



ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE

8901 WISCONSIN AVENUE
BETHESDA, MARYLAND 20889-5603

January 25, 2006

Mr. John McGrath
Nuclear Regulatory Commission Region I
475 Allendale Road
King of Prussia, PA 19406

Dear Mr. McGrath:

This letter requests that the NRC amend licenses 19-08330-02 and 19-08330-03 of the Armed Forces Radiobiology Research Institute (AFRRI) to reflect the appointment of SFC Regina L. Miller as our Radiation Safety Officer (RSO). Our current RSO, LCDR Daniel S. Simpson, is retiring from active duty service in the U.S. Navy.

In making this appointment pending NRC approval, I have reviewed SFC Miller's qualifications and taken into consideration the recommendation of the Radiation Safety Committee. SFC Miller's resume is enclosed for your review.

SFC Miller's qualifying attributes include over 14 years of experience in radiation related research and in the use of radiation sources. Specifically, her duties and responsibilities have encompassed administrative management of health physics and radiation protection programs and teaching assignments spanning several military commands. Most recently, she has spent two years in her current position administering the health physics functions of the AFRRI Safety and Health Department and has served as AFRRI's Assistant RSO (ARSO). She is an active participant in our radiation safety program, overseeing compliance issues, and updating and implementing health physics procedures. She has also served as ARSO at other institutions (enclosure 1).

Your prompt attention to this request is very much appreciated. If you have questions concerning this request, please call the Radiation Safety Office, SFC Regina Miller, at (301) 295-9261 or e-mail, millerr@afri.usuhs.mil.

Sincerely,

DAVID G. JARRETT
Colonel, Medical Corps, U.S. Army
Director

Enclosures:

1. Miller Resume
2. Miller Appointment Letter

cc:
SHD
RRFSS
RXSS

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REGINA L. MILLER



OBJECTIVE

A position as AFRRRI RSO utilizing experience, training and education gained in the military.

PROFESSIONAL EXPERIENCE SUMMARY

- Possess over 14 years of experience with the U.S. military working directly in the radiation safety arena.
- Experienced manager of large and diverse groups of health care and radiation safety professionals.
- Years of military instructor experience; possess a Masters in Education.
- Served as the resident expert in all areas of radiation protection.
- Familiar with both medical and industrial aspects of radiation technology.

ACHIEVEMENTS

Occupational Health and Safety Program Administrator

2004 - To date

Armed Forces Radiobiology Research Institute, Bethesda, Maryland

- J.L. Shepherd Model 81 Cobalt 60 Panoramic Irradiator Operator
- Reviewed 10 CFR 36 and NUREG-1345 ("Review of Events at Large Pool Type Irradiators")
- Successful completion of RSO OJT training and examination requirement.
- Assistant to RSO for 3 Facility licenses (Reactor/Irradiator/Materials)
- Provides oversight for Industrial Hygiene and Safety aspects of radioactive material usage throughout facility
- Serve as member of the Emergency Response Team for facility accidents/incidents.
- Proctor for the National Registry of Radiation Protection Technologists examination.
- Provide technical guidance and assistance to staff in areas of contamination control and equipment operation.

Alternate Command Radiation Safety Officer

2003-2004

U.S. Army Medical Command, San Antonio, Texas

- Responsible for zero deficiency radiation program inspection from Department of Army Radiation Safety Officer
- Managed and reviewed 20 NRC licensed programs and 24 Radiation Authorizations.
- Revised the Army Medical Command Radiation Safety Program regulation.
- Solicited by the Provost Marshal to provide input to non-medical regulation drafts dealing with nuclear security.
- Served as a consultant for the assignment of health physics personnel
- Continued to provide instruction in the Health Physics Specialty Course
- Provided on-site and telephonic technical assistance to Army MEDCOM RSOs throughout the country, Europe and the Pacific.
- Performed all duties of RSO during 3 month under lap of between Full Time RSOs.

**PERSONAL INFORMATION WAS REMOVED
BY NRC. NO COPY OF THIS INFORMATION
WAS RETAINED BY THE NRC.**

REGINA L. MILLER

Health Physics and Radiation Safety Instructor/Writer

2000 – 2003

Academy of Health Sciences, San Antonio, Texas

- Selected as instructor from a field of 10 eligible candidates.
- Developed and presented bi-annual courses (12.5 weeks duration) for Health Physics Technicians.
- Wrote and published updates and revisions of Health Physics instructional materials that resulted in a 7.3 fold increase in upper and lower division course credit recommendation
- Provided classes in radiation protection, nuclear weapons fallout predictions, and chemical / biological protection for academy and senior leader courses.
- Assistant Instructor of x-ray survey technique course for a multi-disciplinary student body.
- Developed and instructed radiation monitoring, nuclear weapons and environmental sampling classes for 7 Preventive Medicine Specialist Courses each year.
- Designed and implemented new course materials to address the concerns of Presidential Directive Number 5.
- Developed lesson plans and instructed radiation safety and radiation biology classes for 10 iterations of the Radiology Technician Course each year.
- Assisted with the Academy license termination as part of Regional Medical Command Reorganization

Regional Radiation Protection Advisor

1996 – 2000

Ireland Army Community Hospital, Fort Knox, Kentucky

- Manage, train and supervise a staff of 90 Radiation Protection and Health Care Personnel in a 7-state region.
- Monitor regulatory compliance / serve as subject matter expert for Radiation Protection Office.
- Recognized by senior leaders with meritorious service and achievement awards for outstanding performance as a Radiation Safety Officer as well as a manager and leader.
- Developed and implemented a comprehensive quality assurance program for radioanalysis laboratory and equipment calibration

Health Physics Advisor 1993- 1996

Walter Reed Army Medical Center, Washington, D.C.

- First line supervisor of the largest Radiation Protection Program in the Army.
- Managed and trained 20 Health Physics personnel in the daily scope and operation of the program under a broad scope license for Walter Reed Army Medical Center, the Armed Forces Institute of Pathology and the Walter Reed Army Institute of Research.
- Created and instituted a tracking program of Radiation detection and diagnostic x-ray survey equipment.
- Program Manager for X-Ray Compliance testing with award in recognition of performance
- Received Commendation Award for logistical management for over 1 million dollars of equipment as well as travel and procurement budgets in excess of \$300,000
- Provided sample analysis for LRMC decommissioning earning NRMC Command recognition
- Received the meritorious service award for outstanding performance.

REGINA L. MILLER

Health Physics Operations

1992-1993

Walter Reed Army Medical Center, Washington, D.C.

- Provided Radiation Protection Program support for a Medical Health Physics Program operating under a broad scope license. Supported therapeutic administration of radiopharmaceuticals as well as brachytherapy procedures.
- Performed daily operations in waste management, radiation patient monitoring, x-ray compliance surveys, radioactive material use surveys, laboratory analysis, source accountability and leak testing, personnel bioassay and dosimetry.

PROFESSIONAL CERTIFICATIONS and Affiliations

National Registry of Radiation Protection Technologists, 1999

Certified Occupational Hearing Conservationist, 2003

J.L. Shepherd Model 81 Co-60 Operator, 2005

Civilian Education

M.A.E.D., Teaching and Instruction, Touro University, Cypress, California, 2005

B.S.H.S, Health Educator, Touro University, Cypress, California, 2003

Associate Degree, Occupational and Environmental Health Sciences, University of Phoenix, 1998

Certificate, Problem Solving Course for the ABHP Certification Exam, BWCHPS, USUHS, 2005

Certificate, Emergency and Disaster Management, Touro University, Cypress, California, 2003

Certificate, Health Physics in Radiation Accidents, REAC/TS, Oak Ridge, Tennessee, 2003

Certificate, US DOD Radioactive Waste Guidance, Chem-Nuclear Systems, 2000

Certificate, Radiation Safety and Health Protection, Environmental Protection Agency, 1999

Certificate, Effects of Radiation in a Medical Setting, Texas Tech University, 1999

Certificate, Environment, Health and Safety Compliance, Government Technical Support Institute, Williamsburg, Virginia, 1998

Certificate, Radiological Emergency Response, National Emergency Training Center, 1997

Certificate, Standards for Protection Against Radiation, Alexander Corporation, 1994

Military Education

Certificate, Anti-Terrorism Level-1 Awareness, USUHS, Bethesda, 2005

Certificate, Radiological Emergency Team Operations, Kirtland AFB, New Mexico, 2003

Certificate, Medical Effects of Ionizing Radiation, FSH, Texas, 2001

Certificate, Leadership Education and Development, FSH, TX, 1999

Certificate, Intermediate Industrial Hygiene Topics Course, FSH, TX, 1998

Certificate, Basic Industrial Hygiene Course, Honor Graduate, FSH, TX, 1997

Diploma, Instructor Training Course U.S. Army, Fort Knox, Kentucky, 1997

Certificate, Laser and Radiofrequency Radiation Hazards, APG, Maryland, 1994

Certificate, Radiation Safety and Regulatory Compliance, U.S. Army, Fort Belvoir, VA, 1994

Certificate, Safe Use of NRC Licensed Commodities, Fort Belvoir, VA, 1994

Certificate, Nuclear Hazards Training Course, Defense Nuclear Agency, New Mexico, 1994

Certificate, Medical Management in Radiation Accidents, REACT/S, WRAMC, 1993

Certificate, Medical Effects of Nuclear Weapons Course, U.S. Army, Bethesda, Maryland, 1992

Certificate, Introductory Principles of Radiation Protection, Walter Reed AMC, 1992

Diploma, Health Physics Specialist Course, FSH, Texas, 1992



ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE

8901 WISCONSIN AVENUE
BETHESDA, MARYLAND 20889-5603

January 23, 2006

MEMORANDUM FOR DISTRIBUTION A

SUBJECT: Radiation Safety Officer and Radiation Safety Committee Member
Appointments

References: (a) AFRRI Instruction 6055.8E, Radiation Protection Program, 20
April 2005

(b) 10 March 2003 AFRRI memorandum, same subject

Regina L. Miller, SFC, USA, Safety and Health Department, is appointed the AFRRI Radiation Safety Officer, and to membership on the Radiation Safety Committee and its two subcommittees, the Radionuclide and X-Ray Safety Subcommittee and the Reactor and Radiation Facility Safety Subcommittee.

SFC Miller will assume the duties and responsibilities as specified in reference a.

This appointment takes effect on 1 February 2006, pending NRC approval.

This memorandum supersedes reference b.



DAVID G. JARRETT
COL, MC, USA
Director

cc:
SHD
RRFSS
RXSS

SHD: DS:ep
20 April 2005

AFRRI Instruction 6055.8F

Radiation Protection Program

- Ref: a. U.S. Nuclear Regulatory Commission licenses R-84 (Reactor), 19-08330-02 (Broad Byproduct Materials), and 19-08330-03 (Cobalt Facility)
b. Title 10, Code of Federal Regulations (CFR): Energy
c. DoD Instruction 6055.8, Occupational Radiation Protection Program
d. NAVMED P-5055: Radiation Health Protection Manual
e. Technical Specifications for the AFRRI Reactor Facility
f. AFRRI Emergency Response Guidebook
1. **Purpose.** To establish policy and responsibilities to ensure the safe use of ionizing radiation sources and to implement the Radiation Protection Program at the Armed Forces Radiobiology Research Institute (AFRRI) in accordance with references (a) through (f).
 2. **Cancellation.** AFRRI Instruction 6055.8E, Radiation Protection Program, 18 June 2001.
 3. **Applicability.** This instruction applies to all persons working, visiting, or otherwise having access to AFRRI.
 4. **Definitions**
 - a. *AFRRI Radiation Program.* Encompasses the possession, use, and safety aspects of all radiation producing machines, radiation sources and radioactive materials used and possessed at AFRRI. The Radiation Safety Officer (RSO) operates autonomously on a daily basis, but the program is administered by the Facility Radiation Manager (FRM).
 - b. *Annually.* A requirement to repeat an action/tasker no later than one month following the anniversary date of the previous action/tasker.
 - c. *Cobalt operator.* An individual approved by the RSC to operate the AFRRI panoramic wet-source storage irradiator.
 - d. *Dosimeter.* A device worn by an individual to monitor radiation exposure. The device may be a thermoluminescent dosimeter (TLD), a pocket chamber, or other device approved by the RSC for this purpose.
 - e. *Emergency Response Team commander.* The Reactor Facility Director (RFD) is designated as the Emergency Response Team Commander. This individual organizes and maintains a team of staff members to respond to incidents involving fire, medical, chemical, and radiological hazards

- f. *Facility director*. An individual reviewed by the RSC and authorized by the AFRRI Director to be responsible for a designated facility such as, the linear accelerator (LINAC), cobalt facility, industrial or veterinary diagnostic x-ray machines or the Chronic Low Level Radiation Facility (CLLRF).
- g. *Facility Operator*. An individual that has been approved by the RSC and appropriate facility director to be an operator in an AFRRI designated facility.
- h. *Facility Radiation Manager (FRM)*. The individual (usually the Head, Radiation Sciences Department) designated by the AFRRI Director to execute the AFRRI radiation program on his/her behalf.
- i. *General employee*. Any staff member not listed on a radionuclide experiment authorization (REA).
- j. *High radiation area*. Any accessible area in which an individual could receive a radiation dose equivalent in excess of 0.1 rem (1 mSv) in one hour at 30 centimeters from the radiation source or from any surface that the radiation penetrates.
- k. *Ionizing radiation* (hereafter referred to as radiation). Any electro-magnetic or particulate radiation capable of producing ions, directly or indirectly, in its passage through matter.
- l. *Member of the public*. Any individual except when that individual is receiving an occupational dose.
- m. *Minor*. An individual less than 18 years of age.
- n. *Non-AFRRI personnel*. An individual such as a guest investigator who is not issued a picture security badge but may be unescorted or an individual such as a visitor who may require an escort.
- o. *Occupational dose*. The dose received by an individual in the course of employment in which the individual's assigned duties involve exposure to radiation and/or to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee or other person. Occupational dose does not include dose received from background radiation, as a patient from medical practices, from voluntary participation in medical research programs, or as a member of the public.
- p. *Planned special exposure*. An infrequent exposure to radiation separate from and in addition to the annual dose limit.
- q. *Principal investigator (Rad PI)*. An individual approved by the RSC to procure and use radioactive material under an REA.
- r. *Protocol*. A subset of an REA in which specific radionuclides, procedures, and personnel are identified and have received RSC approval.
- s. *Public dose*. The dose received by a member of the public from exposure to radioactive material released by a licensee, or to any other source of radiation under the control of a licensee. It does not include occupational dose or doses received from background radiation, as a patient from medical practices, or from voluntary participation in medical research programs.
- t. *Radiation area*. Any accessible area in which an individual could receive a radiation dose equivalent in excess of 0.005 rem (0.05 mSv) in 1 hour at 30 centimeters from the radiation source or from any surface that the radiation penetrates.

- u. *Radiation Safety Committee*. The Radiation Safety Committee (RSC) is the advisory body for the use of all radioactive materials and radiation producing machines within AFRRI. The RSC is divided into two subcommittees, the Radiation and X-ray Safety Subcommittee (RXSS) and the Reactor and Radiation Facilities Subcommittee (RRFSS). The RXSS deals primarily with facility issues, while the RRFSS deals primarily with isotope and byproduct issues.
- v. *Radiation worker*. An individual who receives exposure to ionizing radiation in the course of their employment or duties and receive specialized training to use radioactive materials and/or radiation source facilities.
- w. *Radionuclide experiment authorization (REA)*. An authorization issued by the RSC to qualified investigators allowing them to conduct protocols with specific radioactive sources materials.
- x. *Radioactive material*. The byproduct, source, and/or special nuclear material listed on a Nuclear Regulatory Commission materials license.
- y. *Radiation safety officer (RSO)*. The individual responsible for formulating, implementing, and monitoring AFRRI's radiation safety program in compliance with regulatory and license requirements.
- z. *Reactor Facility Director (RFD)*. The individual responsible to the AFRRI Director for operational, technical, and safety matters pertaining to the utilization of the AFRRI-TRIGA reactor, and for ensuring compliance with NRC licenses and regulations as well as internal reactor operational procedures.
- aa. *Reactor operator and senior reactor operator*. Individuals who have been licensed by the NRC and approved by the RFD to operate the AFRRI TRIGA reactor.
- bb. *Respiratory protective equipment*. An apparatus, such as a respirator, used to reduce an individual's intake of airborne radioactive material.
- cc. *Restricted area*. Any area to which access is controlled under a license issued by the NRC to protect individuals against undue risks from exposure to radiation and radioactive materials.
- dd. *Sealed source*. Any byproduct material that is encased in a capsule designed to prevent leakage or escape of the byproduct material.
- ee. *Senior investigator (Rad SI)*. An individual who is approved by the RSC to use radioactive material in an unsupervised capacity and works under the direction of a principal investigator.
- ff. *Source custodian (Rad SC)*. An individual designated by a principal investigator to account for all radioactive materials held under a specific REA.
- gg. *Sponsor*. An AFRRI staff member designated as responsible for non-AFRRI personnel.
- hh. *Supervised user (Rad SU)*. An individual who is designated by the principal investigator and is authorized by the RSC to handle or use the radioactive material or sources identified in a protocol under a REA in a supervised capacity.
- ii. *Tenant*. A non-staff individual who utilizes AFRRI services and space for administrative and/or research purposes. Tenants are responsible for compliance with all AFRRI and NRC policies and regulations.

- jj. *Very high radiation area.* An accessible area in which an individual could absorb radiation levels at a dose in excess of 500 rads in 1 hour at 1 meter from a radiation source or from any surface that the radiation penetrates.

5. Radiation Safety Committee (RSC)

- a. The RSC, established by charter, is responsible to the Director for radiation safety policy. The RSC consists of a committee core, and two subcommittees, the Reactor and Radiation Facilities Safety Subcommittee (RRFSS), and the Radioisotope and X-ray Safety Subcommittee (RXSS).
- b. The RSC has these general responsibilities:
 - (1) Radiation safety policy for all radiation sources and radiation producing devices;
 - (2) Evaluation and approval of new radiation users, and new uses of radiation;
 - (3) Review and approval of radiation safety program and procedure changes;
 - (4) Review of radiation safety program performance indicators, including personnel dosimetry data, radiation surveys, radiation safety training, and incidents involving radioactive contamination;
 - (5) Annual program audits;
 - (6) Ensuring that radiation exposures are As Low As Reasonably Achievable (ALARA).
 - (7) Publishing RSC minutes.
- c. The RRFSS, in conjunction with the committee core, has these specific responsibilities:
 - (1) Radiation safety oversight of the reactor, the cobalt irradiation facility, the Philips industrial x-ray facility, the LINAC, and the low-level radiation facility.
 - (2) Approve facility directors, facility operators.
 - (3) Review and approve radiation facility modifications.

- d. The RXSS, in conjunction with the committee core, has these specific responsibilities:
 - (1) Radiation safety oversight of sealed and dispersible radioactive materials used under the provisions of AFRRI's broad scope radioactive material license, and radiation devices not under the purview of the RRFSS.
 - (2) Review and approval of new uses, and new users of radioactive material and radiation.
 - (3) Approval and re-approval of principal investigators for veterinary x-ray systems.
- e. The RSC meets quarterly, and at the call of the Chair. The RXSS participates in each quarterly meeting. The RRFSS participates at least twice per calendar year.
- f. Each RSC member has one vote. Voting decisions require a 51% majority of those present, and agreement between the FRM and the RSO. If both conditions are not met, the matter is continued for further review.
- g. The RSC membership, appointed by the Director, consists of:
 - (1) RSC Core:
 - (a) The Director or his designee;
 - (b) The Facility Radiation Manager;
 - (c) The Radiation Safety Officer;
 - (d) The Reactor Facility Director;
 - (2) RRFSS:
 - (a) At least one, and not more than three non-AFRRI members appointed by the Director. One of non-AFRRI members shall be a reactor operations specialist or a health physics specialist.
 - (b) Temporary members appointed by the Director to address specific issues.
 - (c) The RSC core and RRFSS member shall have a minimum of six years of professional work experience in the discipline or specific field they

represent. A baccalaureate degree may satisfy four of the six years experience requirement.

(3) RXSS

- (a) Two principal or senior investigators from the Scientific Research Department (SRD).
- (b) One Facility Director (who may also serve as an SRD representative).
- (c) A veterinarian from Veterinary Sciences Division
- (d) Other members appointed at the discretion of the Director.

h. An RSC quorum consists of the core members, plus:

- (1) For the RRFSS, the Reactor Facility Director, and one non-AFRRI member.
- (2) For the RXSS, two-thirds of the combined core and subcommittee membership.

6. Policy

a. Personnel monitoring

- (1) Except as provided in (3) below, every individual entering a radiation area shall wear an AFRRI-supplied dosimeter.
- (2) Individuals listed on a REA or who enter a radiation area, a high radiation area, or very high radiation area shall be issued a dosimeter.
- (3) At least two individuals in a tour group shall wear pocket chambers.

b. Planned special exposures. No planned special exposures shall be permitted without written authorization from the RSC and AFRRI Director.

c. Radiological control and training

- (1) All personnel granted unescorted access into the AFRRI complex shall attend SHD's general employee briefing before entering the card-keyed area. The briefing shall be repeated annually thereafter.
- (2) Individuals handling radioactive materials or operating machine produce radiation shall receive specialize safety training from SHD prior to such activity and annually thereafter.

- (3) Individuals handling radioactive materials outside of the reactor-controlled area for reasons other than transfer to another NRC licensee shall be listed on a REA.
- (4) Individuals transferring radioactive materials to another NRC licensee off the National Naval Medical Center site shall have received the training specified in paragraph 5c(2) above to include additional training on the shipping requirements for the material being transferred.
- (5) Individuals not listed on a REA shall not be permitted in any radiation area, high radiation area, or very high radiation area without having received the training specified in paragraph 5c(2) above.

d. Minors

- (1) Minors permitted access to the building shall not enter any radiation area, high-radiation area, or very high radiation area, as defined in 10 CFR 20, reference (b).
- (2) Minors are permitted to work with sealed radioactive sources in exempt quantities, as defined in 10 CFR 30, reference (b).
- (3) Minors are permitted to work with all other radioactive materials only when approved by the RSC.

e. Medical surveillance

- (1) The RSO shall ensure that personnel, who are likely to exceed 10% of the occupational exposure limits set forth in 10 CFR 20, participate in a medical surveillance program as described in reference (d).
- (2) The medical surveillance program shall include a baseline examination to be given before or as soon as possible after initiating protocols in which paragraph 5e(1) applies.
- (3) Individuals exceeding the 10% limits shall be re-examined per reference (d) requirements and receive a termination medical examination consisting of the same requirements as for the baseline examination.

f. Respiratory protective equipment. Process controls, engineering controls, control of access, and/or limitation of exposure time shall be used to limit intakes due to concentrations of radioactive material in the air. Respiratory protective equipment shall not be used to limit the intake of radioactive materials without specific RSC authorization.

- g. Fetal dose or prenatal radiation exposure. Pregnant AFRRI personnel shall be encouraged to declare their pregnancy to their supervisors and to SHD so that additional information on radiation exposure of the embryo/fetus may be provided. For the duration of the pregnancy, declared pregnant women shall be reassigned from specific tasks that are likely to result in a total dose of 0.5 rem or more to the unborn child. Reassignment shall entail no loss of job security or economic penalty to the worker.
- h. ALARA. AFRRI shall conduct all projects and operations involving radiation sources through detailed planning of experiments and engineered safeguards to ensure that all radiation exposures are kept to a level "As Low As Reasonably Achievable" (ALARA). Personal protection devices, personnel training, and supervisory controls shall be used when necessary. ALARA levels shall also apply to exposures to the general public via radioactive material releases to the environment.
- i. Injured/irradiated personnel. Medical treatment of personnel seriously injured is the primary concern during an emergency.

7. Responsibilities

- a. The director shall appoint all members of the RSC, permit and control the use of radioactive materials and radiation sources, and ensure compliance with all elements of the Radiation Protection Program.
- b. Facility Radiation Manager (RFM) - Executive Management
 - (1) The FRM discharges the radiation program executive management responsibilities on behalf of the director of AFRRI (the NRC licensee).
 - (2) Manages all radiation sources used within the institute, including the reactor (license R-84), sealed sources (license 19-08330-02), cobalt facility (license 19-08330-03), radioactive materials, and machine-produced radiation.
 - (3) Provides executive management oversight for all aspects of radiation and radioactive material use at the institute.
 - (4) Functions as the licensee's executive management representative for the institute's Nuclear Regulatory Commission (NRC) licenses.
 - (5) Ensures that radiation safety practices are in accordance with regulations and conditions of the institute's NRC licenses.
 - (6) Makes recommendations to the Director regarding composition, roles, and responsibilities of the institute's Radiation Safety Committee (RSC), and on the delegation of resources to support the radiation program.

(7) Facilitates, on behalf of executive management, effective and prompt action in response to the RSC and the Radiation Safety Officer (RSO), including, and particularly in the event of an emergency involving radiation.

(8) Works with the RSO to proactively address radiation safety issues.

c. Radiation Safety Officer (RSO)

(1) Assume day-to-day execution of the AFRRI radiation protection program.

(2) Has direct access to the AFRRI director for discussion of radiation safety concerns and issues. Coordinate with the FRM as appropriate. Also, has full access to all radiation activities at the institute.

(3) Has the authority to terminate any operation in which health and safety appear to be compromised or violate the conditions specified in references (a) through (f) and those in this instruction.

(4) Implement and administer the Radiation Protection Program through HPPs and other documents that are reviewed by the RSC. HPPs shall be developed for specific tasks according to the following categories:

- Radiological administration and control
- Personnel monitoring
- Environmental monitoring
- Reactor health physics
- Radiation facilities
- Sealed radioactive sources
- Unsealed radioactive sources
- Radiological instrumentation
- General health physics

(5) Has the following specific responsibilities:

1. Acts as executive agent for the maintenance of Nuclear Regulatory Commission licenses.
2. Works closely with the Facility Radiation Manager and the RSC to implement the radiation safety program.
3. Is a member of the RSC, and serves as the committee's administrator and meeting recorder.
4. Conducts preliminary reviews of proposed uses and users of radiation prior to discussion at the RSC.

5. Monitors and surveys all areas in which radiation or radioactive material are used.
 6. Provides oversight for ordering, receipt, receipt surveys, and delivery of radioactive material.
 7. Specifies packaging, labeling, and survey requirements for radioactive shipments leaving the facility.
 8. Coordinates the personnel dosimetry program, including determining the need for dosimeters and bioassays.
 9. Conducts radiation safety training.
 10. Operates the radioactive waste disposal program.
 11. Conducts radiation source inventories and leak testing.
 12. Supervises decontamination of work spaces and personnel.
 13. Investigates incidents and responds to radiation emergencies.
 14. Maintains radiation safety program records.
- d. The Reactor Facility Director (RFD) shall accomplish the following:
- (1) Ensure that all reactor operations are conducted in accordance with ALARA principles, reference (e), and all applicable regulations on radiation protection.
 - (2) Report directly to the AFRRI Director on all operational, technical, and safety matters relating to the reactor.
 - (3) Ensure that all personnel handling radioactive material within the reactor-controlled area have received the training specified in this instruction prior to handling such material.
 - (4) Review the radiation exposure of reactor staff members and all other personnel who use the reactor facility.
 - (5) Serve as a member of the RSC.
 - (6) Prepare and submit an annual report of special nuclear material to the U.S. Department of Energy.

- e. The security officer of the Security Division shall ensure that all internal security personnel have received training in the appropriate response to radiological incidents and in the handling of incoming radioactive material packages as specified by the RSO.
- f. The head of the Logistics and Engineering Department (LOG) shall ensure that purchase requisitions for radioactive materials are not processed without specific SHD approval and that appropriate support in electronic maintenance and calibration of radiological safety instrumentation is made available to SHD.
- g. AFRRI personnel shall report to the RSO, the head of SHD, the FRM, or the AFRRI director, (as appropriate), any suspected defects or operations that may fail to comply with any rule, regulation, order, or license of the NRC, or that may create a safety hazard. Department heads shall be responsible for enforcing the Radiation Protection Program in their departments.
- h. Principal investigators shall accomplish the following:
 - (1) Ensure that all radioactive sources in their custody have been accounted for on their source inventories.
 - (2) Be responsible for the overall management of the REA to include notifying the RSO of any changes.
 - (3) Notify SHD of any operation likely to result in a hazardous condition. The burden of conservatism in notifying SHD rests with the PI.
 - (4) Ensure that all radionuclides used are authorized by maintaining a working knowledge of and complying with all pertinent provisions of such authorization.
 - (5) Supervise the use of radioactive material by individuals named on their REA.
 - (6) Ensure that personnel using or transporting radioactive materials under their REA are properly trained and are specifically authorized to use or transport such materials.
 - (7) Maintain a copy of the Radiation Safety Training Manual, the Safety and Health Manual, and their REA, and ensure that personnel under their REA have been indoctrinated in the pertinent provisions of the above documents.
- i. Senior investigators (RAD SI) shall accomplish the following:
 - (1) Supervise the use of radionuclides by supervised users under their REA.

- (2) Perform only approved operations under a REA without the principal investigator's direct supervision.
 - (3) Be familiar and comply with procedures and conditions specified in the Radiation Safety Training Manual, the Safety and Health Manual, and the protocols under the radionuclide authorization.
- j. Supervised users shall accomplish the following:
 - (1) Use radionuclides only when supervised by a senior investigator or a principal investigator who is physically present within the AFRRI complex.
 - (2) Be familiar and comply with the procedures and conditions specified in the Safety and Health Manual and in the protocols under the REA.
- k. Source custodians shall maintain lists of all accountable radioactive sources in their custody for review at all times. They shall also perform a quarterly physical inventory of all radioactive sources held under their particular radionuclide authorization.
- l. Facility operators of machine-produced x-ray radiation or sealed source irradiation devices shall maintain control over the safe operation of such machines and devices. The Facility operator shall also ensure that the operators use the required safety equipment when operating these machines and devices.
- m. Authorized operators shall immediately notify source Facility operator or the RSO of any condition appearing to create a hazard or compromising their ability to maintain effective control over the ionizing radiation-producing devices.
- n. Facility operators shall be responsible for radiation safety during all operations of their large-source facility. They shall immediately notify the RSO of any condition that might create a hazard or compromise their ability to maintain effective control over the large-source facility.
- o. Sponsors shall accomplish the following:
 - (1) Ensure that non-AFRRI personnel under their sponsorship do not handle radioactive materials or enter any radiation area, high-radiation area, or very high radiation area without the appropriate authorization.
 - (2) Ensure that access to areas posted with a radioactive materials sign has been approved by the principal investigator or senior investigator responsible for that area.
 - (3) Ensure that minors are not allowed access to any radiation area, high-radiation area or very high radiation area.

- (4) Ensure that non-AFRRI personnel under their sponsorship with unescorted access to the Institute are familiar with and comply with this instruction.
 - p. General employees shall be familiar with and comply with the procedures and conditions specified in the Safety and Health Manual or its electronic equivalent.
 - q. AFRRI personnel shall accomplish the following:
 - (1) Report to their supervisors or department heads any suspected defects or operations that may create a safety hazard or fail to comply with any rule, regulation, order, or license of the NRC.
 - (2) Wear a dosimetry device at all times while in the AFRRI radiation restricted areas.
 - r. Non-AFRRI personnel shall accomplish the following:
 - (1) Escorted non-AFRRI personnel shall wear the dosimeter (when required) and security badges issued to them and shall remain with their sponsors at all times.
 - (2) Unescorted non-AFRRI personnel shall wear the dosimeter (when required) and security badge issued as well as maintain a copy of, be familiar with, and comply with the procedures and conditions specified in the Safety and Health Manual or its electronic equivalent.
 - s. The ERT commander shall provide additional radiological support to SHD and any required services as specified in reference (f).
8. **Retention.** This instruction is a permanent record relating specifically to mission functions at AFRRI. The Administration Support Department shall retire and retain the superseded instruction and coordination papers in accordance with AFRRI Instruction 5015.2 series, Records Management Program, and its references.

FOR THE DIRECTOR:

EDWARD M. JENKINS
LtCol, MSC, USAF
Deputy Director for Administration

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

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☒ Amended, 19-08330-02 & 19-08330-03
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.

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