Chapter 2. USACE Personnel Responsibilities and Qualifications.

2-1. The Chief, Safety and Occupational Health Office (CESO), HQUSACE.

The Chief, Safety and Occupational Health Office, HQUSACE, is responsible for program management and oversight for licensing, accountability, possession, use, storage, transfer and disposal of all radioactive material and radiation generating devices within USACE. This responsibility shall be discharged by:

a. Appointing and maintaining on staff a qualified Radiation Protection Staff Officer (RPSO).

b. Assuring Command implementation of Department of Army and USACE radiation protection policy.

2-2. Radiation Protection Staff Officer (RPSO).

a. The RPSO is an individual designated by the Chief, Safety and Occupational Health Office, to serve as the MACOM RPSO responsible for the USACE Radiation Protection Program. The RPSO will have the following necessary training, experience, and education:

(1) an individual who meets the qualification and classification standards for the Office of Personnel Management (OPM) job series for a GS-1306, Health Physicist; GS-690, Industrial Hygienist; or GS-803, Safety Engineer; with three years of experience in the occupational health/radiation protection field.

(2) forty hours of formal training covering:

(a) the physics of radiation, radiation's interaction with matter, and the mathematics necessary to understand the above subjects;

(b) the biological effects of radiation;

(c) the instrumentation necessary to detect, monitor, and survey radiation, and the use of such instrumentation; and

(d) radiation safety techniques and procedures. This training shall include the use of time, distance, shielding, engineering controls, and personnel protective equipment (PPE) to reduce exposure to radiation.

(3) practical, hands-on experience using radiation instrumentation, procedures, and theory.

(4) a working knowledge of the Army Radiation Protection Program and the USACE Radiation Protection Program and the record keeping requirements for work with radioactive material and radiation generating devices.

(5) a working knowledge of US Nuclear Regulatory Commission (NRC), US Environmental Protection Agency (EPA), US Department of Energy (DOE), US Department of Transportation (DOT), and US Department of Labor (DOL) which is the responsible for the US Occupational Safety and Health Administration (OSHA), and US Army regulations pertaining to radioactive material and radiation generating devices.

b. Duties of the RPSO are as follows:

(1) Serve as the primary liaison between USACE, DA and NRC in matters concerning radioactive materials or radiation generating devices.

(2) All NRC license actions will be submitted through, reviewed, and accepted by the RPSO.

(3) Provide a copy of all correspondence relating to NRC applications to DA as required. The RPSO will retain copies of all NRC radioactive material licenses and correspondence (originals will be retained by the licensee).

(4) Ensure that each USACE Command possessing an NRC radioactive material license is audited at least triennially to ensure compliance with the USACE Radiation Protection Program. The RPSO, or designee, will check for compliance with the USACE Radiation Protection Program and the NRC radioactive material license. The RPSO, or his designee will document all inspection findings and submit them to the audited USACE Command for review and action.

2-3. USACE Commanders.

USACE Commanders shall:

a. Ensure a Radiation Protection Committee (RPC) shall be formed when the Command possesses an NRC license with a condition stating that the licensee shall have a RPC, or if the Commander considers an RPC necessary. The RPC will consist of personnel and duties described in subparagraph 2-11.

b. Designate, in writing, a qualified person to serve as USACE Radiation Protection Officer (RPO) when any of the following is true:

(1) an NRC License, Army Reactor Permit, ARA or applicable technical publication requires it,

USACE Radiation Protection Program and the record keeping requirements for work with radioactive material and radiation generating devices.

(5) a working knowledge of US Nuclear Regulatory Commission (NRC), US Environmental Protection Agency (EPA), US Department of Energy (DOE), US Department of Transportation (DOT), and US Department of Labor (DOL) which is the responsible for the US Occupational Safety and Health Administration (OSHA), and US Army regulations pertaining to radioactive material and radiation generating devices.

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b. Designate, in writing, a qualified person to serve as USACE Radiation Protection Officer (RPO) when any of the following is true:

(1) an NRC License, Army Reactor Permit, ARA or applicable technical publication requires it,

(2) personnel are required to wear dosimetry,

(3) personnel are required to participate in a bioassay program.

c. Fund, maintain and support the RPO and the Radiation Protection Program. The RPO shall meet the qualifications and provide the services described in paragraph 2-4.

d. Fund, maintain and support the Laser Safety Officer (LSO) and the Laser Safety Program when a USACE Command operates, maintains or services a non-type-classified class IIIb or class IV laser system as defined in section 1.3, ANSI Z136.1. The RPO may be designated as the LSO. The LSO shall meet the qualifications and provide the services described in paragraph 2-5.

2-4. Radiation Protection Officer (RPO).

a. The RPO (also known as a Radiation Safety Officer (RSO) in other documents) is a person, designated by the USACE Command, and tasked with the supervision of the USACE Radiation Protection Program for that command. The RPO shall have direct access to the Commander for radiation protection purposes. The RPO ensures compliance with current directives (AR's, ER 385-1-80, EM 385-1-1, etc.) for radiation protection and with this manual. The RPO may limit or cease operations within their Command where there is an eminent and legitimate radiation safety issue.

b. The RPO shall be responsible for:

(1) Establishing written policies and procedures to assure compliance with applicable Federal, DOD, and Army radiation protection regulations and directives. These documents will include emergency reaction plans as necessary and procedures for investigating and reporting radiation accidents, incidents, and overexposures.

(2) Assuring that all personnel occupationally exposed to radiation receive appropriate radiation protection training commensurate with potential hazards from radiation sources they may encounter.

(3) Maintaining an inventory of radiation sources as higher headquarters directs and IAW with requirements of NRC licenses, Army reactor permits, ARAs, and technical publications.

(4) Approving and filing records noting all Authorized Users, Authorized Users' Assistants and site supervisors working with radioactive materials or radiation

generating devices within the Command.

(6) Providing or securing an acceptable source for all required initial and annual refresher training for all individuals within the Command.

c. The RPO will review the USACE Radiation Protection Program for their Command annually for content and implementation. The RPO will assure that the quality and timeliness of the program meet the radiation safety standards outlined in this manual. The RPO will review work with radiation within the Command. The RPO will write and/or review Standing Operating Procedures to ensure the safety, timeliness, and compatibility with existing radiation regulations.

d. The RPO will be technically qualified, meeting the experience, training, and education requirements listed below:

(1) A working knowledge of NRC, EPA, DOE, DOT, and US Army regulations pertaining to radioactive material, radiation generating devices, radioactive and mixed waste used within their Command.

(2) Forty hours of formal training covering:

(a) the physics of radiation, radiation's interaction with matter, and the mathematics necessary to understand the above subjects;

(b) the biological effects of radiation;

(c) the instrumentation necessary to detect, monitor, and survey radiation, and the use of such instrumentation; and

(d) radiation safety techniques and procedures. This training will include the use of time, distance, shielding, engineering controls, and PPE to reduce exposure to radiation.

(3) Practical, hands-on experience using radiation instrumentation, procedures, and theory.

(4) A working knowledge of the Army Radiation Protection Program and the USACE Radiation Protection Program, and the record keeping requirements for work with radioactive material and radiation generating devices used within their Command.

2-5. Laser Safety Officer (LSO).

a. The LSO is a person designated by the USACE Command tasked with the supervision of the Laser Sections of the USACE Radiation Protection Program

for that command. The LSO ensures compliance with current directives for laser safety (EM 385-1-1, TB MED 524, ANSI Z136.1, etc.) and with this manual.

b. The LSO will review the USACE Laser Safety Program for their Command annually for content and implementation. The LSO will assure that the quality and timeliness of the program meet the laser safety standards outlined in this manual. The LSO will write and review Standing Operating Procedures to ensure the safety, timeliness, and compatibility with existing laser regulations.

c. The LSO will be technically qualified, meeting the experience, training, and education requirements listed below:

(1) A working knowledge of applicable regulations pertaining to lasers used within their Command.

(2) Practical, hands-on experience using lasers, laser procedures, and laser theory.

(3) A working knowledge of the Army Radiation Protection Program and the USACE Radiation Protection Program, and the record keeping requirements for work with lasers within their Command.

2-6. Qualified Health Physics Personnel.

A qualified Health Physicist (HP) is responsible for assisting the RPO with their USACE Command Radiation Protection Program, and reviewing Scopes of Work, Work Plans, and/or Site Safety and Health Plans for all work involving radiation. Qualified HPs are personnel:

a. Meeting the Office of Personnel Management Standards for the HP Series, GS-1306, and having three years experience in work with radiation; or

b. Certified as a Health Physicist by the American Board of Health Physics, or certified by the American Board of Industrial Hygiene (Certified Industrial Hygienist) and one year experience working with radiation; or

c. Identified as being a qualified HP by the Director of Army Radiation Protection, Army Safety Office, or the Army Surgeon General, and having three years experience in work with radiation.

2-7. Authorized Users (AUs).

AUs are individuals who, by their training and experience, are allowed to work, unsupervised, with radioactive material or radiation generating devices. AUs may

also directly supervise Authorized Users Assistants working with radioactive material. All AUs must be approved by the facility RPC, if one exists. If the facility does not require an RPC, the AUs must be approved by the RPO. All AUs must meet the following training and experience requirements:

a. A working knowledge of applicable regulations pertaining to radioactive material, radiation generating devices, and radioactive and mixed waste with which they may be working;

b. Unless different requirements are stated in the license, authorization or permit conditions, eight clock hours of formal training covering:

(1) the physics of radiation, radiation's interaction with matter, and the mathematics necessary to understand the above subjects;

(2) the biological effects of radiation;

(3) the instrumentation necessary to detect, monitor, and survey radiation, and the use of such instrumentation; and

(4) radiation safety techniques and procedures. This training will include the use of time, distance, shielding, engineering controls, and PPE to reduce exposure to radiation.

c. Practical, hands-on experience using radiation instrumentation and procedures. The level of training will be commensurate with the hazard presented by the radioactive material or radiation generating device; and

d. A working knowledge of the USACE and his or her USACE Command Radiation Protection Program, and the record keeping requirements for the radioactive material and radiation generating devices used in their work.

e. Instruction in their rights and their responsibilities under the USACE Command NRC license, or Army Radiation Authorization (ARA). This includes:

(1) the employer’s duty to provide safe working conditions;

(2) a report of all radiation exposure to the individual;

(3) the individual's responsibility to adhere to the NRC’s regulations and the Commands's radiation material

license, or ARA; and

(4) the individual's

responsibility to report any violation or other occurrence to the RPO.

f. Authorized users of portable gauges will also receive 8 hours training in the safety and use of the gauge from the manufacturer.

2-8. Authorized Users' Assistants (AUAs).

AUAs are individuals allowed to work with radioactive material only under the direct supervision of an AU (that is, in the physical presence of the AU). All AUAs must be nominated by the AU and approved by the RPO. AUAs will have the training and experience described below:

a. A total of at least four hours instruction in the following:

(1) the health effects associated with exposure to the radioactive material or radiation they work with;

(2) ways to minimize exposure;

(3) the purpose and use of protective equipment used in their work; and

(4) the applicable regulations to their work.

b. Practical, hands-on experience using radiation instrumentation and procedures.

c. Instruction in their rights and their responsibilities under the USACE Command NRC license, or ARA. This includes:

(1) the employer's duty to provide safe working conditions;

(2) a report of all radiation exposure to the individual;

(3) the individual's responsibility to adhere to the NRC's regulations and the Command's radioactive material license, or ARA; and

(4) the individual's responsibility to report any violation or other occurrence to the RPO.

2-9. Site Supervisors/ Construction Quality Assurance Personnel.

a. Individuals working as site supervisors or construction quality assurance representatives on projects involving radioactive material or radiation generating devices must be knowledgeable of: the principles of radiation protection; applicable regulations pertaining to radioactive material and radiation generating devices,

and the application of these principles and regulations to worker and public health and safety at project sites.

b. Individuals who supervise work or act as construction quality assurance representatives at sites involving radioactive material or radiation generating devices will have a minimum of eight hours of radiation safety training covering the following:

(1) physics of radiation, radiation's interaction with matter, and the mathematics necessary to understand the above subjects;

(2) biological effects of radiation;

(3) instrumentation necessary to detect, monitor, and survey radiation, and the use of such instrumentation; and

(4) radiation safety techniques and procedures. This training will include the use of time, distance, shielding, engineering controls, and PPE to reduce exposure to radiation.

2-10. Project/Plan/Procedure Originators and Reviewers.

a. Individuals who originate or review projects, plans, or procedures involving radioactive material or radiation generating devices must be knowledgeable of the principles of radiation protection, the applicable regulations pertaining to radioactive material and radiation generating devices, and the application of these principles and regulations to worker and public health and safety.

b. Originators and reviewers of plans, projects or procedures for work at sites using radioactive material or radiation generating devices will have a minimum of eight hours of radiation safety training covering the following:

(1) physics of radiation, radiation's interaction with matter, and the mathematics necessary to understand the above subjects;

(2) biological effects of radiation;

(3) instrumentation necessary to detect, monitor, and survey radiation, and the use of such instrumentation; and

(4) radiation safety techniques and procedures. This training will include the use of time, distance, shielding, engineering controls, and PPE to reduce exposure to radiation.

2-11. Radiation Protection Committee (RPC).

a. Each Command possessing an NRC license or an ARA with a

condition stating that the licensee shall have an RPC, or where the Commander deems necessary, shall form an RPC. At a minimum, the RPC will consist of:

(1) The Commanding Officer (CO) or deputy;

(2) The RPO, who will act as recorder for all meetings;

(3) The Chief; Safety and Occupational Health Office; and

(4) A representative Authorized User from each group using radioactive material or radiation generating devices in the Command.

b. The RPC is accountable to its USACE Commander. The CO or his/her deputy chairs the RPC. The RPC will meet at least once each six-month period and at the call of the chair. The RPC will continually evaluate radiological work activities, and make recommendations to the RPO and management. In addition to its responsibilities established in the Army Radiation Protection Program, the RPC responsibilities include:

(1) Annual review of USACE Command personnel exposure records;

(2) Establishing criteria for determining the appropriate level of review and authorization for work involving radiation exposure; and,

(3) Evaluating health and safety aspects of the construction and design of facilities and systems and planned major modifications or work activities involving radioactive material or radiation generating devices.

c. The RPO will furnish the installation commander and RPSO with copies of the minutes of all RPC meetings, within 30 days of the meeting.

2-12. Hazardous, Toxic and Radioactive Waste (HTRW), Center of Expertise (CX).

a. The HTRW-CX provides technical assistance to USACE headquarters, and design districts as requested on all areas of HTRW and environmental remediation. The CX has a staff that includes Technical Liaison Managers (TLMs), Chemists, Regulatory Specialists, Geotechnical, Process, and Cost Engineers, Risk Assessment, Industrial Hygiene and Health Physics personnel.

b. The HTRW-CX can provide technical assistance to the RPSO as requested, including:

(1) licensing,

(2) inspecting,

(3) product development,

(4) and advice and guidance on radiation safety and protection issues.

c. The HTRW-CX can provide support to other Commands on radiation safety issues, including radon, X-ray fluorescence devices for lead monitoring, etc.

2-13. Refresher Training.

USACE personnel who have completed their initial training, shall receive annual refresher training on the material described for each person in this chapter. The refresher training may be comprised of an update of SOPs, review of dosimetry results, changes in standards or guidance, equipment changes, and any other pertinent radiation safety information that needs review. The length of this training is dependent on the specific material being covered, it does not have to equal the time requirements needed for initial training. Personnel who have completed their initial training and any subsequent refresher training, but currently are not and will not be assigned to work involving radiation, are not required to be up-to-date

regarding the refresher training requirement. Personnel whose refresher training has lapsed may not work with radiation until after completion of refresher training. Personnel who have not received refresher training for over two years may be required, at the RPO's discretion, to repeat their initial training.

2-14. Additional Training - Special Applications.

Additional training may be required for work involving special applications (for example, plutonium, fissile uranium, tritium, and accelerator facilities). Personnel working with special applications should consult with the HTRW-CX for additional training requirements.

2-15. All Personnel including Visitors, at a Radiation Site.

a. Regulations require that all individuals who are likely to receive 100 mrem above background in one year shall be kept informed of the presence of radioactive material or radiation in the area and shall be instructed annually in the following:

(1) The health effects associated with exposure to the radioactive material or radiation;

(2) Ways to minimize exposure;

(3) The purpose and use of protective equipment and survey instruments used in the area;

(4) The regulations applicable to the area.

b. The extent of instruction shall be commensurate with the extent of the hazard in the area.