part, that licensees monitor the external surfaces of a labeled package for radioactive contamination, unless the package contains only radioactive material in the form of a gas or in special form. Your staff interpreted "receipt" in the context of the requirement to mean receipt from another licensee or common carrier. Therefore, since your staff transported labeled packages in Mayo Clinic's vehicles to locations authorized on your license, your staff did not believe that monitoring of the packages for radioactive

H. Smith

contamination was required on receipt. However, the regulation does not provide for an exemption from contamination monitoring for any other type of source transferred in a licenseeowned vehicle. Since the packages did not contain radioactive material in the form of a gas or special form, the exemption from contamination monitoring did not apply.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. For your consideration and convenience, an excerpt from NRC Information Notice 96-28, "SUGGESTED GUIDANCE RELATING TO DEVELOPMENT AND IMPLEMENTATION OF CORRECTIVE ACTION," is enclosed. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). The NRC's document system is accessible from the NRC Web site at <u>http://www.nrc.gov/reading-rm/adams.html</u> (the Public Electronic Reading Room).

Sincerely,

John R. Madera, Chief, Materials Inspection Branch

Docket No. 03002195 License No. 22-00519-03

Enclosure: 1. Notice of Violation

2. NRC Information Notice 96-28

cc w/encls: R. Vetter, RSO

NOTICE OF VIOLATION

Mayo Clinic Rochester Rochester, Minnesota Docket No. 03002195 License No. 22-00519-03

During an NRC inspection conducted on July 19-23, 2004, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

 Title 10 CFR 20.1801 requires that the licensee secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas. Title 10 CFR 20.1802 requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. As defined in 10 CFR 20.1003, *controlled area* means an area, outside of a restricted area but inside the site boundary, access to which can be limited by the licensee for any reason; and *unrestricted area* means an area, access to which is neither limited nor controlled by the licensee.

Contrary to the above, on several occasions as of July 19, 2004, the licensee did not secure from unauthorized removal or limit access to phosphorus-32, hydrogen-3, chromium-51, iodine-125, sulfur-35, carbon-14, and calcium-45 representing an aggregate quantity of approximately 50 millicuries and located in many laboratories within the Medical Sciences and Guggenheim Buildings, which were controlled areas, nor did the licensee control and maintain constant surveillance of this licensed material.

This is a Severity Level IV violation (Supplement IV).

2. Title 10 CFR 20.1906(b) and (c) require that each licensee monitor the external surfaces of a package labeled with a Radioactive White I, Yellow II, or Yellow III label for: (1) radioactive contamination, unless the package contains only radioactive material in the form of a gas or in special form as defined in 10 CFR 71.4; and (2) radiation levels, unless the package contains quantities of radioactive material that are less than or equal to the Type A quantity, as defined in 10 CFR 71.4 and Appendix A to Part 71. This monitoring shall be performed as soon as practicable, but not later than 3 hours after receipt of the package during the licensee's normal working hours, or not later than 3 hours from the beginning of the next working day if it is received after working hours.

Contrary to the above, on several occasions as of July 19, 2004, the licensee received packages labeled Yellow II or Yellow III, the packages were not exempt from the monitoring requirement for radioactive contamination, and the licensee did not perform the required monitoring. Specifically, the packages received by the licensee contained 1 curie (or less) of molybdenum-99.

This is a Severity Level IV violation (Supplement IV).

Pursuant to the provisions of 10 CFR 2.201, Mayo Clinic Rochester is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555, with a copy to the Regional Administrator, Region III, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

-2-

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <u>http://www.nrc.gov/reading-rm/adams.html</u>, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information. If you request withholding of such material, you <u>must</u> specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 17th day of December 2004

INSPECTION REPORT

Region III Inspection Report Nos. 03002195/2004-002 and -003(DNMS)

License No. 22-00519-03

Docket No. 03002195

Licensee (Name and Address):

Mayo Clinic Rochester 200 First Street SW Rochester, MN 55905

Location (Authorized Site) Being Inspected: The licensee's facilities located at the Mayo Clinic Rochester campus, Rochester, Minnesota and a temporary job site in Owattonna, Minnesota

Licensee Contact: Richard Vetter, Ph.D., RSO Telephone No. 507-284-4408

Priority: 1 (RIII Broad Scope Initiative)

Date of Last Inspection: 10/22-25/02 Date of This Inspection: July 19-23, 2004 (with continued NRC in-office review through November 30, 2004)

The continued NRC in-office review included follow-up of unresolved items pertaining to security of licensed material from unauthorized access or removal and radiation surveys of packages containing licensed material upon receipt.

Type of Inspection: () Initial

(x) Announced (x) Routine

() Unannounced () Special

Program Code: 02110

Next Inspection Date: 7/05 (x) Normal () Reduced Justification for reducing the routine inspection interval: N/A

Summary of Findings and Actions:

- No violations cited, clear U.S. Nuclear Regulatory Commission (NRC) Form 591 () or regional letter issued
- Non-cited violations (NCVs) ()
- Violation(s), Form 591 issued ()
- (X) Violation(s), regional letter issued
- Followup on previous violations ()

Inspector(s)

Approveg

Robert G. Gattone, Jr., Senior Health Physicist

<u>Nobert D. Hattor, h.</u> Tony Go, Health Physicist

Sarah Bakhsh, Nuclear Safety Professional

Date $\frac{|2/(6/04)|}{|2/16/04|}$ Date $\frac{|2/16/04|}{|2/16/04|}$

Date 12/16/04

John R. Madera, Chief, Materials Inspection Branch PART I-LICENSE, INSPECTION, INCIDENT/EVENT, AND ENFORCEMENT HISTORY

1. AMENDMENTS AND PROGRAM CHANGES:

(License amendments issued since last inspection, or program changes noted in the license)

AMENDMENT # DATE SUBJECT

1/5/04

Patient injections at mobile nuclear medicine temporary job sites can be done by individuals other than nuclear medicine technologists.

The manufacturer's model number for Nucletron sources was changed, and the maximum source activity was raised to 12 Ci each.

2. INSPECTION AND ENFORCEMENT HISTORY:

(Unresolved issues; previous and repeat violations; Confirmatory Action Letters; and orders)

None.

62

3. INCIDENT/EVENT HISTORY:

(List any incidents, or events reported to NRC since the last inspection. Citing "None" indicates that regional event logs, event files, and the licensing file have no evidence of any incidents or events since the last inspection.)

None.

PART II - INSPECTION DOCUMENTATION

1. <u>ORGANIZATION AND SCOPE OF PROGRAM</u>: (Management organizational structure; authorized locations of use, including field offices and temporary job sites; type, quantity, and frequency of material use; staff size; delegation of authority)

The licensee's organization as it pertains to licensed activities is as follows:

Hugh Smith, CEO Jeff Korsmo, Administrator Michelle Leak, Head of Patient Services James McNeil, Administrator for Security and Safety Richard Vetter, Ph.D., RSO Jeff Brunette, ARSO (since 1/03) 5 Health Physicists 6 Health Physics Technicians

The licensee conducted licensed activities at its facilities located at the Mayo Clinic Rochester

campus, Rochester, Minnesota. The licensee also conducted mobile nuclear medicine at temporary job sites of medical care facilities anywhere in the United States where the NRC maintained jurisdiction for regulating the use of licensed material.

Licensed activities included:

- high dose rate (HDR) brachytherapy (10 Ci of Ir-192) conducted about 4 times per week (3 active physician authorized users);
- activities listed in 10 CFR 35.400 (35.400) including Cs-137 gynecological treatments about twice per year, Ir-192 seeds encased in ribbon for biliary treatments about 20 times per year, I-125 seeds for prostate treatments about 90 times per year, and I-125 seeds for eye therapy about once per month (approximately 12 active physician authorized users);
- mobile nuclear medicine limited to activities listed in 10 CFR 35.200 (dispatch was from the Methodist Hospital Nuclear Medicine Department at 6:00 a.m. for clients in southwest Minnesota);
- full spectrum nuclear medicine at Methodist Hospital (about 6 active physician authorized users and 50 nuclear medicine technologists);
- cardiac nuclear medicine at the Gonda Building and St. Mary's Cardiac Clinic;
- primarily diagnostic nuclear medicine at St. Mary's Hospital;
- research and development primarily involving in-vitro protein labeling with low microcurie quantities of several radionuclides (e.g., P-32, I-125, H-3, S-35, P-33) (about 135 active authorized users);
- I-125 iodinations about 4 times per week involving a maximum of 2 mCi;
- animal studies involving low microcurie quantities per animal;
- five irradiators for irradiation of blood, tissues, and animal research; and
- daily incineration of licensed material.

The licensee decommissioned its IVB sources.

External Dosimetry Results

	2004 (to_4/04)	<u>2003</u>	<u>2002</u>
Whole Body Max. (mrem)	860	2160	1770
Extremity Max. (mrem)	5290	15860	15090

Performance Observations

The inspectors observed selected licensee staff: (1) conduct daily and weekly area surveys; (2) conduct package receipt and return surveys (3) conduct a daily dose calibrator constancy check: (4) conduct several diagnostic administrations of licensed material; (5) use whole body and extremity dosimeters, syringe shields, dosimeters, lab coats, and gloves as required; (6) conduct battery checks on survey instruments; (7) demonstrate how personnel surveys were done; (8) use licensed material for research and development studies; (9) demonstrate how spills would be cleaned up; (10) demonstrate how to respond to an HDR source that would not retract to the shielded position; (11) conduct HDR treatment planning and written directive generation; (12) implement procedures to ensure that HDR written directives are followed; (13) implement procedures to verify that an HDR treatment was administered in accordance with the written directive; (14) conduct post HDR treatment patient surveys; (15) explant Ir-192 seeds from a patient; (16) conduct post 35.400 treatment patient surveys; (17) conduct post 35.400 explant source inventory verification; (18) conduct an inventory of Cs-137 brachytherapy sources; (19) demonstrate how iodinations were done; (20) demonstrate spill response during iodinations; (21) conduct a bioassay; (22) demonstrate how ion chambers are calibrated; (23) demonstrate response to an instrument calibrator with a stuck-open shutter; and (24) conduct an internal radiation safety audit.

2. <u>SCOPE OF INSPECTION</u>:

(Identify the inspection procedure(s) used and focus areas evaluated. If records were reviewed, indicate the type of record and time periods reviewed)

Inspection Procedure(s) Used: 87134

Focus Areas Evaluated: 03.01, 03.02, 03.03, 03.04, 03.05, 03.06, 03.07, and 03.08

3. <u>INDEPENDENT AND CONFIRMATORY MEASUREMENTS</u>: (Areas surveyed, both restricted and unrestricted, and measurements made; comparison of data with licensee's results and regulations; and instrument type and calibration date)

The inspectors conducted independent ambient exposure rate surveys using a Ludlum Model 2403, Serial 161609 calibrated on 3/12/04. The results are summarized below:

- 0.3 mR/hr at the surface of a shielded vial of Cr-51 in Room 319 of the Guggenheim Building;
- nothing above background (50 cpm) at selected surfaces within Rooms 9-29, 7-23, 7-16, and 7-028 of the Guggenheim Building;
- 1300 cpm at the surface of a radioactive waste container in Room G-8-28 of the Guggenheim Building;
- 0.1 mR/hr at 10 cm from the surface of the HDR unit;
- nothing above background (0.05 mR/hr) at selected surfaces within a room that was released by the licensee after an I-131 treatment;
- nothing above background (50 cpm) at selected surfaces within Rooms 2-45, 2-64, and 2-104 of the Medical Sciences Building; and

- 25 mR/hr at the surface of a J.L. Shepherd Model 28-6A, Serial 10081 irradiator containing 1 Ci of Cs-137 as of 12/28/82 (shutter closed).
- <u>VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES</u>: (State the requirement, how and when the licensee violated the requirement, and the licensee's proposed corrective action plan. For NCVs, indicate why the violation was not cited. Attach copies of all licensee documents needed to support violations.)

Violation of 10 CFR 20.1801/1802:

Contrary to 10 CFR 20.1801/1802, on several occasions as of July 19, 2004, the licensee did not secure from unauthorized removal or limit access to phosphorus-32, hydrogen-3, chromium-51, iodine-125, sulfur-35, carbon-14, and calcium-45 representing an aggregate quantity of approximately 50 millicuries and located in many laboratories within the Medical Sciences and Guggenheim Buildings, which were controlled areas, nor did the licensee control and maintain constant surveillance of this licensed material.

The licensee stored licensed material in many labs in the Guggenheim and Medical Science Buildings. During on-duty hours (i.e., 7:00 a.m.-6:00 p.m.), authorized persons maintained surveillance of licensed material to prevent unauthorized access or removal. During off-duty hours (i.e., 6:00 p.m.-7:00 a.m.), the licensee locked all of the exterior doors of the buildings with key-card access granted to all employees who, in the course of their employment, had a need to work in the buildings. Once access into the buildings was achieved with the key-cards, the employees could access the licensed material within because there was no other security barrier (e.g., no locked lab doors, locked refrigerators or freezers, locked storage areas, or surveillance by authorized persons to prevent unauthorized access to licensed material).

As of July 19, 2004, approximately 600 of the employees who were issued key-cards for the buildings were not involved with licensed activities or authorized by the licensee to access licensed material. In addition, those individuals were not provided with any radiation safety training. For example, those individuals were not: (1) instructed on how to recognize licensed material or radiological hazards; (2) informed that they are not authorized to access licensed material; or (3) trained on what they should do, or not do, in areas where licensed material is stored. As a result, the licensee had no assurance that those individuals knew any more about the licensed material and associated hazards than an individual member of the public.

Title 10 CFR 20.1801/1802 requires licensees to secure licensed material from unauthorized removal or access or control and maintain constant surveillance of the licensed material.

The licensee interpreted "access" in the context of the requirement to apply only to nonemployees because it trusted that its employees would not attempt to access licensed material because they were not authorized to do so. In addition, the licensee expected the "Caution Radioactive Material" signs posted near the lab doors to be the sole means of informing employees not to access licensed material. The licensee also determined that individuals with key-cards to enter the buildings were not likely to exceed an occupational dose of 100 millirem per year. Therefore, the licensee was not required to provide training pursuant to 10 CFR 19.12 to those individuals. Since licensee employees were the only individuals who were issued key-cards to enter the buildings containing licensed material and those employees were not required to be trained pursuant to 10 CFR 19.12, the licensee believed it was in compliance

with 10 CFR 20.1801/1802.

10 CFR 20.1801 requires that licensees secure licensed material from unauthorized access. The regulation does not provide any exception for employees who are not authorized to have access to licensed material. Complying with the regulation to prevent authorized access or removal requires that licensed material be stored in such a manner that it cannot be accessed by persons who are not authorized by the licensee to do so. The regulation indicates that the licensee's interpretation that "access" does not apply to employees is incorrect.

The licensee informed applicable staff regarding the need to secure licensed material at all times. In addition, the licensee plans to implement security training and additional physical security measures to ensure compliance with the security requirement.

Violation of 10 CFR 20.1906:

Contrary to 10 CFR 20.1906, on several occasions as of July 19, 2004, the licensee received packages labeled Yellow II or Yellow III, the packages were not exempt from the monitoring requirement for radioactive contamination, and the licensee did not perform the required monitoring. Specifically, the packages received by the licensee contained 1 curie (or less) of molybdenum-99.

The licensee received packages containing Mo-99/Tc99m generators (generators) at a building housing its Radiation Safety Office (RSOF). Upon receipt, the licensee monitored the external surfaces of the labeled packages for radioactive contamination in accordance with 10 CFR 20.1906(b)(1). Subsequently, members of the licensee's staff transported the labeled packages in a licensee vehicle on public roads to a hospital that is an authorized location of use on the licensee's NRC license. As of July 19, 2004, the licensee staff did not monitor the external surfaces of the labeled packages for radioactive contamination upon arrival at the hospital. After the generators were used at the hospital, licensee staff packaged and labeled them. Licensee staff then transported the labeled packages in a licensee vehicle on public roads back to the RSOF. As of July 19, 2004, the licensee staff did not monitor the external surfaces of the labeled packages for radioactive contamination upon arrival at the hospital. After the generators were used at the hospital, licensee staff packaged and labeled them. Licensee staff then transported the labeled packages in a licensee vehicle on public roads back to the RSOF. As of July 19, 2004, the licensee staff did not monitor the external surfaces of the labeled packages for radioactive contamination upon arrival at the RSOF.

Title 10 CFR 20.1906(b)(1) requires that each licensee monitor the external surfaces of a package labeled with a Radioactive White 1, Yellow II, or Yellow III label for: (1) radioactive contamination, unless the package contains only radioactive material in the form of a gas or in special form as defined in 10 CFR 71.4. This monitoring shall be performed as soon as practicable, but not later than 3 hours after receipt of the package during the licensee's normal working hours, or not later than 3 hours from the beginning of the next working day if it is received after working hours.

The licensee interpreted "receipt" in the context of the requirement to mean receipt from another licensee or common carrier. Therefore, since members of the licensee's staff transported the labeled packages in a licensee vehicle to locations authorized on the license (i.e., the packages were not received from another licensee), the licensee did not believe that monitoring of the packages for radioactive contamination was required on receipt.

The requirement to monitor external surfaces of packages upon receipt at a licensee facility was added to then 10 CFR 20.205 in 1975, and provided a number of exemptions, including an exemption for packages containing only radioactive material in special form and an exemption

for generators below a specified quantity. (39 FR 17972 (May 22, 1974)). In 1986, an amendment was proposed to delete all of these exceptions to the requirement to monitor packages. Commenters on the proposed rule expressed some objection. One commenter asserted that the whole requirement to survey external surfaces of packages was unnecessary. The requirement was specifically retained, however. The Supplementary Information accompanying the final rule emphasized that "potential problems with leaking packages during transit warrant continued monitoring upon receipt to ensure that leaking packages are found." However, the Supplementary Information also noted that, in response to the comment, an "exemption from the contamination survey requirement has been provided for special form (sealed) sources that are being moved to and from work sites in a licensee owned or operated vehicle. This partially restored an exemption for all special form sources from the package survey requirements . . . The Commission believes that restoring this exemption will not result in any additional hazard."

Accordingly, in the final rule, paragraph (f) was added to the regulation (which was re-codified at 20.1906), exempting licensees transferring special form sources in licensee-operated vehicles to and from a work site from the contamination monitoring requirements of paragraph 20.1906(b)(1) (56 FR 23401) (May 21, 1991). However, the regulation does not provide for an exemption from contamination monitoring for any other type of source transferred in a licensee-owned vehicle, nor is there any indication in the regulation or regulatory history that any other exception to this requirement was intended. Since generators are not special form sources, there is no basis to conclude that the licensee need not monitor the external surfaces of packages containing generators, notwithstanding that they were not received from another licensee or a carrier.

The licensee implemented a revised procedure to ensure compliance with the survey requirement.

5. <u>PERSONNEL CONTACTED</u>: (Identify licensee personnel contacted during the inspection, including those individuals contacted by telephone.)

Use the following identification symbols:

Individual(s) present at entrance meeting

* Individual(s) present at exit meeting

*Alan Amundson, Radiation Safety Technologist Kim Botters, Researcher
#*Jan Braun, Radiation Safety Technologist
#Bob Brigham, Assistant Secretary of the Board of Governors
#*Kelly Classic, Health Physicist
Roy Dyer, Senior Research Associate
*Bonnie Edwards, Chair, Research Administration
Yang Gao, Technician
Diane Gibson, Security Officer
*Michael Haddock, M.D., Radiation Oncologist, RSC Chair
Mike Hanson, Lab Technologist
Tim Healy, Assistant Security Shift Supervisor
*Tom Herold, Lead Nuclear Pharmacy Technologist
*Joseph Hung, Director of Nuclear Pharmacy

*Mark Jacobson, PET Radiochemistry Laboratory Coordinator Christi James, R.N. Greg Kraus, Lab Technologist Cody Koch, Student Kim Kremer, Senior Research Technician Wavne LaJoie. Dosimetrist *Rod Landsworth, Radiation Safety Technologist David Leske, Senior Research Technician II *Mark Lyons, Radiation Safety Technologist *Kevin McCollough, Radiation Oncology Physicist *Jamie Miller, Radiation Safety Technologist Cheri Mueske, Lab Technician *Brian Mullan, M.D., Physician Authorized User Maggie Neuman, R.N. Tien Nguyen, Ph.D., Laboratory Researcher *Allen Omdahl, Radiology/Nuclear Medicine Director Jewn Paik, Professional Associate Ann Schmeichel, Senior Research Technician I David Schwartz, M.D., Physician Authorized User #*Gregory Smith, Health Physicist #*Glenn Sturchio, Health Physicist Tim Taylor, Security Specialist Steve Vernino, Associate Professor #*Richard Vetter, Ph.D., RSO *Greg Warner, Director for Compliance *Peter Yeakel, Radiation Oncology Dosimetrist

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