



DEPARTMENT OF THE NAVY
UNITED STATES NAVAL ACADEMY
121 BLAKE ROAD
ANNAPOLIS, MARYLAND 21402-1300

USNAINST 11080.1F
9/DivEngr&Wep
OCT 01 2009

USNA INSTRUCTION 11080.1F

From: Superintendent

Subj: RADIOLOGICAL SAFETY PROGRAM

Ref: (a) Radiation Health Protection Manual (NAVMED P-5055)
(b) Radiological Affairs Support Program (RASP) Manual (NAVSEA S0420-AA-RAD-010)

1. Purpose. To outline responsibilities and procedures for ensuring safe utilization of ionizing radiation sources.
2. Cancellation. USNAINST 11080.1E
3. Scope. This instruction applies to all ionizing radiation sources utilized by the Naval Academy for other than medical or dental purposes. This instruction also gives command authority to the provisions of ENGRWEPSINST 11102.1, Radiological Safety Manual for U.S. Naval Academy Nuclear Laboratories. This instruction is written in compliance with the requirements of reference (b).
4. Superintendent. The Superintendent, as Commanding Officer of the United States Naval Academy (USNA), retains overall responsibility for the RASP Radiological Safety Program per reference (b).
5. Academic Dean and Provost (ACDEAN). The ACDEAN will be permitted to perform, by direction of the Superintendent, duties listed in this instruction that are normally assigned to Commanding Officer by reference (b).
6. Radiation Safety Officer (RSO). A qualified RSO from the Division of Engineering and Weapons (DIR E&W) or Division of Mathematics and Science shall be appointed in writing by the Superintendent.
7. Assistant Radiation Safety Officers (ARSO's). One or more qualified Assistant Radiation Safety Officers from the Division of Engineering and Weapons or Division of Mathematics and Science may be appointed in writing by the Superintendent.
8. Radiation Safety Committee (RSC). The RSO will act as Chairperson of the RSC comprised of the ARSO; the Public Safety Office, Naval Support Activity, Annapolis; Safety and Occupational Health Manager or their designated Safety and Occupational Health Specialist; the Radiation Health Officer and representatives from each academic division utilizing ionizing radiation sources. Additional ad hoc membership may be requested by the RSO to consider specific radiation safety topics.
9. Radiation Health Officer (RHO). A qualified RHO from the Naval Health Clinic Annapolis will be appointed by the Commanding Officer, Naval Health Clinic Annapolis.
10. Responsibilities
 - a. Superintendent will retain overall responsibility for the Radiological Safety Program per reference (b).
 - b. ACDEAN will assign, in writing, qualified RASP RSO and ARSO's with direct access to the Superintendent on matters dealing with radiation safety.

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c. Director, Engineering and Weapons will:

(1) Ensure USNA compliance with the provisions of reference (b), other pertinent Navy directives, and federal and state regulations.

(2) Ensure USNA compliance with conditions of specific Navy Radioactive Material Permits (NRMP's).

(3) Ensure personnel exposure is maintained as low as reasonably achievable.

(4) Ensure that the established Radiological Safety Program is maintained current and that the RSO coordinates with the RHO to maintain an effective Radiation Health Program for USNA personnel.

(5) Ensure the RSO has sufficient time and commitment to fulfill his or her duties and responsibilities to ensure that RASP radiation sources are used and stored in a safe manner.

(6) Ensure that the RSO has independent authority to stop RASP operations that he or she considers unsafe.

(7) Endorse RASP directives for all sources of ionizing radiation owned by the Division of Engineering and Weapons.

d. Director of Divisions possessing sources of ionizing radiation will endorse RASP directives for all sources of ionizing radiation owned by the Division.

e. RSO will:

(1) Implement and maintain an effective RASP that complies with Navy and federal regulations and conditions of the NRMP's issued to the command.

(2) Provide advice and assistance to all elements of the command on all matters pertaining to RASP radiation safety requirements, procedures and command policy.

(3) Establish a liaison with the RHO at the Naval Health Clinic Annapolis to coordinate the RASP and Radiation Health Programs.

(4) Perform surveys and inspections as required to ensure compliance with the provisions of this manual and other pertinent Navy directives, specific NRMP's, and federal regulations.

(5) Develop, coordinate, and participate in training and orientation programs for RASP radiation exposed individuals and other personnel as required by this manual. Ensure personnel receive required training.

(6) Act authoritatively for the Superintendent to ensure that personnel exposure to RASP sources is maintained as low as reasonably achievable.

(7) Ensure that a RASP management review, audit, and inspection program is implemented in accordance with reference (b) and that program deficiencies are corrected expeditiously.

(8) Maintain current all applicable NRMP's by submitting amendment, renewal, or termination requests in a timely manner.

(9) Prepare operating and emergency procedures for the use of radioactive material, devices containing radioactive material, and machine sources of ionizing radiation to ensure compliance with pertinent NRMP's, Navy directives, and federal regulations.

(10) Review and approve all operating and emergency procedures pertaining to RASP operations.

(11) Maintain a current inventory of all RASP sources and ensure that sources are secured against loss, unauthorized use, or unauthorized disposal.

(12) Promptly report to the DIR E&W, RASO, and when necessary the Superintendent via the ACDEAN any violations of the provisions of a specific NRMP or pertinent Navy directive or federal requirement; or any accident significant incident, personnel injury, suspected overexposure, spread of contamination, or internal deposition involving RASP sources.

(13) Conduct an annual audit of the Radiological Safety Program to ensure all applicable radiation safety requirements are being met. The results of this audit will be forwarded to the Superintendent via the ACDEAN.

f. ARSO will:

(1) Assist the RSO as required in running the Radiological Safety Program.

(2) Be a member of the RSC.

(3) Assist the RSO in conducting the radiation safety audits.

g. RSC Members will:

(1) Collectively review and provide recommendations to the RSO regarding radiological matters of interdepartmental interest.

(2) Individually assist the RSO in administering the Radiological Safety Program within their respective areas. This includes the review and approval of divisional/departmental radiation safety instructions, operating procedures, and precautionary measures.

h. RHO will:

(1) Plan, supervise, and administer the Radiation Health Program for USNA per the requirements of reference (a).

(2) Be a member of the RSC.

(3) Advise the Superintendent via the RSO as to the hazards associated with radiation and effectiveness of control measures.

i. Department Chairpersons of all departments possessing sources of ionizing radiation will:

(1) Prepare detailed operating procedures and safety precautions in compliance with reference (b) and applicable NRMP for the use of ionizing radiation sources within their respective departments.

(2) Post the procedures, precautions, signs, and other documents required by applicable references.

(3) Provide suitable security arrangements to restrict access to all areas used in conjunction with radiation sources to authorized personnel.

(4) Provide funding for dosimetry devices utilized within their respective departments.

(5) Ensure all personnel are medically qualified, have completed appropriate training, and are knowledgeable of all operating procedures and safety precautions prior to use of any ionizing radiation sources.

(6) Route all orders for radioactive materials through the division's RSC representative and RSO.

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j. Supervisors of radiation workers or projects will:

(1) Maintain a current source inventory, knowing the exact location of each source, and assuring the sources are secured against unauthorized use.

(2) Ensure that RASP operations within their areas of responsibility are conducted in compliance with the provisions of this manual, specific NRMP's, and other pertinent Navy directives and federal regulations.

(3) Assist the RSO in preparing operating and emergency procedures for the use of radioactive material, devices containing radioactive material, and machine sources of ionizing radiation to ensure compliance with pertinent NRMP's, Navy directives, and federal regulations.

(4) Promptly report to the RSO any violation of the provisions of a specific NRMP or pertinent Navy directive or federal requirement; or any accident, significant incident, personnel injury, suspected overexposure, loss of control, spread of contamination, or internal disposition involving RASP sources.

(5) Post appropriate warning signs and notices.

(6) Ensure personnel have received thorough instructions prior to using or being exposed to ionizing radiation sources. This is of particular importance during laboratory work involving midshipmen.

(7) Control contamination and personnel exposure through enforcement of radiation safety procedures, rules, and special precautions.

(8) Ensure a termination radiation physical examination is conducted by the Occupational Health Officer, Naval Health Clinic, prior to the separation of any radiation workers.

k. All radiation workers will:

(1) Obey posted, verbal, and written RASP radiological control instruction.

(2) Wear dosimeters (e.g. thermo-luminescent dosimeter (TLD) and electronic or pocket dosimeters) as required and promptly report any lost or damaged dosimeters to their supervisor or RSO.

(3) Promptly report to their supervisor or RSO any incident, personnel injury, suspected overexposure, contamination, internal deposition, or any suspicious or questionable occurrence involving RASP sources.

(4) Be thoroughly familiar with equipment, procedures, and the requirement for, and use of, any special devices prior to using or operating any RASP radiation source.

(5) Avoid unnecessary exposure and use the concept of time, distance, and shielding when working in the presence of RASP radiation sources to maintain exposure as low as reasonably achievable.

11. Initial Action in Case of Emergency. Due to the nature of the normal uses of ionizing radiation sources, the likelihood of a major spill, or other uncontrolled spread of radiation, is extremely small. In case of any such emergency, the first person discovering the accident will announce audibly and clearly the presence of the radiological hazard to all persons in the immediate area. He will secure the immediate assistance of the first person or persons available to help in isolating the scene of the accident; detain those personnel possibly contaminated; keep others away; and will immediately contact one or more of the following: RSO, ARSO, RHO, Safety and Occupational Health Manager, or Public Safety Office. The RSO will be the on scene Commander. The telephone numbers of personnel to be contacted in case of an emergency shall be posted throughout the facilities. Outside of normal working hours, the Naval Academy Duty Officer (NADO) will notify the other officers listed above. The primary duty of the Fire Department and Department of Defense (DOD) Police will be to isolate the area to prevent further exposure or contamination of personnel.

12. Subsequent Action in Case of Emergency. The RSO, ARSO, the Safety and Occupational Health Manager, or the NADO (whoever is first on the scene of the accident) will arrange for immediate decontamination of personnel involved. The RHO will be promptly notified of all accident cases of exposure or accidental overexposure to radiation. After provision has been made for care of the injured, the supervisor having cognizance over the area where the accident occurred will be notified. In addition, the contaminated area will be roped off as soon as possible and plainly marked. The extent of the restricted area will be determined from available monitoring data or from knowledge of the circumstances of the accident. The supervisor having cognizance over the area is responsible for the cleanup operations under the general direction of the RSO.

13. Reporting Circumstances of a Radiation Emergency. No information regarding the circumstances of an emergency involving radioactive material will be released to the press or other public or private official without first obtaining the approval of the Superintendent.

14. Medical Examinations. Employees being considered for assignment to work involving routine exposure to sources of ionizing radiation will be required to meet minimum physical requirements and submit to the medical examinations required by Chapter 2 of reference (a). Questions as to what is considered routine exposure will be referred to the RSO for solution. This requirement will not normally apply to midshipmen other than those conducting special research.

15. Permissible Exposure. Safety instructions for specific uses of sources of ionizing radiation will be based on the maximum permissible exposure specified in Chapter 4 of reference (a).

16. Personal Monitoring Devices. Departmental instructions will specify procedures/requirements for TLDs and other personnel monitoring devices in accordance with reference (a). Such devices will be worn by the individual to whom it was issued, and must be worn during the entire period of potential exposure. Since TLDs are used to provide a permanent record of exposure to ionizing radiation, penalties will be applied to any individual who knowingly subjects his/her monitoring device to greater exposure than it would receive by being worn on his/her person. If an excessive exposure is reported, action will be taken to remove the individual(s) concerned from further exposure, and the supervisor will explain the circumstances in a written statement to the RSO.

/s/
J. L. FOWLER

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