

DEPARTMENT OF THE ARMY  
US Army Corps of Engineers  
Washington, D.C. 20314

ER 385-1-80

CESO

Regulation  
No. 385-1-80

30 May 1997

Safety  
IONIZING RADIATION PROTECTION

This is a complete revision of ER 385-1-80. Engineer Manual (EM) 385-1-80, Radiation Protection Manual, further prescribes and details the requirements contained in this ER.

1. Purpose. This regulation assigns safety and health responsibilities to:

a. Safely and effectively use radioactive materials and radiation generating devices.

b. Ensure compliance with all applicable Federal, Department of Army (DA), USACE, state and local regulations (that is, "applicable regulations") concerning the safe use of radiation, radioactive materials or radiation generating devices. Guidance concerning the safe use of non-ionizing radiation sources (such as lasers and radio frequency radiation) can be found in EM 385-1-80 (USACE Radiation Protection Manual).

c. Obtain, renew, amend and terminate Nuclear Regulatory Commission (NRC) licenses and Army Radiation Authorizations (ARAs) for possession and use of radioactive materials and radiation generating devices not requiring licenses from the NRC.

d. Transfer or dispose of radioactive materials and wastes.

e. Oversee contractors using radioactive materials or radiation generating devices that require NRC or agreement state licensing or registration, installation permits or ARAs for possession or use of radioactive materials or radiation generating devices.

f. Oversee contractors performing remediation of sites contaminated with radioactive material or radioactive waste.

---

This regulation supersedes ER 385-1-80, 7 May 1982

ER 385-1-80  
30 May 97

2. Applicability. This regulation applies to all USACE Commands; Divisions, Districts, Laboratories, and Field Operating Activities (FOAs); which procure, use, possess, transport, transfer or dispose of radioactive materials or radiation generating devices, or oversee remediation of radioactive materials or radioactive waste. **The USACE Safety and Health Requirements Manual, EM 385-1-1, contains contractor requirements concerning radiation safety issues.**

3. References. References are listed in Appendix A.

4. Definitions. Definitions are listed in Appendix B.

5. Responsibilities.

a. The Chief, Safety and Occupational Health Office (CESO), Headquarters, USACE, (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:

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

(2) Assuring USACE Command implementation of Department of Army (DA) and USACE radiation protection policy.

b. On behalf of USACE, the Radiation Protection Staff Officer (RPSO) is responsible for:

(1) Serving as a primary focal point for coordination with other Federal Agencies, Department of Defense and DA officials concerning radiation safety issues and providing radiation safety consultation in coordination with the HTRW Center of Expertise (CX) to USACE Commands.

(2) Providing coordination, administration and technical review of all USACE applications, renewals, amendments and terminations of all NRC licenses and ARAs for the possession, use, transportation, transfer or disposal of non-NRC licensed radioactive material and radiation generating devices, and maintaining liaison with the US Nuclear Regulatory Commission.

(3) Providing recordkeeping for all paperwork and correspondence regarding applications, renewals, amendments and terminations of authorization for the possession, use, transportation, transfer or disposal of NRC licensed and non-NRC authorized radioactive material and radiation generating devices.

(4) Providing (may be through a designee) Radiation Protection Audits to all locations possessing an NRC license or an Army Radiation Authorization (ARA) for radioactive material or radiation generating devices, at least on a triennial basis.

c. The Commander or Director of any USACE Command, which procures, uses, possesses, transports, transfers, disposes of NRC general or specifically licensed, or ARA listed radioactive materials or radiation generating devices, or oversees contractors working with radioactive materials or radiation generating devices, is responsible for:

(1) Appointing, funding and maintaining a qualified Radiation Protection Officer (RPO) (may be designated as a Radiation Safety Officer (RSO) in other documents) upon recommendation from the RPSO, and supporting decisions of the RPO.

(2) Establishing written policies and a formal radiation protection program ensuring compliance with this and all applicable regulations, license or permit conditions.

(3) Maintaining adequate resources to assure the safety of personnel, property and the environment, and to cope with emergencies.

(4) Ensuring that all personnel who may be exposed to ionizing radiation receive appropriate radiation protection training. The adequacy of the training shall be determined by the RPO with concurrence of the RPSO.

(5) Establishing, funding, maintaining, and supporting a Radiation Protection Committee (RPC) if warranted by a specific NRC license or ARA condition.

(6) Obtaining all required USACE licenses, authorizations and permits (NRC and Army) prior to procurement, use, transfer, or disposal of radioactive materials or radiation generating devices.

ER 385-1-80  
30 May 97

(7) Ensuring annual audits are conducted to determine compliance with all Federal, DA, USACE, state and local license or ARA conditions.

(8) Establishing procedures to assure that the local Safety and Occupational Health Office is advised prior to any change in the use of radioactive materials or radiation generating devices and that the RPO evaluates the procedures and hazards prior to utilization of radioactive materials or radiation generating devices.

d. The Chief, Safety and Occupational Health Office (SOHO) of any USACE Command, which procures, uses, possesses, transports, transfers, disposes of radioactive materials or radiation generating devices, or oversees contractors working with radioactive materials or radiation generating devices, including non-ionizing radiation sources, is responsible for:

(1) Assuring the radiation protection component of the Command's Safety and Occupational Health Program complies with all applicable regulations.

(2) Providing coordination, administration and technical review and approval of all USACE applications, renewals, amendments and terminations of NRC licenses and ARA's, including possession, use, transportation, transfer and disposal.

(3) Assuring that USACE personnel including Authorized Users and Authorized User's Assistants and are adequately instructed in the safe use of radiation and their duties and responsibilities under this regulation.

(4) Reviewing equipment, materials, facilities, operations and procedures and advising the Commander of any unsafe practices, defects or non-compliance with applicable regulations.

(5) Providing, upon request from contractors, the proper procedures for obtaining service permits or authorizations for use of radioactive materials or radiation generating devices on DOD installations.

e. The USACE Radiation Protection Officer (RPO) for each USACE Command is responsible for:

(1) Preparing and submitting to the RPSO, through USACE channels (see paragraph 7) within assigned time frames, all applications, amendments or submittals necessary for compliance with all applicable regulations concerning radioactive materials or radiation generating devices.

(2) Ensuring that all exposures of workers and the general public to ionizing radiation are kept as low as is reasonably achievable (ALARA), with technical and socioeconomic factors being taken into account. This shall be accomplished by ensuring compliance with all applicable regulations concerning radioactive materials or radiation generating devices by all users of radioactive materials or radiation generating equipment.

(3) Providing competent technical guidance for all users of radioactive material or radiation generating devices.

(4) With the concurrence of the RPSO, determining the appropriate training for all personnel who may be exposed to ionizing radiation.

(5) Ensuring that all personnel who may be exposed to ionizing radiation, including occupationally exposed personnel (radiation workers) and frequenters (individuals who are likely to receive an exposure of 100 millirem per year, such as janitorial staff) to areas where radiation is present, receive the appropriate training.

(6) Maintaining all documents, correspondence, reports, and records that this regulation and other applicable Federal and Army regulations, licenses, and authorizations may require.

(7) Disseminating all guidance and providing services as described in this regulation.

(8) Auditing activities involving radioactive materials or radiation generating devices within their USACE Command on an annual basis.

(9) Providing timely reports to the Commander or Director of his or her USACE Command, of the current status of activities involving radioactive material or radiation generating devices.

(10) Providing external and internal dosimetry to USACE personnel as needed, and as described in paragraph 11 of this ER.

ER 385-1-80  
30 May 97

f. All USACE personnel, who procure, use, possess, transport, transfer or dispose of radioactive materials or radiation generating devices, or oversee contractors working with radioactive materials or radiation generating devices, are responsible for:

(1) Having knowledge of and complying with all applicable regulations concerning radioactive materials or radiation generating devices with which they work. This will be accomplished through training designated by the RPO.

(2) Performing their duties involving radioactive materials and radiation generating devices in a safe manner, in compliance with all applicable regulations, and in such a way as to promote maintaining doses ALARA.

(3) Ensuring that others performing work with radioactive materials or radiation generating devices, under their supervision, do so in a safe manner and in compliance with all applicable regulations, and in such a way as to promote maintaining doses ALARA.

(4) Informing the RPO, in a timely manner, of all procurement, possession, use, transfer, disposal, loss, theft, or other reportable occurrence involving radioactive materials or radiation generating equipment.

#### 6. Authorized Users, Authorized Users' Assistants and Qualifications.

a. Authorized Users (AUs) are individuals allowed to work unsupervised with radioactive materials or radiation generating devices. AUs will receive training commensurate with the hazard presented by their work. The RPO in conjunction with the RPSO will determine the content and extent of the training (details concerning training requirements are contained in EM-385-1-80).

b. Authorized Users' Assistants (AUAs) are individuals allowed to work with radioactive materials or radiation generating devices under the direct supervision (that is, within the physical presence) of an AU. AUAs will receive training commensurate with the hazard presented by their work. The RPO, in conjunction with the RPSO, will determine the content and extent of the training (details concerning training requirements are contained in EM 385-1-80).

7. Information Flow through Applicable USACE Channels.

a. All NRC license or ARA applications, approvals, amendments, submittals, terminations, etc., must be routed through all Safety and Occupational Health Office channels (that is, "through channels"), prior to being received for action by the HQUSACE RPSO. For example: a request to obtain an NRC license amendment would flow from the local RPO, through the local SOHO, through the Division SOHO to the HQUSACE RPSO for action. Actions would be forwarded from the HQUSACE RPSO in reverse order.

b. Failure to follow the information flow process is a violation of the USACE delegation requirements specified by the DA. Technical consultations between NRC Offices and license holders at USACE Commands may take place, though notification of the RPSO of such communications is recommended.

8. Notices, Instructions and Reports to Workers.

a. The RPO will file in his or her office, current copies of the following:

(1) 10 CFR 19 Notices Instructions and Reports to Workers: Instructions and Investigations;

(2) 10 CFR 20 Standards for Protection Against Radiation;

(3) 10 CFR 30 Rules of General Applicability to Domestic Licensing of Byproduct Material;

(4) 10 CFR 31 General Domestic Licenses for Byproduct Material;

(5) ER 385-1-80 Ionizing Radiation Protection;

(6) EM 385-1-80 Radiation Protection Manual and EM 385-1-1, Safety and Health Requirements Manual;

(7) A copy of all NRC licenses and Army Radiation Authorizations (ARAs) with all attachments, all amendments to licenses or ARAs, and all associated correspondence;

(8) A copy of the commands' radiation protection program;

ER 385-1-80  
30 May 97

(9) All Standing Operating Procedures (SOPs) applicable to working with radiation within their Command.

(10) Copies of any notice of violation of license or ARA requirements.

(11) Copies of DA regulations, AR 385-11, AR 40-5, AR 40-14.

b. The RPO will post the following documents, in enough conspicuous locations to ensure that all personnel working with radiation can observe them:

(1) a notice that all documents listed in Paragraph 8.a. above, are located in the RPO's office, and may be examined during working hours by all personnel working with radiation.

(2) a copy of NRC Form 3, Notice to Employees (Appendix C) dated no earlier than 1/96.

#### 9. Dose Limits.

a. To ensure compliance with all regulatory agencies, USACE has established a three tiered approach to worker dose limits. Each user of radioactive material or radiation generating devices shall limit occupational doses to individuals to the following limits:

(1) Tier 1 limits. USACE personnel shall never exceed an annual dose which is the more limiting of:

(a) 5 rems (5000 millirem (mrem))(0.05 sieverts (Sv)) total effective dose equivalent (TEDE), or

(b) The sum of the deep dose equivalent and the committed dose equivalent (CDE) to any individual organ or tissue of 50 rems (50000 mrem)(0.5 Sv), or

(c) 15 rems (15000 mrem)(0.15 Sv) to the lens of the eye, or

(d) 50 rems (50000 mrem)(0.5 Sv) shallow dose equivalent to the skin, or any extremity.

(e) The TEDE to the fetus of a declared pregnant worker will be kept below 0.5 rem (500 mrem)(0.005 Sv) during the entire gestation period. Should the fetus have received greater than 0.5



rem, when the worker declares her pregnancy the fetus will be limited to an additional exposure of no more than 0.05 rem during the remaining gestation period.

(2) Tier 2 USACE annual dose limits. Without the written approval of the Radiation Protection Staff Officer (RPSO) the annual occupational dose shall not exceed the more limiting of:

(a) 0.5 rems (500 mrem)(0.005 Sv) TEDE, or

(b) The sum of the deep dose equivalent and the committed dose equivalent to any individual organ or tissue of 5 rems (5000 mrem)(0.05 Sv), or

(c) 1.5 rems (1500 mrem)(0.015 Sv) to the lens of the eye, or

(d) 5 rems (5000 mrem)(0.05 Sv) shallow dose equivalent to the skin, or any extremity.

(e) The TEDE to the fetus of a declared pregnant worker will be kept below 0.5 rem (500 mrem)(0.005 Sv) during the entire gestation period. Should the fetus have received greater than 0.5 rem, when the worker declares her pregnancy the fetus will be limited to an additional exposure of no more than 0.05 rem during the remaining gestation period.

(3) Tier 3 project specific dose goals. To keep doses ALARA, the RPO shall set administrative action levels specific to each individual project, below the USACE annual dose limits. The ALARA action levels shall be realistic and attainable. ALARA action levels can be set at any level, but need to take the particulars of each project into account. Example action levels for a small project involving little radioactive material could be:

Dose shall not exceed the limiting of:

(a) 0.1 rems (0.001 Sv) TEDE, or

(b) The sum of the deep dose equivalent and the committed dose equivalent (CDE) to any individual organ or tissue of 0.5 rems (0.005 Sv), or

(c) 0.15 rems (0.0015 Sv) to the lens of the eye, or

ER 385-1-80  
30 May 97

(d) 0.5 rems (0.005 Sv) shallow dose equivalent to the skin, or any extremity.

Table 9-1  
Dose Limits

| Body Part        | NRC Annual Limits | USACE Annual Limits | Example Annual ALARA Limits |
|------------------|-------------------|---------------------|-----------------------------|
| Whole Body       | 5 rem             | 0.5 rem             | 0.1 rem                     |
| Individual Organ | 50 rem            | 5.0 rem             | 0.5 rem                     |
| Lens of Eye      | 15 rem            | 1.5 rem             | 0.15 rem                    |
| Skin             | 50 rem            | 5.0 rem             | 0.5 rem                     |

b. Planned special exposures (see definitions, Appendix B) shall not be used without the written consent of the RPSO.

c. Persons under the age of 18 shall not be allowed occupational exposure to radiation on USACE sites.

d. Activities with radiation shall be conducted so that USACE personnel who are not working with radiation and members of the public can not receive a TEDE exceeding 100 mrem per year.

e. The dose in any unrestricted area will not exceed 2 mrem in any one hour.

#### 10. Surveys and Monitoring.

a. The RPO will ensure that adequate surveys and monitoring are performed to ensure compliance with the above dose limits in an accurate and timely manner, and are properly recorded and filed.

b. The RPO will ensure that all instruments and equipment used for quantitative radiation measurements are calibrated at least annually or as directed by regulations, license or ARA conditions, or manufacturer's recommendations.

c. The RPO will monitor all areas where there is a potential for external radiation. Where the potential for exposure that would cause a dose equal to the Tier 2 USACE Dose limits exists and for all personnel entering high or very high radiation areas, the RPO will provide external dosimetry for all personnel entering the area.

d. The RPO will monitor all areas where there is a potential for internal contamination. Where the potential for intake of radionuclides causing a dose equal to the Tier 2 USACE Dose limits exists, the RPO will provide internal dosimetry (bioassay) services for all personnel entering the area.

#### 11. Personnel Dosimetry.

a. The RPO will provide external and/or internal dosimetry (bioassay) to all USACE personnel who may exceed a Tier 2 radiation dose, and all personnel who enter a high or very high radiation area.

b. The RPO will determine assignment of personnel dosimetry to other personnel. Any determination not to issue dosimetry to any individual who requests dosimetry will be discussed with the RPSO and the individual and documented.

c. All personnel issued dosimetry will provide the RPO with a completed DD Form 1952 (Dosimeter Application and Record of Occupational Radiation Exposure) (example attached at Appendix C) and records, or points of contact, to determine the individual's previous dose history. The dose history will be recorded on the individual's exposure record, and reported to the US Army Ionizing Radiation Dosimetry Center (USAIRDC).

d. External dosimetry will be provided to USACE personnel by the RPO, using dosimeters provided by USAIRDC. USAIRDC will also provide dosimetry reading and reporting services. USAIRDC maintains accreditation under the National Voluntary Laboratory Accreditation Program (NVLAP).

e. Exposure of personnel to ionizing radiation shall be reported and recorded. Exposures shall be recorded using the computer printout generated by USAIRDC or NRC Form 5 (a copy for reference of the USAIRDC computer generated version of NRC Form 5 is provided at Appendix C). Exposures measured using other than USAIRDC dosimetry shall be reported to USAIRDC.

ER 385-1-80  
30 May 97

f. Dosimetry results and dose history will be reported and explained by the RPO to all individuals:

- (1) annually;
- (2) upon termination from the dosimetry program; and,
- (3) within 30 days of the request of any individual presently or previously monitored under the dosimetry program.

g. Employee exposure records will be maintained in accordance with the requirements in 10 CFR 19 and 20, 29 CFR 1910.1020 and 5 CFR Part 339.

h. At the request of an employee who participated in a USACE dosimetry program, or that employee's designee, a report of the employee's dose history shall be furnished by the RPO through the Human Resources Management Office to the employee or his/her designee within 30 days of the request (in accordance with paragraph 11g above).

i. The RPO will review all exposure records at least once in each three-month period to ensure that exposures are being kept ALARA.

12. Control of Exposure from External Sources in Restricted Areas. Authorized Users and the RPO will ensure that all entrances to High and Very High Radiation Areas are locked when access is not required, and that individuals document all required entries.

13. Storage and Control.

a. Radioactive materials will be secured by the user to prevent unauthorized access or removal when not in use.

b. Radioactive materials not in secure storage will be under the constant surveillance and control of the authorized user.

c. The RPO shall physically inventory all radioactive materials and radiation generating devices within his or her Command every six months. The physical inventory will be performed more frequently if required by regulations, license or ARA conditions. The inventory will be documented and retained by the RPO.

d. The RPO shall ensure that all radioactive sources are leak tested every six months, unless specifically exempted from testing, or if the testing frequency listed in NRC regulations, the NRC license or ARA conditions is different. Leak test results will be recorded on ENG Form 3309-R (Record of Radioactive Material (a copy is provided at Appendix C)) and filed with the appropriate license or ARA documentation at the Command.

e. If leak test results exceed 0.005 microcurie the source will be removed from service and the RPO notified as soon as possible. The RPO will properly prepare the source for shipping and return the source to the manufacturer or dispose of the source according to regulations, and if necessary notify the NRC in accordance with 10 CFR 21.

#### 14. Precautionary Procedures.

a. The RPO will assure that all radiation areas, high radiation areas, and very high radiation areas are posted with the appropriate radiation area sign.

b. The RPO will ensure that all radioactive materials or their containers, and all equipment containing a radioactive source bear a radioactive materials label and all rooms or areas where radioactive materials are used or stored are posted with the appropriate radioactive materials sign.

c. The RPO will ensure that each package received containing radioactive materials is surveyed for radiation levels, that each labeled package, other than special form sources, and all damaged or degraded packages are wipe tested for external contamination. This will be performed within 3 hours of receipt of the package if the package is received during normal business hours, and within the first 3 business hours of the next business day if received after normal business hours.

d. Should external radiation exceed 10 mrem at 1 meter from the package or if contamination levels exceed 200 dpm per 100 cm<sup>2</sup>, the RPO will immediately notify the RPSO, the final delivery carrier and their NRC regional office, if applicable.

#### 15. Transfer of USACE Radioactive Material and Radiation Generating Devices.

ER 385-1-80  
30 May 97

a. The RPSO must approve any transfer of any radioactive material.

b. The request for authorization to transfer radioactive materials will be submitted through channels to the RPSO on ENG Form 4790-R (Request for Authorization to Transfer Radioactive Materials, Appendix C).

c. Proper shipping documents will be prepared according to Department of Transportation (DOT) regulations found in Title 49 CFR.

d. For all NRC licensed materials, a Certificate of Disposition of Materials will be prepared in accordance with paragraph 17c of this regulation.

16. Transportation of Radioactive Materials. All radioactive materials will be transported in accordance with Title 49 CFR. Additionally, NRC licensed radioactive materials will be transported in accordance with 10 CFR 71.

17. Waste Disposal.

a. All radioactive waste disposal shall be coordinated through the HTRW-CX. All DOD environmentally remediated low level radioactive waste (LLRW) disposal will be coordinated with the HTRW-CX and the DOD executing agent for low-level radioactive waste disposal (U.S. Army Industrial Operations Command (USAIIOC), AMSIO-DMW, Rock Island, IL 61299-6000). Department of Defense (DOD) LLRW disposal not associated with environmental remediation actions shall be performed by the DOD LLRW executing agent.

b. All releases of radioactive effluents will be in accordance with 10 CFR 20, and will be approved by the State and local regulatory agencies. A record of all effluent releases containing the date, radio nuclide, activity and chemical form will be maintained.

c. An NRC Certificate of Disposition of Materials, NRC Form 314, (a copy is attached at Appendix C) will be prepared for all NRC licensed materials prior to disposal or transfer. The certificate will be forwarded through channels, to the RPSO who will review and forward it to the NRC.

18. Records.

a. The RPO will maintain records of the provisions and implementation of their Command's radiation protection program and all audits and reviews of the program for the time required by any NRC regulation or license condition, ARA or as listed in AR 25-400-2, Modern Army Recordkeeping System.

b. The RPO will maintain records of the monitoring and surveys required in paragraph 10 above, all instrument calibration records, all internal and external personnel dosimetry records, all waste disposal, all effluent release records, and all decommissioning records in accordance with applicable Federal and DA regulations. Employee exposure records, and decommissioning records will be maintained in accordance with 10 CFR 20 and 29 CFR 1910.1020. The RPO will maintain these records for the time required by any NRC regulation or license condition, ARA or as listed in AR 25-400-2. Employee training records will be maintained in accordance with Human Resources Management Office policies.

19. Reports.

a. The RPO will immediately report the loss or theft of NRC licensed radioactive materials to the NRC within the time frames listed in 10 CFR 20. The RPO will notify the RPSO as soon as possible of any notification of the NRC of loss or theft of materials.

b. The RPO will notify the RPSO of any exposure exceeding Tier 2 USACE Dose Limits and any release of radioactive materials that could potentially cause a dose to an individual to exceed the Tier 2 USACE Dose Limits, or an event that could lead to a member of the public receiving a significant portion of the 100 mR/yr dose limit. If appropriate, the RPO will notify the NRC of overexposures and releases as defined by NRC in a timely manner as per 10 CFR 20. The RPO will notify the RPSO as soon as possible of any notification of the NRC of overexposure or releases.

20. Nuclear Regulatory Commission Licenses.

a. All NRC license application, amendment, and termination requests, all enclosures, and correspondence will be forwarded, in triplicate through channels, to the RPSO 90 days prior to the

ER 385-1-80  
30 May 97

date the action is needed. The RPSO will review and forward these documents to the NRC.

b. The NRC license will specify the time period for which the license is valid, and the license conditions will specify any special procedures applicable to the possession and use of the radioactive materials.

c. Radioactive materials will not be procured until the required NRC licenses have been received.

## 21. Army Radiation Authorizations.

a. All radioactive materials that are not licensed by NRC, and all radiation generating devices for possession or use by USACE personnel must be covered by an Army Radiation Authorization (ARA) issued by USACE. An ARA is required for all such sources except—

(1) Byproduct, source, or special material which the NRC has declared to be license-exempt (10 CFR 30, sections 30.14 through 30.20; 10 CFR 40, sections 40.13 and 40.14; and 10 CFR 70, section 70.14) or generally licensed material (10 CFR 31; 10 CFR 40, sections 40.20 through 40.28; and 10 CFR 70, section 70.19).

(2) Less than 0.1 microcurie ( $\mu\text{Ci}$ ) [3.7 kilobecquerels (kBq)] of radium.

(3) Less than 1  $\mu\text{Ci}$  (37 kBq) of any naturally occurring or accelerator produced radioactive material (NARM) other than radium.

(4) For electron tubes containing less than 10  $\mu\text{Ci}$  (370 kBq) of any NARM radioisotope.

(5) For machine-produced ionizing radiation sources not capable of producing a high radiation area or very high radiation area. (For example, medical and dental diagnostic x-ray systems do not require an ARA.)

(6) For Army nuclear reactors and Army reactor-produced radioactive material (RAM) that remains at the reactor site. The Army Reactor Office issues Army reactor permits for these sources per AR 50-7, The Army Reactor Program.



b. All Army Radiation Authorization (ARA) applications, amendments, and termination requests, and correspondence will be forwarded, through channels, to the RPSO. The RPSO will review these documents, and when they are in compliance, issue on behalf of the Commanding General, USACE, the ARA and any required conditions.

c. Application for an ARA, amendment to an ARA, or termination for an ARA including all enclosures, will be submitted through channels using DA Form 3337 (Appendix C), to the RPSO not later than 30 days prior to the date the action is needed.

d. ARA conditions will specify the time period for which the ARA is valid, and any special procedures applicable to the possession and use of the radioactive materials or radiation generating devices.

e. Many states require registration of radiation generating devices. The RPO will determine the need to register all radiation generating devices within their Command with state authorities, and, if required, follow the procedures of the registering agency as necessary.

f. Radioactive materials and radiation generating devices will not be procured until the required ARAs have been received.

22. Army Radiation Permits. USACE contractors wishing to use, store, or possess radioactive materials or radiation generating devices on any DA installation, project or facility must obtain an Army Radiation Permit (ARP). For purposes of this paragraph, "ionizing radiation source" means any source that, if held or owned by an Army agency, would require a specific NRC license or ARA.

a. The non-Army applicant will apply by letter with supporting documentation (paragraph 22.b, below) through the appropriate tenant Commander (if applicable) to the installation Commander.

b. The ARP application will specify start and stop dates for the ARP and describe for what uses the applicant needs the ARP. The installation Commander will approve the application only if the applicant provides evidence to show that one of the following is true.

ER 385-1-80  
30 May 97

(1) The applicant possesses a valid NRC license or Department of Energy (DOE) radiological work permit that allows the applicant to use the source as specified in the ARP application.

(2) The applicant possesses a valid agreement State license that allows the applicant to use RAM as specified in the ARP application, and the applicant has filed NRC Form-241, Report of Proposed Activities in Non-Agreement States, with the NRC in accordance with 10 CFR 150.20. An ARP issued under these circumstances will be valid for no more than 180 days in any calendar year.

(3) For NARM and machine-produced ionizing radiation sources, the applicant has an appropriate State authorization that allows the applicant to use the source as specified in the ARP application or has in place a radiation protection program that complies with Army regulations.

(4) For overseas installations, the applicant has an appropriate host-nation authorization as necessary that allows the applicant to use the source as specified in the ARP application and has in place a radiation protection program that complies with Army regulations.

c. All ARPs will require applicants to remove all permitted sources from Army property by the end of the permitted time.

d. Disposal of radioactive material by non-Army agencies on Army property is prohibited. However, the installation Commander may authorize radioactive releases to the atmosphere or to the sanitary sewerage system that are in compliance with all applicable Federal, DOD, and Army regulations.

### 23. Air Force and Navy Radiation Permits.

a. USACE personnel and USACE contractors wishing to use radioactive materials or radiation generating devices on any Air Force installation must obtain permission from the installation. On Air Force property, contact the installation Environmental Health Section for instructions.

b. USACE personnel and USACE contractors wishing to use radioactive materials or radiation generating devices on any Navy installation must obtain permission from the installation. On

30 May 97

Navy property, contact the installation Safety Office for instructions.

24. EM 385-1-80 Radiation Protection Manual provides more in-depth guidance and explanation of methods to meet the requirements of this regulation, and to provide a greater level of radiation protection (ionizing and non-ionizing) to USACE personnel, the public and the environment.

FOR THE COMMANDER:



OTIS WILLIAMS  
Colonel, Corps of Engineers  
Chief of Staff

- 3 Appendices
- APP A - References
- APP B - Definitions
- APP C - Forms Required