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§ 30.7 Employee protection.

(a) Discrimination by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant against an employee for engaging in certain protected activities is prohibited. Discrimination includes discharge and other actions that relate to compensation, terms, conditions, or privileges of employment. The protected activities are established in section 211 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.

(1) The protected activities include but are not limited to:

(i) Providing the Commission or his or her employer information about alleged violations of either of the statutes named in paragraph (a) introductory text of this section or possible violations of requirements imposed under either of those statutes;

(ii) Refusing to engage in any practice made unlawful under either of the statutes named in paragraph (a) introductory text or under these requirements if the employee has identified the alleged illegality to the employer;

(iii) Requesting the Commission to institute action against his or her employer for the administration or enforcement of these requirements;

(iv) Testifying in any Commission proceeding, or before Congress, or at any Federal or State proceeding regarding any provision (or proposed provision) of either of the statutes named in paragraph (a) introductory text.

(v) Assisting or participating in, or is about to assist or participate in, these activities.

(2) These activities are protected even if no formal proceeding is actually initiated as a result of the employee assistance or participation.

(3) This section has no application to any employee alleging discrimination prohibited by this section who, acting without direction from his or her employer (or the employer's agent), deliberately causes a violation of any requirement of the Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended.

(b) Any employee who believes that he or she has been discharged or otherwise discriminated against by any person for engaging in protected activities specified in paragraph (a)(1) of this section may seek a remedy for the discharge or discrimination through an administrative proceeding in the Department of Labor. The administrative proceeding must be initiated within 180 days after an alleged violation occurs. The employee may do this by filing a complaint alleging the violation with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor may order reinstatement, back pay, and compensatory damages.

(c) A violation of paragraphs (a), (e), or (f) of this section by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant may be grounds for--

(1) Denial, revocation, or suspension of the license.

(2) Imposition of a civil penalty on the licensee or applicant.

(3) Other enforcement action.

(d) Actions taken by an employer, or others, which adversely affect an employee may be predicated upon nondiscriminatory grounds. The prohibition applies when the adverse action occurs because the employee has engaged in protected activities. An employee's engagement in protected activities does not automatically render him or her immune from discharge or discipline for legitimate reasons or from adverse action dictated by nonprohibited considerations.

(e)(1) Each specific licensee, each applicant for a specific license, and each general licensee subject to part 19 shall prominently post the revision of NRC Form 3, "Notice to Employees," referenced in 10 CFR 19.11(c).

(2) The posting of NRC Form 3 must be at locations sufficient to permit employees protected by this section to observe a copy on the way to or from their place of work. Premises must be posted not later than 30 days after an application is docketed and remain posted while the application is pending before the Commission, during the term of the license, and for 30 days following license termination.

(3) Copies of NRC Form 3 may be obtained by writing to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in appendix D to part 20 of this chapter, by calling (301) 415-5877, via e-mail to forms@nrc.gov, or by visiting the NRC's Web site at <http://www.nrc.gov> and selecting forms from the index found on the home page.

(f) No agreement affecting the compensation, terms, conditions, or privileges of employment, including an agreement to settle a complaint filed by an employee with the Department of Labor pursuant to section 211 of the Energy Reorganization Act of 1974, as amended, may contain any provision which would prohibit, restrict, or otherwise discourage an employee from participating in protected activity as defined in paragraph (a)(1) of this section including, but not limited to, providing information to the NRC or to his or her employer on potential violations or other matters within NRC's regulatory responsibilities.

[58 FR 52408, Oct. 8, 1993, as amended at 60 FR 24551, May 9, 1995; 61 FR 6764, Feb. 22, 1996; 68 FR 58803, Oct. 10, 2003]

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§ 40.7 Employee protection.

(a) Discrimination by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant against an employee for engaging in certain protected activities is prohibited. Discrimination includes discharge and other actions that relate to compensation, terms, conditions, or privileges of employment. The protected activities are established in section 211 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.

(1) The protected activities include but are not limited to:

(i) Providing the Commission or his or her employer information about alleged violations of either of the statutes named in paragraph (a) introductory text of this section or possible violations of requirements imposed under either of those statutes;

(ii) Refusing to engage in any practice made unlawful under either of the statutes named in paragraph (a) introductory text or under these requirements if the employee has identified the alleged illegality to the employer;

(iii) Requesting the Commission to institute action against his or her employer for the administration or enforcement of these requirements;

(iv) Testifying in any Commission proceeding, or before Congress, or at any Federal or State proceeding regarding any provision (or proposed provision) of either of the statutes named in paragraph (a) introductory text.

(v) Assisting or participating in, or is about to assist or participate in, these activities.

(2) These activities are protected even if no formal proceeding is actually initiated as a result of the employee assistance or participation.

(3) This section has no application to any employee alleging discrimination prohibited by this section who, acting without direction from his or her employer (or the employer's agent), deliberately causes a violation of any requirement of the Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended.

(b) Any employee who believes that he or she has been discharged or otherwise discriminated against by any person for engaging in protected activities specified in paragraph (a)(1) of this section may seek a remedy for the discharge or discrimination through an administrative proceeding in the Department of Labor. The administrative proceeding must be initiated within 180 days after an alleged violation occurs. The employee may do this by filing a complaint alleging the violation with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor may order reinstatement, back pay, and compensatory damages.

(c) A violation of paragraphs (a), (e), or (f) of this section by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant may be grounds for--

(1) Denial, revocation, or suspension of the license.

(2) Imposition of a civil penalty on the licensee or applicant.

(3) Other enforcement action.

(d) Actions taken by an employer, or others, which adversely affect an employee may be predicated upon nondiscriminatory grounds. The prohibition applies when the adverse action occurs because the employee has engaged in protected activities. An employee's engagement in protected activities does not automatically render him or her immune from discharge or discipline for legitimate reasons or from adverse action dictated by nonprohibited considerations.

(e)(1) Each specific licensee, each applicant for a specific license, and each general licensee subject to part 19 shall prominently post the revision of NRC Form 3, "Notice to Employees", referenced in 10 CFR 19.11(c).

(2) The posting of NRC Form 3 must be at locations sufficient to permit employees protected by this section to observe a copy on the way to or from their place of work. Premises must be posted not later than 30 days after an application is docketed and remain posted while the application is pending before the Commission, during the term of the license, and for 30 days following license termination.

(3) Copies of NRC Form 3 may be obtained by writing to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in appendix D to part 20 of this chapter, by calling (301) 415-5877, via e-mail to forms@nrc.gov, or by visiting the NRC's Web site at <http://www.nrc.gov> and selecting forms from the index found on the home page.

(f) No agreement affecting the compensation, terms, conditions, or privileges of employment, including an agreement to settle a complaint filed by an employee with the Department of Labor pursuant to section 211 of the Energy Reorganization Act of 1974, may contain any provision which would prohibit, restrict, or otherwise discourage an employee from participating in protected activity as defined in paragraph (a)(1) of this section including, but not limited to, providing information to the NRC or to his or her employer on potential violations or other matters within NRC's regulatory responsibilities.

[58 FR 52409, Oct. 8, 1993, as amended at 60 FR 24551, May 9, 1995; 61 FR 6765, Feb. 22, 1996; 68 FR 58806, Oct. 10, 2003]

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§ 50.7 Employee protection.

(a) Discrimination by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant against an employee for engaging in certain protected activities is prohibited. Discrimination includes discharge and other actions that relate to compensation, terms, conditions, or privileges of employment. The protected activities are established in section 211 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.

(1) The protected activities include but are not limited to:

- (i) Providing the Commission or his or her employer information about alleged violations of either of the statutes named in paragraph (a) introductory text of this section or possible violations of requirements imposed under either of those statutes;
- (ii) Refusing to engage in any practice made unlawful under either of the statutes named in paragraph (a) introductory text or under these requirements if the employee has identified the alleged illegality to the employer;
- (iii) Requesting the Commission to institute action against his or her employer for the administration or enforcement of these requirements;
- (iv) Testifying in any Commission proceeding, or before Congress, or at any Federal or State proceeding regarding any provision (or proposed provision) of either of the statutes named in paragraph (a) introductory text.
- (v) Assisting or participating in, or is about to assist or participate in, these activities.

(2) These activities are protected even if no formal proceeding is actually initiated as a result of the employee assistance or participation.

(3) This section has no application to any employee alleging discrimination prohibited by this section who, acting without direction from his or her employer (or the employer's agent), deliberately causes a violation of any requirement of the Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended.

(b) Any employee who believes that he or she has been discharged or otherwise discriminated against by any person for engaging in protected activities specified in paragraph (a)(1) of this section may seek a remedy for the discharge or discrimination through an administrative proceeding in the Department of Labor. The administrative proceeding must be initiated within 180 days after an alleged violation occurs. The employee may do this by filing a complaint alleging the violation with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor may order reinstatement, back pay, and compensatory damages.

(c) A violation of paragraph (a), (e), or (f) of this section by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant may be grounds for--

- (1) Denial, revocation, or suspension of the license.
- (2) Imposition of a civil penalty on the licensee or applicant.
- (3) Other enforcement action.

(d) Actions taken by an employer, or others, which adversely affect an employee may be predicated upon nondiscriminatory grounds. The prohibition applies when the adverse action occurs because the employee has engaged in protected activities. An employee's engagement in protected activities does not automatically render him or her immune from discharge or discipline for legitimate reasons or from adverse action dictated by nonprohibited considerations.

(e)(1) Each licensee and each applicant for a license shall prominently post the revision of NRC Form 3, "Notice to Employees," referenced in 10 CFR 19.11(c). This form must be posted at locations sufficient to permit employees protected by this section to observe a copy on the way to or from their place of work. Premises must be posted not later than 30 days after an application is docketed and remain posted while the application is pending before the Commission, during the term of the license, and for 30 days following license termination.

(2) Copies of NRC Form 3 may be obtained by writing to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in appendix D to part 20 of this chapter, by calling (301) 415-5877, via e-mail to forms@nrc.gov, or by visiting the NRC's Web site at <http://www.nrc.gov> and selecting forms from the index found on the home page.

(f) No agreement affecting the compensation, terms, conditions, or privileges of employment, including an agreement to settle a complaint filed by an employee with the Department of Labor pursuant to section 211 of the Energy Reorganization Act of 1974, as amended, may contain any provision which would prohibit, restrict, or otherwise discourage an employee from participating in protected activity as defined in paragraph (a)(1) of this section including, but not limited to, providing information to the NRC or to his or her employer on potential violations or other matters within NRC's regulatory responsibilities.

[58 FR 52410, Oct. 8, 1993, as amended at 60 FR 24551, May 9, 1995; 61 FR 6765, Feb. 22, 1996; 68 FR 58809, Oct. 10, 2003]

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PART 19--NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS: INSPECTION AND INVESTIGATIONS

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Authority: Secs. 53, 63, 81, 103, 104, 161, 186, 68 Stat. 930, 933, 935, 936, 937, 948, 955, as amended, sec. 234, 83 Stat. 444, as amended, sec. 1701, 106 Stat. 2951, 2952, 2953 (42 U.S.C. 2073, 2093, 2111, 2133, 2134, 2201, 2236, 2282, 2297f); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841); Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note).

Source: 38 FR 22217, Aug. 17, 1973, unless otherwise noted.

§ 19.1 Purpose.

The regulations in this part establish requirements for notices, instructions, and reports by licensees to individuals participating in licensed activities and options available to these individuals in connection with Commission inspections of licensees to ascertain compliance with the provisions of the Atomic Energy Act of 1954, as amended, title II of the Energy Reorganization Act of 1974, and regulations, orders, and licenses thereunder regarding radiological working conditions. The regulations in this part also establish the rights and responsibilities of the Commission and individuals during interviews compelled by subpoena as part of agency inspections or investigations pursuant to section 161c of the Atomic Energy Act of 1954, as amended, on any matter within the Commission's jurisdiction.

[55 FR 247, Jan. 4, 1990]

§ 19.2 Scope.

The regulations in this part apply to all persons who receive, possess, use, or transfer material licensed by the Nuclear Regulatory Commission pursuant to the regulations in parts 30 through 36, 39, 40, 60, 61, 63, 70, or part 72 of this chapter, including persons licensed to operate a production or utilization facility under part 50 of this chapter, persons licensed to possess power reactor spent fuel in an independent spent fuel storage installation (ISFSI) pursuant to part 72 of this chapter, and in accordance with 10 CFR 76.60 to persons required to obtain a certificate of compliance or an approved compliance plan under part 76 of this chapter. The regulations regarding interviews of individuals under subpoena apply to all investigations and inspections within the jurisdiction of the Nuclear Regulatory Commission other than those involving NRC employees or NRC contractors. The regulations in this part do not apply to subpoenas issued pursuant to 10 CFR 2.720.

[66 FR 55789, Nov. 2, 2001]

§ 19.3 Definitions.

As used in this part:

Act means the Atomic Energy Act of 1954, (68 Stat. 919) including any amendments thereto.

Commission means the United States Nuclear Regulatory Commission.

Exclusion means the removal of counsel representing multiple interests from an interview whenever the NRC official conducting the interview has concrete evidence that the presence of the counsel would obstruct and impede the particular investigation or inspection.

License means a license issued under the regulations in parts 30 through 36, 39, 40, 60, 61, 63, 70, or 72 of this chapter, including licenses to operate a production or utilization facility pursuant to part 50 of this chapter.

Licensee means the holder of such a license.

Restricted area means an area, access to which is limited by the licensee for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. Restricted area does not include areas used as residential quarters, but separate rooms in a residential building may be set apart as a restricted area.

Sequestration means the separation or isolation of witnesses and their attorneys from other witnesses and their attorneys during an interview conducted as part of an investigation, inspection, or other inquiry.

Worker means an individual engaged in activities licensed by the Commission and controlled by a licensee, but does not include the licensee.

[38 FR 22217, Aug. 17, 1973, as amended at 40 FR 8783, Mar. 3, 1975; 53 FR 31680, Aug. 19, 1988; 55 FR 247, Jan. 4, 1990; 56 FR 23470, May 21, 1991; 56 FR 65948, Dec. 19, 1991; 57 FR 61785, Dec. 29, 1992; 58 FR 7736, Feb. 9, 1993; 66 FR 55789, Nov. 2, 2001; 69 FR 76600, Dec. 22, 2004]

§ 19.4 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 19.5 Communications.

Except where otherwise specified in this part, all communications and reports concerning the regulations in this part should be addressed to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in Appendix D of part 20 of this chapter. Communications, reports, and applications may be delivered in person at the Commission's offices at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland.

[67 FR 67098, Nov. 4, 2002]

§ 19.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act (44 U.S.C. 3501 et seq.). The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. OMB has approved the information collection requirements contained in the part under control number 3150-0044.

(b) The approved information collection requirements contained in this part appear in §§ 19.13 and 19.16.

[62 FR 52185, Oct. 6, 1997]

§ 19.11 Posting of notices to workers.

(a) Each licensee shall post current copies of the following documents:

- (1) The regulations in this part and in part 20 of this chapter;
- (2) The license, license conditions, or documents incorporated into a license by reference, and amendments thereto;
- (3) The operating procedures applicable to licensed activities;
- (4) Any notice of violation involving radiological working conditions, proposed imposition of civil penalty, or order issued pursuant to subpart B of part 2 of this chapter, and any response from the licensee.

(b) If posting of a document specified in paragraph (a) (1), (2) or (3) of this section is not practicable, the licensee may post a notice which describes the document and states where it may be examined.

(c)(1) Each licensee and each applicant for a specific license shall prominently post NRC Form 3, "Notice to Employees," dated August 1997. Later versions of NRC Form 3 that supersede the August 1997 version shall replace the previously posted version within 30 days of receiving the revised NRC Form 3 from the Commission.

(2) Additional copies of NRC Form 3 may be obtained by writing to the Regional Administrator of the appropriate U.S.

Nuclear Regulatory Commission Regional Office listed in appendix D to part 20 of this chapter, by calling (301) 415-5877, via e-mail to forms@nrc.gov, or by visiting the NRC's Web site at <http://www.nrc.gov> and selecting forms from the index found on the home page.

(d) Documents, notices, or forms posted pursuant to this section shall appear in a sufficient number of places to permit individuals engaged in licensed activities to observe them on the way to or from any particular licensed activity location to which the document applies, shall be conspicuous, and shall be replaced if defaced or altered.

(e) Commission documents posted pursuant to paragraph (a)(4) of this section shall be posted within 2 working days after receipt of the documents from the Commission; the licensee's response, if any, shall be posted within 2 working days after dispatch by the licensee. Such documents shall remain posted for a minimum of 5 working days or until action correcting the violation has been completed, whichever is later.

[38 FR 22217, Aug. 17, 1973, as amended at 40 FR 8783, Mar. 3, 1975; 47 FR 30454, July 14, 1982; 58 FR 52408, Oct. 8, 1993; 60 FR 24551, May 9, 1995; 61 FR 6764, Feb. 22, 1996; 62 FR 48166, Sept. 15, 1997; 68 FR 58801, Oct. 10, 2003]

§ 19.12 Instruction to workers.

(a) All individuals who in the course of employment are likely to receive in a year an occupational dose in excess of 100 mrem (1 mSv) shall be--

(1) Kept informed of the storage, transfer, or use of radiation and/or radioactive material;

(2) Instructed in the health protection problems associated with exposure to radiation and/or radioactive material, in precautions or procedures to minimize exposure, and in the purposes and functions of protective devices employed;

(3) Instructed in, and required to observe, to the extent within the workers control, the applicable provisions of Commission regulations and licenses for the protection of personnel from exposure to radiation and/or radioactive material;

(4) Instructed of their responsibility to report promptly to the licensee any condition which may lead to or cause a violation of Commission regulations and licenses or unnecessary exposure to radiation and/or radioactive material;

(5) Instructed in the appropriate response to warnings made in the event of any unusual occurrence or malfunction that may involve exposure to radiation and/or radioactive material; and

(6) Advised as to the radiation exposure reports which workers may request pursuant to § 19.13.

(b) In determining those individuals subject to the requirements of paragraph (a) of this section, licensees must take into consideration assigned activities during normal and abnormal situations involving exposure to radiation and/or radioactive material which can reasonably be expected to occur during the life of a licensed facility. The extent of these instructions must be commensurate with potential radiological health protection problems present in the work place.

[60 FR 36043, July 13, 1995]

§ 19.13 Notifications and reports to individuals.

(a) Radiation exposure data for an individual, and the results of any measurements, analyses, and calculations of radioactive material deposited or retained in the body of an individual, shall be reported to the individual as specified in this section. The information reported shall include data and results obtained pursuant to Commission regulations, orders or license conditions, as shown in records maintained by the licensee pursuant to Commission regulations. Each notification and report shall: be in writing; include appropriate identifying data such as the name of the licensee, the name of the individual, the individual's social security number; include the individual's exposure information; and contain the following statement:

This report is furnished to you under the provisions of the Nuclear Regulatory Commission regulation 10 CFR part 19. You should preserve this report for further reference.

(b) Each licensee shall advise each worker annually of the worker's dose as shown in records maintained by the licensee pursuant to the provisions of § 20.2106 of 10 CFR part 20.

(c)(1) At the request of a worker formerly engaged in licensed activities controlled by the licensee, each licensee shall furnish to the worker a report of the worker's exposure to radiation and/or to radioactive material:

(i) As shown in records maintained by the licensee pursuant to § 20.2106 for each year the worker was required to be monitored under the provisions of § 20.1502; and

(ii) For each year the worker was required to be monitored under the monitoring requirements in effect prior to January 1, 1994.

(2) This report must be furnished within 30 days from the time the request is made or within 30 days after the exposure of the individual has been determined by the licensee, whichever is later. This report must cover the period of time that the worker's activities involved exposure to radiation from radioactive material licensed by the Commission and must include the dates and locations of licensed activities in which the worker participated during this period.

(d) When a licensee is required pursuant to §§ 20.2202, 20.2203, 20.2204, or 20.2206 of this chapter to report to the Commission any exposure of an individual to radiation or radioactive material the licensee shall also provide the individual a report on his or her exposure data included therein. This report must be transmitted at a time not later than the transmittal to the Commission.

(e) At the request of a worker who is terminating employment with the licensee that involved exposure to radiation or radioactive materials, during the current calendar quarter or the current year, each licensee shall provide at termination to each worker, or to the worker's designee, a written report regarding the radiation dose received by that worker from operations of the licensee during the current year or fraction thereof. If the most recent individual monitoring results are not available at that time, a written estimate of the dose must be provided together with a clear indication that this is an estimate.

[38 FR 22217, Aug. 17, 1973, as amended at 40 FR 8783, Mar. 3, 1975; 44 FR 32352, June 6, 1979; 58 FR 67658, Dec. 22, 1993; 59 FR 41642, Aug. 15, 1994]

§ 19.14 Presence of representatives of licensees and workers during inspections.

(a) Each licensee shall afford to the Commission at all reasonable times opportunity to inspect materials, activities, facilities, premises, and records pursuant to the regulations in this chapter.

(b) During an inspection, Commission inspectors may consult privately with workers as specified in § 19.15. The licensee or licensee's representative may accompany Commission inspectors during other phases of an inspection.

(c) If, at the time of inspection, an individual has been authorized by the workers to represent them during Commission inspections, the licensee shall notify the inspectors of such authorization and shall give the workers' representative an opportunity to accompany the inspectors during the inspection of physical working conditions.

(d) Each workers' representative shall be routinely engaged in licensed activities under control of the licensee and shall have received instructions as specified in § 19.12.

(e) Different representatives of licensees and workers may accompany the inspectors during different phases of an inspection if there is no resulting interference with the conduct of the inspection. However, only one workers' representative at a time may accompany the inspectors.

(f) With the approval of the licensee and the workers' representative an individual who is not routinely engaged in licensed activities under control of the license, for example, a consultant to the licensee or to the workers' representative, shall be afforded the opportunity to accompany Commission inspectors during the inspection of physical working conditions.

(g) Notwithstanding the other provisions of this section, Commission inspectors are authorized to refuse to permit accompaniment by any individual who deliberately interferes with a fair and orderly inspection. With regard to areas

containing information classified by an agency of the U.S. Government in the interest of national security, an individual who accompanies an inspector may have access to such information only if authorized to do so. With regard to any area containing proprietary information, the workers' representative for that area shall be an individual previously authorized by the licensee to enter that area.

§ 19.15 Consultation with workers during inspections.

(a) Commission inspectors may consult privately with workers concerning matters of occupational radiation protection and other matters related to applicable provisions of Commission regulations and licenses to the extent the inspectors deem necessary for the conduct of an effective and thorough inspection.

(b) During the course of an inspection any worker may bring privately to the attention of the inspectors, either orally or in writing, any past or present condition which he has reason to believe may have contributed to or caused any violation of the act, the regulations in this chapter, or license condition, or any unnecessary exposure of an individual to radiation from licensed radioactive material under the licensee's control. Any such notice in writing shall comply with the requirements of § 19.16(a).

(c) The provisions of paragraph (b) of this section shall not be interpreted as authorization to disregard instructions pursuant to § 19.12.

§ 19.16 Requests by workers for inspections.

(a) Any worker or representative of workers who believes that a violation of the Act, the regulations in this chapter, or license conditions exists or has occurred in license activities with regard to radiological working conditions in which the worker is engaged, may request an inspection by giving notice of the alleged violation to the Administrator of the appropriate Commission Regional Office, or to Commission inspectors. Any such notice shall be in writing, shall set forth the specific grounds for the notice, and shall be signed by the worker or representative of workers. A copy shall be provided the licensee by the Regional Office Administrator, or the inspector no later than at the time of inspection except that, upon the request of the worker giving such notice, his name and the name of individuals referred to therein shall not appear in such copy or on any record published, released or made available by the Commission, except for good cause shown.

(b) If, upon receipt of such notice, the Regional Office Administrator determines that the complaint meets the requirements set forth in paragraph (a) of this section, and that there are reasonable grounds to believe that the alleged violation exists or has occurred, he shall cause an inspection to be made as soon as practicable, to determine if such alleged violation exists or has occurred. Inspections pursuant to this section need not be limited to matters referred to in the complaint.

[38 FR 22217, Aug. 17, 1973, as amended at 40 FR 8783, Mar. 3, 1975; 47 FR 30454, July 14, 1982; 52 FR 31610, Aug. 21, 1987]

§ 19.17 Inspections not warranted; informal review.

(a) If the Administrator of the appropriate Regional Office determines, with respect to a complaint under § 19.16, that an inspection is not warranted because there are no reasonable grounds to believe that a violation exists or has occurred, he shall notify the complainant in writing of such determination. The complainant may obtain review of this determination by submitting a written statement of position to the Executive Director for Operations, either by mail to the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; by hand delivery to the NRC's offices at 11555 Rockville Pike, Rockville, Maryland; or, where practicable, by electronic submission, for example, via Electronic Information Exchange, or CD-ROM. Electronic submissions must be made in a manner that enables the NRC to receive, read, authenticate, distribute, and archive the submission, and process and retrieve it a single page at a time. Detailed guidance on making electronic submissions can be obtained by visiting the NRC's Web site at <http://www.nrc.gov/site-help/eie.html>, by calling (301) 415-6030, by e-mail to EIE@nrc.gov, or by writing the Office of Information Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. The guidance discusses, among other topics, the formats the NRC can accept, the use of electronic signatures, and the treatment of nonpublic information. The Executive Director for Operations will provide the licensee with a copy of such statement by certified mail, excluding, at the request of the complainant, the name of the complainant. The licensee may submit an opposing written statement of position with the Executive Director for Operations who will provide the complainant with a copy of such statement by certified mail. Upon the request of the complainant, the Executive Director for Operations or his designee may hold an informal conference in which the complainant and the licensee may orally present their views. An informal conference may also be held at the request of the licensee, but

disclosure of the identity of the complainant will be made only following receipt of written authorization from the complainant. After considering all written and oral views presented, the Executive Director for Operations shall affirm, modify, or reverse the determination of the Administrator of the appropriate Regional Office and furnish the complainant and the licensee a written notification of his decision and the reason therefor.

(b) If the Administrator of the appropriate Regional Office determines that an inspection is not warranted because the requirements of § 19.16(a) have not been met, he shall notify the complainant in writing of such determination. Such determination shall be without prejudice to the filing of a new complaint meeting the requirements of § 19.16(a).

[38 FR 22217, Aug. 17, 1973, as amended at 40 FR 8783, Mar. 3, 1975; 52 FR 31610, Aug. 21, 1987; 67 FR 77652, Dec. 19, 2002; 68 FR 58801, Oct. 10, 2003; 70 FR 69421, Nov. 16, 2005]

§ 19.18 Sequestration of witnesses and exclusion of counsel in interviews conducted under subpoena.

(a) All witnesses compelled by subpoena to submit to agency interviews shall be sequestered unless the official conducting the interviews permits otherwise.

(b) Any witness compelled by subpoena to appear at an interview during an agency inquiry may be accompanied, represented, and advised by counsel of his or her choice. However, when the agency official conducting the inquiry determines, after consultation with the Office of the General Counsel, that the agency has concrete evidence that the presence of an attorney representing multiple interests would obstruct and impede the investigation or inspection, the agency official may prohibit that counsel from being present during the interview.

(c) The interviewing official is to provide a witness whose counsel has been excluded under paragraph (b) of this section and the witness's counsel a written statement of the reasons supporting the decision to exclude. This statement, which must be provided no later than five working days after exclusion, must explain the basis for the counsel's exclusion. This statement must also advise the witness of the witness' right to appeal the exclusion decision and obtain an automatic stay of the effectiveness of the subpoena by filing a motion to quash the subpoena with the Commission within five days of receipt of this written statement.

(d) Within five days after receipt of the written notification required in paragraph (c) of this section, a witness whose counsel has been excluded may appeal the exclusion decision by filing a motion to quash the subpoena with the Commission. The filing of the motion to quash will stay the effectiveness of the subpoena pending the Commission's decision on the motion.

(e) If a witness' counsel is excluded under paragraph (b) of this section, the interview may, at the witness' request, either proceed without counsel or be delayed for a reasonable period of time to permit the retention of new counsel. The interview may also be rescheduled to a subsequent date established by the NRC, although the interview shall not be rescheduled by the NRC to a date that precedes the expiration of the time provided under § 19.18(d) for appeal of the exclusion of counsel, unless the witness consents to an earlier date.

[55 FR 247, Jan. 4, 1990, as amended at 56 FR 65948, Dec. 19, 1991; 57 FR 61785, Dec. 29, 1992]

§ 19.20 Employee protection.

Employment discrimination by a licensee (or a holder of a certificate of compliance issued pursuant to part 76) or a contractor or subcontractor of a licensee (or a holder of a certificate of compliance issued pursuant to part 76) against an employee for engaging in protected activities under this part or parts 30, 40, 50, 60, 61, 63, 70, 72, 76, or 150 of this chapter is prohibited.

[66 FR 55789, Nov. 2, 2001]

§ 19.30 Violations.

(a) The Commission may obtain an injunction or other court order to prevent a violation of the provisions of--

- (1) The Atomic Energy Act of 1954, as amended;
 - (2) Title II of the Energy Reorganization Act of 1974, as amended; or
 - (3) A regulation or order issued pursuant to those Acts.
- (b) The Commission may obtain a court order for the payment of a civil penalty imposed under section 234 of the Atomic Energy Act:
- (1) For violations of--
 - (i) Sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Atomic Energy Act of 1954, as amended;
 - (ii) Section 206 of the Energy Reorganization Act;
 - (iii) Any rule, regulation, or order issued pursuant to the sections specified in paragraph (b)(1)(i) of this section;
 - (iv) Any term, condition, or limitation of any license issued under the sections specified in paragraph (b)(1)(i) of this section.
 - (2) For any violation for which a license may be revoked under section 186 of the Atomic Energy Act of 1954, as amended.

[57 FR 55071, Nov. 24, 1992]

§ 19.31 Application for exemptions.

The Commission may upon application by any licensee or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not result in undue hazard to life or property.

§ 19.32 Discrimination prohibited.

No person shall on the ground of sex be excluded from participation in, be denied the benefit of, or be subjected to discrimination under any program or activity licensed by the Nuclear Regulatory Commission. This provision will be enforced through agency provisions and rules similar to those already established, with respect to racial and other discrimination, under Title VI of the Civil Rights Act of 1964. This remedy is not exclusive, however, and will not prejudice or cut off any other legal remedies available to a discriminatee.

[65 FR 54949, Sept. 12, 2000; 68 FR 75389, Dec. 31, 2003]

§ 19.40 Criminal penalties.

(a) Section 223 of the Atomic Energy Act of 1954, as amended, provides for criminal sanctions for willful violation of, attempted violation of, or conspiracy to violate, any regulation issued under sections 161b, 161i, or 161o of the Act. For purposes of section 223, all the regulations in part 19 are issued under one or more of sections 161b, 161i, or 161o, except for the sections listed in paragraph (b) of this section.

(b) The regulations in part 19 that are not issued under sections 161b, 161i, or 161o for the purposes of section 223 are as follows: §§ 19.1, 19.2, 19.3, 19.4, 19.5, 19.8, 19.16, 19.17, 19.18, 19.30, 19.31, and 19.40.

[57 FR 55071, Nov. 24, 1992]

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PART 20--STANDARDS FOR PROTECTION AGAINST RADIATION

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Authority: Secs. 53, 63, 65, 81, 103, 104, 161, 182, 186, 68 Stat. 930, 933, 935, 936, 937, 948, 953, 955, as amended, sec. 1701, 106 Stat. 2951, 2952, 2953 (42 U.S.C. 2073, 2093, 2095, 2111, 2133, 2134, 2201, 2232, 2236, 2297f), secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note).

Subpart A--General Provisions

Source: 56 FR 23391, May 21, 1991, unless otherwise noted.

§ 20.1001 Purpose.

(a) The regulations in this part establish standards for protection against ionizing radiation resulting from activities conducted under licenses issued by the Nuclear Regulatory Commission. These regulations are issued under the Atomic

Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended.

(b) It is the purpose of the regulations in this part to control the receipt, possession, use, transfer, and disposal of licensed material by any licensee in such a manner that the total dose to an individual (including doses resulting from licensed and unlicensed radioactive material and from radiation sources other than background radiation) does not exceed the standards for protection against radiation prescribed in the regulations in this part. However, nothing in this part shall be construed as limiting actions that may be necessary to protect health and safety.

§ 20.1002 Scope.

The regulations in this part apply to persons licensed by the Commission to receive, possess, use, transfer, or dispose of byproduct, source, or special nuclear material or to operate a production or utilization facility under Parts 30 through 36, 39, 40, 50, 60, 61, 63, 70, or 72 of this chapter, and in accordance with 10 CFR 76.60 to persons required to obtain a certificate of compliance or an approved compliance plan under part 76 of this chapter. The limits in this part do not apply to doses due to background radiation, to exposure of patients to radiation for the purpose of medical diagnosis or therapy, to exposure from individuals administered radioactive material and released under § 35.75, or to exposure from voluntary participation in medical research programs.

[67 FR 20370, Apr. 24, 2002; 67 FR 62872, Oct. 9, 2002, as amended at 67 FR 77652, Dec. 19, 2002]

§ 20.1003 Definitions.

As used in this part:

Absorbed dose means the energy imparted by ionizing radiation per unit mass of irradiated material. The units of absorbed dose are the rad and the gray (Gy).

Act means the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.), as amended.

Activity is the rate of disintegration (transformation) or decay of radioactive material. The units of activity are the curie (Ci) and the becquerel (Bq).

Adult means an individual 18 or more years of age.

Airborne radioactive material means radioactive material dispersed in the air in the form of dusts, fumes, particulates, mists, vapors, or gases.

Airborne radioactivity area means a room, enclosure, or area in which airborne radioactive materials, composed wholly or partly of licensed material, exist in concentrations--

(1) In excess of the derived air concentrations (DACs) specified in appendix B, to §§ 20.1001-20.2401, or

(2) To such a degree that an individual present in the area without respiratory protective equipment could exceed, during the hours an individual is present in a week, an intake of 0.6 percent of the annual limit on intake (ALI) or 12 DAC-hours.

Air-purifying respirator means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

ALARA (acronym for "as low as is reasonably achievable") means making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest.

Annual limit on intake (ALI) means the derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year. ALI is the smaller value of intake of a given radionuclide in a year by the

reference man that would result in a committed effective dose equivalent of 5 rems (0.05 Sv) or a committed dose equivalent of 50 rems (0.5 Sv) to any individual organ or tissue. (ALI values for intake by ingestion and by inhalation of selected radionuclides are given in Table 1, Columns 1 and 2, of appendix B to §§ 20.1001-20.2401).

Assigned protection factor (APF) means the expected workplace level of respiratory protection that would be provided by a properly functioning respirator or a class of respirators to properly fitted and trained users. Operationally, the inhaled concentration can be estimated by dividing the ambient airborne concentration by the APF.

Atmosphere-supplying respirator means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

Background radiation means radiation from cosmic sources; naturally occurring radioactive material, including radon (except as a decay product of source or special nuclear material); and global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation and are not under the control of the licensee. ``Background radiation" does not include radiation from source, byproduct, or special nuclear materials regulated by the Commission.

Bioassay (radiobioassay) means the determination of kinds, quantities or concentrations, and, in some cases, the locations of radioactive material in the human body, whether by direct measurement (in vivo counting) or by analysis and evaluation of materials excreted or removed from the human body.

Byproduct material means--

(1) Any radioactive material (except special nuclear material) yielded in, or made radioactive by, exposure to the radiation incident to the process of producing or utilizing special nuclear material; and

(2) The tailings or wastes produced by the extraction or concentration of uranium or thorium from ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by these solution extraction operations do not constitute "byproduct material" within this definition.

Class (or lung class or inhalation class) means a classification scheme for inhaled material according to its rate of clearance from the pulmonary region of the lung. Materials are classified as D, W, or Y, which applies to a range of clearance half-times: for Class D (Days) of less than 10 days, for Class W (Weeks) from 10 to 100 days, and for Class Y (Years) of greater than 100 days.

Collective dose is the sum of the individual doses received in a given period of time by a specified population from exposure to a specified source of radiation.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

Committed dose equivalent ($H_{T,50}$) means the dose equivalent to organs or tissues of reference (T) that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

Committed effective dose equivalent ($H_{E,50}$) is the sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to these organs or tissues ($H_{E,50} = \sum W_T H_{T,50}$).

Constraint (dose constraint) means a value above which specified licensee actions are required.

Controlled area means an area, outside of a restricted area but inside the site boundary, access to which can be limited by the licensee for any reason.

Critical Group means the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances.

Declared pregnant woman means a woman who has voluntarily informed the licensee, in writing, of her pregnancy and the estimated date of conception. The declaration remains in effect until the declared pregnant woman withdraws the declaration in writing or is no longer pregnant.

Decommission means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits--

- (1) Release of the property for unrestricted use and termination of the license; or
- (2) Release of the property under restricted conditions and termination of the license.

Deep-dose equivalent (H_d), which applies to external whole-body exposure, is the dose equivalent at a tissue depth of 1 cm (1000 mg/cm^2).

Demand respirator means an atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

Department means the Department of Energy established by the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565, 42 U.S.C. 7101 et seq.) to the extent that the Department, or its duly authorized representatives, exercises functions formerly vested in the U.S. Atomic Energy Commission, its Chairman, members, officers, and components and transferred to the U.S. Energy Research and Development Administration and to the Administrator thereof pursuant to sections 104 (b), (c), and (d) of the Energy Reorganization Act of 1974 (Pub. L. 93-438, 88 Stat. 1233 at 1237, 42 U.S.C. 5814) and retransferred to the Secretary of Energy pursuant to section 301(a) of the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat 565 at 577-578, 42 U.S.C. 7151).

Derived air concentration (DAC) means the concentration of a given radionuclide in air which, if breathed by the reference man for a working year of 2,000 hours under conditions of light work (inhalation rate 1.2 cubic meters of air per hour), results in an intake of one ALI. DAC values are given in Table 1, Column 3, of appendix B to §§ 20.1001-20.2401.

Derived air concentration-hour (DAC-hour) is the product of the concentration of radioactive material in air (expressed as a fraction or multiple of the derived air concentration for each radionuclide) and the time of exposure to that radionuclide, in hours. A licensee may take 2,000 DAC-hours to represent one ALI, equivalent to a committed effective dose equivalent of 5 rems (0.05 Sv).

Disposable respirator means a respirator for which maintenance is not intended and that is designed to be discarded after excessive breathing resistance, sorbent exhaustion, physical damage, or end-of-service-life renders it unsuitable for use. Examples of this type of respirator are a disposable half-mask respirator or a disposable escape-only self-contained breathing apparatus (SCBA).

Distinguishable from background means that the detectable concentration of a radionuclide is statistically different from the background concentration of that radionuclide in the vicinity of the site or, in the case of structures, in similar materials using adequate measurement technology, survey, and statistical techniques.

Dose or *radiation dose* is a generic term that means absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, or total effective dose equivalent, as defined in other paragraphs of this section.

Dose equivalent (H_T) means the product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. The units of dose equivalent are the rem and sievert (Sv).

Dosimetry processor means an individual or organization that processes and evaluates individual monitoring equipment in order to determine the radiation dose delivered to the equipment.

Effective dose equivalent (H_E) is the sum of the products of the dose equivalent to the organ or tissue (H_T) and the weighting factors (W_T) applicable to each of the body organs or tissues that are irradiated ($H_E = \sum W_T H_T$).

Embryo/fetus means the developing human organism from conception until the time of birth.

Entrance or access point means any location through which an individual could gain access to radiation areas or to radioactive materials. This includes entry or exit portals of sufficient size to permit human entry, irrespective of their intended use.

Exposure means being exposed to ionizing radiation or to radioactive material.

External dose means that portion of the dose equivalent received from radiation sources outside the body.

Extremity means hand, elbow, arm below the elbow, foot, knee, or leg below the knee.

Filtering facepiece (dust mask) means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium, not equipped with elastomeric sealing surfaces and adjustable straps.

Fit factor means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

Fit test means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

Generally applicable environmental radiation standards means standards issued by the Environmental Protection Agency (EPA) under the authority of the Atomic Energy Act of 1954, as amended, that impose limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material.

Government agency means any executive department, commission, independent establishment, corporation wholly or partly owned by the United States of America, which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

Gray [See § 20.1004].

Helmet means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

High radiation area means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 0.1 rem (1 mSv) in 1 hour at 30 centimeters from the radiation source or 30 centimeters from any surface that the radiation penetrates.

Hood means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

Individual means any human being.

Individual monitoring means--

- (1) The assessment of dose equivalent by the use of devices designed to be worn by an individual;
- (2) The assessment of committed effective dose equivalent by bioassay (see Bioassay) or by determination of the time-weighted air concentrations to which an individual has been exposed, i.e., DAC-hours; or
- (3) The assessment of dose equivalent by the use of survey data.

Individual monitoring devices (individual monitoring equipment) means devices designed to be worn by a single individual for the assessment of dose equivalent such as film badges, thermoluminescence dosimeters (TLDs), pocket ionization chambers, and personal ("lapel") air sampling devices.

Internal dose means that portion of the dose equivalent received from radioactive material taken into the body.

Lens dose equivalent (LDE) applies to the external exposure of the lens of the eye and is taken as the dose equivalent at a tissue depth of 0.3 centimeter (300 mg/cm²).

License means a license issued under the regulations in parts 30 through 36, 39, 40, 50, 60, 61, 63, 70, or 72 of this chapter.

Licensed material means source material, special nuclear material, or byproduct material received, possessed, used, transferred or disposed of under a general or specific license issued by the Commission.

Licensee means the holder of a license.

Limits (dose limits) means the permissible upper bounds of radiation doses.

Loose-fitting facepiece means a respiratory inlet covering that is designed to form a partial seal with the face.

Lost or missing licensed material means licensed material whose location is unknown. It includes material that has been shipped but has not reached its destination and whose location cannot be readily traced in the transportation system.

Member of the public means any individual except when that individual is receiving an occupational dose.

Minor means an individual less than 18 years of age.

Monitoring (radiation monitoring, radiation protection monitoring) means the measurement of radiation levels, concentrations, surface area concentrations or quantities of radioactive material and the use of the results of these measurements to evaluate potential exposures and doses.

Negative pressure respirator (tight fitting) means a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

Nonstochastic effect means health effects, the severity of which varies with the dose and for which a threshold is believed to exist. Radiation-induced cataract formation is an example of a nonstochastic effect (also called a deterministic effect).

NRC means the Nuclear Regulatory Commission or its duly authorized representatives.

Occupational dose means the dose received by an individual in the course of employment in which the individual's assigned duties involve exposure to radiation 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 doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under § 35.75, from voluntary participation in medical research programs, or as a member of the public.

Person means--

(1) Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission or the Department of Energy (except that the Department shall be considered a person within the meaning of the regulations in 10 CFR chapter I to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission under section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244), the Uranium Mill Tailings Radiation Control Act of 1978 (92 Stat. 3021), the Nuclear Waste Policy Act of 1982 (96 Stat. 2201), and section 3(b)(2) of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (99 Stat. 1842)), any State or any political subdivision of or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and

(2) Any legal successor, representative, agent, or agency of the foregoing.

Planned special exposure means an infrequent exposure to radiation, separate from and in addition to the annual dose limits.

Positive pressure respirator means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Powered air-purifying respirator (PAPR) means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

Pressure demand respirator means a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

Public dose means the dose received by a member of the public from exposure to radiation or to radioactive material released by a licensee, or to any other source of radiation under the control of a licensee. Public dose does not include occupational dose or doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under § 35.75, or from voluntary participation in medical research programs.

Qualitative fit test (QLFT) means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Quality Factor (Q) means the modifying factor (listed in tables 1004(b).1 and 1004(b).2 of § 20.1004) that is used to derive dose equivalent from absorbed dose.

Quantitative fit test (QNFT) means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

Quarter means a period of time equal to one-fourth of the year observed by the licensee (approximately 13 consecutive weeks), providing that the beginning of the first quarter in a year coincides with the starting date of the year and that no day is omitted or duplicated in consecutive quarters.

Rad (See § 20.1004).

Radiation (ionizing radiation) means alpha particles, beta particles, gamma rays, x-rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. Radiation, as used in this part, does not include non-ionizing radiation, such as radio- or microwaves, or visible, infrared, or ultraviolet light.

Radiation area means an area, accessible to individuals, in which radiation levels could result in an individual receiving a 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.

Reference man means a hypothetical aggregation of human physical and physiological characteristics arrived at by international consensus. These characteristics may be used by researchers and public health workers to standardize results of experiments and to relate biological insult to a common base.

Rem (See § 20.1004).

Residual radioactivity means radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee's control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of 10 CFR part 20.

Respiratory protective device means an apparatus, such as a respirator, used to reduce the individual's intake of airborne radioactive materials.

Restricted area means an area, access to which is limited by the licensee for the purpose of protecting individuals against

undue risks from exposure to radiation and radioactive materials. Restricted area does not include areas used as residential quarters, but separate rooms in a residential building may be set apart as a restricted area.

Sanitary sewerage means a system of public sewers for carrying off waste water and refuse, but excluding sewage treatment facilities, septic tanks, and leach fields owned or operated by the licensee.

Self-contained breathing apparatus (SCBA) means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

Shallow-dose equivalent (Hs), which applies to the external exposure of the skin of the whole body or the skin of an extremity, is taken as the dose equivalent at a tissue depth of 0.007 centimeter (7 mg/cm^2).

Sievert (See § 20.1004).

Site boundary means that line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee.

Source material means--

(1) Uranium or thorium or any combination of uranium and thorium in any physical or chemical form; or

(2) Ores that contain, by weight, one-twentieth of 1 percent (0.05 percent), or more, of uranium, thorium, or any combination of uranium and thorium. Source material does not include special nuclear material.

Special nuclear material means--

(1) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material that the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or

(2) Any material artificially enriched by any of the foregoing but does not include source material.

Stochastic effects means health effects that occur randomly and for which the probability of the effect occurring, rather than its severity, is assumed to be a linear function of dose without threshold. Hereditary effects and cancer incidence are examples of stochastic effects.

Supplied-air respirator (SAR) or airline respirator means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

Survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. When appropriate, such an evaluation includes a physical survey of the location of radioactive material and measurements or calculations of levels of radiation, or concentrations or quantities of radioactive material present.

Tight-fitting facepiece means a respiratory inlet covering that forms a complete seal with the face.

Total Effective Dose Equivalent (TEDE) means the sum of the deep-dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures).

Unrestricted area means an area, access to which is neither limited nor controlled by the licensee.

Uranium fuel cycle means the operations of milling of uranium ore, chemical conversion of uranium, isotopic enrichment of uranium, fabrication of uranium fuel, generation of electricity by a light-water-cooled nuclear power plant using uranium fuel, and reprocessing of spent uranium fuel to the extent that these activities directly support the production of electrical power for public use. Uranium fuel cycle does not include mining operations, operations at waste disposal sites, transportation of radioactive material in support of these operations, and the reuse of recovered non-uranium special

nuclear and byproduct materials from the cycle.

User seal check (fit check) means an action conducted by the respirator user to determine if the respirator is properly seated to the face. Examples include negative pressure check, positive pressure check, irritant smoke check, or isoamyl acetate check.

Very high radiation area means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving an absorbed dose in excess of 500 rads (5 grays) in 1 hour at 1 meter from a radiation source or 1 meter from any surface that the radiation penetrates.

(Note: At very high doses received at high dose rates, units of absorbed dose (e.g., rads and grays) are appropriate, rather than units of dose equivalent (e.g., rems and sieverts)).

Week means 7 consecutive days starting on Sunday.

Weighting factor W_T , for an organ or tissue (T) is the proportion of the risk of stochastic effects resulting from irradiation of that organ or tissue to the total risk of stochastic effects when the whole body is irradiated uniformly. For calculating the effective dose equivalent, the values of W_T are:

Organ Dose Weighting Factors

Organ or Tissue	W_T
Gonads	0.25
Breast	0.15
Red bone marrow	0.12
Lung	0.12
Thyroid	0.03
Bone surfaces	0.03
Remainder	¹ 0.30
Whole Body	² 1.00

¹ 0.30 results from 0.06 for each of 5 "remainder" organs (excluding the skin and the lens of the eye) that receive the highest doses.

² For the purpose of weighting the external whole body dose (for adding it to the internal dose), a single weighting factor, $w_T=1.0$, has been specified. The use of other weighting factors for external exposure will be approved on a case-by-case basis until such time as specific guidance is issued.

Whole body means, for purposes of external exposure, head, trunk (including male gonads), arms above the elbow, or legs above the knee.

Working level (WL) is any combination of short-lived radon daughters (for radon-222: polonium-218, lead-214, bismuth-214, and polonium-214; and for radon-220: polonium-216, lead-212, bismuth-212, and polonium-212) in 1 liter of air that will result in the ultimate emission of 1.3×10^5 MeV of potential alpha particle energy.

Working level month (WLM) means an exposure to 1 working level for 170 hours (2,000 working hours per year/12 months per year=approximately 170 hours per month).

Year means the period of time beginning in January used to determine compliance with the provisions of this part. The licensee may change the starting date of the year used to determine compliance by the licensee provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years.

[56 FR 23391, May 21, 1991, as amended at 57 FR 57878, Dec. 8, 1992; 58 FR 7736, Feb. 9, 1993; 60 FR 36043, July 13,

1995; 60 FR 48625, Sept. 20, 1995; 61 FR 65127, Dec. 10, 1996; 62 FR 4133, Jan. 29, 1997; 62 FR 39087, July 21, 1997; 63 FR 39481, July 23, 1998; 64 FR 54556, Oct. 7, 1999; 66 FR 55789, Nov. 2, 2001; 67 FR 16304, Apr. 5, 2002; 67 FR 20370, Apr. 24, 2002; 67 FR 62872, Oct. 9, 2002]

§ 20.1004 Units of radiation dose.

(a) Definitions. As used in this part, the units of radiation dose are:

Gray (Gy) is the SI unit of absorbed dose. One gray is equal to an absorbed dose of 1 Joule/kilogram (100 rads).

Rad is the special unit of absorbed dose. One rad is equal to an absorbed dose of 100 ergs/gram or 0.01 joule/kilogram (0.01 gray).

Rem is the special unit of any of the quantities expressed as dose equivalent. The dose equivalent in rems is equal to the absorbed dose in rads multiplied by the quality factor (1 rem=0.01 sievert).

Sievert is the SI unit of any of the quantities expressed as dose equivalent. The dose equivalent in sieverts is equal to the absorbed dose in grays multiplied by the quality factor (1 Sv=100 rems).

(b) As used in this part, the quality factors for converting absorbed dose to dose equivalent are shown in table 1004(b).1.

Table 1004(b).1-Quality Factors and Absorbed Dose Equivalencies

Type of radiation	Quality factor	Absorbed dose equal to a unit dose equivalent ^a
	(Q)	
X-, gamma, or beta radiation	1	1
Alpha particles, multiple-charged particles, fission fragments and heavy particles of unknown charge	20	0.05
Neutrons of unknown energy	10	0.1
High-energy protons	10	0.1

^a Absorbed dose in rad equal to 1 rem or the absorbed dose in gray equal to 1 sievert.

(c) If it is more convenient to measure the neutron fluence rate than to determine the neutron dose equivalent rate in rems per hour or sieverts per hour, as provided in paragraph (b) of this section, 1 rem (0.01 Sv) of neutron radiation of unknown energies may, for purposes of the regulations in this part, be assumed to result from a total fluence of 25 million neutrons per square centimeter incident upon the body. If sufficient information exists to estimate the approximate energy distribution of the neutrons, the licensee may use the fluence rate per unit dose equivalent or the appropriate Q value from table 1004(b).2 to convert a measured tissue dose in rads to dose equivalent in rems.

Table 1004(b).2.--Mean Quality Factors, Q, and Fluence Per Unit Dose Equivalent for Monoenergetic Neutrons

	Neutron energy (MeV)	Quality factor ^a (Q)	Fluence per unit dose equivalent ^b (neutrons cm ⁻² rem ⁻¹)
(thermal).....	2.5 x 10 ⁻⁸	2	980 x 10 ⁶
	1 x 10 ⁻⁷	2	980 x 10 ⁶
	1 x 10 ⁻⁶	2	810 x 10 ⁶
	1 x 10 ⁻⁵	2	810 x 10 ⁶
	1 x 10 ⁻⁴	2	840 x 10 ⁶
	1 x 10 ⁻³	2	980 x 10 ⁶

1×10^{-2}	2.5	1010×10^6
1×10^{-1}	7.5	170×10^6
5×10^{-1}	11	39×10^6
1	11	27×10^6
2.5	9	29×10^6
5	8	23×10^6
7	7	24×10^6
10	6.5	24×10^6
14	7.5	17×10^6
20	8	16×10^6
40	7	14×10^6
60	5.5	16×10^6
1×10^2	4	20×10^6
2×10^2	3.5	19×10^6
3×10^2	3.5	16×10^6
4×10^2	3.5	14×10^6

^a Value of quality factor (Q) at the point where the dose equivalent is maximum in a 30-cm diameter cylinder tissue-equivalent phantom.

^b Monoenergetic neutrons incident normally on a 30-cm diameter cylinder tissue-equivalent phantom.

§ 20.1005 Units of radioactivity.

For the purposes of this part, activity is expressed in the special unit of curies (Ci) or in the SI unit of becquerels (Bq), or their multiples, or disintegrations (transformations) per unit of time.

(a) One becquerel=1 disintegration per second (s^{-1}).

(b) One curie= 3.7×10^{10} disintegrations per second= 3.7×10^{10} becquerels= 2.22×10^{12} disintegrations per minute.

[56 FR 23391, May 21, 1991; 56 FR 61352, Dec. 3, 1991]

§ 20.1006 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 20.1007 Communications.

Unless otherwise specified, communications or reports concerning the regulations in this part should be addressed to the Executive Director for Operations (EDO), and sent either by mail to the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; by hand delivery to the NRC's offices at 11555 Rockville Pike, Rockville, Maryland; or, where practicable, by electronic submission, for example, via Electronic Information Exchange, or CD-ROM. Electronic submissions must be made in a manner that enables the NRC to receive, read, authenticate, distribute, and archive the submission, and process and retrieve it a single page at a time. Detailed guidance on making electronic submissions can be obtained by visiting the

NRC's Web site at <http://www.nrc.gov/site-help/eie.html>, by calling (301) 415-6030, by e-mail to EIE@nrc.gov, or by writing the Office of Information Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. The guidance discusses, among other topics, the formats the NRC can accept, the use of electronic signatures, and the treatment of nonpublic information.

[68 FR 58801, Oct. 10, 2003 as amended at 70 FR 69421, Nov. 16, 2005]

§ 20.1008 Implementation.

(a) [Reserved]

(b) The applicable section of §§ 20.1001-20.2402 must be used in lieu of requirements in the standards for protection against radiation in effect prior to January 1, 1994¹ that are cited in license conditions or technical specifications, except as specified in paragraphs (c), (d), and (e) of this section. If the requirements of this part are more restrictive than the existing license condition, then the licensee shall comply with this part unless exempted by paragraph (d) of this section.

(c) Any existing license condition or technical specification that is more restrictive than a requirement in §§ 20.1001-20.2402 remains in force until there is a technical specification change, license amendment, or license renewal.

(d) If a license condition or technical specification exempted a licensee from a requirement in the standards for protection against radiation in effect prior to January 1, 1994,¹ it continues to exempt a licensee from the corresponding provision of §§ 20.1001-20.2402.

(e) If a license condition cites provisions in requirements in the standards for protection against radiation in effect prior to January 1, 1994¹ and there are no corresponding provisions in §§ 20.1001-20.2402, then the license condition remains in force until there is a technical specification change, license amendment, or license renewal that modifies or removes this condition.

[59 FR 41643, Aug. 15, 1994]

¹ See §§ 20.1-20.602 codified as of January 1, 1993.

§ 20.1009 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*). The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. OMB has approved the information collection requirements contained in this part under control number 3150-0014.

(b) The approved information collection requirements contained in this part appear in §§ 20.1003, 20.1101, 20.1202, 20.1203, 20.1204, 20.1206, 20.1208, 20.1301, 20.1302, 20.1403, 20.1404, 20.1406, 20.1501, 20.1601, 20.1703, 20.1901, 20.1904, 20.1905, 20.1906, 20.2002, 20.2004, 20.2005, 20.2006, 20.2102, 20.2103, 20.2104, 20.2105, 20.2106, 20.2107, 20.2108, 20.2110, 20.2201, 20.2202, 20.2203, 20.2204, 20.2205, 20.2206, 20.2301, and appendix G to this part.

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. These information collection requirements and the control numbers under which they are approved are as follows:

(1) In § 20.2104, NRC Form 4 is approved under control number 3150-0005.

(2) In §§ 20.2106 and 20.2206, NRC Form 5 is approved under control number 3150-0006.

(3) In § 20.2006 and appendix G to 10 CFR Part 20, NRC Form 540 and 540A is approved under control number 3150-

0164.

(4) In § 20.2006 and appendix G to 10 CFR Part 20, NRC Form 541 and 541A is approved under control number 3150-0166.

(5) In § 20.2006 and appendix G to 10 CFR Part 20, NRC Form 542 and 542A is approved under control number 3150-0165.

[63 FR 50128, Sept. 21, 1998, as amended at 67 FR 67099, Nov. 4, 2002]

Subpart B--Radiation Protection Programs

Source: 56 FR 23396, May 21, 1991, unless otherwise noted.

§ 20.1101 Radiation protection programs.

(a) Each licensee shall develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of this part. (See § 20.2102 for recordkeeping requirements relating to these programs.)

(b) The licensee shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).

(c) The licensee shall periodically (at least annually) review the radiation protection program content and implementation.

(d) To implement the ALARA requirements of § 20.1101 (b), and notwithstanding the requirements in § 20.1301 of this part, a constraint on air emissions of radioactive material to the environment, excluding Radon-222 and its daughters, shall be established by licensees other than those subject to § 50.34a, such that the individual member of the public likely to receive the highest dose will not be expected to receive a total effective dose equivalent in excess of 10 mrem (0.1 mSv) per year from these emissions. If a licensee subject to this requirement exceeds this dose constraint, the licensee shall report the exceedance as provided in § 20.2203 and promptly take appropriate corrective action to ensure against recurrence.

[56 FR 23396, May 21, 1991, as amended at 61 FR 65127, Dec. 10, 1996; 63 FR 39482, July 23, 1998]

Subpart C--Occupational Dose Limits

Source: 56 FR 23396, May 21, 1991, unless otherwise noted.

§ 20.1201 Occupational dose limits for adults.

(a) The licensee shall control the occupational dose to individual adults, except for planned special exposures under § 20.1206, to the following dose limits.

(1) An annual limit, which is the more limiting of--

(i) The total effective dose equivalent being equal to 5 rems (0.05 Sv); or

(ii) The sum of the deep-dose equivalent and the committed dose equivalent to any individual organ or tissue other than the lens of the eye being equal to 50 rems (0.5 Sv).

(2) The annual limits to the lens of the eye, to the skin of the whole body, and to the skin of the extremities, which are:

- (i) A lens dose equivalent of 15 rems (0.15 Sv), and
 - (ii) A shallow-dose equivalent of 50 rem (0.5 Sv) to the skin of the whole body or to the skin of any extremity.
- (b) Doses received in excess of the annual limits, including doses received during accidents, emergencies, and planned special exposures, must be subtracted from the limits for planned special exposures that the individual may receive during the current year (see § 20.1206(e)(1)) and during the individual's lifetime (see § 20.1206(e)(2)).
- (c) The assigned deep-dose equivalent must be for the part of the body receiving the highest exposure. The assigned shallow-dose equivalent must be the dose averaged over the contiguous 10 square centimeters of skin receiving the highest exposure. The deep-dose equivalent, lens-dose equivalent, and shallow-dose equivalent may be assessed from surveys or other radiation measurements for the purpose of demonstrating compliance with the occupational dose limits, if the individual monitoring device was not in the region of highest potential exposure, or the results of individual monitoring are unavailable.
- (d) Derived air concentration (DAC) and annual limit on intake (ALI) values are presented in table 1 of appendix B to part 20 and may be used to determine the individual's dose (see § 20.2106) and to demonstrate compliance with the occupational dose limits.
- (e) In addition to the annual dose limits, the licensee shall limit the soluble uranium intake by an individual to 10 milligrams in a week in consideration of chemical toxicity (see footnote 3 of appendix B to part 20).
- (f) The licensee shall reduce the dose that an individual may be allowed to receive in the current year by the amount of occupational dose received while employed by any other person (see § 20.2104(e)).

[56 FR 23396, May 21, 1991, as amended at 60 FR 20185, Apr. 25, 1995; 63 FR 39482, July 23, 1998; 67 FR 16304, Apr. 5, 2002]

§ 20.1202 Compliance with requirements for summation of external and internal doses.

(a) If the licensee is required to monitor under both §§ 20.1502(a) and (b), the licensee shall demonstrate compliance with the dose limits by summing external and internal doses. If the licensee is required to monitor only under § 20.1502(a) or only under § 20.1502(b), then summation is not required to demonstrate compliance with the dose limits. The licensee may demonstrate compliance with the requirements for summation of external and internal doses by meeting one of the conditions specified in paragraph (b) of this section and the conditions in paragraphs (c) and (d) of this section.

(Note: The dose equivalents for the lens of the eye, the skin, and the extremities are not included in the summation, but are subject to separate limits.)

(b) *Intake by inhalation.* If the only intake of radionuclides is by inhalation, the total effective dose equivalent limit is not exceeded if the sum of the deep-dose equivalent divided by the total effective dose equivalent limit, and one of the following, does not exceed unity:

- (1) The sum of the fractions of the inhalation ALI for each radionuclide, or
- (2) The total number of derived air concentration-hours (DAC-hours) for all radionuclides divided by 2,000, or
- (3) The sum of the calculated committed effective dose equivalents to all significantly irradiated¹ organs or tissues (T) calculated from bioassay data using appropriate biological models and expressed as a fraction of the annual limit.

(c) *Intake by oral ingestion.* If the occupationally exposed individual also receives an intake of radionuclides by oral ingestion greater than 10 percent of the applicable oral ALI, the licensee shall account for this intake and include it in demonstrating compliance with the limits.

(d) *Intake through wounds or absorption through skin.* The licensee shall evaluate and, to the extent practical, account for

intakes through wounds or skin absorption.

Note: The intake through intact skin has been included in the calculation of DAC for hydrogen-3 and does not need to be further evaluated.

[56 FR 23396, May 21, 1991, as amended at 57 FR 57878, Dec. 8, 1992]

¹ An organ or tissue is deemed to be significantly irradiated if, for that organ or tissue, the product of the weighting factor, w_T , and the committed dose equivalent, $H_{T,50}$, per unit intake is greater than 10 percent of the maximum weighted value of $H_{T,50}$, (i.e., $w_T H_{T,50}$) per unit intake for any organ or tissue.

§ 20.1203 Determination of external dose from airborne radioactive material.

Licensees shall, when determining the dose from airborne radioactive material, include the contribution to the deep-dose equivalent, lens dose equivalent, and shallow-dose equivalent from external exposure to the radioactive cloud (see appendix B to part 20, footnotes 1 and 2).

Note: Airborne radioactivity measurements and DAC values should not be used as the primary means to assess the deep-dose equivalent when the airborne radioactive material includes radionuclides other than noble gases or if the cloud of airborne radioactive material is not relatively uniform. The determination of the deep-dose equivalent to an individual should be based upon measurements using instruments or individual monitoring devices.

[56 FR 23396, May 21, 1991, as amended at 60 FR 20185, Apr. 25, 1995; 63 FR 39482, July 23, 1998]

§ 20.1204 Determination of internal exposure.

(a) For purposes of assessing dose used to determine compliance with occupational dose equivalent limits, the licensee shall, when required under § 20.1502, take suitable and timely measurements of--

- (1) Concentrations of radioactive materials in air in work areas; or
- (2) Quantities of radionuclides in the body; or
- (3) Quantities of radionuclides excreted from the body; or
- (4) Combinations of these measurements.

(b) Unless respiratory protective equipment is used, as provided in § 20.1703, or the assessment of intake is based on bioassays, the licensee shall assume that an individual inhales radioactive material at the airborne concentration in which the individual is present.

(c) When specific information on the physical and biochemical properties of the radionuclides taken into the body or the behavior or the material in an individual is known, the licensee may--

- (1) Use that information to calculate the committed effective dose equivalent, and, if used, the licensee shall document that information in the individual's record; and
- (2) Upon prior approval of the Commission, adjust the DAC or ALI values to reflect the actual physical and chemical characteristics of airborne radioactive material (e.g., aerosol size distribution or density); and
- (3) Separately assess the contribution of fractional intakes of Class D, W, or Y compounds of a given radionuclide (see appendix B to part 20) to the committed effective dose equivalent.

(d) If the licensee chooses to assess intakes of Class Y material using the measurements given in § 20.1204(a)(2) or (3),

the licensee may delay the recording and reporting of the assessments for periods up to 7 months, unless otherwise required by §§ 20.2202 or 20.2203, in order to permit the licensee to make additional measurements basic to the assessments.

(e) If the identity and concentration of each radionuclide in a mixture are known, the fraction of the DAC applicable to the mixture for use in calculating DAC-hours must be either--

- (1) The sum of the ratios of the concentration to the appropriate DAC value (e.g., D, W, Y) from appendix B to part 20 for each radionuclide in the mixture; or
- (2) The ratio of the total concentration for all radionuclides in the mixture to the most restrictive DAC value for any radionuclide in the mixture.

(f) If the identity of each radionuclide in a mixture is known, but the concentration of one or more of the radionuclides in the mixture is not known, the DAC for the mixture must be the most restrictive DAC of any radionuclide in the mixture.

(g) When a mixture of radionuclides in air exists, licensees may disregard certain radionuclides in the mixture if--

- (1) The licensee uses the total activity of the mixture in demonstrating compliance with the dose limits in § 20.1201 and in complying with the monitoring requirements in § 20.1502(b), and
- (2) The concentration of any radionuclide disregarded is less than 10 percent of its DAC, and
- (3) The sum of these percentages for all of the radionuclides disregarded in the mixture does not exceed 30 percent.

(h)(1) In order to calculate the committed effective dose equivalent, the licensee may assume that the inhalation of one ALI, or an exposure of 2,000 DAC-hours, results in a committed effective dose equivalent of 5 rems (0.05 Sv) for radionuclides that have their ALIs or DACs based on the committed effective dose equivalent.

(2) When the ALI (and the associated DAC) is determined by the nonstochastic organ dose limit of 50 rems (0.5 Sv), the intake of radionuclides that would result in a committed effective dose equivalent of 5 rems (0.05 Sv) (the stochastic ALI) is listed in parentheses in table 1 of appendix B to part 20. In this case, the licensee may, as a simplifying assumption, use the stochastic ALIs to determine committed effective dose equivalent. However, if the licensee uses the stochastic ALIs, the licensee must also demonstrate that the limit in § 20.1201(a)(1)(ii) is met.

[56 FR 23396, May 21, 1991, as amended at 60 FR 20185, Apr. 25, 1995]

§ 20.1205 [Reserved]

§ 20.1206 Planned special exposures.

A licensee may authorize an adult worker to receive doses in addition to and accounted for separately from the doses received under the limits specified in § 20.1201 provided that each of the following conditions is satisfied--

- (a) The licensee authorizes a planned special exposure only in an exceptional situation when alternatives that might avoid the dose estimated to result from the planned special exposure are unavailable or impractical.
- (b) The licensee (and employer if the employer is not the licensee) specifically authorizes the planned special exposure, in writing, before the exposure occurs.
- (c) Before a planned special exposure, the licensee ensures that the individuals involved are--
 - (1) Informed of the purpose of the planned operation;
 - (2) Informed of the estimated doses and associated potential risks and specific radiation levels or other conditions that

might be involved in performing the task; and

(3) Instructed in the measures to be taken to keep the dose ALARA considering other risks that may be present.

(d) Prior to permitting an individual to participate in a planned special exposure, the licensee ascertains prior doses as required by § 20.2104(b) during the lifetime of the individual for each individual involved.

(e) Subject to § 20.1201(b), the licensee does not authorize a planned special exposure that would cause an individual to receive a dose from all planned special exposures and all doses in excess of the limits to exceed--

(1) The numerical values of any of the dose limits in § 20.1201(a) in any year; and

(2) Five times the annual dose limits in § 20.1201(a) during the individual's lifetime.

(f) The licensee maintains records of the conduct of a planned special exposure in accordance with § 20.2105 and submits a written report in accordance with § 20.2204.

(g) The licensee records the best estimate of the dose resulting from the planned special exposure in the individual's record and informs the individual, in writing, of the dose within 30 days from the date of the planned special exposure. The dose from planned special exposures is not to be considered in controlling future occupational dose of the individual under § 20.1201(a) but is to be included in evaluations required by § 20.1206 (d) and (e).

[56 FR 23396, May 21, 1991, as amended at 63 FR 39482, July 23, 1998]

§ 20.1207 Occupational dose limits for minors.

The annual occupational dose limits for minors are 10 percent of the annual dose limits specified for adult workers in § 20.1201.

§ 20.1208 Dose equivalent to an embryo/fetus.

(a) The licensee shall ensure that the dose equivalent to the embryo/fetus during the entire pregnancy, due to the occupational exposure of a declared pregnant woman, does not exceed 0.5 rem (5 mSv). (For recordkeeping requirements, see § 20.2106.)

(b) The licensee shall make efforts to avoid substantial variation above a uniform monthly exposure rate to a declared pregnant woman so as to satisfy the limit in paragraph (a) of this section.

(c) The dose equivalent to the embryo/fetus is the sum of--

(1) The deep-dose equivalent to the declared pregnant woman; and

(2) The dose equivalent to the embryo/fetus resulting from radionuclides in the embryo/fetus and radionuclides in the declared pregnant woman.

(d) If the dose equivalent to the embryo/fetus is found to have exceeded 0.5 rem (5 mSv), or is within 0.05 rem (0.5 mSv) of this dose, by the time the woman declares the pregnancy to the licensee, the licensee shall be deemed to be in compliance with paragraph (a) of this section if the additional dose equivalent to the embryo/fetus does not exceed 0.05 rem (0.5 mSv) during the remainder of the pregnancy.

[56 FR 23396, May 21, 1991, as amended at 63 FR 39482, July 23, 1998]

Subpart D--Radiation Dose Limits for Individual Members of the Public

Source: 56 FR 23398, May 21, 1991, unless otherwise noted.

§ 20.1301 Dose limits for individual members of the public.

(a) Each licensee shall conduct operations so that —

(1) The total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem (1 mSv) in a year, exclusive of the dose contributions from background radiation, from any administration the individual has received, from exposure to individuals administered radioactive material and released under § 35.75, from voluntary participation in medical research programs, and from the licensee's disposal of radioactive material into sanitary sewerage in accordance with § 20.2003, and

(2) The dose in any unrestricted area from external sources, exclusive of the dose contributions from patients administered radioactive material and released in accordance with § 35.75, does not exceed 0.002 rem (0.02 millisievert) in any one hour.

(b) If the licensee permits members of the public to have access to controlled areas, the limits for members of the public continue to apply to those individuals.

(c) Notwithstanding paragraph (a)(1) of this section, a licensee may permit visitors to an individual who cannot be released, under § 35.75, to receive a radiation dose greater than 0.1 rem (1 mSv) if—

(1) The radiation dose received does not exceed 0.5 rem (5 mSv); and

(2) The authorized user, as defined in 10 CFR Part 35, has determined before the visit that it is appropriate.

(d) A licensee or license applicant may apply for prior NRC authorization to operate up to an annual dose limit for an individual member of the public of 0.5 rem (5 mSv). The licensee or license applicant shall include the following information in this application:

(1) Demonstration of the need for and the expected duration of operations in excess of the limit in paragraph (a) of this section;

(2) The licensee's program to assess and control dose within the 0.5 rem (5 mSv) annual limit; and

(3) The procedures to be followed to maintain the dose as low as is reasonably achievable.

(e) In addition to the requirements of this part, a licensee subject to the provisions of EPA's generally applicable environmental radiation standards in 40 CFR part 190 shall comply with those standards.

(f) The Commission may impose additional restrictions on radiation levels in unrestricted areas and on the total quantity of radionuclides that a licensee may release in effluents in order to restrict the collective dose.

[56 FR 23398, May 21, 1991, as amended at 60 FR 48625, Sept. 20, 1995; 62 FR 4133, Jan. 29, 1997; 67 FR 20370, Apr. 24, 2002; 67 FR 62872, Oct. 9, 2002]

§ 20.1302 Compliance with dose limits for individual members of the public.

(a) The licensee shall make or cause to be made, as appropriate, surveys of radiation levels in unrestricted and controlled areas and radioactive materials in effluents released to unrestricted and controlled areas to demonstrate compliance with the dose limits for individual members of the public in § 20.1301.

(b) A licensee shall show compliance with the annual dose limit in § 20.1301 by--

(1) Demonstrating by measurement or calculation that the total effective dose equivalent to the individual likely to receive the highest dose from the licensed operation does not exceed the annual dose limit; or

(2) Demonstrating that--

(i) The annual average concentrations of radioactive material released in gaseous and liquid effluents at the boundary of the unrestricted area do not exceed the values specified in table 2 of appendix B to part 20; and

(ii) If an individual were continuously present in an unrestricted area, the dose from external sources would not exceed 0.002 rem (0.02 mSv) in an hour and 0.05 rem (0.5 mSv) in a year.

(c) Upon approval from the Commission, the licensee may adjust the effluent concentration values in appendix B to part 20, table 2, for members of the public, to take into account the actual physical and chemical characteristics of the effluents (e.g., aerosol size distribution, solubility, density, radioactive decay equilibrium, chemical form).

[56 FR 23398, May 21, 1991; 56 FR 61352, Dec. 3, 1991, as amended at 57 FR 57878, Dec. 8, 1992; 60 FR 20185, Apr. 25, 1995]

Subpart E--Radiological Criteria for License Termination

Source: 62 FR 39088, July 21, 1997, unless otherwise noted.

§ 20.1401 General provisions and scope.

(a) The criteria in this subpart apply to the decommissioning of facilities licensed under Parts 30, 40, 50, 60, 61, 63, 70, and 72 of this chapter, and release of part of a facility or site for unrestricted use in accordance with § 50.83 of this chapter, as well as other facilities subject to the Commission's jurisdiction under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended. For high-level and low-level waste disposal facilities (10 CFR Parts 60, 61, 63), the criteria apply only to ancillary surface facilities that support radioactive waste disposal activities. The criteria do not apply to uranium and thorium recovery facilities already subject to Appendix A to 10 CFR Part 40 or to uranium solution extraction facilities.

(b) The criteria in this subpart do not apply to sites which:

(1) Have been decommissioned prior to the effective date of the rule in accordance with criteria identified in the Site Decommissioning Management Plan (SDMP) Action Plan of April 16, 1992 (57 FR 13389);

(2) Have previously submitted and received Commission approval on a license termination plan (LTP) or decommissioning plan that is compatible with the SDMP Action Plan criteria; or

(3) Submit a sufficient LTP or decommissioning plan before August 20, 1998 and such LTP or decommissioning plan is approved by the Commission before August 20, 1999 and in accordance with the criteria identified in the SDMP Action Plan, except that if an EIS is required in the submittal, there will be a provision for day-for-day extension.

(c) After a site has been decommissioned and the license terminated in accordance with the criteria in this subpart, or after part of a facility or site has been released for unrestricted use in accordance with § 50.83 of this chapter and in accordance with the criteria in this subpart, the Commission will require additional cleanup only, if based on new information, it determines that the criteria of this subpart were not met and residual radioactivity remaining at the site could result in significant threat to public health and safety.

(d) When calculating TEDE to the average member of the critical group the licensee shall determine the peak annual TEDE dose expected within the first 1000 years after decommissioning.

[62 FR 39088, July 21, 1997, as amended at 66 FR 55789, Nov. 2, 2001]

§ 20.1402 Radiological criteria for unrestricted use.

A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background

radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.

§ 20.1403 Criteria for license termination under restricted conditions.

A site will be considered acceptable for license termination under restricted conditions if:

(a) The licensee can demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of § 20.1402 would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA. Determination of the levels which are ALARA must take into account consideration of any detriments, such as traffic accidents, expected to potentially result from decontamination and waste disposal;

(b) The licensee has made provisions for legally enforceable institutional controls that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem (0.25 mSv) per year;

(c) The licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site. Acceptable financial assurance mechanisms are--

(1) Funds placed into an account segregated from the licensee's assets and outside the licensee's administrative control as described in § 30.35(f)(1) of this chapter;

(2) Surety method, insurance, or other guarantee method as described in § 30.35(f)(2) of this chapter;

(3) A statement of intent in the case of Federal, State, or local Government licensees, as described in § 30.35(f)(4) of this chapter; or

(4) When a governmental entity is assuming custody and ownership of a site, an arrangement that is deemed acceptable by such governmental entity.

(d) The licensee has submitted a decommissioning plan or License Termination Plan (LTP) to the Commission indicating the licensee's intent to decommission in accordance with §§ 30.36(d), 40.42(d), 50.82 (a) and (b), 70.38(d), or 72.54 of this chapter, and specifying that the licensee intends to decommission by restricting use of the site. The licensee shall document in the LTP or decommissioning plan how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and incorporated, as appropriate, following analysis of that advice.

(1) Licensees proposing to decommission by restricting use of the site shall seek advice from such affected parties regarding the following matters concerning the proposed decommissioning--

(i) Whether provisions for institutional controls proposed by the licensee;

(A) Will provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem (0.25 mSv) TEDE per year;

(B) Will be enforceable; and

(C) Will not impose undue burdens on the local community or other affected parties.

(ii) Whether the licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site;

(2) In seeking advice on the issues identified in § 20.1403(d)(1), the licensee shall provide for:

(i) Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;

(ii) An opportunity for a comprehensive, collective discussion on the issues by the participants represented; and

(iii) A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement among the participants on the issues; and

(e) Residual radioactivity at the site has been reduced so that if the institutional controls were no longer in effect, there is reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group is as low as reasonably achievable and would not exceed either--

(1) 100 mrem (1 mSv) per year; or

(2) 500 mrem (5 mSv) per year provided the licensee--

(i) Demonstrates that further reductions in residual radioactivity necessary to comply with the 100 mrem/y (1 mSv/y) value of paragraph (e)(1) of this section are not technically achievable, would be prohibitively expensive, or would result in net public or environmental harm;

(ii) Makes provisions for durable institutional controls;

(iii) Provides sufficient financial assurance to enable a responsible government entity or independent third party, including a governmental custodian of a site, both to carry out periodic rechecks of the site no less frequently than every 5 years to assure that the institutional controls remain in place as necessary to meet the criteria of § 20.1403(b) and to assume and carry out responsibilities for any necessary control and maintenance of those controls. Acceptable financial assurance mechanisms are those in paragraph (c) of this section.

§ 20.1404 Alternate criteria for license termination.

(a) The Commission may terminate a license using alternate criteria greater than the dose criterion of §§ 20.1402, 20.1403(b), and 20.1403(d)(1)(i)(A), if the licensee--

(1) Provides assurance that public health and safety would continue to be protected, and that it is unlikely that the dose from all man-made sources combined, other than medical, would be more than the 1 mSv/y (100 mrem/y) limit of subpart D, by submitting an analysis of possible sources of exposure;

(2) Has employed to the extent practical restrictions on site use according to the provisions of § 20.1403 in minimizing exposures at the site; and

(3) Reduces doses to ALARA levels, taking into consideration any detriments such as traffic accidents expected to potentially result from decontamination and waste disposal.

(4) Has submitted a decommissioning plan or License Termination Plan (LTP) to the Commission indicating the licensee's intent to decommission in accordance with §§ 30.36(d), 40.42(d), 50.82 (a) and (b), 70.38(d), or 72.54 of this chapter, and specifying that the licensee proposes to decommission by use of alternate criteria. The licensee shall document in the decommissioning plan or LTP how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and addressed, as appropriate, following analysis of that advice. In seeking such advice, the licensee shall provide for:

(i) Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;

(ii) An opportunity for a comprehensive, collective discussion on the issues by the participants represented; and

(iii) A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement among the participants on the issues.

(b) The use of alternate criteria to terminate a license requires the approval of the Commission after consideration of the NRC staff's recommendations that will address any comments provided by the Environmental Protection Agency and any public comments submitted pursuant to § 20.1405.

§ 20.1405 Public notification and public participation.

Upon the receipt of an LTP or decommissioning plan from the licensee, or a proposal by the licensee for release of a site pursuant to §§ 20.1403 or 20.1404, or whenever the Commission deems such notice to be in the public interest, the Commission shall:

(a) Notify and solicit comments from:

(1) local and State governments in the vicinity of the site and any Indian Nation or other indigenous people that have treaty or statutory rights that could be affected by the decommissioning; and

(2) the Environmental Protection Agency for cases where the licensee proposes to release a site pursuant to § 20.1404.

(b) Publish a notice in the Federal Register and in a forum, such as local newspapers, letters to State or local organizations, or other appropriate forum, that is readily accessible to individuals in the vicinity of the site, and solicit comments from affected parties.

§ 20.1406 Minimization of contamination.

Applicants for licenses, other than renewals, after August 20, 1997, shall describe in the application how facility design and procedures for operation will minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste.

Subpart F--Surveys and Monitoring

Source: 56 FR 23398, May 21, 1991, unless otherwise noted.

§ 20.1501 General.

(a) Each licensee shall make or cause to be made, surveys that--

(1) May be necessary for the licensee to comply with the regulations in this part; and

(2) Are reasonable under the circumstances to evaluate--

(i) The magnitude and extent of radiation levels; and

(ii) Concentrations or quantities of radioactive material; and

(iii) The potential radiological hazards.

(b) The licensee shall ensure that instruments and equipment used for quantitative radiation measurements (e.g., dose rate and effluent monitoring) are calibrated periodically for the radiation measured.

(c) All personnel dosimeters (except for direct and indirect reading pocket ionization chambers and those dosimeters used to measure the dose to the extremities) that require processing to determine the radiation dose and that are used by licensees to comply with § 20.1201, with other applicable provisions of this chapter, or with conditions specified in a license

must be processed and evaluated by a dosimetry processor--

(1) Holding current personnel dosimetry accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP) of the National Institute of Standards and Technology; and

(2) Approved in this accreditation process for the type of radiation or radiations included in the NVLAP program that most closely approximates the type of radiation or radiations for which the individual wearing the dosimeter is monitored.

[56 FR 23398, May 21, 1991, as amended at 63 FR 39482, July 23, 1998]

§ 20.1502 Conditions requiring individual monitoring of external and internal occupational dose.

Each licensee shall monitor exposures to radiation and radioactive material at levels sufficient to demonstrate compliance with the occupational dose limits of this part. As a minimum--

(a) Each licensee shall monitor occupational exposure to radiation from licensed and unlicensed radiation sources under the control of the licensee and shall supply and require the use of individual monitoring devices by--

(1) Adults likely to receive, in 1 year from sources external to the body, a dose in excess of 10 percent of the limits in § 20.1201(a),

(2) Minors likely to receive, in 1 year, from radiation sources external to the body, a deep dose equivalent in excess of 0.1 rem (1 mSv), a lens dose equivalent in excess of 0.15 rem (1.5 mSv), or a shallow dose equivalent to the skin or to the extremities in excess of 0.5 rem (5 mSv);

(3) Declared pregnant women likely to receive during the entire pregnancy, from radiation sources external to the body, a deep dose equivalent in excess of 0.1 rem (1 mSv);² and

(4) Individuals entering a high or very high radiation area.

(b) Each licensee shall monitor (see § 20.1204) the occupational intake of radioactive material by and assess the committed effective dose equivalent to--

(1) Adults likely to receive, in 1 year, an intake in excess of 10 percent of the applicable ALI(s) in table 1, Columns 1 and 2, of appendix B to §§ 20.1001-20.2402;

(2) Minors likely to receive, in 1 year, a committed effective dose equivalent in excess of 0.1 rem (1 mSv); and

(3) Declared pregnant women likely to receive, during the entire pregnancy, a committed effective dose equivalent in excess of 0.1 rem (1 mSv).

[56 FR 23398, May 21, 1991, as amended at 60 FR 20185, Apr. 25, 1995; 63 FR 39482, July 23, 1998]

² All of the occupational doses in § 20.1201 continue to be applicable to the declared pregnant worker as long as the embryo/fetus dose limit is not exceeded.

Subpart G--Control of Exposure From External Sources in Restricted Areas

Source: 56 FR 23398, May 21, 1991, unless otherwise noted.

§ 20.1601 Control of access to high radiation areas.

(a) The licensee shall ensure that each entrance or access point to a high radiation area has one or more of the following

features--

- (1) A control device that, upon entry into the area, causes the level of radiation to be reduced below that level at which an individual might receive a deep-dose equivalent of 0.1 rem (1 mSv) in 1 hour at 30 centimeters from the radiation source or from any surface that the radiation penetrates;
 - (2) A control device that energizes a conspicuous visible or audible alarm signal so that the individual entering the high radiation area and the supervisor of the activity are made aware of the entry; or
 - (3) Entryways that are locked, except during periods when access to the areas is required, with positive control over each individual entry.
- (b) In place of the controls required by paragraph (a) of this section for a high radiation area, the licensee may substitute continuous direct or electronic surveillance that is capable of preventing unauthorized entry.
- (c) A licensee may apply to the Commission for approval of alternative methods for controlling access to high radiation areas.
- (d) The licensee shall establish the controls required by paragraphs (a) and (c) of this section in a way that does not prevent individuals from leaving a high radiation area.
- (e) Control is not required for each entrance or access point to a room or other area that is a high radiation area solely because of the presence of radioactive materials prepared for transport and packaged and labeled in accordance with the regulations of the Department of Transportation provided that--

- (1) The packages do not remain in the area longer than 3 days; and
 - (2) The dose rate at 1 meter from the external surface of any package does not exceed 0.01 rem (0.1 mSv) per hour.
- (f) Control of entrance or access to rooms or other areas in hospitals is not required solely because of the presence of patients containing radioactive material, provided that there are personnel in attendance who will take the necessary precautions to prevent the exposure of individuals to radiation or radioactive material in excess of the limits established in this part and to operate within the ALARA provisions of the licensee's radiation protection program.

§ 20.1602 Control of access to very high radiation areas.

In addition to the requirements in § 20.1601, the licensee shall institute additional measures to ensure that an individual is not able to gain unauthorized or inadvertent access to areas in which radiation levels could be encountered at 500 rads (5 grays) or more in 1 hour at 1 meter from a radiation source or any surface through which the radiation penetrates.

Subpart H--Respiratory Protection and Controls to Restrict Internal Exposure in Restricted Areas

Source: 56 FR 23400, May 21, 1991, unless otherwise noted.

§ 20.1701 Use of process or other engineering controls.

The licensee shall use, to the extent practical, process or other engineering controls (*e.g.*, containment, decontamination, or ventilation) to control the concentration of radioactive material in air.

[64 FR 54556, Oct. 7, 1999]

§ 20.1702 Use of other controls.

(a) When it is not practical to apply process or other engineering controls to control the concentrations of radioactive material in the air to values below those that define an airborne radioactivity area, the licensee shall, consistent with maintaining the total effective dose equivalent ALARA, increase monitoring and limit intakes by one or more of the following means--

- (1) Control of access;
- (2) Limitation of exposure times;
- (3) Use of respiratory protection equipment; or
- (4) Other controls.

(b) If the licensee performs an ALARA analysis to determine whether or not respirators should be used, the licensee may consider safety factors other than radiological factors. The licensee should also consider the impact of respirator use on workers' industrial health and safety.

[64 FR 54556, Oct. 7, 1999]

§ 20.1703 Use of individual respiratory protection equipment.

If the licensee assigns or permits the use of respiratory protection equipment to limit the intake of radioactive material,

(a) The licensee shall use only respiratory protection equipment that is tested and certified by the National Institute for Occupational Safety and Health (NIOSH) except as otherwise noted in this part.

(b) If the licensee wishes to use equipment that has not been tested or certified by NIOSH, or for which there is no schedule for testing or certification, the licensee shall submit an application to the NRC for authorized use of this equipment except as provided in this part. The application must include evidence that the material and performance characteristics of the equipment are capable of providing the proposed degree of protection under anticipated conditions of use. This must be demonstrated either by licensee testing or on the basis of reliable test information.

(c) The licensee shall implement and maintain a respiratory protection program that includes:

- (1) Air sampling sufficient to identify the potential hazard, permit proper equipment selection, and estimate doses;
- (2) Surveys and bioassays, as necessary, to evaluate actual intakes;
- (3) Testing of respirators for operability (user seal check for face sealing devices and functional check for others) immediately prior to each use;
- (4) Written procedures regarding--
 - (i) Monitoring, including air sampling and bioassays;
 - (ii) Supervision and training of respirator users;
 - (iii) Fit testing;
 - (iv) Respirator selection;
 - (v) Breathing air quality;
 - (vi) Inventory and control;

- (vii) Storage, issuance, maintenance, repair, testing, and quality assurance of respiratory protection equipment;
 - (viii) Recordkeeping; and
 - (ix) Limitations on periods of respirator use and relief from respirator use;
- (5) Determination by a physician that the individual user is medically fit to use respiratory protection equipment:
- (i) Before the initial fitting of a face sealing respirator;
 - (ii) Before the first field use of non-face sealing respirators, and
 - (iii) Either every 12 months thereafter, or periodically at a frequency determined by a physician.
- (6) Fit testing, with fit factor ≥ 10 times the APF for negative pressure devices, and a fit factor ≥ 500 for any positive pressure, continuous flow, and pressure-demand devices, before the first field use of tight fitting, face-sealing respirators and periodically thereafter at a frequency not to exceed 1 year. Fit testing must be performed with the facepiece operating in the negative pressure mode.
- (d) The licensee shall advise each respirator user that the user may leave the area at any time for relief from respirator use in the event of equipment malfunction, physical or psychological distress, procedural or communication failure, significant deterioration of operating conditions, or any other conditions that might require such relief.
- (e) The licensee shall also consider limitations appropriate to the type and mode of use. When selecting respiratory devices the licensee shall provide for vision correction, adequate communication, low temperature work environments, and the concurrent use of other safety or radiological protection equipment. The licensee shall use equipment in such a way as not to interfere with the proper operation of the respirator.
- (f) Standby rescue persons are required whenever one-piece atmosphere-supplying suits, or any combination of supplied air respiratory protection device and personnel protective equipment are used from which an unaided individual would have difficulty extricating himself or herself. The standby persons must be equipped with respiratory protection devices or other apparatus appropriate for the potential hazards. The standby rescue persons shall observe or otherwise maintain continuous communication with the workers (visual, voice, signal line, telephone, radio, or other suitable means), and be immediately available to assist them in case of a failure of the air supply or for any other reason that requires relief from distress. A sufficient number of standby rescue persons must be immediately available to assist all users of this type of equipment and to provide effective emergency rescue if needed.
- (g) Atmosphere-supplying respirators must be supplied with respirable air of grade D quality or better as defined by the Compressed Gas Association in publication G-7.1, "Commodity Specification for Air," 1997 and included in the regulations of the Occupational Safety and Health Administration (29 CFR 1910.134(i)(1)(ii)(A) through (E). Grade D quality air criteria include--
- (1) Oxygen content (v/v) of 19.5-23.5%;
 - (2) Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;
 - (3) Carbon monoxide (CO) content of 10 ppm or less;
 - (4) Carbon dioxide content of 1,000 ppm or less; and
 - (5) Lack of noticable odor.
- (h) The licensee shall ensure that no objects, materials or substances, such as facial hair, or any conditions that interfere with the face--facepiece seal or valve function, and that are under the control of the respirator wearer, are present between the skin of the wearer's face and the sealing surface of a tight-fitting respirator facepiece.

(i) In estimating the dose to individuals from intake of airborne radioactive materials, the concentration of radioactive material in the air that is inhaled when respirators are worn is initially assumed to be the ambient concentration in air without respiratory protection, divided by the assigned protection factor. If the dose is later found to be greater than the estimated dose, the corrected value must be used. If the dose is later found to be less than the estimated dose, the corrected value may be used.

[64 FR 54557, Oct. 7, 1999, as amended at 67 FR 77652, Dec. 19, 2002]

§ 20.1704 Further restrictions on the use of respiratory protection equipment.

The Commission may impose restrictions in addition to the provisions of §§ 20.1702, 20.1703, and Appendix A to Part 20, in order to:

- (a) Ensure that the respiratory protection program of the licensee is adequate to limit doses to individuals from intakes of airborne radioactive materials consistent with maintaining total effective dose equivalent ALARA; and
- (b) Limit the extent to which a licensee may use respiratory protection equipment instead of process or other engineering controls.

[64 FR 54557, Oct. 7, 1999]

§ 20.1705 Application for use of higher assigned protection factors.

The licensee shall obtain authorization from the Commission before using assigned protection factors in excess of those specified in Appendix A to Part 20. The Commission may authorize a licensee to use higher assigned protection factors on receipt of an application that--

- (a) Describes the situation for which a need exists for higher protection factors; and
- (b) Demonstrates that the respiratory protection equipment provides these higher protection factors under the proposed conditions of use.

[64 FR 54557, Oct. 7, 1999]

Subpart I--Storage and Control of Licensed Material

Source: 56 FR 23401, May 21, 1991, unless otherwise noted.

§ 20.1801 Security of stored material.

The licensee shall secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas.

§ 20.1802 Control of material not in storage.

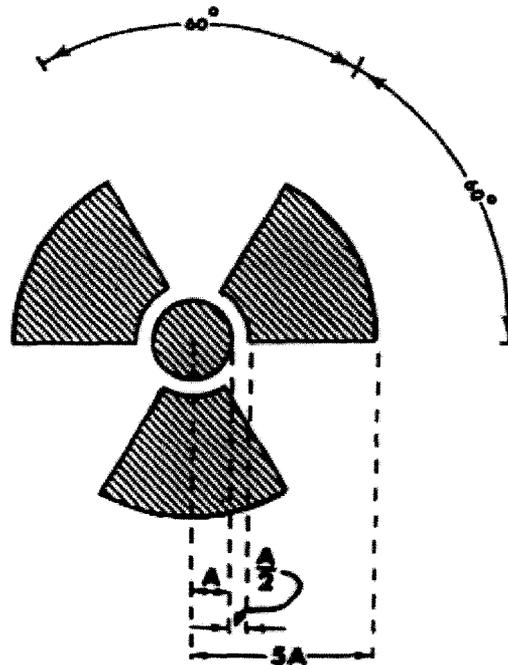
The licensee shall control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage.

Subpart J--Precautionary Procedures

Source: 56 FR 23401, May 21, 1991, unless otherwise noted.

§ 20.1901 Caution signs.

(a) *Standard radiation symbol.* Unless otherwise authorized by the Commission, the symbol prescribed by this part shall use the colors magenta, or purple, or black on yellow background. The symbol prescribed by this part is the three-bladed design:



RADIATION SYMBOL

- (1) Cross-hatched area is to be magenta, or purple, or black, and
- (2) The background is to be yellow.

(b) *Exception to color requirements for standard radiation symbol.* Notwithstanding the requirements of paragraph (a) of this section, licensees are authorized to label sources, source holders, or device components containing sources of licensed materials that are subjected to high temperatures, with conspicuously etched or stamped radiation caution symbols and without a color requirement.

(c) *Additional information on signs and labels.* In addition to the contents of signs and labels prescribed in this part, the licensee may provide, on or near the required signs and labels, additional information, as appropriate, to make individuals aware of potential radiation exposures and to minimize the exposures.

§ 20.1902 Posting requirements.

(a) *Posting of radiation areas.* The licensee shall post each radiation area with a conspicuous sign or signs bearing the radiation symbol and the words "CAUTION, RADIATION AREA."

(b) *Posting of high radiation areas.* The licensee shall post each high radiation area with a conspicuous sign or signs bearing the radiation symbol and the words "CAUTION, HIGH RADIATION AREA" or "DANGER, HIGH RADIATION AREA."

(c) *Posting of very high radiation areas.* The licensee shall post each very high radiation area with a conspicuous sign or signs bearing the radiation symbol and words "GRAVE DANGER, VERY HIGH RADIATION AREA."

(d) *Posting of airborne radioactivity areas.* The licensee shall post each airborne radioactivity area with a conspicuous sign or signs bearing the radiation symbol and the words "CAUTION, AIRBORNE RADIOACTIVITY AREA" or "DANGER, AIRBORNE RADIOACTIVITY AREA."

(e) *Posting of areas or rooms in which licensed material is used or stored.* The licensee shall post each area or room in which there is used or stored an amount of licensed material exceeding 10 times the quantity of such material specified in appendix C to part 20 with a conspicuous sign or signs bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL(S)" or "DANGER, RADIOACTIVE MATERIAL(S)."

[56 FR 23401, May 21, 1991, as amended at 60 FR 20185, Apr. 25, 1995]

§ 20.1903 Exceptions to posting requirements.

(a) A licensee is not required to post caution signs in areas or rooms containing radioactive materials for periods of less than 8 hours, if each of the following conditions is met:

(1) The materials are constantly attended during these periods by an individual who takes the precautions necessary to prevent the exposure of individuals to radiation or radioactive materials in excess of the limits established in this part; and

(2) The area or room is subject to the licensee's control.

(b) Rooms or other areas in hospitals that are occupied by patients are not required to be posted with caution signs pursuant to § 20.1902 provided that the patient could be released from licensee control pursuant to § 35.75 of this chapter.

(c) A room or area is not required to be posted with a caution sign because of the presence of a sealed source provided the radiation level at 30 centimeters from the surface of the source container or housing does not exceed 0.005 rem (0.05 mSv) per hour.

(d) Rooms in hospitals or clinics that are used for teletherapy are exempt from the requirement to post caution signs under § 20.1902 if--

(1) Access to the room is controlled pursuant to 10 CFR 35.615; and

(2) Personnel in attendance take necessary precautions to prevent the inadvertent exposure of workers, other patients, and members of the public to radiation in excess of the limits established in this part.

[56 FR 23401, May 21, 1991, as amended at 57 FR 39357, Aug. 31, 1992; 62 FR 4133, Jan. 29, 1997; 63 FR 39482, July 23, 1998]

§ 20.1904 Labeling containers.

(a) The licensee shall ensure that each container of licensed material bears a durable, clearly visible label bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL" or "DANGER, RADIOACTIVE MATERIAL." The label must also provide sufficient information (such as the radionuclide(s) present, an estimate of the quantity of radioactivity, the date for which the activity is estimated, radiation levels, kinds of materials, and mass enrichment) to permit individuals handling or using the containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposures.

(b) Each licensee shall, prior to removal or disposal of empty uncontaminated containers to unrestricted areas, remove or deface the radioactive material label or otherwise clearly indicate that the container no longer contains radioactive materials.

§ 20.1905 Exemptions to labeling requirements.

A licensee is not required to label--

(a) Containers holding licensed material in quantities less than the quantities listed in appendix C to part 20; or

(b) Containers holding licensed material in concentrations less than those specified in table 3 of appendix B to part 20; or

- (c) Containers attended by an individual who takes the precautions necessary to prevent the exposure of individuals in excess of the limits established by this part; or
- (d) Containers when they are in transport and packaged and labeled in accordance with the regulations of the Department of Transportation,³ or
- (e) Containers that are accessible only to individuals authorized to handle or use them, or to work in the vicinity of the containers, if the contents are identified to these individuals by a readily available written record (examples of containers of this type are containers in locations such as water-filled canals, storage vaults, or hot cells). The record must be retained as long as the containers are in use for the purpose indicated on the record; or
- (f) Installed manufacturing or process equipment, such as reactor components, piping, and tanks.

[56 FR 23401, May 21, 1991, as amended at 60 FR 20185, Apr. 25, 1995]

³ Labeling of packages containing radioactive materials is required by the Department of Transportation (DOT) if the amount and type of radioactive material exceeds the limits for an excepted quantity or article as defined and limited by DOT regulations 49 CFR 173.403 (m) and (w) and 173.421-424.

§ 20.1906 Procedures for receiving and opening packages.

- (a) Each licensee who expects to receive a package containing quantities of radioactive material in excess of a Type A quantity, as defined in § 71.4 and appendix A to part 71 of this chapter, shall make arrangements to receive--
 - (1) The package when the carrier offers it for delivery; or
 - (2) Notification of the arrival of the package at the carrier's terminal and to take possession of the package expeditiously.
- (b) Each licensee shall--
 - (1) Monitor the external surfaces of a labeled^{3a} package for radioactive contamination unless the package contains only radioactive material in the form of a gas or in special form as defined in 10 CFR 71.4;
 - (2) Monitor the external surfaces of a labeled^{3a} package for radiation levels unless the package contains quantities of radioactive material that are less than or equal to the Type A quantity, as defined in § 71.4 and appendix A to part 71 of this chapter; and
 - (3) Monitor all packages known to contain radioactive material for radioactive contamination and radiation levels if there is evidence of degradation of package integrity, such as packages that are crushed, wet, or damaged.
- (c) The licensee shall perform the monitoring required by paragraph (b) of this section as soon as practical after receipt of the package, but not later than 3 hours after the package is received at the licensee's facility if it is received during the licensee's normal working hours, or not later than 3 hours from the beginning of the next working day if it is received after working hours.
- (d) The licensee shall immediately notify the final delivery carrier and the NRC Operations Center (301-816-5100), by telephone, when--
 - (1) Removable radioactive surface contamination exceeds the limits of § 71.87(i) of this chapter; or
 - (2) External radiation levels exceed the limits of § 71.47 of this chapter.
- (e) Each licensee shall--
 - (1) Establish, maintain, and retain written procedures for safely opening packages in which radioactive material is received;

and

(2) Ensure that the procedures are followed and that due consideration is given to special instructions for the type of package being opened.

(f) Licensees transferring special form sources in licensee-owned or licensee-operated vehicles to and from a work site are exempt from the contamination monitoring requirements of paragraph (b) of this section, but are not exempt from the survey requirement in paragraph (b) of this section for measuring radiation levels that is required to ensure that the source is still properly lodged in its shield.

[56 FR 23401, May 21, 1991, as amended at 57 FR 39357, Aug. 31, 1992; 60 FR 20185, Apr. 25, 1995; 63 FR 39482, July 23, 1998]

^{3a} Labeled with a Radioactive White I, Yellow II, or Yellow III label as specified in U.S. Department of Transportation regulations, 49 CFR 172.403 and 172.436-440.

Subpart K--Waste Disposal

Source: 56 FR 23403, May 21, 1991, unless otherwise noted.

§ 20.2001 General requirements.

(a) A licensee shall dispose of licensed material only--

(1) By transfer to an authorized recipient as provided in § 20.2006 or in the regulations in parts 30, 40, 60, 61, 63, 70, and 72 of this chapter;

(2) By decay in storage; or

(3) By release in effluents within the limits in § 20.1301; or

(4) As authorized under §§ 20.2002, 20.2003, 20.2004, or § 20.2005.

(b) A person must be specifically licensed to receive waste containing licensed material from other persons for:

(1) Treatment prior to disposal; or

(2) Treatment or disposal by incineration; or

(3) Decay in storage; or

(4) Disposal at a land disposal facility licensed under part 61 of this chapter; or

(5) Disposal at a geologic repository under part 60 or part 63 of this chapter.

[56 FR 23403, May 21, 1991, as amended at 66 FR 55789, Nov. 2, 2001]

§ 20.2002 Method for obtaining approval of proposed disposal procedures.

A licensee or applicant for a license may apply to the Commission for approval of proposed procedures, not otherwise authorized in the regulations in this chapter, to dispose of licensed material generated in the licensee's activities. Each application shall include:

(a) A description of the waste containing licensed material to be disposed of, including the physical and chemical properties

important to risk evaluation, and the proposed manner and conditions of waste disposal; and

(b) An analysis and evaluation of pertinent information on the nature of the environment; and

(c) The nature and location of other potentially affected licensed and unlicensed facilities; and

(d) Analyses and procedures to ensure that doses are maintained ALARA and within the dose limits in this part.

§ 20.2003 Disposal by release into sanitary sewerage.

(a) A licensee may discharge licensed material into sanitary sewerage if each of the following conditions is satisfied:

(1) The material is readily soluble (or is readily dispersible biological material) in water; and

(2) The quantity of licensed or other radioactive material that the licensee releases into the sewer in 1 month divided by the average monthly volume of water released into the sewer by the licensee does not exceed the concentration listed in table 3 of appendix B to part 20; and

(3) If more than one radionuclide is released, the following conditions must also be satisfied:

(i) The licensee shall determine the fraction of the limit in table 3 of appendix B to part 20 represented by discharges into sanitary sewerage by dividing the actual monthly average concentration of each radionuclide released by the licensee into the sewer by the concentration of that radionuclide listed in table 3 of appendix B to part 20; and

(ii) The sum of the fractions for each radionuclide required by paragraph (a)(3)(i) of this section does not exceed unity; and

(4) The total quantity of licensed and other radioactive material that the licensee releases into the sanitary sewerage system in a year does not exceed 5 curies (185 GBq) of hydrogen-3, 1 curie (37 GBq) of carbon-14, and 1 curie (37 GBq) of all other radioactive materials combined.

(b) Excreta from individuals undergoing medical diagnosis or therapy with radioactive material are not subject to the limitations contained in paragraph (a) of this section.

[56 FR 23403, May 21, 1991, as amended at 60 FR 20185, Apr. 25, 1995]

§ 20.2004 Treatment or disposal by incineration.

(a) A licensee may treat or dispose of licensed material by incineration only:

(1) As authorized by paragraph (b) of this section; or

(2) If the material is in a form and concentration specified in § 20.2005; or

(3) As specifically approved by the Commission pursuant to § 20.2002.

(b) (1) Waste oils (petroleum derived or synthetic oils used principally as lubricants, coolants, hydraulic or insulating fluids, or metalworking oils) that have been radioactively contaminated in the course of the operation or maintenance of a nuclear power reactor licensed under part 50 of this chapter may be incinerated on the site where generated provided that the total radioactive effluents from the facility, including the effluents from such incineration, conform to the requirements of appendix I to part 50 of this chapter and the effluent release limits contained in applicable license conditions other than effluent limits specifically related to incineration of waste oil. The licensee shall report any changes or additions to the information supplied under §§ 50.34 and 50.34a of this chapter associated with this incineration pursuant to § 50.71 of this chapter, as appropriate. The licensee shall also follow the procedures of § 50.59 of this chapter with respect to such changes to the facility or procedures.

(2) Solid residues produced in the process of incinerating waste oils must be disposed of as provided by § 20.2001.

(3) The provisions of this section authorize onsite waste oil incineration under the terms of this section and supersede any provision in an individual plant license or technical specification that may be inconsistent.

[57 FR 57656, Dec. 7, 1992]

§ 20.2005 Disposal of specific wastes.

(a) A licensee may dispose of the following licensed material as if it were not radioactive:

(1) 0.05 microcurie (1.85 kBq), or less, of hydrogen-3 or carbon-14 per gram of medium used for liquid scintillation counting; and

(2) 0.05 microcurie (1.85 kBq), or less, of hydrogen-3 or carbon-14 per gram of animal tissue, averaged over the weight of the entire animal.

(b) A licensee may not dispose of tissue under paragraph (a)(2) of this section in a manner that would permit its use either as food for humans or as animal feed.

(c) The licensee shall maintain records in accordance with § 20.2108.

§ 20.2006 Transfer for disposal and manifests.

(a) The requirements of this section and appendix G to 10 CFR Part 20 are designed to--

(1) Control transfers of low-level radioactive waste by any waste generator, waste collector, or waste processor licensee, as defined in this part, who ships low-level waste either directly, or indirectly through a waste collector or waste processor, to a licensed low-level waste land disposal facility (as defined in Part 61 of this chapter);

(2) Establish a manifest tracking system; and

(3) Supplement existing requirements concerning transfers and recordkeeping for those wastes.

(b) Any licensee shipping radioactive waste intended for ultimate disposal at a licensed land disposal facility must document the information required on NRC's Uniform Low-Level Radioactive Waste Manifest and transfer this recorded manifest information to the intended consignee in accordance with appendix G to 10 CFR Part 20.

(c) Each shipment manifest must include a certification by the waste generator as specified in section II of appendix G to 10 CFR Part 20.

(d) Each person involved in the transfer for disposal and disposal of waste, including the waste generator, waste collector, waste processor, and disposal facility operator, shall comply with the requirements specified in section III of appendix G to 10 CFR Part 20.

[63 FR 50128, Sept. 21, 1998]

§ 20.2007 Compliance with environmental and health protection regulations.

Nothing in this subpart relieves the licensee from complying with other applicable Federal, State, and local regulations governing any other toxic or hazardous properties of materials that may be disposed of under this subpart.

Subpart L--Records

Source: 56 FR 23404, May 21, 1991, unless otherwise noted.

§ 20.2101 General provisions.

- (a) Each licensee shall use the units: curie, rad, rem, including multiples and subdivisions, and shall clearly indicate the units of all quantities on records required by this part.
- (b) In the records required by this part, the licensee may record quantities in SI units in parentheses following each of the units specified in paragraph (a) of this section. However, all quantities must be recorded as stated in paragraph (a) of this section.
- (c) Notwithstanding the requirements of paragraph (a) of this section, when recording information on shipment manifests, as required in § 20.2006(b), information must be recorded in the International System of Units (SI) or in SI and units as specified in paragraph (a) of this section.
- (d) The licensee shall make a clear distinction among the quantities entered on the records required by this part (e.g., total effective dose equivalent, shallow-dose equivalent, lens dose equivalent, deep-dose equivalent, committed effective dose equivalent).

[56 FR 23404, May 21, 1991, as amended at 60 FR 15663, Mar. 27, 1995; 63 FR 39483, July 23, 1998]

§ 20.2102 Records of radiation protection programs.

- (a) Each licensee shall maintain records of the radiation protection program, including:
- (1) The provisions of the program; and
 - (2) Audits and other reviews of program content and implementation.
- (b) The licensee shall retain the records required by paragraph (a)(1) of this section until the Commission terminates each pertinent license requiring the record. The licensee shall retain the records required by paragraph (a)(2) of this section for 3 years after the record is made.

§ 20.2103 Records of surveys.

- (a) Each licensee shall maintain records showing the results of surveys and calibrations required by §§ 20.1501 and 20.1906(b). The licensee shall retain these records for 3 years after the record is made.
- (b) The licensee shall retain each of the following records until the Commission terminates each pertinent license requiring the record:
- (1) Records of the results of surveys to determine the dose from external sources and used, in the absence of or in combination with individual monitoring data, in the assessment of individual dose equivalents. This includes those records of results of surveys to determine the dose from external sources and used, in the absence of or in combination with individual monitoring data, in the assessment of individual dose equivalents required under the standards for protection against radiation in effect prior to January 1, 1994; and
 - (2) Records of the results of measurements and calculations used to determine individual intakes of radioactive material and used in the assessment of internal dose. This includes those records of the results of measurements and calculations used to determine individual intakes of radioactive material and used in the assessment of internal dose required under the standards for protection against radiation in effect prior to January 1, 1994; and
 - (3) Records showing the results of air sampling, surveys, and bioassays required pursuant to § 20.1703(c)(1) and (2). This includes those records showing the results of air sampling, surveys, and bioassays required under the standards for protection against radiation in effect prior to January 1, 1994; and

(4) Records of the results of measurements and calculations used to evaluate the release of radioactive effluents to the environment. This includes those records of the results of measurements and calculations used to evaluate the release of radioactive effluents to the environment required under the standards for protection against radiation in effect prior to January 1, 1994.

[56 FR 23404, May 21, 1991, as amended at 60 FR 20185, Apr. 25, 1995; 66 FR 64737, Dec. 14, 2001]

§ 20.2104 Determination of prior occupational dose.

(a) For each individual who is likely to receive in a year, an occupational dose requiring monitoring pursuant to § 20.1502 the licensee shall--

(1) Determine the occupational radiation dose received during the current year; and

(2) Attempt to obtain the records of cumulative occupational radiation dose.

(b) Prior to permitting an individual to participate in a planned special exposure, the licensee shall determine--

(1) The internal and external doses from all previous planned special exposures; and

(2) All doses in excess of the limits (including doses received during accidents and emergencies) received during the lifetime of the individual.

(c) In complying with the requirements of paragraph (a) of this section, a licensee may--

(1) Accept, as a record of the occupational dose that the individual received during the current year, a written signed statement from the individual, or from the individual's most recent employer for work involving radiation exposure, that discloses the nature and the amount of any occupational dose that the individual may have received during the current year;

(2) Accept, as the record of cumulative radiation dose, an up-to-date NRC Form 4, or equivalent, signed by the individual and countersigned by an appropriate official of the most recent employer for work involving radiation exposure, or the individual's current employer (if the individual is not employed by the licensee); and

(3) Obtain reports of the individual's dose equivalent(s) from the most recent employer for work involving radiation exposure, or the individual's current employer (if the individual is not employed by the licensee) by telephone, telegram, electronic media, or letter. The licensee shall request a written verification of the dose data if the authenticity of the transmitted report cannot be established.

(d) The licensee shall record the exposure history of each individual, as required by paragraph (a) of this section, on NRC Form 4, or other clear and legible record, including all of the information required by NRC Form 4⁴. The form or record must show each period in which the individual received occupational exposure to radiation or radioactive material and must be signed by the individual who received the exposure. For each period for which the licensee obtains reports, the licensee shall use the dose shown in the report in preparing the NRC Form 4. For any period in which the licensee does not obtain a report, the licensee shall place a notation on the NRC Form 4 indicating the periods of time for which data are not available.

(e) If the licensee is unable to obtain a complete record of an individual's current and previously accumulated occupational dose, the licensee shall assume--

(1) In establishing administrative controls under § 20.1201(f) for the current year, that the allowable dose limit for the individual is reduced by 1.25 rems (12.5 mSv) for each quarter for which records were unavailable and the individual was engaged in activities that could have resulted in occupational radiation exposure; and

(2) That the individual is not available for planned special exposures.

(f) The licensee shall retain the records on NRC Form 4 or equivalent until the Commission terminates each pertinent

license requiring this record. The licensee shall retain records used in preparing NRC Form 4 for 3 years after the record is made. This includes records required under the standards for protection against radiation in effect prior to January 1, 1994.

[56 FR 23404, May 21, 1991, as amended at 57 FR 57878, Dec. 8, 1992; 60 FR 20186, Apr. 25, 1995; 60 FR 36043, July 13, 1995]

⁴ Licensees are not required to partition historical dose between external dose equivalent(s) and internal committed dose equivalent(s). Further, occupational exposure histories obtained and recorded on NRC Form 4 before January 1, 1994, might not have included effective dose equivalent, but may be used in the absence of specific information on the intake of radionuclides by the individual.

§ 20.2105 Records of planned special exposures.

(a) For each use of the provisions of § 20.1206 for planned special exposures, the licensee shall maintain records that describe--

- (1) The exceptional circumstances requiring the use of a planned special exposure; and
 - (2) The name of the management official who authorized the planned special exposure and a copy of the signed authorization; and
 - (3) What actions were necessary; and
 - (4) Why the actions were necessary; and
 - (5) How doses were maintained ALARA; and
 - (6) What individual and collective doses were expected to result, and the doses actually received in the planned special exposure.
- (b) The licensee shall retain the records until the Commission terminates each pertinent license requiring these records.

§ 20.2106 Records of individual monitoring results.

(a) *Recordkeeping requirement.* Each licensee shall maintain records of doses received by all individuals for whom monitoring was required pursuant to § 20.1502, and records of doses received during planned special exposures, accidents, and emergency conditions. These records⁵ must include, when applicable--

- (1) The deep-dose equivalent to the whole body, lens dose equivalent, shallow-dose equivalent to the skin, and shallow-dose equivalent to the extremities;
- (2) The estimated intake of radionuclides (see § 20.1202);
- (3) The committed effective dose equivalent assigned to the intake of radionuclides;
- (4) The specific information used to assess the committed effective dose equivalent pursuant to § 20.1204(a) and (c), and when required by § 20.1502;
- (5) The total effective dose equivalent when required by § 20.1202; and
- (6) The total of the deep-dose equivalent and the committed dose to the organ receiving the highest total dose.

(b) *Recordkeeping frequency.* The licensee shall make entries of the records specified in paragraph (a) of this section at least annually.

(c) *Recordkeeping format.* The licensee shall maintain the records specified in paragraph (a) of this section on NRC Form 5, in accordance with the instructions for NRC Form 5, or in clear and legible records containing all the information required by NRC Form 5.

(d) *Privacy protection.* The records required under this section should be protected from public disclosure because of their personal privacy nature. These records are protected by most State privacy laws and, when transferred to the NRC, are protected by the Privacy Act of 1974, Public Law 93-579, 5 U.S.C. 552a, and the Commission's regulations in 10 CFR part 9.

(e) The licensee shall maintain the records of dose to an embryo/fetus with the records of dose to the declared pregnant woman. The declaration of pregnancy shall also be kept on file, but may be maintained separately from the dose records.

(f) The licensee shall retain the required form or record until the Commission terminates each pertinent license requiring this record. This includes records required under the standards for protection against radiation in effect prior to January 1, 1994.

[56 FR 23404, May 21, 1991, as amended at 60 FR 20186, Apr. 25, 1995; 63 FR 39483, July 23, 1998]

⁵ Assessments of dose equivalent and records made using units in effect before the licensee's adoption of this part need not be changed.

§ 20.2107 Records of dose to individual members of the public.

(a) Each licensee shall maintain records sufficient to demonstrate compliance with the dose limit for individual members of the public (see § 20.1301).

(b) The licensee shall retain the records required by paragraph (a) of this section until the Commission terminates each pertinent license requiring the record.

§ 20.2108 Records of waste disposal.

(a) Each licensee shall maintain records of the disposal of licensed materials made under §§ 20.2002, 20.2003, 20.2004, 20.2005, 10 CFR part 61 and disposal by burial in soil, including burials authorized before January 28, 1981.⁶

(b) The licensee shall retain the records required by paragraph (a) of this section until the Commission terminates each pertinent license requiring the record. Requirements for disposition of these records, prior to license termination, are located in §§ 30.51, 40.61, 70.51, and 72.80 for activities licensed under these parts.

[56 FR 23404, May 21, 1991, as amended at 60 FR 20186, Apr. 25, 1995; 61 FR 24673, May 16, 1996]

⁶ A previous § 20.304 permitted burial of small quantities of licensed materials in soil before January 28, 1981, without specific Commission authorization.

§ 20.2109 [Reserved]

§ 20.2110 Form of records.

Each record required by this part must be legible throughout the specified retention period. The record may be the original or a reproduced copy or a microform provided that the copy or microform is authenticated by authorized personnel and that the microform is capable of producing a clear copy throughout the required retention period. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records, such as letters, drawings, and specifications, must include all pertinent information, such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.

Subpart M--Reports

Source: 56 FR 23406, May 21, 1991, unless otherwise noted.

§ 20.2201 Reports of theft or loss of licensed material.

(a) *Telephone reports.* (1) Each licensee shall report by telephone as follows:

(i) Immediately after its occurrence becomes known to the licensee, any lost, stolen, or missing licensed material in an aggregate quantity equal to or greater than 1,000 times the quantity specified in appendix C to part 20 under such circumstances that it appears to the licensee that an exposure could result to persons in unrestricted areas; or

(ii) Within 30 days after the occurrence of any lost, stolen, or missing licensed material becomes known to the licensee, all licensed material in a quantity greater than 10 times the quantity specified in appendix C to part 20 that is still missing at this time.

(2) Reports must be made as follows:

(i) Licensees having an installed Emergency Notification System shall make the reports to the NRC Operations Center in accordance with § 50.72 of this chapter, and

(ii) All other licensees shall make reports by telephone to the NRC Operations Center (301)-816-5100.

(b) *Written reports.* (1) Each licensee required to make a report under paragraph (a) of this section shall, within 30 days after making the telephone report, make a written report setting forth the following information:

(i) A description of the licensed material involved, including kind, quantity, and chemical and physical form; and

(ii) A description of the circumstances under which the loss or theft occurred; and

(iii) A statement of disposition, or probable disposition, of the licensed material involved; and

(iv) Exposures of individuals to radiation, circumstances under which the exposures occurred, and the possible total effective dose equivalent to persons in unrestricted areas; and

(v) Actions that have been taken, or will be taken, to recover the material; and

(vi) Procedures or measures that have been, or will be, adopted to ensure against a recurrence of the loss or theft of licensed material.

(2) Reports must be made as follows:

(i) For holders of an operating license for a nuclear power plant, the events included in paragraph (b) of this section must be reported in accordance with the procedures described in § 50.73(b), (c), (d), (e), and (g) of this chapter and must include the information required in paragraph (b)(1) of this section, and

(ii) All other licensees shall make reports to the Administrator of the appropriate NRC Regional Office listed in appendix D to part 20.

(c) A duplicate report is not required under paragraph (b) of this section if the licensee is also required to submit a report pursuant to §§ 30.55(c), 40.64(c), 50.72, 50.73, 70.52, 73.27(b), 73.67(e)(3)(vii), 73.67(g)(3)(iii), 73.71, or § 150.19(c) of this chapter.

(d) Subsequent to filing the written report, the licensee shall also report any additional substantive information on the loss or theft within 30 days after the licensee learns of such information.

(e) The licensee shall prepare any report filed with the Commission pursuant to this section so that names of individuals

who may have received exposure to radiation are stated in a separate and detachable part of the report.

[56 FR 23406, May 21, 1991, as amended at 58 FR 69220, Dec. 30, 1993; 60 FR 20186, Apr. 25, 1995; 66 FR 64738, Dec. 14, 2001; 67 FR 3585, Jan. 25, 2002]

§ 20.2202 Notification of incidents.

(a) Immediate notification. Notwithstanding any other requirements for notification, each licensee shall immediately report any event involving byproduct, source, or special nuclear material possessed by the licensee that may have caused or threatens to cause any of the following conditions--

(1) An individual to receive--

(i) A total effective dose equivalent of 25 rems (0.25 Sv) or more; or

(ii) A lens dose equivalent of 75 rems (0.75 Sv) or more; or

(iii) A shallow-dose equivalent to the skin or extremities of 250 rads (2.5 Gy) or more; or

(2) The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake five times the annual limit on intake (the provisions of this paragraph do not apply to locations where personnel are not normally stationed during routine operations, such as hot-cells or process enclosures).

(b) Twenty-four hour notification. Each licensee shall, within 24 hours of discovery of the event, report any event involving loss of control of licensed material possessed by the licensee that may have caused, or threatens to cause, any of the following conditions:

(1) An individual to receive, in a period of 24 hours--

(i) A total effective dose equivalent exceeding 5 rems (0.05 Sv); or

(ii) A lens dose equivalent exceeding 15 rems (0.15 Sv); or

(iii) A shallow-dose equivalent to the skin or extremities exceeding 50 rems (0.5 Sv); or

(2) The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake in excess of one occupational annual limit on intake (the provisions of this paragraph do not apply to locations where personnel are not normally stationed during routine operations, such as hot-cells or process enclosures).

(c) The licensee shall prepare any report filed with the Commission pursuant to this section so that names of individuals who have received exposure to radiation or radioactive material are stated in a separate and detachable part of the report.

(d) Reports made by licensees in response to the requirements of this section must be made as follows:

(1) Licensees having an installed Emergency Notification System shall make the reports required by paragraphs (a) and (b) of this section to the NRC Operations Center in accordance with 10 CFR 50.72; and

(2) All other licensees shall make the reports required by paragraphs (a) and (b) of this section by telephone to the NRC Operations Center (301) 816-5100.

(e) The provisions of this section do not include doses that result from planned special exposures, that are within the limits for planned special exposures, and that are reported under § 20.2204.

[56 FR 23406, May 21, 1991, as amended at 56 FR 40766, Aug. 16, 1991; 57 FR 57879, Dec. 8, 1992; 59 FR 14086, Mar. 25, 1994; 63 FR 39483, July 23, 1998]

§ 20.2203 Reports of exposures, radiation levels, and concentrations of radioactive material exceeding the constraints or limits.

(a) *Reportable events.* In addition to the notification required by § 20.2202, each licensee shall submit a written report within 30 days after learning of any of the following occurrences:

- (1) Any incident for which notification is required by § 20.2202; or
- (2) Doses in excess of any of the following:
 - (i) The occupational dose limits for adults in § 20.1201; or
 - (ii) The occupational dose limits for a minor in § 20.1207; or
 - (iii) The limits for an embryo/fetus of a declared pregnant woman in § 20.1208; or
 - (iv) The limits for an individual member of the public in § 20.1301; or
 - (v) Any applicable limit in the license; or
 - (vi) The ALARA constraints for air emissions established under § 20.1101(d); or
- (3) Levels of radiation or concentrations of radioactive material in--
 - (i) A restricted area in excess of any applicable limit in the license; or
 - (ii) An unrestricted area in excess of 10 times any applicable limit set forth in this part or in the license (whether or not involving exposure of any individual in excess of the limits in § 20.1301); or
- (4) For licensees subject to the provisions of EPA's generally applicable environmental radiation standards in 40 CFR part 190, levels of radiation or releases of radioactive material in excess of those standards, or of license conditions related to those standards.

(b) *Contents of reports.* (1) Each report required by paragraph (a) of this section must describe the extent of exposure of individuals to radiation and radioactive material, including, as appropriate:

- (i) Estimates of each individual's dose; and
- (ii) The levels of radiation and concentrations of radioactive material involved; and
- (iii) The cause of the elevated exposures, dose rates, or concentrations; and
- (iv) Corrective steps taken or planned to ensure against a recurrence, including the schedule for achieving conformance with applicable limits, ALARA constraints, generally applicable environmental standards, and associated license conditions.

(2) Each report filed pursuant to paragraph (a) of this section must include for each occupationally overexposed¹ individual: the name, Social Security account number, and date of birth. The report must be prepared so that this information is stated in a separate and detachable part of the report and must be clearly labeled "Privacy Act Information: Not for Public Disclosure."

(c) For holders of an operating license for a nuclear power plant, the occurrences included in paragraph (a) of this section

must be reported in accordance with the procedures described in § 50.73(b), (c), (d), (e), and (g) of this chapter and must also include the information required by paragraph (b) of this section. Occurrences reported in accordance with § 50.73 of this chapter need not be reported by a duplicate report under paragraph (a) of this section.

(d) All licensees, other than those holding an operating license for a nuclear power plant, who make reports under paragraph (a) of this section shall submit the report in writing either by mail addressed to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; by hand delivery to the NRC's offices at 11555 Rockville Pike, Rockville, Maryland; or, where practicable, by electronic submission, for example, Electronic Information Exchange, or CD-ROM. Electronic submissions must be made in a manner that enables the NRC to receive, read, authenticate, distribute, and archive the submission, and process and retrieve it a single page at a time. Detailed guidance on making electronic submissions can be obtained by visiting the NRC's Web site at <http://www.nrc.gov/site-help/eie.html>, by calling (301) 415-6030, by e-mail to EIE@nrc.gov, or by writing the Office of Information Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. A copy should be sent to the appropriate NRC Regional Office listed in appendix D to this part.

[56 FR 23406, May 21, 1991, as amended at 60 FR 20186, Apr. 25, 1995; 61 FR 65127, Dec. 10, 1996; 68 FR 14309, Mar. 25, 2003; 68 FR 58802, Oct. 10, 2003; 70 FR 69421, Nov. 16, 2005]

¹ With respect to the limit for the embryo-fetus (§ 20.1208), the identifiers should be those of the declared pregnant woman.

§ 20.2204 Reports of planned special exposures.

The licensee shall submit a written report to the Administrator of the appropriate NRC Regional Office listed in appendix D to part 20 within 30 days following any planned special exposure conducted in accordance with § 20.1206, informing the Commission that a planned special exposure was conducted and indicating the date the planned special exposure occurred and the information required by § 20.2105.

[56 FR 23406, May 21, 1991, as amended at 60 FR 20186, Apr. 25, 1995]

§ 20.2205 Reports to individuals of exceeding dose limits.

When a licensee is required, pursuant to the provisions of §§ 20.2203, 20.2204, or 20.2206, to report to the Commission any exposure of an identified occupationally exposed individual, or an identified member of the public, to radiation or radioactive material, the licensee shall also provide a copy of the report submitted to the Commission to the individual. This report must be transmitted at a time no later than the transmittal to the Commission.

[60 FR 36043, July 13, 1995]

§ 20.2206 Reports of individual monitoring.

(a) This section applies to each person licensed by the Commission to--

- (1) Operate a nuclear reactor designed to produce electrical or heat energy pursuant to § 50.21(b) or § 50.22 of this chapter or a testing facility as defined in § 50.2 of this chapter; or
- (2) Possess or use byproduct material for purposes of radiography pursuant to Parts 30 and 34 of this chapter; or
- (3) Possess or use at any one time, for purposes of fuel processing, fabricating, or reprocessing, special nuclear material in a quantity exceeding 5,000 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof pursuant to part 70 of this chapter; or
- (4) Possess high-level radioactive waste at a geologic repository operations area pursuant to part 60 or 63 of this chapter; or
- (5) Possess spent fuel in an independent spent fuel storage installation (ISFSI) pursuant to part 72 of this chapter; or

(6) Receive radioactive waste from other persons for disposal under part 61 of this chapter; or

(7) Possess or use at any time, for processing or manufacturing for distribution pursuant to parts 30, 32, 33 or 35 of this chapter, byproduct material in quantities exceeding any one of the following quantities:

Radionuclide	Quantity of radionuclide ¹ in curies
Cesium-137	1
Cobalt-60	1
Gold-198	100
Iodine-131	1
Iridium-192	10
Krypton-85	1,000
Promethium-147	10
Techetium-99m	1,000

¹ The Commission may require as a license condition, or by rule, regulation, or order pursuant to § 20.2302, reports from licensees who are licensed to use radionuclides not on this list, in quantities sufficient to cause comparable radiation levels.

(b) Each licensee in a category listed in paragraph (a) of this section shall submit an annual report of the results of individual monitoring carried out by the licensee for each individual for whom monitoring was required by § 20.1502 during that year. The licensee may include additional data for individuals for whom monitoring was provided but not required. The licensee shall use Form NRC 5 or electronic media containing all the information required by Form NRC 5.

(c) The licensee shall file the report required by § 20.2206(b), covering the preceding year, on or before April 30 of each year. The licensee shall submit the report to the REIRS Project Manager by an appropriate method listed in § 20.1007 or via the REIRS Web site at <http://www.reirs.com>.

[56 FR 23406, May 21, 1991, as amended at 56 FR 32072, July 15, 1991; 66 FR 5578, Nov. 2, 2001; 68 FR 58802, Oct. 10, 2003]

Subpart N--Exemptions and Additional Requirements

Source: 56 FR 23408, May 21, 1991, unless otherwise noted.

§ 20.2301 Applications for exemptions.

The Commission may, upon application by a licensee or upon its own initiative, grant an exemption from the requirements of the regulations in this part if it determines the exemption is authorized by law and would not result in undue hazard to life or property.

§ 20.2302 Additional requirements.

The Commission may, by rule, regulation, or order, impose requirements on a licensee, in addition to those established in the regulations in this part, as it deems appropriate or necessary to protect health or to minimize danger to life or property.

Subpart O--Enforcement

§ 20.2401 Violations.

(a) The Commission may obtain an injunction or other court order to prevent a violation of the provisions of--

- (1) The Atomic Energy Act of 1954, as amended;
- (2) Title II of the Energy Reorganization Act of 1974, as amended; or
- (3) A regulation or order issued pursuant to those Acts.

(b) The Commission may obtain a court order for the payment of a civil penalty imposed under section 234 of the Atomic Energy Act:

- (1) For violations of--
 - (i) Sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107 or 109 of the Atomic Energy Act of 1954, as amended;
 - (ii) Section 206 of the Energy Reorganization Act;
 - (iii) Any rule, regulation, or order issued pursuant to the sections specified in paragraph (b)(1)(i) of this section; and
 - (iv) Any term, condition, or limitation of any license issued under the sections specified in paragraph (b)(1)(i) of this section.
- (2) For any violation for which a license may be revoked under Section 186 of the Atomic Energy Act of 1954, as amended.

[56 FR 23408, May 21, 1991; 56 FR 61352, Dec. 3, 1991, as amended at 57 FR 55071, Nov. 24, 1992]

§ 20.2402 Criminal penalties.

(a) Section 223 of the Atomic Energy Act of 1954, as amended, provides for criminal sanctions for willful violation of, attempted violation of, or conspiracy to violate, any regulation issued under sections 161b, 161i, or 161o of the Act. For purposes of section 223, all the regulations in §§ 20.1001 through 20.2402 are issued under one or more of sections 161b, 161i, or 161o, except for the sections listed in paragraph (b) this section.

(b) The regulations in §§ 20.1001 through 20.2402 that are not issued under Sections 161b, 161i, or 161o for the purposes of Section 223 are as follows: §§ 20.1001, 20.1002, 20.1003, 20.1004, 20.1005, 20.1006, 20.1007, 20.1008, 20.1009, 20.1405, 20.1704, 20.1903, 20.1905, 20.2002, 20.2007, 20.2301, 20.2302, 20.2401, and 20.2402.

[57 FR 55071, Nov. 24, 1992]

Appendix A to Part 20--Assigned Protection Factors for Respirators^a

	Operating mode	Assigned Protection Factors
I. Air Purifying Respirators [Particulate ^b only] ^c :		
Filtering facepiece disposable ^d	Negative Pressure	(^d)
Facepiece, half ^e	Negative Pressure	10
Facepiece, full	Negative Pressure	100
Facepiece, half	Powered air-purifying respirators	50
Facepiece, full	Powered air-purifying respirators	1000

Helmet/hood	Powered air-purifying respirators	1000
Facepiece, loose-fitting	Powered air-purifying respirators	25
II. Atmosphere supplying respirators [particulate, gases and vapors ^f]:		
1. Air-line respirator:		
Facepiece, half	Demand	10
Facepiece, half	Continuous Flow	50
Facepiece, half	Pressure Demand	50
Facepiece, full	Demand	100
Facepiece, full	Continuous Flow	1000
Facepiece, full	Pressure Demand	1000
Helmet/hood	Continuous Flow	1000
Facepiece, loose-fitting	Continuous Flow	25
Suit	Continuous Flow	(^g)
2. Self-contained breathing Apparatus (SCBA):		
Facepiece, full	Demand	^h 100
Facepiece, full	Pressure Demand	ⁱ 10,000
Facepiece, full	Demand, Recirculating	^h 100
Facepiece, full	Positive Pressure Recirculating	ⁱ 10,000
III. Combination Respirators:		
Any combination of air-purifying and atmosphere-supplying respirators	Assigned protection factor for type and mode of operation as listed above.	

^a These assigned protection factors apply only in a respiratory protection program that meets the requirements of this Part. They are applicable only to airborne radiological hazards and may not be appropriate to circumstances when chemical or other respiratory hazards exist instead of, or in addition to, radioactive hazards. Selection and use of respirators for such circumstances must also comply with Department of Labor regulations.

Radioactive contaminants for which the concentration values in Table 1, Column 3 of Appendix B to Part 20 are based on internal dose due to inhalation may, in addition, present external exposure hazards at higher concentrations. Under these circumstances, limitations on occupancy may have to be governed by external dose limits.

^b Air purifying respirators with APF <100 must be equipped with particulate filters that are at least 95 percent efficient. Air purifying respirators with APF = 100 must be equipped with particulate filters that are at least 99 percent efficient. Air purifying respirators with APFs >100 must be equipped with particulate filters that are at least 99.97 percent efficient.

^c The licensee may apply to the Commission for the use of an APF greater than 1 for sorbent cartridges as protection against airborne radioactive gases and vapors (e.g., radioiodine).

^d Licensees may permit individuals to use this type of respirator who have not been medically screened or fit tested on the device provided that no credit be taken for their use in estimating intake or dose. It is also recognized that it is difficult to perform an effective positive or negative pressure pre-use user seal check on this type of device. All other respiratory protection program requirements listed in § 20.1703 apply. An assigned protection factor has not been assigned for these devices. However, an APF equal to 10 may be used if the licensee can demonstrate a fit factor of at least 100 by use of a validated or evaluated, qualitative or quantitative fit test.

^e Under-chin type only. No distinction is made in this Appendix between elastomeric half-masks with replaceable cartridges and those designed with the filter medium as an integral part of the facepiece (e.g., disposable or reusable disposable). Both types are acceptable so long as the seal area of the latter contains some substantial type of seal-enhancing material such as rubber or plastic, the two or more suspension straps are adjustable, the filter medium is at least 95 percent efficient and all other requirements of this Part are met.

^f The assigned protection factors for gases and vapors are not applicable to radioactive contaminants that present an absorption or submersion hazard. For tritium oxide vapor, approximately one-third of the intake occurs by absorption through the skin so that an overall protection factor of 3 is appropriate when atmosphere-supplying respirators are used to protect against tritium oxide. Exposure to radioactive noble gases is not considered a significant respiratory hazard, and protective actions for these contaminants should be based on external (submersion) dose considerations.

^g No NIOSH approval schedule is currently available for atmosphere supplying suits. This equipment may be used in an acceptable respiratory protection program as long as all the other minimum program requirements, with the exception of fit testing, are met (i.e., § 20.1703).

^h The licensee should implement institutional controls to assure that these devices are not used in areas immediately dangerous to life or health (IDLH).

ⁱ This type of respirator may be used as an emergency device in unknown concentrations for protection against inhalation hazards. External radiation hazards and other limitations to permitted exposure such as skin absorption shall be taken into account in these circumstances. This device may not be used by any individual who experiences perceptible outward leakage of breathing gas while wearing the device.

[64 FR 54558, Oct. 7, 1999; 64 FR 55524, Oct. 13, 1999]

Appendix B to Part 20--Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage

Introduction

For each radionuclide Table 1 indicates the chemical form which is to be used for selecting the appropriate ALI or DAC value. The ALIs and DACs for inhalation are given for an aerosol with an activity median aerodynamic diameter (AMAD) of 1 μm and for three classes (D,W,Y) of radioactive material, which refer to their retention (approximately days, weeks or years) in the pulmonary region of the lung. This classification applies to a range of clearance half-times of less than 10 days for D, for W from 10 to 100 days, and for Y greater than 100 days. The class (D, W, or Y) given in the column headed "Class" applies only to the inhalation ALIs and DACs given in Table 1, columns 2 and 3. Table 2 provides concentration limits for airborne and liquid effluents released to the general environment. Table 3 provides concentration limits for discharges to sanitary sewer systems.

Notation

The values in Tables 1, 2, and 3 are presented in the computer "E" notation. In this notation a value of 6E-02 represents a value of 6×10^{-2} or 0.06, 6E+2 represents 6×10^2 or 600, and 6E+0 represents 6×10^0 or 6.

Table 1 "Occupational"

Note that the columns in Table 1, of this appendix captioned "Oral Ingestion ALI," "Inhalation ALI," and "DAC," are applicable to occupational exposure to radioactive material.

The ALIs in this appendix are the annual intakes of a given radionuclide by "Reference Man" which would result in either (1) a committed effective dose equivalent of 5 rems (stochastic ALI) or (2) a committed dose equivalent of 50 rems to an organ or tissue (non-stochastic ALI). The stochastic ALIs were derived to result in a risk, due to irradiation of organs and tissues, comparable to the risk associated with deep dose equivalent to the whole body of 5 rems. The derivation includes

multiplying the committed dose equivalent to an organ or tissue by a weighting factor, w_T . This weighting factor is the proportion of the risk of stochastic effects resulting from irradiation of the organ or tissue, T , to the total risk of stochastic effects when the whole body is irradiated uniformly. The values of w_T are listed under the definition of weighting factor in § 20.1003. The non-stochastic ALIs were derived to avoid non-stochastic effects, such as prompt damage to tissue or reduction in organ function.

A value of $w_T=0.06$ is applicable to each of the five organs or tissues in the "remainder" category receiving the highest dose equivalents, and the dose equivalents of all other remaining tissues may be disregarded. The following parts of the GI tract--stomach, small intestine, upper large intestine, and lower large intestine--are to be treated as four separate organs.

Note that the dose equivalents for extremities (hands and forearms, feet and lower legs), skin, and lens of the eye are not considered in computing the committed effective dose equivalent, but are subject to limits that must be met separately.

When an ALI is defined by the stochastic dose limit, this value alone, is given. When an ALI is determined by the non-stochastic dose limit to an organ, the organ or tissue to which the limit applies is shown, and the ALI for the stochastic limit is shown in parentheses. (Abbreviated organ or tissue designations are used: LLI wall = lower large intestine wall; St. wall = stomach wall; Blad wall = bladder wall; and Bone surf = bone surface.)

The use of the ALIs listed first, the more limiting of the stochastic and non-stochastic ALIs, will ensure that non-stochastic effects are avoided and that the risk of stochastic effects is limited to an acceptably low value. If, in a particular situation involving a radionuclide for which the non-stochastic ALI is limiting, use of that non-stochastic ALI is considered unduly conservative, the licensee may use the stochastic ALI to determine the committed effective dose equivalent. However, the licensee shall also ensure that the 50-rem dose equivalent limit for any organ or tissue is not exceeded by the sum of the external deep dose equivalent plus the internal committed dose to that organ (not the effective dose). For the case where there is no external dose contribution, this would be demonstrated if the sum of the fractions of the nonstochastic ALIs (ALI_{ns}) that contribute to the committed dose equivalent to the organ receiving the highest dose does not exceed unity (i.e., (intake (in μCi) of each radionuclide/ ALI_{ns}) < 1.0). If there is an external deep dose equivalent contribution of H_d then this sum must be less than $1 - (H_d/50)$ instead of being < 1.0 .

The derived air concentration (DAC) values are derived limits intended to control chronic occupational exposures. The relationship between the DAC and the ALI is given by: $DAC=ALI(\text{in } \mu\text{Ci})/(2000 \text{ hours per working year} \times 60 \text{ minutes/hour} \times 2 \times 10^4 \text{ ml per minute})=[ALI/2.4 \times 10^9] \mu\text{Ci/ml}$, where $2 \times 10^4 \text{ ml}$ is the volume of air breathed per minute at work by "Reference Man" under working conditions of "light work."

The DAC values relate to one of two modes of exposure: either external submersion or the internal committed dose equivalents resulting from inhalation of radioactive materials. Derived air concentrations based upon submersion are for immersion in a semi-infinite cloud of uniform concentration and apply to each radionuclide separately.

The ALI and DAC values relate to exposure to the single radionuclide named, but also include contributions from the in-growth of any daughter radionuclide produced in the body by the decay of the parent. However, intakes that include both the parent and daughter radionuclides should be treated by the general method appropriate for mixtures.

The value of ALI and DAC do not apply directly when the individual both ingests and inhales a radionuclide, when the individual is exposed to a mixture of radionuclides by either inhalation or ingestion or both, or when the individual is exposed to both internal and external radiation (see § 20.1202). When an individual is exposed to radioactive materials which fall under several of the translocation classifications (i.e., Class D, Class W, or Class Y) of the same radionuclide, the exposure may be evaluated as if it were a mixture of different radionuclides.

It should be noted that the classification of a compound as Class D, W, or Y is based on the chemical form of the compound and does not take into account the radiological half-life of different radioisotopes. For this reason, values are given for Class D, W, and Y compounds, even for very short-lived radionuclides.

Table 2

The columns in Table 2 of this appendix captioned "Effluents," "Air," and "Water," are applicable to the assessment and control of dose to the public, particularly in the implementation of the provisions of § 20.1302. The concentration values

given in Columns 1 and 2 of Table 2 are equivalent to the radionuclide concentrations which, if inhaled or ingested continuously over the course of a year, would produce a total effective dose equivalent of 0.05 rem (50 millirem or 0.5 millisieverts).

Consideration of non-stochastic limits has not been included in deriving the air and water effluent concentration limits because non-stochastic effects are presumed not to occur at the dose levels established for individual members of the public. For radionuclides, where the non-stochastic limit was governing in deriving the occupational DAC, the stochastic ALI was used in deriving the corresponding airborne effluent limit in Table 2. For this reason, the DAC and airborne effluent limits are not always proportional as was the case in appendix B to §§ 20.1-20.601.

The air concentration values listed in Table 2, Column 1, were derived by one of two methods. For those radionuclides for which the stochastic limit is governing, the occupational stochastic inhalation ALI was divided by 2.4×10^9 ml, relating the inhalation ALI to the DAC, as explained above, and then divided by a factor of 300. The factor of 300 includes the following components: a factor of 50 to relate the 5-rem annual occupational dose limit to the 0.1-rem limit for members of the public, a factor of 3 to adjust for the difference in exposure time and the inhalation rate for a worker and that for members of the public; and a factor of 2 to adjust the occupational values (derived for adults) so that they are applicable to other age groups.

For those radionuclides for which submersion (external dose) is limiting, the occupational DAC in Table 1, Column 3, was divided by 219. The factor of 219 is composed of a factor of 50, as described above, and a factor of 4.38 relating occupational exposure for 2,000 hours per year to full-time exposure (8,760 hours per year). Note that an additional factor of 2 for age considerations is not warranted in the submersion case.

The water concentrations were derived by taking the most restrictive occupational stochastic oral ingestion ALI and dividing by 7.3×10^7 . The factor of 7.3×10^7 (ml) includes the following components: the factors of 50 and 2 described above and a factor of 7.3×10^5 (ml) which is the annual water intake of "Reference Man."

Note 2 of this appendix provides groupings of radionuclides which are applicable to unknown mixtures of radionuclides. These groupings (including occupational inhalation ALIs and DACs, air and water effluent concentrations and sewerage) require demonstrating that the most limiting radionuclides in successive classes are absent. The limit for the unknown mixture is defined when the presence of one of the listed radionuclides cannot be definitely excluded either from knowledge of the radionuclide composition of the source or from actual measurements.

Table 3 "Sewer Disposal"

The monthly average concentrations for release to sanitary sewers are applicable to the provisions in § 20.2003. The concentration values were derived by taking the most restrictive occupational stochastic oral ingestion ALI and dividing by 7.3×10^6 (ml). The factor of 7.3×10^6 (ml) is composed of a factor of 7.3×10^5 (ml), the annual water intake by "Reference Man," and a factor of 10, such that the concentrations, if the sewage released by the licensee were the only source of water ingested by a reference man during a year, would result in a committed effective dose equivalent of 0.5 rem.

List of Elements

Name	Atomic	
	Symbol	No.
Actinium	Ac	89
Aluminium	Al	13
Americium	Am	95
Antimony	Sb	51
Argon	Ar	18
Arsenic	As	33
Astatine	At	85

Barium	Ba	56
Berkelium	Bk	97
Beryllium	Be	4
Bismuth	Bi	83
Bromine	Br	35
Cadmium	Cd	48
Calcium	Ca	20
Californium	Cf	98
Carbon	C	6
Cerium	Ce	58
Cesium	Cs	55
Chlorine	Cl	17
Chromium	Cr	24
Cobalt	Co	27
Copper	Cu	29
Curium	Cm	96
Dysprosium	Dy	66
Einsteinium	Es	99
Erbium	Er	68
Europium	Eu	63
Fermium	Fm	100
Fluorine	F	9
Francium	Fr	87
Gadolinium	Gd	64
Gallium	Ga	31
Germanium	Ge	32
Gold	Au	79
Hafnium	Hf	72
Holmium	Ho	67
Hydrogen	H	1
Indium	In	49
Iodine	I	53
Iridium	Ir	77
Iron	Fe	26
Krypton	Kr	36
Lanthanum	La	57
Lead	Pb	82
Lutetium	Lu	71
Magnesium	Mg	12
Manganese	Mn	25

Mendelevium	Md	101
Mercury	Hg	80
Molybdenum	Mo	42
Neodymium	Nd	60
Neptunium	Np	93
Nickel	Ni	28
Niobium	Nb	41
Osmium	Os	76
Palladium	Pd	46
Phosphorus	P	15
Platinum	Pt	78
Plutonium	Pu	94
Polonium	Po	84
Potassium	K	19
Praseodymium	Pr	59
Promethium	Pm	61
Protactinium	Pa	91
Radium	Ra	88
Radon	Rn	86
Rhenium	Re	75
Rhodium	Rh	45
Rubidium	Rb	37
Ruthenium	Ru	44
Samarium	Sm	62
Scandium	Sc	21
Selenium	Se	34
Silicon	Si	14
Silver	Ag	47
Sodium	Na	11
Strontium	Sr	38
Sulfur	S	16
Tantalum	Ta	73
Technetium	Tc	43
Tellurium	Te	52
Terbium	Tb	65
Thallium	Tl	81
Thorium	Th	90
Thalium	Tm	69
Tin	Sn	50
Titanium	Ti	22

Tungsten	W	74
Uranium	U	92
Vanadium	V	23
Xenon	Xe	54
Ytterbium	Yb	70
Yttrium	Y	39
Zinc	Zn	30
Zirconium	Zr	40

[56 FR 23409, May 21, 1991; 56 FR 61352, Dec. 3, 1991, as amended at 57 FR 57879, Dec. 8, 1992. Redesignated at 58 FR 67659, Dec. 22, 1993]

Appendix C to Part 20--Quantities¹ of Licensed Material Requiring Labeling

Radionuclide	Abbreviation	Quantity (µCi)
Hydrogen-3	H-3	1,000
Beryllium-7	Be-7	1,000
Beryllium-10	Be-10	1
Carbon-11	C-11	1,000
Carbon-14	C-14	100
Fluorine-18	F-18	1,000
Sodium-22	Na-22	10
Sodium-24	Na-24	100
Magnesium-28	Mg-28	100
Aluminum-26	Al-26	10
Silicon-31	Si-31	1,000
Silicon-32	Si-32	1
Phosphorus-32	P-32	10
Phosphorus-33	P-33	100
Sulfur-35	S-35	100
Chlorine-36	Cl-36	10
Chlorine-38	Cl-38	1,000
Chlorine-39	Cl-39	1,000
Argon-39	Ar-39	1,000
Argon-41	Ar-41	1,000
Potassium-40	K-40	100
Potassium-42	K-42	1,000
Potassium-43	K-43	1,000
Potassium-44	K-44	1,000
Potassium-45	K-45	1,000
Calcium-41	Ca-41	100

Calcium-45	Ca-45	100
Calcium-47	Ca-47	100
Scandium-43	Sc-43	1,000
Scandium-44m	Sc-44m	100
Scandium-44	Sc-44	100
Scandium-46	Sc-46	10
Scandium-47	Sc-47	100
Scandium-48	Sc-48	100
Scandium-49	Sc-49	1,000
Titanium-44	Ti-44	1
Titanium-45	Ti-45	1,000
Vanadium-47	V-47	1,000
Vanadium-48	V-48	100
Vanadium-49	V-49	1,000
Chromium-48	Cr-48	1,000
Chromium-49	Cr-49	1,000
Chromium-51	Cr-51	1,000
Manganese-51	Mn-51	1,000
Manganese-52m	Mn-52m	1,000
Manganese-52	Mn-52	100
Manganese-53	Mn-53	1,000
Manganese-54	Mn-54	100
Manganese-56	Mn-56	1,000
Iron-52	Fe-52	100
Iron-55	Fe-55	100
Iron-59	Fe-59	10
Iron-60	Fe-60	1
Cobalt-55	Co-55	100
Cobalt-56	Co-56	10
Cobalt-57	Co-57	100
Cobalt-58m	Co-58m	1,000
Cobalt-58	Co-58	100
Cobalt-60m	Co-60m	1,000
Cobalt-60	Co-60	1
Cobalt-61	Co-61	1,000
Cobalt-62m	Co-62m	1,000
Nickel-56	Ni-56	100
Nickel-57	Ni-57	100
Nickel-59	Ni-59	100
Nickel-63	Ni-63	100

Nickel-65	Ni-65	1,000
Nickel-66	Ni-66	10
Copper-60	Cu-60	1,000
Copper-61	Cu-61	1,000
Copper-64	Cu-64	1,000
Copper-67	Cu-67	1,000
Zinc-62	Zn-62	100
Zinc-63	Zn-63	1,000
Zinc-65	Zn-65	10
Zinc-69m	Zn-69m	100
Zinc-69	Zn-69	1,000
Zinc-71m	Zn-71m	1,000
Zinc-72	Zn-72	100
Gallium-65	Ga-65	1,000
Gallium-66	Ga-66	100
Gallium-67	Ga-67	1,000
Gallium-68	Ga-68	1,000
Gallium-70	Ga-70	1,000
Gallium-72	Ga-72	100
Gallium-73	Ga-73	1,000
Germanium-66	Ge-66	1,000
Germanium-67	Ge-67	1,000
Germanium-68	Ge-68	10
Germanium-69	Ge-69	1,000
Germanium-71	Ge-71	1,000
Germanium-75	Ge-75	1,000
Germanium-77	Ge-77	1,000
Germanium-78	Ge-78	1,000
Arsenic-69	As-69	1,000
Arsenic-70	As-70	1,000
Arsenic-71	As-71	100
Arsenic-72	As-72	100
Arsenic-73	As-73	100
Arsenic-74	As-74	100
Arsenic-76	As-76	100
Arsenic-77	As-77	100
Arsenic-78	As-78	1,000
Selenium-70	Se-70	1,000
Selenium-73m	Se-73m	1,000
Selenium-73	Se-73	100

Selenium-75	Se-75	100
Selenium-79	Se-79	100
Selenium-81m	Se-81m	1,000
Selenium-81	Se-81	1,000
Selenium-83	Se-83	1,000
Bromine-74m	Br-74m	1,000
Bromine-74	Br-74	1,000
Bromine-75	Br-75	1,000
Bromine-76	Br-76	100
Bromine-77	Br-77	1,000
Bromine-80m	Br-80m	1,000
Bromine-80	Br-80	1,000
Bromine-82	Br-82	100
Bromine-83	Br-83	1,000
Bromine-84	Br-84	1,000
Krypton-74	Kr-74	1,000
Krypton-76	Kr-76	1,000
Krypton-77	Kr-77	1,000
Krypton-79	Kr-79	1,000
Krypton-81	Kr-81	1,000
Krypton-83m	Kr-83m	1,000
Krypton-85m	Kr-85m	1,000
Krypton-85	Kr-85	1,000
Krypton-87	Kr-87	1,000
Krypton-88	Kr-88	1,000
Rubidium-79	Rb-79	1,000
Rubidium-81m	Rb-81m	1,000
Rubidium-81	Rb-81	1,000
Rubidium-82m	Rb-82m	1,000
Rubidium-83	Rb-83	100
Rubidium-84	Rb-84	100
Rubidium-86	Rb-86	100
Rubidium-87	Rb-87	100
Rubidium-88	Rb-88	1,000
Rubidium-89	Rb-89	1,000
Strontium-80	Sr-80	100
Strontium-81	Sr-81	1,000
Strontium-83	Sr-83	100
Strontium-85m	Sr-85m	1,000
Strontium-85	Sr-85	100

Strontium-87m	Sr-87m	1,000
Strontium-89	Sr-89	10
Strontium-90	Sr-90	0.1
Strontium-91	Sr-91	100
Strontium-92	Sr-92	100
Yttrium-86m	Y-86m	1,000
Yttrium-86	Y-86	100
Yttrium-87	Y-87	100
Yttrium-88	Y-88	10
Yttrium-90m	Y-90m	1,000
Yttrium-90	Y-90	10
Yttrium-91m	Y-91m	1,000
Yttrium-91	Y-91	10
Yttrium-92	Y-92	100
Yttrium-93	Y-93	100
Yttrium-94	Y-94	1,000
Yttrium-95	Y-95	1,000
Zirconium-86	Zr-86	100
Zirconium-88	Zr-88	10
Zirconium-89	Zr-89	100
Zirconium-93	Zr-93	1
Zirconium-95	Zr-95	10
Zirconium-97	Zr-97	100
Niobium-88	Nb-88	1,000
Niobium-89m (66 min)	Nb-89m	1,000
Niobium-89 (122 min)	Nb-89	1,000
Niobium-89	Nb-89	1,000
Niobium-90	Nb-90	100
Niobium-93m	Nb-93m	10
Niobium-94	Nb-94	1
Niobium-95m	Nb-95m	100
Niobium-95	Nb-95	100
Niobium-96	Nb-96	100
Niobium-97	Nb-97	1,000
Niobium-98	Nb-98	1,000
Molybdenum-90	Mo-90	100
Molybdenum-93m	Mo-93m	100
Molybdenum-93	Mo-93	10
Molybdenum-99	Mo-99	100
Molybdenum-101	Mo-101	1,000

Technetium-93m	Tc-93m	1,000
Technetium-93	Tc-93	1,000
Technetium-94m	Tc-94m	1,000
Technetium-94	Tc-94	1,000
Technetium-96m	Tc-96	1,000
Technetium-96	Tc-96	100
Technetium-97m	Tc-97m	100
Technetium-97	Tc-97	1,000
Technetium-98	Tc-98	10
Technetium-99m	Tc-99m	1,000
Technetium-99	Tc-99	100
Technetium-101	Tc-101	1,000
Technetium-104	Tc-104	1,000
Ruthenium-94	Ru-94	1,000
Ruthenium-97	Ru-97	1,000
Ruthenium-103	Ru-103	100
Ruthenium-105	Ru-105	1,000
Ruthenium-106	Ru-106	1
Rhodium-99m	Rh-99m	1,000
Rhodium-99	Rh-99	100
Rhodium-100	Rh-100	100
Rhodium-101m	Rh-101m	1,000
Rhodium-101	Rh-101	10
Rhodium-102m	Rh-102m	10
Rhodium-102	Rh-102	10
Rhodium-103m	Rh-103m	1,000
Rhodium-105	Rh-105	100
Rhodium-106m	Rh-106m	1,000
Rhodium-107	Rh-107	1,000
Palladium-100	Pd-100	100
Palladium-101	Pd-101	1,000
Palladium-103	Pd-103	100
Palladium-107	Pd-107	10
Palladium-109	Pd-109	100
Silver-102	Ag-102	1,000
Silver-103	Ag-103	1,000
Silver-104m	Ag-104m	1,000
Silver-104	Ag-104	1,000
Silver-105	Ag-105	100
Silver-106m	Ag-106m	100

Silver-106	Ag-106	1,000
Silver-108m	Ag-108m	1
Silver-110m	Ag-110m	10
Silver-111	Ag-111	100
Silver-112	Ag-112	100
Silver-115	Ag-115	1,000
Cadmium-104	Cd-104	1,000
Cadmium-107	Cd-107	1,000
Cadmium-109	Cd-109	1
Cadmium-113m	Cd-113m	0.1
Cadmium-113	Cd-113	100
Cadmium-115m	Cd-115m	10
Cadmium-115	Cd-115	100
Cadmium-117m	Cd-117m	1,000
Cadmium-117	Cd-117	1,000
Indium-109	In-109	1,000
Indium-110 (69.1 min.)	In-110	1,000
Indium-110 (4.9h)	In-110	1,000
Indium-111	In-111	100
Indium-112	In-112	1,000
Indium-113m	In-113m	1,000
Indium-114m	In-114m	10
Indium-115m	In-115m	1,000
Indium-115	In-115	100
Indium-116m	In-116m	1,000
Indium-117m	In-117m	1,000
Indium-117	In-117	1,000
Indium-119m	In-119m	1,000
Tin-110	Sn-110	100
Tin-111	Sn-111	1,000
Tin-113	Sn-113	100
Tin-117m	Sn-117m	100
Tin-119m	Sn-119m	100
Tin-121m	Sn-121m	100
Tin-121	Sn-121	1,000
Tin-123m	Sn-123m	1,000
Tin-123	Sn-123	10
Tin-125	Sn-125	10
Tin-126	Sn-126	10
Tin-127	Sn-127	1,000

Tin-128	Sn-128	1,000
Antimony-115	Sb-115	1,000
Antimony-116m	Sb-116m	1,000
Antimony-116	Sb-116	1,000
Antimony-117	Sb-117	1,000
Antimony-118m	Sb-118m	1,000
Antimony-119	Sb-119	1,000
Antimony-120 (16 min.)	Sb-120	1,000
Antimony-120 (5.76d)	Sb-120	100
Antimony-122	Sb-122	100
Antimony-124m	Sb-124m	1,000
Antimony-124	Sb-124	10
Antimony-125	Sb-125	100
Antimony-126m	Sb-126m	1,000
Antimony-126	Sb-126	100
Antimony-127	Sb-127	100
Antimony-128 (10.4 min.)	Sb-128	1,000
Antimony-128 (9.01h)	Sb-128	100
Antimony-129	Sb-129	100
Antimony-130	Sb-130	1,000
Antimony-131	Sb-131	1,000
Tellurium-116	Te-116	1,000
Tellurium-121m	Te-121m	10
Tellurium-121	Te-121	100
Tellurium-123m	Te-123m	10
Tellurium-123	Te-123	100
Tellurium-125m	Te-125m	10
Tellurium-127m	Te-127m	10
Tellurium-127	Te-127	1,000
Tellurium-129m	Te-129m	10
Tellurium-129	Te-129	1,000
Tellurium-131m	Te-131m	10
Tellurium-131	Te-131	100
Tellurium-132	Te-132	10
Tellurium-133m	Te-133m	100
Tellurium-133	Te-133	1,000
Tellurium-134	Te-134	1,000
Iodine-120m	I-120m	1,000
Iodine-120	I-120	100
Iodine-121	I-121	1,000

Iodine-123	I-123	100
Iodine-124	I-124	10
Iodine-125	I-125	1
Iodine-126	I-126	1
Iodine-128	I-128	1,000
Iodine-129	I-129	1
Iodine-130	I-130	10
Iodine-131	I-131	1
Iodine-132m	I-132m	100
Iodine-132	I-132	100
Iodine-133	I-133	10
Iodine-134	I-134	1,000
Iodine-135	I-135	100
Xenon-120	Xe-120	1,000
Xenon-121	Xe-121	1,000
Xenon-122	Xe-122	1,000
Xenon-123	Xe-123	1,000
Xenon-125	Xe-125	1,000
Xenon-127	Xe-127	1,000
Xenon-129m	Xe-129m	1,000
Xenon-131m	Xe-131m	1,000
Xenon-133m	Xe-133m	1,000
Xenon-133	Xe-133	1,000
Xenon-135m	Xe-135m	1,000
Xenon-135	Xe-135	1,000
Xenon-138	Xe-138	1,000
Cesium-125	Cs-125	1,000
Cesium-127	Cs-127	1,000
Cesium-129	Cs-129	1,000
Cesium-130	Cs-130	1,000
Cesium-131	Cs-131	1,000
Cesium-132	Cs-132	100
Cesium-134m	Cs-134m	1,000
Cesium-134	Cs-134	10
Cesium-135m	Cs-135m	1,000
Cesium-135	Cs-135	100
Cesium-136	Cs-136	10
Cesium-137	Cs-137	10
Cesium-138	Cs-138	1,000
Barium-126	Ba-126	1,000

Barium-128	B-128	100
Barium-131m	Ba-131m	1,000
Barium-131	Ba-131	100
Barium-133m	Ba-133m	100
Barium-133	Ba-133	100
Barium-135m	Ba-135m	100
Barium-139	Ba-139	1,000
Barium-140	Ba-140	100
Barium-141	Ba-141	1,000
Barium-142	Ba-142	1,000
Lanthanum-131	La-131	1,000
Lanthanum-132	La-132	100
Lanthanum-135	La-135	1,000
Lanthanum-137	La-137	10
Lanthanum-138	La-138	100
Lanthanum-140	La-140	100
Lanthanum-141	La-141	100
Lanthanum-142	La-142	1,000
Lanthanum-143	La-143	1,000
Cerium-134	Ce-134	100
Cerium-135	Ce-135	100
Cerium-137m	Ce-137m	100
Cerium-137	Ce-137	1,000
Cerium-139	Ce-139	100
Cerium-141	Ce-141	100
Cerium-143	Ce-143	100
Cerium-144	Ce-144	1
Praseodymium-136	Pr-136	1,000
Praseodymium-137	Pr-137	1,000
Praseodymium-138m	Pe-138m	1,000
Praseodymium-139	Pe-139	1,000
Praseodymium-142m	Pe-142m	1,000
Praseodymium-142	Pe-142	100
Praseodymium-143	Pe-143	100
Praseodymium-144	Pe-144	1,000
Praseodymium-145	Pe-145	100
Praseodymium-147	Pe-147	1,000
Neodymium-136	Nd-136	1,000
Neodymium-138	Nd-138	100
Neodymium-139m	Nd-139m	1,000

Neodymium-139	Nd-139	1,000
Neodymium-141	Nd-141	1,000
Neodymium-147	Nd-147	100
Neodymium-149	Nd-149	1,000
Neodymium-151	Nd-151	1,000
Promethium-141	Pm-141	1,000
Promethium-143	Pm-143	100
Promethium-144	Pm-144	10
Promethium-145	Pm-145	10
Promethium-146	Pm-146	1
Promethium-147	Pm-147	10
Promethium-148m	Pm-148m	10
Promethium-148	Pm-148	10
Promethium-149	Pm-149	100
Promethium-150	Pm-150	1,000
Promethium-151	Pm-151	100
Samarium-141m	Sm-141m	1,000
Samarium-141	Sm-141	1,000
Samarium-142	Sm-142	1,000
Samarium-145	Sm-145	100
Samarium-146	Sm-146	1
Samarium-147	Sm-147	100
Samarium-151	Sm-151	10
Samarium-153	Sm-153	100
Samarium-155	Sm-155	1,000
Samarium-156	Sm-156	1,000
Europium-145	Eu-145	100
Europium-146	Eu-146	100
Europium-147	Eu-147	100
Europium-148	Eu-148	10
Europium-149	Eu-149	100
Europium-150 (12.62h)	Eu-150	100
Europium-150 (34.2y)	Eu-150	1
Europium-152m	Eu-152m	100
Europium-152	Eu-152	1
Europium-154	Eu-154	1
Europium-155	Eu-155	10
Europium-156	Eu-156	100
Europium-157	Eu-157	100
Europium-158	Eu-158	1,000

Gadolinium-145	Gd-145	1,000
Gadolinium-146	Gd-146	10
Gadolinium-147	Gd-147	100
Gadolinium-148	Gd-148	0.001
Gadolinium-149	Gd-149	100
Gadolinium-151	Gd-151	10
Gadolinium-152	Gd-152	100
Gadolinium-153	Gd-153	10
Gadolinium-159	Gd-159	100
Terbium-147	Tb-147	1,000
Terbium-149	Tb-149	100
Terbium-150	Tb-150	1,000
Terbium-151	Tb-151	100
Terbium-153	Tb-153	1,000
Terbium-154	Tb-154	100
Terbium-155	Tb-155	1,000
Terbium-156m (5.0h)	Tb-156m	1,000
Terbium-156m (24.4h)	Tb-156m	1,000
Terbium-156	Tb-156	100
Terbium-157	Tb-157	10
Terbium-158	Tb-158	1
Terbium-160	Tb-160	10
Terbium-161	Tb-161	100
Dysprosium-155	Dy-155	1,000
Dysprosium-157	Dy-157	1,000
Dysprosium-159	Dy-159	100
Dysprosium-165	Dy-165	1,000
Dysprosium-166	Dy-166	100
Holmium-155	Ho-155	1,000
Holmium-157	Ho-157	1,000
Holmium-159	Ho-159	1,000
Holmium-161	Ho-161	1,000
Holmium-162m	Ho-162m	1,000
Holmium-162	Ho-162	1,000
Holmium-164m	Hp-164m	1,000
Holmium-164	Ho-164	1,000
Holmium-166m	Ho-166m	1
Holmium-166	Ho-166	100
Holmium-167	Ho-167	1,000
Erbium-161	Er-161	1,000

Erbium-165	Er-165	1,000
Erbium-169	Er-169	100
Erbium-171	Er-171	100
Erbium-172	Er-172	100
Thulium-162	Tm-162	1,000
Thulium-166	Tm-166	100
Thulium-167	Tm-167	100
Thulium-170	Tm-170	10
Thulium-171	Tm-171	10
Thulium-172	Tm-172	100
Thulium-173	Tm-173	100
Thulium-175	Tm-175	1,000
Ytterbium-162	Yb-162	1,000
Ytterbium-166	Yb-166	100
Ytterbium-167	Yb-167	1,000
Ytterbium-169	Yb-169	100
Ytterbium-175	Yb-175	100
Ytterbium-177	Yb-177	1,000
Ytterbium-178	Yb-178	1,000
Lutetium-169	Lu-169	100
Lutetium-170	Lu-170	100
Lutetium-171	Lu-171	100
Lutetium-172	Lu-172	100
Lutetium-173	Lu-173	10
Lutetium-174m	Lu-174m	10
Lutetium-174	Lu-174	10
Lutetium-176m	Lu-176m	1,000
Lutetium-176	Lu-176	100
Lutetium-177m	Lu-177m	10
Lutetium-177	Lu-177	100
Lutetium-178m	Lu-178m	1,000
Lutetium-178	Lu-178	1,000
Lutetium-179	Lu-179	1,000
Hafnium-170	Hf-170	100
Hafnium-172	Hf-172	1
Hafnium-173	Hf-173	1,000
Hafnium-175	Hf-175	100
Hafnium-177m	Hf-177m	1,000
Hafnium-178m	Hf-178m	0.1
Hafnium-179m	Hf-179m	10

Hafnium-180m	Hf-180m	1,000
Hafnium-181	Hf-181	10
Hafnium-182m	Hf-182m	1,000
Hafnium-182	Hf-182	0.1
Hafnium-183	Hf-183	1,000
Hafnium-184	Hf-184	100
Tantalum-172	Ta-172	1,000
Tantalum-173	Ta-173	1,000
Tantalum-174	Ta-174	1,000
Tantalum-175	Ta-175	1,000
Tantalum-176	Ta-176	100
Tantalum-177	Ta-177	1,000
Tantalum-178	Ta-178	1,000
Tantalum-179	Ta-179	100
Tantalum-180m	Ta-180m	1,000
Tantalum-180	Ta-180	100
Tantalum-182m	Ta-182m	1,000
Tantalum-182	Ta-182	10
Tantalum-183	Ta-183	100
Tantalum-184	Ta-184	100
Tantalum-185	Ta-185	1,000
Tantalum-186	Ta-186	1,000
Tungsten-176	W-176	1,000
Tungsten-177	W-177	1,000
Tungsten-178	W-178	1,000
Tungsten-179	W-179	1,000
Tungsten-181	W-181	1,000
Tungsten-185	W-185	100
Tungsten-187	W-187	100
Tungsten-188	W-188	10
Rhenium-177	Re-177	1,000
Rhenium-178	Re-178	1,000
Rhenium-181	Re-181	1,000
Rhenium-182 (12.7h)	Re-182	1,000
Rhenium-182 (64.0h)	Re-182	100
Rhenium-184m	Re-184m	10
Rhenium-184	Re-184	100
Rhenium-186m	Re-186m	10
Rhenium-186	Re-186	100
Rhenium-187	Re-187	1,000

Rhenium-188m	Re-188m	1,000
Rhenium-188	Re-188	100
Rhenium-189	Re-189	100
Osmium-180	Os-180	1,000
Osmium-181	Os-181	1,000
Osmium-182	Os-182	100
Osmium-185	Os-185	100
Osmium-189m	Os-189m	1,000
Osmium-191m	Os-191m	1,000
Osmium-191	Os-191	100
Osmium-193	Os-193	100
Osmium-194	Os-194	1
Iridium-182	Ir-182	1,000
Iridium-184	Ir-184	1,000
Iridium-185	Ir-185	1,000
Iridium-186	Ir-186	100
Iridium-187	Ir-187	1,000
Iridium-188	Ir-188	100
Iridium-189	Ir-189	100
Iridium-190m	Ir-190m	1,000
Iridium-190	Ir-190	100
Iridium-192 (73.8d)	Ir-192	1
Iridium-192m (1.4 min.)	Ir-192m	10
Iridium-194m	Ir-194m	10
Iridium-194	Ir-194	100
Iridium-195m	Ir-195m	1,000
Iridium-195	Ir-95	1,000
Platinum-186	Pt-186	1,000
Platinum-188	Pt-188	100
Platinum-189	Pt-189	1,000
Platinum-191	Pt-191	100
Platinum-193m	Pt-193m	100
Platinum-193	Pt-193	1,000
Platinum-195m	Pt-195m	100
Platinum-197m	Pt-197m	1,000
Platinum-197	Pt-197	100
Platinum-199	Pt-199	1,000
Platinum-200	Pt-200	100
Gold-193	Au-193	1,000
Gold-194	Au-194	100

Gold-195	Au-195	10
Gold-198m	Au-198m	100
Gold-198	Au-198	100
Gold-199	Au-199	100
Gold-200m	Au-200m	100
Gold-200	Au-200	1,000
Gold-201	Au-201	1,000
Mercury-193m	Hg-193m	100
Mercury-193	Hg-193	1,000
Mercury-194	Hg-194	1
Mercury-195m	Hg-195m	100
Mercury-195	Hg-195	1,000
Mercury-197m	Hg-197m	100
Mercury-197	Hg-197	1,000
Mercury-199m	Hg-199m	1,000
Mercury-203	Hg-203	100
Thallium-194m	Tl-194m	1,000
Thallium-194	Tl-194	1,000
Thallium-195	Tl-195	1,000
Thallium-197	Tl-197	1,000
Thallium-198m	Tl-198m	1,000
Thallium-198	Tl-198	1,000
Thallium-199	Tl-199	1,000
Thallium-200	Tl-200	1,000
Thallium-201	Tl-201	1,000
Thallium-202	Tl-202	100
Thallium-204	Tl-204	100
Lead-195m	Pb-195m	1,000
Lead-198	Pb-198	1,000
Lead-199	Pb-199	1,000
Lead-200	Pb-200	100
Lead-201	Pb-201	1,000
Lead-202m	Pb-202m	1,000
Lead-202	Pb-202	10
Lead-203	Pb-203	1,000
Lead-205	Pb-205	100
Lead-209	Pb-209	1,000
Lead-210	Pb-210	0.01
Lead-211	Pb-211	100
Lead-212	Pb-212	1

Lead-214	Pb-214	100
Bismuth-200	Bi-200	1,000
Bismuth-201	Bi-201	1,000
Bismuth-202	Bi-202	1,000
Bismuth-203	Bi-203	100
Bismuth-205	Bi-205	100
Bismuth-206	Bi-206	100
Bismuth-207	Bi-207	10
Bismuth-210m	Bi-210m	0.1
Bismuth-210	Bi-210	1
Bismuth-212	Bi-212	10
Bismuth-213	Bi-213	10
Bismuth-214	Bi-214	100
Polonium-203	Po-203	1,000
Polonium-205	Po-205	1,000
Polonium-207	Po-207	1,000
Polonium-210	Po-210	0.1
Astatine-207	At-207	100
Astatine-211	At-211	10
Radon-220	Rn-220	1
Radon-222	Rn-222	1
Francium-222	Fr-222	100
Francium-223	Fr-223	100
Radium-223	Ra-223	0.1
Radium-224	Ra-224	0.1
Radium-225	Ra-225	0.1
Radium-226	Ra-226	0.1
Radium-227	Ra-227	1,000
Radium-228	Ra-228	0.1
Actinium-224	Ac-224	1
Actinium-225	Ac-225	0.01
Actinium-226	Ac-226	0.1
Actinium-227	Ac-227	0.001
Actinium-228	Ac-228	1
Thorium-226	Th-226	10
Thorium-227	Th-227	0.01
Thorium-228	Th-228	0.001
Thorium-229	Th-229	0.001
Thorium-230	Th-230	0.001
Thorium-231	Th-231	100

Thorium-232	Th-232	100
Thorium-234	Th-234	10
Thorium-natural		100
Protactinium-227	Pa-227	10
Protactinium-228	Pa-228	1
Protactinium-230	Pa-230	0.01
Protactinium-231	Pa-231	0.001
Protactinium-232	Pa-232	1
Protactinium-233	Pa-233	100
Protactinium-234	Pa-234	100
Uranium-230	U-230	0.01
Uranium-231	U-231	100
Uranium-232	U-232	0.001
Uranium-233	U-233	0.001
Uranium-234	U-234	0.001
Uranium-235	U-235	0.001
Uranium-236	U-236	0.001
Uranium-237	U-237	100
Uranium-238	U-238	100
Uranium-239	U-239	1,000
Uranium-240	U-240	100
Uranium-natural		100
Neptunium-232	Np-232	100
Neptunium-233	Np-233	1,000
Neptunium-234	Np-234	100
Neptunium-235	Np-235	100
Neptunium-236 (1.15x10 ⁵ y)	Np-236	0.001
Neptunium-236 (22.5h)	Np-236	1
Neptunium-237	Np-237	0.001
Neptunium-238	Np-238	10
Neptunium-239	Np-239	100
Neptunium-240	Np-240	1,000
Plutonium-234	Pu-234	10
Plutonium-235	Pu-235	1,000
Plutonium-236	Pu-236	0.001
Plutonium-237	Pu-237	100
Plutonium-238	Pu-238	0.001
Plutonium-239	Pu-239	0.001
Plutonium-240	Pu-240	0.001

Plutonium-241	Pu-241	0.01
Plutonium-242	Pu-242	0.001
Plutonium-243	Pu-243	1,000
Plutonium-244	Pu-244	0.001
Plutonium-245	Pu-245	100
Americium-237	Am-237	1,000
Americium-238	Am-238	100
Americium-239	Am-239	1,000
Americium-240	Am-240	100
Americium-241	Am-241	0.001
Americium-242m	Am-242m	0.001
Americium-242	Am-242	10
Americium-243	Am-243	0.001
Americium-244m	Am-244m	100
Americium-244	Am-244	10
Americium-245	Am-245	1,000
Americium-246m	Am-246	1,000
Americium-246	Am-246	1,000
Curium-238	Cm-238	100
Curium-240	Cm-240	0.1
Curium-241	Cm-241	1
Curium-242	Cm-242	0.01
Curium-243	Cm-243	0.001
Curium-244	Cm-244	0.001
Curium-245	Cm-245	0.001
Curium-246	Cm-246	0.001
Curium-247	Cm-247	0.001
Curium-248	Cm-248	0.001
Curium-249	Cm-249	1,000
Berkelium-245	Bk-245	100
Berkelium-246	Bk-246	100
Berkelium-247	Bk-247	0.001
Berkelium-249	Bk-249	0.1
Berkelium-250	Bk-250	10
Californium-244	Cf-244	100
Californium-246	Cf-246	1
Californium-248	Cf-248	0.01
Californium-249	Cf-249	0.001
Californium-250	Cf-250	0.001
Californium-251	Cf-251	0.001

Californium-252	Cf-252	0.001
Californium-253	Cf-253	0.1
Californium-254	Cf-254	0.001
Any alpha emitting radionuclide not listed above or mixtures of alpha emitters of unknown composition		0.001
Einsteinium-250	Es-250	100
Einsteinium-251	Es-251	100
Einsteinium-253	Es-253	0.1
Einsteinium-254m	Es-254m	1
Einsteinium-254	Es-254	0.01
Fermium-252	Fm-252	1
Fermium-253	Fm-253	1
Fermium-254	Fm-254	10
Fermium-255	Fm-255	1
Fermium-257	Fm-257	0.01
Mendelevium-257	Md-257	10
Mendelevium-258	Md-258	0.01
Any radionuclide other than alpha emitter radionuclides not listed above, or mixtures of beta emitters of unknown composition		0.01

¹ The quantities listed above were derived by taking $1/10^{\text{th}}$ of the most restrictive ALI listed in table 1, columns 1 and 2, of appendix B to §§ 20.1001-20.2401 of this part, rounding to the nearest factor of 10, and arbitrarily constraining the values listed between 0.001 and 1,000 μCi . Values of 100 μCi have been assigned for radionuclides having a radioactive half-life in excess of 10^9 years (except rhenium, 1000 μCi) to take into account their low specific activity.

NOTE: For purposes of §§ 20.1902(e), 20.1905(a), and 20.2201(a) where there is involved a combination of radionuclides in known amounts, the limit for the combination should be derived as follows: determine, for each radionuclide in the combination, the ratio between the quantity present in the combination and the limit otherwise established for the specific radionuclide when not in combination. The sum of such ratios for all radionuclides in the combination may not exceed "1" (i.e., "unity").

[56 FR 23465, May 21, 1991; 56 FR 61352, Dec. 3, 1991. Redesignated and amended at 58 FR 67659, Dec. 22, 1993; 60 FR 20186, Apr. 25, 1995]

APPENDIX D TO PART 20--UNITED STATES NUCLEAR REGULATORY COMMISSION REGIONAL OFFICES

Region	Address	Telephone (24 hour)	E-Mail
NRC Headquarters Operations Center	USNRC, Division of Incident Response Operations, Washington, DC 20555-0001.	(301) 816-5100 (301) 951-0550 (301) 816-5151 (fax)	<i>H001@nrc.gov</i>
Region I: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New	USNRC, Region I, 475 Allendale Road, King of Prussia, PA 19406-	(610) 337-5000, (800) 432-1156 TDD: (301) 415-5575	<i>RidsRgn1MailCenter@nrc.gov</i>

Jersey, New York, Pennsylvania, Rhode Island, and Vermont.	1415.		
Region II: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, Virgin Islands, and West Virginia.	USNRC, Region II, Sam Nunn Atlanta Federal Center, Suite 23T85, 61 Forsyth Street, SW, Atlanta, GA 30303-8931.	(404) 562-4400, (800) 877-8510 TDD: (301) 415-5575	<i>RidsRgn2MailCenter@nrc.gov</i>
Region III: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.	USNRC, Region III, 801 Warrenville Road, Lisle, IL 60532-4351.	(630) 829-9500 (800) 522-3025 TDD: (301) 415-5575	<i>RidsRgn3MailCenter@nrc.gov</i>
Region IV: Alaska, Arizona, Arkansas, California, Colorado, Hawaii, Idaho, Kansas, Louisiana, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming, and the U.S. territories and possessions in the Pacific.	USNRC, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, TX 76011-4005.	(817) 860-8100 (800) 952-9677 TDD: (301) 415-5575	<i>RidsRgn4MailCenter@nrc.gov</i>

[56 FR 23468, May 21, 1991, as amended at 56 FR 41449, Aug. 21, 1991; 58 FR 64111, Dec. 6, 1993; 59 FR 17465, Apr. 13, 1994; 60 FR 24551, May 9, 1995; 62 FR 22880, Apr. 28, 1997; 67 FR 67099, Nov. 4, 2002; 67 FR 77652, Dec. 19, 2002; 68 FR 58802, Oct. 10, 2003]

Appendix E to Part 20--[Reserved]

Appendix F to Part 20--[Reserved]

Appendix G to Part 20--Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifests

I. Manifest

A waste generator, collector, or processor who transports, or offers for transportation, low-level radioactive waste intended for ultimate disposal at a licensed low-level radioactive waste land disposal facility must prepare a Manifest (OMB Control Numbers 3150-0164, -0165, and -0166) reflecting information requested on applicable NRC Forms 540 (Uniform Low-Level Radioactive Waste Manifest (Shipping Paper)) and 541 (Uniform Low-Level Radioactive Waste Manifest (Container and Waste Description)) and, if necessary, on an applicable NRC Form 542 (Uniform Low-Level Radioactive Waste Manifest (Manifest Index and Regional Compact Tabulation)). NRC Forms 540 and 540A must be completed and must physically accompany the pertinent low-level waste shipment. Upon agreement between shipper and consignee, NRC Forms 541 and 541A and 542 and 542A may be completed, transmitted, and stored in electronic media with the capability for producing legible, accurate, and complete records on the respective forms. Licensees are not required by NRC to comply with the manifesting requirements of this part when they ship:

- (a) LLW for processing and expect its return (i.e., for storage under their license) prior to disposal at a licensed land disposal facility;
- (b) LLW that is being returned to the licensee who is the "waste generator" or "generator," as defined in this part; or
- (c) Radioactively contaminated material to a "waste processor" that becomes the processor's "residual waste."

For guidance in completing these forms, refer to the instructions that accompany the forms. Copies of manifests required by this appendix may be legible carbon copies, photocopies, or computer printouts that reproduce the data in the format of the uniform manifest.

NRC Forms 540, 540A, 541, 541A, 542 and 542A, and the accompanying instructions, in hard copy, may be obtained by

writing or calling the Office of Information Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-5877, or by visiting the NRC's Web site at <http://www.nrc.gov> and selecting forms from the index found on the home page.

This appendix includes information requirements of the Department of Transportation, as codified in 49 CFR part 172. Information on hazardous, medical, or other waste, required to meet Environmental Protection Agency regulations, as codified in 40 CFR parts 259, 261 or elsewhere, is not addressed in this section, and must be provided on the required EPA forms. However, the required EPA forms must accompany the Uniform Low-Level Radioactive Waste Manifest required by this chapter.

As used in this appendix, the following definitions apply:

Chelating agent has the same meaning as that given in § 61.2 of this chapter.

Chemical description means a description of the principal chemical characteristics of a low-level radioactive waste.

Computer-readable medium means that the regulatory agency's computer can transfer the information from the medium into its memory.

Consignee means the designated receiver of the shipment of low-level radioactive waste.

Decontamination facility means a facility operating under a Commission or Agreement State license whose principal purpose is decontamination of equipment or materials to accomplish recycle, reuse, or other waste management objectives, and, for purposes of this part, is not considered to be a consignee for LLW shipments.

Disposal container means a container principally used to confine low-level radioactive waste during disposal operations at a land disposal facility (also see "high integrity container"). Note that for some shipments, the disposal container may be the transport package.

EPA identification number means the number received by a transporter following application to the Administrator of EPA as required by 40 CFR part 263.

Generator means a licensee operating under a Commission or Agreement State license who (1) is a waste generator as defined in this part, or (2) is the licensee to whom waste can be attributed within the context of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (e.g., waste generated as a result of decontamination or recycle activities).

High integrity container (HIC) means a container commonly designed to meet the structural stability requirements of § 61.56 of this chapter, and to meet Department of Transportation requirements for a Type A package.

Land disposal facility has the same meaning as that given in § 61.2 of this chapter.

NRC Forms 540, 540A, 541, 541A, 542, and 542A are official NRC Forms referenced in this appendix. Licensees need not use originals of these NRC Forms as long as any substitute forms are equivalent to the original documentation in respect to content, clarity, size, and location of information. Upon agreement between the shipper and consignee, NRC Forms 541 (and 541A) and NRC Forms 542 (and 542A) may be completed, transmitted, and stored in electronic media. The electronic media must have the capability for producing legible, accurate, and complete records in the format of the uniform manifest.

Package means the assembly of components necessary to ensure compliance with the packaging requirements of DOT regulations, together with its radioactive contents, as presented for transport.

Physical description means the items called for on NRC Form 541 to describe a low-level radioactive waste.

Residual waste means low-level radioactive waste resulting from processing or decontamination activities that cannot be easily separated into distinct batches attributable to specific waste generators. This waste is attributable to the processor or decontamination facility, as applicable.

Shipper means the licensed entity (i.e., the waste generator, waste collector, or waste processor) who offers low-level radioactive waste for transportation, typically consigning this type of waste to a licensed waste collector, waste processor, or land disposal facility operator.

Shipping paper means NRC Form 540 and, if required, NRC Form 540A which includes the information required by DOT in 49 CFR part 172.

Source material has the same meaning as that given in § 40.4 of this chapter.

Special nuclear material has the same meaning as that given in § 70.4 of this chapter.

Uniform Low-Level Radioactive Waste Manifest or *uniform manifest* means the combination of NRC Forms 540, 541, and, if necessary, 542, and their respective continuation sheets as needed, or equivalent.

Waste collector means an entity, operating under a Commission or Agreement State license, whose principal purpose is to collect and consolidate waste generated by others, and to transfer this waste, without processing or repackaging the collected waste, to another licensed waste collector, licensed waste processor, or licensed land disposal facility.

Waste description means the physical, chemical and radiological description of a low-level radioactive waste as called for on NRC Form 541.

Waste generator means an entity, operating under a Commission or Agreement State license, who (1) possesses any material or component that contains radioactivity or is radioactively contaminated for which the licensee foresees no further use, and (2) transfers this material or component to a licensed land disposal facility or to a licensed waste collector or processor for handling or treatment prior to disposal. A licensee performing processing or decontamination services may be a "waste generator" if the transfer of low-level radioactive waste from its facility is defined as "residual waste."

Waste processor means an entity, operating under a Commission or Agreement State license, whose principal purpose is to process, repackage, or otherwise treat low-level radioactive material or waste generated by others prior to eventual transfer of waste to a licensed low-level radioactive waste land disposal facility.

Waste type means a waste within a disposal container having a unique physical description (i.e., a specific waste descriptor code or description; or a waste sorbed on or solidified in a specifically defined media).

Information Requirements

A. General Information

The shipper of the radioactive waste, shall provide the following information on the uniform manifest:

1. The name, facility address, and telephone number of the licensee shipping the waste;
2. An explicit declaration indicating whether the shipper is acting as a waste generator, collector, processor, or a combination of these identifiers for purposes of the manifested shipment; and
3. The name, address, and telephone number, or the name and EPA identification number for the carrier transporting the waste.

B. Shipment Information

The shipper of the radioactive waste shall provide the following information regarding the waste shipment on the uniform manifest:

1. The date of the waste shipment;
2. The total number of packages/disposal containers;

3. The total disposal volume and disposal weight in the shipment;
4. The total radionuclide activity in the shipment;
5. The activity of each of the radionuclides H-3, C-14, Tc-99, and I-129 contained in the shipment; and
6. The total masses of U-233, U-235, and plutonium in special nuclear material, and the total mass of uranium and thorium in source material.

C. Disposal Container and Waste Information

The shipper of the radioactive waste shall provide the following information on the uniform manifest regarding the waste and each disposal container of waste in the shipment:

1. An alphabetic or numeric identification that uniquely identifies each disposal container in the shipment;
2. A physical description of the disposal container, including the manufacturer and model of any high integrity container;
3. The volume displaced by the disposal container;
4. The gross weight of the disposal container, including the waste;
5. For waste consigned to a disposal facility, the maximum radiation level at the surface of each disposal container;
6. A physical and chemical description of the waste;
7. The total weight percentage of chelating agent for any waste containing more than 0.1% chelating agent by weight, plus the identity of the principal chelating agent;
8. The approximate volume of waste within a container;
9. The sorbing or solidification media, if any, and the identity of the solidification media vendor and brand name;
10. The identities and activities of individual radionuclides contained in each container, the masses of U-233, U-235, and plutonium in special nuclear material, and the masses of uranium and thorium in source material. For discrete waste types (i.e., activated materials, contaminated equipment, mechanical filters, sealed source/devices, and wastes in solidification/stabilization media), the identities and activities of individual radionuclides associated with or contained on these waste types within a disposal container shall be reported;
11. The total radioactivity within each container; and
12. For wastes consigned to a disposal facility, the classification of the waste pursuant to § 61.55 of this chapter. Waste not meeting the structural stability requirements of § 61.56(b) of this chapter must be identified.

D. Uncontainerized Waste Information

The shipper of the radioactive waste shall provide the following information on the uniform manifest regarding a waste shipment delivered without a disposal container:

1. The approximate volume and weight of the waste;
2. A physical and chemical description of the waste;
3. The total weight percentage of chelating agent if the chelating agent exceeds 0.1% by weight, plus the identity of the principal chelating agent;

4. For waste consigned to a disposal facility, the classification of the waste pursuant to § 61.55 of this chapter. Waste not meeting the structural stability requirements of § 61.56(b) of this chapter must be identified;
5. The identities and activities of individual radionuclides contained in the waste, the masses of U-233, U-235, and plutonium in special nuclear material, and the masses of uranium and thorium in source material; and
6. For wastes consigned to a disposal facility, the maximum radiation levels at the surface of the waste.

E. Multi-Generator Disposal Container Information

This section applies to disposal containers enclosing mixtures of waste originating from different generators. (Note: The origin of the LLW resulting from a processor's activities may be attributable to one or more "generators" (including "waste generators") as defined in this part). It also applies to mixtures of wastes shipped in an uncontainerized form, for which portions of the mixture within the shipment originate from different generators.

1. For homogeneous mixtures of waste, such as incinerator ash, provide the waste description applicable to the mixture and the volume of the waste attributed to each generator.
2. For heterogeneous mixtures of waste, such as the combined products from a large compactor, identify each generator contributing waste to the disposal container, and, for discrete waste types (i.e., activated materials, contaminated equipment, mechanical filters, sealed source/devices, and wastes in solidification/stabilization media), the identities and activities of individual radionuclides contained on these waste types within the disposal container. For each generator, provide the following:
 - (a) The volume of waste within the disposal container;
 - (b) A physical and chemical description of the waste, including the solidification agent, if any;
 - (c) The total weight percentage of chelating agents for any disposal container containing more than 0.1% chelating agent by weight, plus the identity of the principal chelating agent;
 - (d) The sorbing or solidification media, if any, and the identity of the solidification media vendor and brand name if the media is claimed to meet stability requirements in 10 CFR 61.56(b); and
 - (e) Radionuclide identities and activities contained in the waste, the masses of U-233, U-235, and plutonium in special nuclear material, and the masses of uranium and thorium in source material if contained in the waste.

II. Certification

An authorized representative of the waste generator, processor, or collector shall certify by signing and dating the shipment manifest that the transported materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the Commission. A collector in signing the certification is certifying that nothing has been done to the collected waste which would invalidate the waste generator's certification.

III. Control and Tracking

A. Any licensee who transfers radioactive waste to a land disposal facility or a licensed waste collector shall comply with the requirements in paragraphs A.1 through 9 of this section. Any licensee who transfers waste to a licensed waste processor for waste treatment or repackaging shall comply with the requirements of paragraphs A.4 through 9 of this section. A licensee shall:

1. Prepare all wastes so that the waste is classified according to § 61.55 and meets the waste characteristics requirements in § 61.56 of this chapter;
2. Label each disposal container (or transport package if potential radiation hazards preclude labeling of the individual

disposal container) of waste to identify whether it is Class A waste, Class B waste, Class C waste, or greater than Class C waste, in accordance with § 61.55 of this chapter;

3. Conduct a quality assurance program to assure compliance with §§ 61.55 and 61.56 of this chapter (the program must include management evaluation of audits);

4. Prepare the NRC Uniform Low-Level Radioactive Waste Manifest as required by this appendix;

5. Forward a copy or electronically transfer the Uniform Low-Level Radioactive Waste Manifest to the intended consignee so that either (i) receipt of the manifest precedes the LLW shipment or (ii) the manifest is delivered to the consignee with the waste at the time the waste is transferred to the consignee. Using both (i) and (ii) is also acceptable;

6. Include NRC Form 540 (and NRC Form 540A, if required) with the shipment regardless of the option chosen in paragraph A.5 of this section;

7. Receive acknowledgement of the receipt of the shipment in the form of a signed copy of NRC Form 540;

8. Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of acknowledgement of receipt as the record of transfer of licensed material as required by 10 CFR Parts 30, 40, and 70 of this chapter; and

9. For any shipments or any part of a shipment for which acknowledgement of receipt has not been received within the times set forth in this appendix, conduct an investigation in accordance with paragraph E of this appendix.

B. Any waste collector licensee who handles only prepackaged waste shall:

1. Acknowledge receipt of the waste from the shipper within one week of receipt by returning a signed copy of NRC Form 540;

2. Prepare a new manifest to reflect consolidated shipments that meet the requirements of this appendix. The waste collector shall ensure that, for each container of waste in the shipment, the manifest identifies the generator of that container of waste;

3. Forward a copy or electronically transfer the Uniform Low-Level Radioactive Waste Manifest to the intended consignee so that either: (i) Receipt of the manifest precedes the LLW shipment or (ii) the manifest is delivered to the consignee with the waste at the time the waste is transferred to the consignee. Using both (i) and (ii) is also acceptable;

4. Include NRC Form 540 (and NRC Form 540A, if required) with the shipment regardless of the option chosen in paragraph B.3 of this section;

5. Receive acknowledgement of the receipt of the shipment in the form of a signed copy of NRC Form 540;

6. Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of acknowledgement of receipt as the record of transfer of licensed material as required by 10 CFR parts 30, 40, and 70 of this chapter;

7. For any shipments or any part of a shipment for which acknowledgement of receipt has not been received within the times set forth in this appendix, conduct an investigation in accordance with paragraph E of this appendix; and

8. Notify the shipper and the Administrator of the nearest Commission Regional Office listed in appendix D of this part when any shipment, or part of a shipment, has not arrived within 60 days after receipt of an advance manifest, unless notified by the shipper that the shipment has been cancelled.

C. Any licensed waste processor who treats or repackages waste shall:

1. Acknowledge receipt of the waste from the shipper within one week of receipt by returning a signed copy of NRC Form

540;

2. Prepare a new manifest that meets the requirements of this appendix. Preparation of the new manifest reflects that the processor is responsible for meeting these requirements. For each container of waste in the shipment, the manifest shall identify the waste generators, the preprocessed waste volume, and the other information as required in paragraph I.E. of this appendix;
3. Prepare all wastes so that the waste is classified according to § 61.55 of this chapter and meets the waste characteristics requirements in § 61.56 of this chapter;
4. Label each package of waste to identify whether it is Class A waste, Class B waste, or Class C waste, in accordance with §§ 61.55 and 61.57 of this chapter;
5. Conduct a quality assurance program to assure compliance with §§ 61.55 and 61.56 of this chapter (the program shall include management evaluation of audits);
6. Forward a copy or electronically transfer the Uniform Low-Level Radioactive Waste Manifest to the intended consignee so that either: (i) Receipt of the manifest precedes the LLW shipment or (ii) the manifest is delivered to the consignee with the waste at the time the waste is transferred to the consignee. Using both (i) and (ii) is also acceptable;
7. Include NRC Form 540 (and NRC Form 540A, if required) with the shipment regardless of the option chosen in paragraph C.6 of this section;
8. Receive acknowledgement of the receipt of the shipment in the form of a signed copy of NRC Form 540;
9. Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of acknowledgement of receipt as the record of transfer of licensed material as required by 10 CFR parts 30, 40, and 70 of this chapter;
10. For any shipment or any part of a shipment for which acknowledgement of receipt has not been received within the times set forth in this appendix, conduct an investigation in accordance with paragraph E of this appendix; and
11. Notify the shipper and the Administrator of the nearest Commission Regional Office listed in appendix D of this part when any shipment, or part of a shipment, has not arrived within 60 days after receipt of an advance manifest, unless notified by the shipper that the shipment has been cancelled.

D. The land disposal facility operator shall:

1. Acknowledge receipt of the waste within one week of receipt by returning, as a minimum, a signed copy of NRC Form 540 to the shipper. The shipper to be notified is the licensee who last possessed the waste and transferred the waste to the operator. If any discrepancy exists between materials listed on the Uniform Low-Level Radioactive Waste Manifest and materials received, copies or electronic transfer of the affected forms must be returned indicating the discrepancy;
2. Maintain copies of all completed manifests and electronically store the information required by 10 CFR 61.80(l) until the Commission terminates the license; and
3. Notify the shipper and the Administrator of the nearest Commission Regional Office listed in appendix D of this part when any shipment, or part of a shipment, has not arrived within 60 days after receipt of an advance manifest, unless notified by the shipper that the shipment has been cancelled.

E. Any shipment or part of a shipment for which acknowledgement is not received within the times set forth in this section must:

1. Be investigated by the shipper if the shipper has not received notification or receipt within 20 days after transfer; and
2. Be traced and reported. The investigation shall include tracing the shipment and filing a report with the nearest

Commission Regional Office listed in Appendix D to this part. Each licensee who conducts a trace investigation shall file a written report with the appropriate NRC Regional Office within 2 weeks of completion of the investigation.

[60 FR 15664, Mar. 27, 1995, as amended at 60 FR 25983, May 16, 1995; 68 FR 58802, Oct. 10, 2003; 70 FR 69421, Nov. 16, 2005]

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Subpart A--Freedom of Information Act Regulations

Source: 63 FR 2876, Jan. 20, 1998, unless otherwise noted.

§ 9.11 Scope of subpart.

This subpart prescribes procedures for making NRC agency records available to the public for inspection and copying pursuant to the provisions of the Freedom of Information Act (5 U.S.C. 552) and provides notice of procedures for obtaining NRC records otherwise publicly available. This subpart does not affect the dissemination or distribution of NRC-originated, or NRC contractor-originated, information to the public under any other NRC public, technical, or other information program or policy.

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§ 9.13 Definitions.

Agency record means a record in the possession and control of the NRC that is associated with Government business. Agency record does not include records such as--

- (1) Publicly-available books, periodicals, or other publications that are owned or copyrighted by non-Federal sources;
- (2) Records solely in the possession and control of NRC contractors;
- (3) Personal records in possession of NRC personnel that have not been circulated, were not required to be created or retained by the NRC, and can be retained or discarded at the author's sole discretion, or records of a personal nature that are not associated with any Government business; or
- (4) Non-substantive information in logs or schedule books of the Chairman or Commissioners, uncirculated except for typing or recording purposes.

Commercial-use request means a request made under § 9.23(b) for a use or purpose that furthers the commercial, trade, or profit interests of the requester or the person on whose behalf the request is made.

Direct costs mean the expenditures that an agency incurs in searching for and duplicating agency records. For a commercial-use request, direct costs include the expenditures involved in reviewing records to respond to the request. Direct costs include the salary of the employee category performing the work based on that basic rate of pay plus 16 percent of that rate to cover fringe benefits and the cost of operating duplicating machinery.

Duplication means the process of making a copy of a record necessary to respond to a request made under § 9.23. Copies may take the form of paper copy, microform, audio-visual materials, disk, magnetic tape, or machine readable documentation, among others.

Educational institution means an institution that operates a program or programs of scholarly research. Educational institution refers to a preschool, a public or private elementary or secondary school, an institution of graduate higher education, an institution of undergraduate higher education, an institution of professional education, or an institution of vocational education.

Freedom of Information Act and Privacy Act Officer means the NRC official designated to fulfill the responsibilities for implementing and administering the Freedom of Information Act and the Privacy Act as specifically designated under the regulations in this part.

Noncommercial scientific institution means an institution that is not operated on a commercial basis, as the term "commercial" is referred to in the definition of "commercial-use request," and is operated solely for the purpose of conducting scientific research, the results of which are not intended to promote any particular product or industry.

Office, unless otherwise indicated, means all offices, boards, panels, and advisory committees of the NRC.

Record means any information that would be an agency record subject to the requirements of the Freedom of Information Act when maintained by the NRC in any format, including an electronic format. Record also includes a book, paper, map, drawing, diagram, photograph, brochure, punch card, magnetic tape, paper tape, sound recording, pamphlet, slide, motion picture, or other documentary material regardless of form or characteristics. Record does not include an object or article such as a structure, furniture, a tangible exhibit or model, a vehicle, or piece of equipment.

Representative of the news media means any person actively gathering news for an entity that is organized and operated to publish or broadcast news to the public. The term news means information that is about current events or that would be of current interest to the public. Examples of news media entities include television or radio stations broadcasting to the public at large, and publishers of periodicals (but only in those instances when they can qualify as disseminators of "news") who make their products available for purchase or subscriptions by the general public.

Review time means the period devoted to examining records retrieved in response to a request to determine whether they are exempt from disclosure in whole or in part. Review time also includes the period devoted to examining records to determine which Freedom of Information Act exemptions, if any, are applicable and identifying records, or portions thereof, to be disclosed.

Search time means the period devoted to looking for agency records, either manually or by automated means, for the purpose of locating those records that are responsive to a request. This includes a page-by-page or line-by-line identification of responsive information within the records.

Unusual circumstances mean--

- (1) The need to search for and collect the requested records from field facilities or other establishments that are separate from the office processing the request;
- (2) The need to search for, collect, and appropriately examine a voluminous amount of separate and distinct records demanded in a single request; or
- (3) The need for consultation, which will be conducted with all practicable speed, with another agency having a substantial interest in the determination of the request or among two or more components of the NRC having substantial subject-matter interest therein.

[70 FR 34306, June 14, 2005]

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§ 9.15 Availability of records.

The NRC will make available for public inspection and copying any reasonably described agency record in the possession and control of the NRC under the provisions of this subpart, and upon request by any person. Records will be made available in any form or format requested by a person if the record is readily reproducible by NRC in that form or format. NRC will make reasonable efforts to maintain its records in forms or formats that are reproducible. NRC will make reasonable efforts to search for records in electronic form or format when requested, except when these efforts would significantly interfere with the operation of any of the NRC's automated information systems. Records that the NRC routinely makes publicly available are described in § 9.21. Procedures and conditions governing requests for records are set forth in § 9.23.

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§ 9.17 Agency records exempt from public disclosure.

(a) The following types of agency records are exempt from public disclosure under § 9.15:

(1) Records--

(i) That are specifically authorized under criteria established by an Executive Order to be kept secret in the interest of national defense or foreign policy, and

(ii) That are in fact properly classified pursuant to such Executive Order;

(2) Records related solely to the internal personnel rules and practices of the agency;

(3) Records specifically exempted from disclosure by statute (other than 5 U.S.C. 552b), provided that the statute--

(i) Requires that the matters be withheld from the public in a manner that leaves no discretion on the issue; or

(ii) Establishes particular criteria for withholding or refers to particular types of matters to be withheld;

(4) Trade secrets and commercial or financial information obtained from a person that are privileged or confidential;

(5) Interagency or intra-agency memorandums or letters that would not be available by law to a party other than an agency in litigation with the agency;

(6) Personnel and medical files and similar files, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy;

(7) Records or information compiled for law enforcement purposes, but only to the extent that the production of these law enforcement records or information--

(i) Could reasonably be expected to interfere with enforcement proceedings;

(ii) Would deprive a person of a right to a fair trial or an impartial adjudication;

(iii) Could reasonably be expected to constitute an unwarranted invasion of personal privacy;

(iv) Could reasonably be expected to disclose the identity of a confidential source, including a State, local, or foreign agency or authority, or any private institution which furnished information on a confidential basis, and, in the case of a record or information compiled by a criminal law enforcement authority in the course of a criminal investigation, or by an agency conducting a lawful national security intelligence investigation, or information furnished by a confidential source;

(v) Would disclose techniques and procedures for law enforcement investigations or prosecutions, or would disclose guidelines for law enforcement investigations or prosecutions, if the disclosure could reasonably be expected to risk circumvention of the law; or

(vi) Could reasonably be expected to endanger the life or physical safety of any individual;

(8) Matters contained in or related to examination, operating, or condition reports prepared by, on behalf of, or for the use of any agency responsible for the regulation or supervision of financial institutions; or

(9) Geological and geophysical information and data, including maps, concerning wells.

(b) Nothing in this subpart authorizes withholding of information or limiting the availability of records to the public except as specifically provided in this part, nor is this subpart authority to withhold information from Congress.

(c) Whenever a request is made that involves access to agency records described in paragraph (a)(7) of this section, the NRC may, during only the time as that circumstance continues, treat the records as not subject to the requirements of this subpart when--

(1) The investigation or proceeding involves a possible violation of criminal law; and

(2) There is reason to believe that--

(i) The subject of the investigation or proceeding is not aware of its pendency; and

(ii) Disclosure of the existence of the records could reasonably be expected to interfere with enforcement proceedings.

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§ 9.19 Segregation of exempt information and deletion of identifying details.

- (a) For records required to be made available under 5 U.S.C. 552(a)(2), the NRC shall delete information that is exempt under one or more of the exemptions cited in § 9.17. The amount of information deleted will be indicated on the released portion of the record, unless providing this indication would harm an interest protected by the exemption(s) under which the matter has been withheld.

- (b) In responding to a request for information submitted under § 9.23, in which it has been determined to withhold exempt information, the NRC shall segregate--
 - (1) Information that is exempt from public disclosure under § 9.17(a) from nonexempt information; and
 - (2) Factual information from advice, opinions, and recommendations in predecisional records unless the information is inextricably intertwined, or is contained in drafts, legal work products, and records covered by the lawyer-client privilege, or is otherwise exempt from disclosure.

- (c) In denying a request for records, in whole or in part, NRC will make a reasonable effort to estimate the volume of any information requested that is denied and provide the estimate to the person making the request, unless providing the estimate would harm an interest protected by the exemption(s) under which the information has been denied.

- (d) When entire records or portions thereof are denied and deletions are made from parts of the record by computer, the amount of information deleted will be indicated on the released portion of the record, unless providing this indication would harm an interest protected by the exemption(s) under which the matter has been denied.

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§ 9.21 Publicly available records.

(a) Single copies of NRC publications in the NUREG series, NRC Regulatory Guides, and Standard Review Plans can be ordered from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia, 22161.

(b) For the convenience of persons who may wish to inspect without charge, or purchase copies of a record or a limited category of records for a fee, publicly available records of the NRC's activities described in paragraph (c) of this section are also made available at the NRC Web site, <http://www.nrc.gov>, and/or at the Public Document Room located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland 20852-2738, between 7:45 am and 4:15 pm on Monday through Friday except Federal holidays.

(c) The following records of NRC activities are available for public inspection and copying:

- (1) Final opinions including concurring and dissenting opinions as well as orders of the NRC issued as a result of adjudication of cases;
 - (2) Statements of policy and interpretations that have been adopted by the NRC and have not been published in the Federal Register;
 - (3) Nuclear Regulatory Commission rules and regulations;
 - (4) Nuclear Regulatory Commission Manuals and instructions to NRC personnel that affect any member of the public;
 - (5) Copies of records that have been released to a person under the FOIA that, because of the nature of their subject matter, the NRC determines have become or are likely to become the subject of subsequent requests for substantially the same records and a general index to those records; and
 - (6) Individual indexes to publicly available records, including those records specified in paragraph (c) of this section, may be created by using the search features of the Agencywide Documents Access and Management System (ADAMS), located at the NRC Web site, <http://www.nrc.gov>. This capability made it unnecessary for the NRC to continue publishing its monthly publication, Documents Made Publicly Available (NUREG-0540) after March 1999.
- (d) The published versions of the records made publicly available under paragraph (c)(1) of this section are available under the title, Nuclear Regulatory Issuances, NUREG-0750, for purchase through the National Technical Information Service.

[64 FR 48950, Sept. 9, 1999, as amended at 67 FR 67098, Nov. 4, 2002, 70 FR 34306, June 14, 2005]

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§ 9.23 Requests for records.

(a)(1) A person may request access to records routinely made available by the NRC under § 9.21 in person, by telephone, by e-mail, facsimile, or U.S. mail from the NRC Public Document Room, One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland 20852-2738.

(i) Each record requested must be described in sufficient detail to enable the NRC Public Document Room staff to locate the record.

(ii) To obtain copies of records expeditiously, a person may open an account with the NRC Public Document Room reproduction contractor. Payment for reproduction services will be made directly to the contractor.

(2) [Reserved]

(b) A person may request agency records by submitting a request authorized by 5 U.S.C. 552(a)(3) to the Freedom of Information Act and Privacy Act Officer by an appropriate method listed in § 9.6 of this chapter. The request must be in writing and clearly state on the envelope and in the letter that it is a "Freedom of Information Act request." The NRC does not consider a request as received until the date it is actually received by the Freedom of Information Act and Privacy Act Officer.

(1) A Freedom of Information Act request covers only agency records that are in existence on the date the Freedom of Information Act and Privacy Act Officer receives the request. A request does not cover agency records destroyed or discarded before receipt of a request or which are created after the date of the request.

(2) All Freedom of Information Act requests for copies of agency records must reasonably describe the agency records sought in sufficient detail to permit the NRC to identify the requested agency records. Where possible, the requester should provide specific information regarding dates, titles, docket numbers, file designations, and other information which may help identify the agency records. If a requested agency record is not described in sufficient detail to permit its identification, the Freedom of Information Act and Privacy Act Officer will contact the requester within 10 working days after receipt of the request and inform the requester of the additional information or clarification needed to process the request.

(3) Upon receipt of a request made under paragraph (b) of this section, the NRC will provide written notification to the requester that indicates the request has been received, the name and telephone number of the NRC point of contact to find out the status of the request, and other pertinent matters regarding the processing of the request.

(4)(i) The NRC shall advise a requester that fees will be assessed if--

(A) A request involves anticipated costs in excess of the minimum specified in § 9.39; and

(B) Search and duplication is not provided without charge under § 9.39; or

(C) The requester does not specifically state that the cost involved is acceptable or acceptable up to a specified limit.

(ii) The NRC has discretion to discontinue processing a request made under this paragraph until--

(A) A required advance payment has been received;

(B) The requester has agreed to bear the estimated costs;

(C) A determination has been made on a request for waiver or reduction of fees; or

(D) The requester meets the requirements of § 9.39.

(c) If a requested agency record that has been reasonably described is located at a place other than at the NRC Web site, <http://www.nrc.gov>, the NRC Public Document Room, or the NRC headquarters, the NRC may, at its discretion, make the record available for inspection and copying at either of the locations.

(d) Except as provided in § 9.39--

(1) If the record requested under paragraph (b) of this section is a record available through the National Technical Information Service, the NRC shall refer the requester to the National Technical Information Service; and

(2) If the requested record has been placed on the NRC Internet Web site, under § 9.21, the NRC may inform the requester that the record is available at the NRC Web site, <http://www.nrc.gov>, and/or at the NRC Public Document Room, and that the record may be obtained in accordance with the procedures set forth in paragraph (a) of this section.

(e) The Freedom of Information Act and Privacy Act Officer will promptly forward a Freedom of Information Act request made under paragraph (b) of this section for an agency record to the head of the office(s) primarily concerned with the records requested, as appropriate. The responsible office will conduct a search for the agency records responsive to the request and compile those agency records to be reviewed for initial disclosure determination and/or identify those that have already been made publicly available at the NRC Web site, <http://www.nrc.gov>, and/or at the NRC Public Document Room.

[63 FR 2876, Jan. 20, 1998, as amended at 64 FR 48950, Sept. 9, 1999; 67 FR 67098, Nov. 4, 2002; 68 FR 58800, Oct. 10, 2003, 70 FR 34306, June 14, 2005]

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§ 9.25 Initial disclosure determination.

(a) *Time for initial disclosure determination.* The NRC will notify a requester within 20 working days of its determination. If the NRC cannot act upon the request within this period, the NRC will provide the requester with the reasons for the delay and provide a projected response date.

(b) *Extension of time limit in unusual circumstances.* In unusual circumstances, the NRC may extend the time limit prescribed in paragraph (a) of this section by not more than 10 working days. The extension may be made by written or telephonic notice to the person making the request to explain the reasons for the extension and indicate the date on which a determination is expected to be made. "Unusual circumstances" is limited to one or more of the following reasons for delay:

- (1) The need to search for and collect the requested records from field facilities or other establishments that are separate from the office processing the request;
- (2) The need to search for, collect, and appropriately examine a voluminous amount of separate and distinct records which are demanded in a single request; or
- (3) The need for consultation, which will be conducted with all practicable speed, with another agency having a substantial interest in the determination of the request or among two or more components of the NRC having substantial subject-matter interest therein.

(c) *Exceptional circumstances.* A requester may be notified in certain exceptional circumstances, when it appears that a request cannot be completed within the allowable time, and will be provided an opportunity to limit the scope of the request so that it may be processed in the time limit, or to agree to a reasonable alternative time frame for processing. For purposes of this paragraph, the term "exceptional circumstances" does not include delays that result from the normal predictable workload of FOIA requests or a failure by the NRC to exercise due diligence in processing the request. A requester's unwillingness to agree to reasonable modification of the request or an alternative time for processing the request may be considered as factors in determining whether exceptional circumstances exist and whether the agency exercised due diligence in responding to the request.

(d) *Multiple-Track processing.* To ensure the most equitable treatment possible of all requesters, the NRC will process requests on a first-in, first-out basis, using multiple tracking systems based upon the estimated time it will take to process the request.

(1) NRC uses a three-track system.

(i) The first track is for requests of simple to moderate complexity that are expected to be completed within 20 working days.

(ii) The second track is for requests involving "unusual circumstances" that are expected to take between 21-30 working days to complete (e.g. requests involving possible records from two or three offices and/or various types of files of moderate volume, of which, some are expected to be exempt)

(iii) The third track is for requests that, because of their unusual volume or other complexity, are expected to take more than 30 working days to complete (e.g. requests involving several offices, regional offices, another agency's records, classified records requiring declassification review, records from businesses that are required to be referred to the submitter for their proprietary review prior to disclosure, records in large volumes which require detailed review because of the

sensitive nature of the records such as investigative records or legal opinions and recordings of internal deliberations of agency staff).

(2) Upon receipt of requests, NRC will notify requesters of the track in which the request has been placed for processing and the estimated time for completion. Should subsequent information substantially change the estimated time to process a request, the requester will be notified telephonically or in writing. A requester may modify the request to allow it to be processed faster or to reduce the cost of processing. Partial responses may be sent to requesters as documents are obtained by the FOIA office from the supplying offices.

(e) *Expedited processing.* (1) NRC may place a person's request at the front of the queue for the appropriate track for that request upon receipt of a written request that clearly demonstrates a compelling need for expedited processing. For purposes of determining whether to grant expedited processing, the term compelling need means--

(i) That a failure to obtain requested records on an expedited basis could reasonably be expected to pose an imminent threat to the life or physical safety of an individual; or

(ii) With respect to a request made by a person primarily engaged in disseminating information, urgency to inform the public concerning actual or alleged Federal Government activity.

(2) A person requesting expedited processing must include a statement certifying the compelling need given to be true and correct to the best of his or her knowledge and belief. The certification requirement may be waived by the NRC as a matter of agency discretion.

(3) The Freedom of Information Act and Privacy Act Officer will make the initial determination whether to grant or deny a request for expedited processing and will notify a requester within 10 calendar days after the request has been received whether expedited processing will be granted.

(f) *Disclosure review.* The head of the responsible office shall review agency records located in a search under § 9.23(b) to determine whether the agency records are exempt from disclosure under § 9.17(a). If the head of the office determines that, although exempt, the disclosure of the agency records will not be contrary to the public interest and will not affect the rights of any person, the head of the office may authorize disclosure of the agency records. If the head of the office authorizes disclosure of the agency records, the head of the office will furnish the agency records to the Freedom of Information Act and Privacy Act Officer, who will notify the requester of the determination in the manner provided in § 9.27.

(g)(1) *Initial disclosure determination on requests for records originated by, or located in the files of the Office of the Inspector General.* If, as a result of the review specified in paragraph (f) of this section, the Assistant Inspector General for Investigations finds that agency records that are originated by or located in the Office of the Inspector General are exempt from disclosure and should be denied in whole or in part, and disclosure of the records is contrary to the public interest and will adversely affect the rights of any person, the Assistant Inspector General for Investigations will submit that finding to the Freedom of Information Act and Privacy Act Officer who will notify the requester of the determination in the manner provided in § 9.27.

(2) *Initial disclosure determinations on requests for records originated by or transmitted to the Commission, or a Commissioner, or records originated by, or for which the Office of the Secretary or an Advisory Committee has primary responsibility.* If, as a result of the review specified in paragraph (f) of this section, the Executive Assistant to the Secretary of the Commission finds that agency records originated by or transmitted to the Commission or a Commissioner, or records originated by, or for which the Office of the Secretary or an Advisory Committee has primary responsibility, are exempt from disclosure and should be denied in whole or in part, and disclosure of the records is contrary to the public interest and will adversely affect the rights of any person, the Executive Assistant to the Secretary of the Commission will submit that finding to the Freedom of Information Act and Privacy Act Officer who will notify the requester of the determination in the manner provided in § 9.27.

(3) *Initial disclosure determination for records originated by, or for which the Office of the General Counsel has principal responsibility.* If, as a result of the review specified in paragraph (f) of this section, the General Counsel finds that agency records that are originated by, or for which the Office of the General Counsel has primary responsibility, are exempt from disclosure and should be denied in whole or in part, and disclosure of the records is contrary to the public interest and will adversely affect the rights of any person, the General Counsel will submit that finding to the Freedom of Information Act and Privacy Act Officer who will notify the requester of the determination in the manner provided in § 9.27.

(h) *Initial disclosure determinations on requests for records other than those for which the initial disclosure determination is made by the Assistant Inspector General for Investigations, the Executive Assistant to the Secretary of the Commission, or the General Counsel.* If, as a result of the review specified in paragraph (f) of this section, the head of the responsible office finds that agency records other than those described in paragraph (g) of this section, that are originated by, or for which the office has primary responsibility, should be denied in whole or in part, the head of the office will submit that finding to the Freedom of Information Act and Privacy Act Officer, who will, in consultation with the Office of the General Counsel, make an independent determination whether the agency records should be denied in whole or in part. If the Freedom of Information Act and Privacy Act Officer determines that the agency records sought are exempt from disclosure and disclosure of the records is contrary to the public interest and will adversely affect the rights of any person, the Freedom of Information Act and Privacy Act Officer will notify the requester of the determination in the manner provided in § 9.27.

(i) *Records and information originated by another Federal agency.* If a requested record is located that was originated or contains information originated by another Federal Government agency, or deals with subject matter over which an agency other than the NRC has exclusive or primary responsibility, the NRC will promptly refer the record to that Federal Government agency for disposition or for guidance regarding disposition.

(j) If the NRC does not respond to a request within the 20 working-day period, or within the extended periods described in paragraph (b) of this section, the requester may treat that delay as a denial of the request and immediately appeal as provided in § 9.29(a) or sue in a Federal District Court as noted in § 9.29(c).

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§ 9.27 Form and content of responses.

(a) When the NRC has located a requested agency record and has determined to disclose the agency record, the Freedom of Information Act and Privacy Act Officer will promptly furnish the agency record or notify the requester where and when the agency record will be available for inspection and copying. The NRC will also advise the requester of any applicable fees under § 9.35 and § 9.37. The NRC will routinely make copies of non-sensitive records disclosed in response to Freedom of Information Act requests publicly available through the Agencywide Document Access and Management System (ADAMS) located in the NRC's Electronic Reading Room that can be accessed via the NRC Web site at

<http://www.nrc.gov/NRC/reading-rm/adams.html>. Records that contain information personal to the requester, involve matters that are not likely to be of public interest to anyone other than the requester or contain privileged or confidential information that should only be disclosed to the requester will not be made publicly available on the NRC Web site.

(b) When the NRC denies access to a requested agency record or denies a request for expedited processing or for a waiver or reduction of fees, the Freedom of Information Act and Privacy Act Officer will notify the requester in writing. The denial will include as appropriate--

(1) The reason for the denial;

(2) A reference to the specific exemption under the Freedom of Information Act, or other appropriate reason, and the Commission's regulations authorizing the denial;

(3) The name and title or position of each person responsible for the denial of the request, including the head of the office recommending denial of the record;

(4) A statement stating why the request does not meet the requirements of § 9.41 if the request is for a waiver or reduction of fees; and

(5) A statement that the denial may be appealed within 30 calendar days from the date of the denial to the Executive Director for Operations, to the Secretary of the Commission, or to the Inspector General, as appropriate.

(c) The Freedom of Information Act and Privacy Act Officer will maintain a copy of each letter granting or denying requested agency records, denying a request for expedited processing, or denying a request for a waiver or reduction of fees in accordance with the NRC Comprehensive Records Disposition Schedule.

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§ 9.28 Predisclosure notification procedures for information containing trade secrets or confidential commercial or financial information.

(a) *Notice of opportunity to object to NRC's initial disclosure determination.* Whenever NRC makes an initial determination that information should be disclosed in response to a Freedom of Information Act request or a Freedom of Information Act appeal which has been designated by the submitter as trade secrets or confidential commercial or financial information, or the NRC believes the information contains such trade secrets or confidential commercial or financial information, the NRC will give the submitter of the information written notice of NRC's initial determination, or NRC's need for information on which to base a determination, and an opportunity to object. The notice must describe the business information requested or include copies of the requested records or record portions containing the information.

(b) *Submitter objection to disclosure.* The submitter will be allowed 30 calendar days from date of the notice described in paragraph (a) of this section to object to disclosure, unless the Commission determines that a shorter period of time to respond is necessary in a particular instance. If a submitter has any objection to disclosure, the submitter must provide a detailed written statement. The statement must specify all grounds that support why the information is a trade secret or commercial or financial information that is privileged or confidential. If a submitter fails to respond to the notice within the time specified in the notice, the submitter will be considered to have no objection to disclosure of the information. Information provided by the submitter that is not received until after the date specified for response will not be considered unless that date is extended by the Freedom of Information Act and Privacy Act Officer upon request by the submitter.

(c) *Notice of final decision to disclose.* The NRC shall consider a submitter's written statement and specific grounds for nondisclosure. If the NRC agrees to withhold the information from public disclosure, the NRC will inform the requester in the manner described in § 9.27 of the agency decision to deny access to the requested information. Whenever the NRC denies the submitter's request for nondisclosure and decides to disclose the information, the NRC shall give the submitter written notice, which must include:

(1) A statement of the reason(s) for the determination;

(2) A description of the business information to be disclosed; and

(3) A specified disclosure date, which will be 30 calendar days subsequent to the date of the notice, or less, as provided under paragraph (b) of this section, after which the information will be made available to the public.

(d) *Corresponding notice to requesters.* When the NRC provides a submitter with notice and opportunity to object to disclosure under paragraph (b) of this section, the NRC shall also notify the requester(s). Whenever the NRC notifies a submitter of its final decision to disclose the requested information under paragraph (c) of this section, the NRC shall also notify the requester(s). When a submitter files a lawsuit seeking to prevent the disclosure of trade secrets or confidential commercial or financial information, the NRC shall notify the requester(s).

(e) *Notice to submitter of Freedom of Information Act lawsuit.* Whenever a requester files a lawsuit seeking to compel disclosure of trade secrets or confidential commercial or financial information, the NRC shall promptly notify the submitter.

[70 FR 34307, June 14, 2005]



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§ 9.29 Appeal from initial determination.

(a) A requester may appeal a notice of denial of a Freedom of Information Act request for access to agency records, denial of a request for waiver or reduction of fees, or denial of a request for expedited processing under this subpart within 30 calendar days of the date of the NRC's denial.

(b) For agency records to which access is denied by the Assistant Inspector General for Investigations, the appeal must be in writing directed to the Inspector General and sent to the Freedom of Information Act and Privacy Act Officer by an appropriate method listed in § 9.6. The appeal should clearly state on the envelope and in the letter that it is an "Appeal from Initial Freedom of Information Act Decision." The NRC does not consider an appeal received until the date it is actually received by the Freedom of Information Act and Privacy Act Officer. The Inspector General will make the NRC determination on the appeal within 20 working days after the receipt of the appeal. If the Inspector General denies an appeal of access to records, in whole or in part, the Inspector General will notify the requester of the denial, explaining the exemptions relied upon and how the exemptions apply to the agency records withheld. The notice will inform the requester that the denial is a final agency action and that judicial review is available in a district court of the United States in the district in which the requester resides or has a principal place of business, in which the agency records are situated, or in the District of Columbia.

(c) For agency records to which access is denied by the Executive Assistant to the Secretary of the Commission, the General Counsel, or an office director reporting to the Commission, the appeal must be in writing directed to the Secretary of the Commission and sent to the Freedom of Information Act and Privacy Act Officer by an appropriate method listed in § 9.6. The appeal should clearly state on the envelope and in the letter that it is an "Appeal from Initial Freedom of Information Act Decision." The NRC does not consider an appeal received until the date it is actually received by the Freedom of Information Act and Privacy Act Officer. The Secretary of the Commission will make the NRC determination on the appeal within 20 working days after the receipt of the appeal. If the Secretary of the Commission denies an appeal of access to records, in whole or in part, the Secretary of the Commission will notify the requester of the denial, explaining the exemptions relied upon and how the exemptions apply to the agency records withheld. The notice will inform the requester that the denial is a final agency action and that judicial review is available in a district court of the United States in the district in which the requester resides or has a principal place of business, in which the agency records are situated, or in the District of Columbia.

(d) For agency records to which access is denied by agency officials other than the Assistant Inspector General for Investigations, the Executive Assistant to the Secretary of the Commission, the General Counsel, or other office director reporting to the Commission, the appeal must be in writing directed to the Executive Director for Operations and sent to the Freedom of Information Act and Privacy Act Officer by an appropriate method listed in § 9.6. The appeal should clearly state on the envelope and in the letter that it is an "Appeal from Initial FOIA Decision." The NRC does not consider an appeal received until the date it is actually received by the Freedom of Information Act and Privacy Act Officer. The Executive Director for Operations or a Deputy Executive Director will make the NRC determination on the appeal within 20 working days after the receipt of the appeal. If the Executive Director for Operations or a Deputy Executive Director denies an appeal of access to records, in whole or in part, the Executive Director for Operations or a Deputy Executive Director, will notify the requester of the denial, explaining the exemptions relied upon and how the exemptions apply to the agency records withheld. The notice will inform the requester that the denial is a final agency action and that judicial review is available in a district court of the United States in the district in which the requester resides or has a principal place of business, in which the agency records are situated, or in the District of Columbia.

(e) For the denial of a request for expedited processing the appeal must be in writing directed to the Executive Director for Operations and sent to the Freedom of Information Act and Privacy Act Officer by an appropriate method listed in § 9.6. The appeal should clearly state on the envelope and in the letter that it is an "Appeal from Initial FOIA Decision." The NRC does not consider an appeal received until the date it is actually received by the Freedom of Information Act and Privacy Act Officer. The NRC will make a determination on the appeal within 10 working days after the receipt of the appeal. If the

Executive Director for Operations or a Deputy Executive Director denies an appeal for expedited processing, the Executive Director for Operations or a Deputy Executive Director, will notify the person making the request of the decision to sustain the denial, including a statement explaining why the request does not meet the requirements of § 9.25(e)(1) and (2). The notice will inform the requester that the denial is a final agency action and that judicial review is available in a district court of the United States in the district in which the requester resides or has a principal place of business, in which the agency records are situated, or in the District of Columbia.

(f) For denial of a waiver or reduction of fees for locating and reproducing agency records, the appeal must be in writing directed to the Executive Director for Operations and sent to the Freedom of Information Act and Privacy Act Officer by an appropriate method listed in § 9.6. The appeal should clearly state on the envelope and in the letter that it is an "Appeal from Initial FOIA Decision." The NRC does not consider an appeal received until the date it is actually received by the Freedom of Information Act and Privacy Act Officer. The NRC will make a determination on the appeal within 20 working days after the receipt of the appeal. If the Executive Director for Operations or a Deputy Executive Director denies an appeal of a waiver or reduction of fees for locating and reproducing agency records, the Executive Director for Operations or a Deputy Executive Director, will notify the person making the request of the decision to sustain the denial, including a statement explaining why the request does not meet the requirements of § 9.41. The notice will inform the requester that the denial is a final agency action and that judicial review is available in a district court of the United States in the district in which the requester resides or has a principal place of business, in which the agency records are situated, or in the District of Columbia.

(g) The Executive Director for Operations, a Deputy Executive Director, the Secretary of the Commission, or the Inspector General will furnish copies of all appeals and written determinations on appeals to the Freedom of Information Act and Privacy Act Officer.

[68 FR 58800, Oct. 10, 2003, 70 FR 34307, June 14, 2005]

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§ 9.31 Extension of time for response.

(a) In unusual circumstances defined in § 9.13, the NRC may extend the time limits prescribed in § 9.25 or § 9.29 by not more than 10 working days. The extension may be made by written notice to the person making the request to explain the reasons for the extension and indicate the date on which a determination is expected to be dispatched.

(b) An extension of the time limits prescribed in §§ 9.25 and 9.29 may not exceed a combined total of 10 working days per request, unless a requester has agreed to an alternative time frame as described in § 9.25 (c).

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§ 9.33 Search, review, and special service fees.

(a) The NRC charges fees for--

- (1) Search, duplication, and review, when agency records are requested for commercial use;
- (2) Duplication of agency records provided in excess of 100 pages when agency records are not sought for commercial use and the request is made by an educational or noncommercial scientific institution, or a representative of the news media;
- (3) Search time that exceeds two hours and duplication of agency records of more than 100 pages for requests from all other categories of requesters not described in paragraphs (a)(1) and (a)(2) of this section;
- (4) The direct costs of searching for agency records. The NRC will assess fees even when no agency records are located as a result of the search or when agency records that are located as a result of the search are not disclosed; and
- (5) Computer searches which includes the cost of operating the Central Processing Unit for the portion of operating time that is directly attributable to searching for agency records plus the operator/programmer salary apportionable to the search.

(b) The NRC may charge requesters who request the following services for the direct costs of the service:

- (1) Certifying that records are true copies;
- (2) Sending records by special methods, such as express mail, package delivery service, courier, and other means other than first class mail; or
- (3) Producing or converting records to formats specified by a requester other than ordinary copying processes that are readily available in NRC.

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§ 9.34 Assessment of interest and debt collection.

- (a) The NRC will assess interest on the fee amount billed starting on the 31st day following the day on which the billing was sent in accordance with NRC's regulations set out in § 15.37 of this chapter. The rate of interest is prescribed in 31 U.S.C. 3717.
- (b) The NRC will use its debt collection procedures under part 15 of this chapter for any overdue fees.

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§ 9.35 Duplication fees.

(a)(1) The charges by the duplicating service contractor for the duplication of records made available under § 9.21 at the NRC Public Document Room (PDR), One White Flint North, 11555 Rockville Pike, Room O-1F23, Rockville, MD. are as follows:

(i) Paper-to-paper reproduction is \$0.15 per page for standard size (up to 11' × 14'). Pages 11' × 17' are \$0.30 per page. Pages larger than 11' × 17', including engineering drawings, are \$2.50 per square foot.

(ii) Color drawings are \$2.00 per 8 1/2' × 11' page. Pages larger than 8 1/2' × 11' are \$12.00 per square foot.

(iii) Microfiche-to-paper reproduction is \$0.15 per page. Aperture cards are \$2.50 per square foot.

(iv) The charges for Electronic Full Text (EFT) (ADAMS documents) copying are as follows:

(A) Electronic Full Text (EFT) copying of ADAMS documents to paper (applies to images, OCR TIFF, and PDF text) is \$0.15 per page.

(B) Electronic Full Text (EFT) copying of ADAMS documents to CD-ROM is \$10.00 for the first document on the CD-ROM and \$5.00 for each additional document per accession number on the same CD-ROM.

(C) CD-ROM-to-paper reproduction is \$0.15 per page.

(v) Priority rates (rush processing) are as follows:

(A) The priority rate is offered for standard size paper-to-paper reproduction, microfiche-to-paper reproduction, electronic full text (EFT) copying of ADAMS documents to paper, and CD-ROM-to-paper production at \$0.20 per page. The priority rate for standard size color prints is \$2.50 per print. The priority rate for color drawings larger than 8 1/2' × 11' is \$15.00 per square foot.

(B) The priority rate for aperture cards is \$3.50 per square foot. The priority rate for electronic full text (EFT) to CD-ROM is \$15.00 for the first document on the CD-ROM and \$7.50 per each additional document on the same CD-ROM.

(vi) Facsimile charges are \$0.30 per page for local calls; \$0.50 per page for U.S. long distance calls, and \$1.00 per page for foreign long distance calls.

(2) Self-service duplicating machines are available at the NRC Public Document Room for the use of the public. Paper to paper copy is \$0.08 per page. Microfiche to paper is \$0.10 per page on the reader printers.

(3) A requester may submit mail-order requests for contractor duplication of NRC records made by writing to the NRC Public Document Room. The charges for mail-order duplication of records are the same as those set out in paragraph (a)(1) of this section, plus mailing or shipping charges.

(4) A requester may open an account with the duplicating service contractor. A requester may obtain the name and address and billing policy of the contractor from the NRC Public Document Room.

(5) Any change in the costs specified in this section will become effective immediately pending completion of the final

rulemaking that amends this section to reflect the new charges. The Commission will post the charges that will be in effect for the interim period at the NRC Public Document Room. The Commission will publish a final rule in the FEDERAL REGISTER that includes the new charges within 15 working days from the beginning of the interim period.

(b) The NRC will assess the following charges for copies of records to be duplicated by the NRC at locations other than the NRC Public Document Room located in Washington, DC:

(1) Sizes up to 8 1/2 x 14 inches made on office copying machines-- \$0.20 per page of copy; and

(2) The charge for duplicating records other than those specified in paragraphs (a) and (b) of this section is computed on the basis of NRC's direct costs.

(c) In compliance with the Federal Advisory Committee Act, a requester may purchase copies of transcripts of testimony in NRC Advisory Committee proceedings, which are transcribed by a reporting firm under contract with the NRC directly from the reporting firm at the cost of reproduction as provided for in the contract with the reporting firm. A requester may also purchase transcripts from the NRC at the cost of reproduction as set out in paragraphs (a) and (b) of this section.

(d) Copyrighted material may not be reproduced in violation of the copyright laws. Requesters will be given the citation to any copyrighted publication and advised to contact the NRC Public Document Room to arrange to view the publication.

[63 FR 2876, Jan. 20, 1998, as amended at 64 FR 48951, Sept. 9, 1999; 66 FR 22907, May 7, 2001; 67 FR 67098, Nov. 4, 2002, 70 FR 34308, June 14, 2005]

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§ 9.37 Fees for search and review of agency records by NRC personnel.

The NRC will charge the following hourly rates for search and review of agency records by NRC personnel:

- (a) Clerical search and review at a salary rate that is equivalent to a GG-7/step 7, plus 16 percent fringe benefits;
- (b) Professional/managerial search and review at a salary rate that is equivalent to a GG-13/step 6, plus 16 percent fringe benefits; and
- (c) Senior executive or Commissioner search and review at a salary rate that is equivalent to an ES-4, plus 16 percent fringe benefits.

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§ 9.39 Search and duplication provided without charge.

(a) The NRC will search for agency records requested under § 9.23(b) without charges when agency records are not sought for commercial use and the records are requested by an educational or noncommercial scientific institution, or a representative of the news media.

(b) The NRC will search for agency records requested under § 9.23(b) without charges for the first two hours of search for any request not sought for commercial use and not covered in paragraph (a) of this section.

(c) The NRC will duplicate agency records requested under § 9.23(b) without charge for the first 100 pages of standard paper copies, or the equivalent cost of 100 pages of standard paper copies when providing the requester copies in microfiche or electronic form such as computer disks, if the requester is not a commercial use requester.

(d) The NRC may not bill any requester for fees if the cost of collecting the fee would be equal to or greater than the fee itself.

(e) The NRC may aggregate requests in determining search and duplication to be provided without charge as provided in paragraphs (a) and (b) of this section, if the NRC finds a requester or group of requesters acting in concert, has filed multiple requests that actually constitute a single request, and that the requests involve clearly-related matters.

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§ 9.40 Assessment of fees.

- (a) If the request is expected to require the NRC to assess fees in excess of \$25 for search and/or duplication, the NRC will notify the requester that fees will be assessed unless the requester has indicated in advance his or her willingness to pay fees as high as estimated.
- (b) In the notification, the NRC will include the estimated cost of search fees and the nature of the search required and estimated cost of duplicating fees.
- (c) The NRC will encourage requesters to discuss with the NRC the possibility of narrowing the scope of the request with the goal of reducing the cost while retaining the requester's original objective.
- (d) If the fee is determined to be in excess of \$250, the NRC will require an advance payment.
- (e) Unless a requester has agreed to pay the estimated fees or, as provided for in paragraph (d) of this section, the requester has paid an estimated fee in excess of \$250, the NRC may not begin to process the request.
- (f) If the NRC receives a new request and determines that the requester has previously failed to pay a properly charged fee under the Freedom of Information Act to the NRC or other Federal agency within 30 calendar days of receipt of the bill on a previous request, the NRC may refuse to accept the new request for processing until payment is made of the full amount owed on the prior request, plus any applicable interest assessed as provided in § 9.34.
- (g) Within 10 working days of the receipt of NRC's notice that fees will be assessed, the requester will provide advance payment if required, notify the NRC in writing that the requester agrees to bear the estimated costs, or submit a request for a waiver or reduction of fees pursuant to § 9.41.

[70 FR 34308, June 14, 2005]

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§ 9.41 Requests for waiver or reduction of fees.

(a)(1) The NRC will collect fees for searching for, reviewing, and duplicating agency records, except as provided in § 9.39, unless a requester submits a request in writing for a waiver or reduction of fees. To ensure that there will be no delay in the processing of Freedom of Information Act requests, the request for a waiver or reduction of fees should be included in the initial Freedom of Information Act request letter.

(2) Each request for a waiver or reduction of fees should be addressed to the Office of Information Services, and sent using an appropriate method listed in § 9.6.

(b) A person requesting the NRC to waive or reduce search, review, or duplication fees will--

(1) Describe the purpose for which the requester intends to use the requested information;

(2) Explain the extent to which the requester will extract and analyze the substantive content of the agency record;

(3) Describe the nature of the specific activity or research in which the agency records will be used and the specific qualifications the requester possesses to utilize information for the intended use in such a way that it will contribute to public understanding;

(4) Describe the likely impact on the public's understanding of the subject as compared to the level of public understanding of the subject before disclosure;

(5) Describe the size and nature of the public to whose understanding a contribution will be made;

(6) Describe the intended means of dissemination to the general public;

(7) Indicate if public access to information will be provided free of charge or provided for an access fee or publication fee; and

(8) Describe any commercial or private interest the requester or any other party has in the agency records sought.

(c) The NRC will waive or reduce fees, without further specific information from the requester if, from information provided with the request for agency records made under § 9.23(b), it can determine that disclosure of the information in the agency records is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the Federal Government and is not primarily in the commercial interest of the requester.

(d) In making a determination regarding a request for a waiver or reduction of fees, the NRC will consider the following factors:

(1) How the subject of the requested agency records concerns the operations or activities of the Federal Government;

(2) How the disclosure of the information is likely to contribute significantly to public understanding of Federal Government operations or activities;

(3) The extent to which, the requester has a commercial interest that would be furthered by the disclosure of the requested

agency records; and whether that commercial interest exceeds the public interest in disclosure.

(e) The Freedom of Information Act and Privacy Act Officer will make an initial determination whether a request for a waiver or reduction of fees meets the requirements of this section. The Freedom of Information Act and Privacy Act Officer will inform requesters whenever their request for a waiver or reduction of fees is denied and will inform them of their appeal rights under § 9.29.

[68 FR 58800, Oct. 10, 2003 as amended at 70 FR 69421, Nov. 16, 2005]

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§ 9.43 Processing of requests for a waiver or reduction of fees.

(a) Within 20 working days after receipt of a request for access to agency records for which the NRC agrees to waive fees under § 9.39 (a) through (d) or § 9.41(c), the NRC will respond to the request as provided in § 9.25.

(b) In making a request for a waiver or reduction of fees, a requester shall provide the information required by § 9.41(b).

(c) After receipt of a request for the waiver or reduction of fees made in accordance with § 9.41, the NRC will either waive or reduce the fees and notify the requester of the NRC's intent to provide the agency records promptly or deny the request and provide a statement to the requester explaining why the request does not meet the requirements of § 9.41(b).

(d) As provided in § 9.29, a requester may appeal a denial of a request to waive or reduce fees to the Executive Director for Operations. The appeal must be submitted within 30 calendar days from the date of the notice.

[70 FR 34308, June 14, 2005]

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§ 9.45 Annual report to the Attorney General of the United States.

(a) On or before February 1 of each year, the NRC will submit a report covering the preceding fiscal year to the Attorney General of the United States which shall include--

- (1) The number of determinations made by the NRC to deny requests for records made to the NRC under this part and the reasons for each determination;
 - (2) The number of appeals made by persons under § 9.29, the results of the appeals, and the reason for the action taken on each appeal that results in a denial of information;
 - (3) A complete list of all statutes that the NRC relied upon to withhold information under subsection (b)(3) of 5 U.S.C. 552, a description of whether a court has upheld the decision of the NRC to withhold information under each such statute, and a concise description of the scope of any information withheld;
 - (4) The number of requests for records pending before the NRC as of September 30 of the preceding year, and the median number of days that such requests had been pending before the agency as of that date;
 - (5) The number of requests for records received by the NRC and the number of requests that the NRC processed;
 - (6) The median number of days taken to process different types of requests;
 - (7) The total amount of fees collected by the NRC for processing requests;
 - (8) The number of full-time staff of the NRC devoted to processing requests under the FOIA and the total amount expended for processing these requests.
- (b) The NRC will make a copy of the most recent report available to the public at the NRC Web site, <http://www.nrc.gov>.

[63 FR 2876, Jan. 20, 1998; 63 FR 12988, Mar. 17, 1998, as amended at 64 FR 48951, Sept. 9, 1999]

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Introduction

The Freedom of Information Act (FOIA), enacted in 1966, is a Federal law that is set forth in Title 5, Section 552, of the United States Code (5 U.S.C. 552), as amended. In enacting the FOIA, Congress established the presumption that any person has the right to submit a written request for access to records or information maintained by the Federal Government. In response to such written requests, Federal agencies must disclose the requested records, unless they are explicitly protected from disclosure by one or more of the FOIA exemptions and exclusions (defined later in this reference guide). In addition, the right to request access is enforceable in court, and the law provides administrative and judicial remedies for those who are denied access to records requested under the FOIA.

The FOIA does not apply to records that are maintained by State and local governments, or persons or organizations who receive Federal contracts or grants, or private organizations or businesses.

This reference guide is designed to familiarize you with the specific procedures for making a FOIA request to the NRC. The process is neither complicated nor time-consuming, and following the guidance presented on the following pages will ensure that you prepare your request properly and send your request to the proper NRC official so that we can promptly record and assign your request for action.

Before preparing your request, however, it is important to understand that the Federal Government does not have a central office to process FOIA requests, and each agency responds to requests for its own records. Therefore, before sending a request to the NRC, you should determine whether we are likely to have the records you are seeking.

You should also note that the FOIA is a companion to the Privacy Act (5 U.S.C. 552a), which balances the Government's need for information about individuals with the need to protect those individuals against unwarranted invasions of their privacy by Federal

agencies stemming from the collection, maintenance, use, and disclosure of personal information. In general, the Privacy Act (PA) allows individuals to learn how the Federal Government collects, maintains, uses, and disseminates records containing personal information. It also safeguards confidentiality by limiting or restricting disclosure of personally identifiable records maintained by Federal agencies. The PA allows individuals to gain access to their own personal records (unless the requested records are exempted from disclosure), and it allows individuals to seek correction or amendment of Federally maintained records that are inaccurate, incomplete, untimely, or irrelevant. As such, the PA establishes a "code of fair information practices," which requires Federal agencies to comply with statutory norms for collecting, maintaining, and disseminating records containing information about individuals.

Despite their similarities, the FOIA and the PA have different procedures and exemptions. Consequently, information that is exempt from disclosure under one Act maybe disclosable under the other. In order to take maximum advantage of both Acts, you may cite both laws when submitting a request for access to NRC records that contain information only about yourself. However, when requesting NRC records that contain information about other individuals or entities, you may cite only the FOIA.

The NRC will automatically handle requests in a manner that maximizes the amount of information that is disclosable. If you have any doubt about which Act to use in requesting information from the NRC, always cite both the FOIA and the PA. While neither Act grants an absolute right to examine Government documents, both Acts give you the right to request records and to receive a response to your request. You also have the right to appeal the denial and, if necessary, to challenge it in court (as discussed in Judicial Review).

The formal regulations for making FOIA requests to the NRC are set forth in Title 10, Part 9, Subpart A, of the Code of Federal Regulations (10 CFR Part 9).

Another source of information on how to make a FOIA request is "Your Right to Federal Records," which is a joint publication of the U.S. General Services Administration and the U.S. Department of Justice. This pamphlet is available for \$0.50 per copy from the Consumer Information Center, Department 320J, Pueblo, Colorado 81009.

Access to Records Without a FOIA Request [5 U.S.C 522(a)(1) & (2)]

The FOIA explicitly provides two distinct ways for the public to gain access to the records maintained by Federal agencies. Most people know that one way is to submit a written request for copies of records that are not routinely made available as part of the agency's public record. The FOIA mandates that Federal agencies must make certain types of records freely available (without a written request), as discussed in this section. Moreover, in 1996, Congress revised the statute by passing the Electronic Freedom of Information Act (EFOIA) amendments, which include provisions for public access to information in an electronic format, as well as establishment of electronic FOIA reading rooms through agency FOIA sites on the Internet. Furthermore, the E-Government Act of

2002 establishes a goal for certain information published or made publicly available be made available electronically. As a general rule, before making a FOIA request, you should peruse the information that the NRC makes available on its public Web site and through other conventional sources, as described in the following subsections.

Records Required To Be Publicly Available

The FOIA mandates that all Federal agencies must make certain types of records publicly available. Section (a)(1) of the FOIA requires agencies to publish in the Federal Register the following records and under the E-Government Act of 2002, agencies are to make these records accessible electronically. This information is included in NRC regulations at 10 CFR Parts 1-199.

- descriptions of its central and field organization and the established places at which, the employees (and in the case of a uniformed service, the members) from whom, and the methods whereby, the public may obtain information, make submittals or requests, or obtain decisions;
- statements of the general course and method by which its functions are channeled and determined, including the nature and requirements of all formal and informal procedures available;
- rules of procedure, descriptions of forms available or the places at which forms may be obtained, and instructions as to the scope and contents of all papers, reports, or examinations;
- substantive rules of general applicability adopted as authorized by law, and statements of general policy or interpretations of general applicability formulated and adopted by the agency; and each amendment, revision, or repeal of the foregoing.

Section (a)(2) of the FOIA requires that each agency, in accordance with published rules, make available for public inspection and copying--

- final opinions, including concurring and dissenting opinions, as well as orders, made in the adjudication of cases (Commission Decisions - CLI; Board Decisions - LBP; Director Decisions - DD).
- those statements of policy and interpretations which have been adopted by the agency and are not published in the Federal Register. (Note: all NRC statements of policy and interpretations are published in the Federal Register.)
- administrative staff manuals and instructions to staff that affect a member of the public. These include Regulatory Guides, Consensus Standards, Generic Communications, Standard Review Plans, Agreements with an Agreement State, NRC Enforcement Manual, NRC Inspection Manual, and Management Directives that affect the Public.

- copies of all records, regardless of form or format, which have been released to any person in response to a FOIA request and which, because of the nature of their subject matter, the agency determines have become or are likely to become the subject of subsequent requests for substantially the same records; and a general index to these records.

Access to NRC Records Routinely Made Publicly Available

The NRC releases several hundred documents to the public during each workday. The NRC makes these records available in its Agencywide Documents Access and Management System (ADAMS). Members of the public can use ADAMS to access a wealth of valuable information without filing a FOIA request. You may use ADAMS Search or Advanced Search to create an index (list) of documents based on the criteria you select. From that index (list) you may select specific documents you want to view.

In addition, NRC makes an extensive amount of information available on its Web site, as illustrated by the following examples:

- Who We Are (organization; locations; planning, budgeting, and performance information; license fees; governing legislation; agency history and values; etc.)
- What We Do (Commission direction-setting and policymaking, radiation protection, nuclear security and safeguards, key components of our regulatory program, etc.)
- Nuclear Reactors, Nuclear Materials, and Radioactive Waste (technical information regarding the NRC's activities in these strategic arenas)
- Facility Information Finder (names and locations of operating nuclear power reactors and fuel cycle facilities, as well as status reports, event notification reports, significant enforcement actions, and other facility information)
- Public Involvement (opportunities for public participation in the regulatory process, including meeting schedules, documents for comment, information quality guidelines, etc.)
- Electronic Reading Room (basic references, options for electronic and conventional access to the NRC's document collections, FOIA/PA requests, and related links to the NRC's High-Level Waste Electronic Hearing Docket and Licensing Support Network)
- Report a Safety Concern
- Employment at the NRC and Contracting with the NRC
- Highlights and News Releases
- NRC Forms and Electronic Information Exchange (EIE) submittal guidance
- Public Meetings, Current Rulemakings, Daily Reports, and Key Topics

FOIA Requests and FOIA Responses on the NRC's Public Web Site

The NRC makes available for public inspection and copying non sensitive FOIA requests and responses to those requests. To locate these records from the NRC's public Web site,

click the Electronic Reading Room tab. Then click Documents in ADAMS, and select Web-Based Access.

In the Search block on the Web-Based Access to ADAMS page, you may type any information you have about the request. For example, if you are interested in a specific FOIA/PA request and you know the related request number, you should type FOIA/PA, followed by the request number in quotation marks (e.g., FOIA/PA "2000-0103") and click the Search button or press the Enter key. If you are interested in a particular subject, you should type that subject name in the Search block and click the Search button or press the Enter key. Similarly, you can type the name of the person or organization who submitted the request and click the Search button or press the Enter key.

You may obtain better results by using Advanced Search. To do so, click on Advanced Search, which is located just below the Search block. The system will then display a window containing a number of fields in which you can enter information to narrow your search. For example, to search for completed requests within a specific date range, enter the beginning and ending dates in the Document Date field using the mmddyyyy-mmddyyyy format, and click the Select from Known Values button to the right of the Document Type field. Then scroll through the menu to highlight FOIA/Privacy Act Response to Requester and click the Select Values button. (You may define the date range in any search.) You may also use Advanced Search to search by the name of the requester by typing the person's name in the Author field. Similarly, if you are interested in requests by a particular organization or institution, you may enter the name into the Author Affiliation field.

You can also quickly review the subject matter headings of FOIA requests to which the NRC has responded since 1998. To do so from the NRC's public Web site, click the Electronic Reading Room tab. Then click FOIA and Privacy Act Requests, and select Index of Closed FOIA/PA Requests by Subject. From the index page, you can select a specific year for which the system will display a table that identifies the subject, request number, date received, and date closed for each request, and indicates whether the response is available in the NRC's Public Document Room.

Similarly, to view the subject of recent FOIA/PA requests that the NRC has received from the NRC's public Web site, click the Electronic Reading Room tab. Then click FOIA and Privacy Act Requests, and select Recent FOIA Requests. Again, the system will display a table that identifies the subject and request number of each FOIA/PA request received within the specified time frame.

Links from the Freedom of Information Act and Privacy Act Requests page provide additional resources, including access to the text of the Freedom of Information Act, the NRC's FOIA regulations, recent FOIA requests, an index to completed FOIA requests, a list of frequently requested records, the NRC's Annual FOIA Reports, and Government wide FOIA guidance. In addition, this page provides access to related references to the Privacy Act program, as well as the "Citizen's Guide to U.S. Nuclear Regulatory Commission Information" and the Government Information Locator Service.

Other Sources of NRC Records

The NRC also offers a Public Document Room (PDR), which maintains a large collection of publicly available agency records and provides equipment and services to assist persons who seek access to NRC records. The PDR is located at NRC headquarters at 11555 Rockville Pike, Rockville, Maryland 20852. In addition, certain NRC publications (staff-prepared NUREG-series reports) are available for subscription purchase from the National Technical Information Service (5285 Port Royal Road, Springfield, Virginia 22161) and the Government Printing Office (GPO). You may contact the GPO Access User Support Team by telephone (toll-free) at 1 (888) 293-6498 between the hours of 7:00 a.m. and 5:30 p.m. EST, Monday through Friday, excluding Government holidays. You can also contact the GPO Access User Support Team by email at gpoaccess@gpo.gov or by fax at (202) 512-1262.

Where to Send Your FOIA Request

You may submit a FOIA request to the NRC by mail, email, or facsimile (fax), addressed to the NRC Freedom of Information Act and Privacy Act (FOIA/PA) Officer, as follows:

Mail: U.S. Nuclear Regulatory Commission
Mail Stop T6-D8
Washington, DC 20555-0001

Fax: (301) 415-5130

Email: Send an email message to FOIA@nrc.gov

— OR —

Electronic Information Exchange (EIE):

Use our FOIA Request Form to email your request directly to the NRC from our Web site. The NRC offers the following means to obtain detailed guidance on making electronic submissions:

- access EIE through the agency's public Web site
- call (301) 415-6030
- email EIE@nrc.gov
- write to the

Applications Development Division Office of the Chief
Information Officer U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Among other topics, the available EIE guidance discusses the formats that the NRC can accept, the use of electronic signatures, and the treatment of non-public information.

For further information, contact the NRC's FOIA/PA Officer at (301) 415-7169 between the hours of 7:00 a.m. and 4:00 p.m., Monday through Friday, excluding Government holidays.

How to Make a FOIA Request

Under the Freedom of Information Act (FOIA), you may request access to any record maintained by the NRC. This does not mean, however, that the NRC will disclose any record you request. As summarized later in this reference guide, the FOIA establishes certain statutory exemptions and exclusions that authorize the NRC to withhold information of a sensitive nature. When the NRC does withhold information from you, we will cite the relevant FOIA exemption.

You should also understand that the purpose of the FOIA is to give the public access to existing Government records. That is, the Act does not require agencies to create records or develop information to satisfy your request, or to conduct research or investigations or analyze data to answer your written questions. The FOIA does not obligate us to provide records that were destroyed or discarded before we received your request or were not created until after we received your request.

In making your request you should be as specific as possible. Remember that all FOIA requests must be in writing and, at a minimum, should contain the following basic elements:

- State that you are seeking access to records under the Freedom of Information Act (or under the Freedom of Information Act and the Privacy Act, as described above). For the quickest possible handling, mark both your letter and the envelope "Freedom of Information Act Request."
- Include your name, address, and daytime telephone number (in case we need to contact you to discuss your request).
- Describe the requested records (or information) as specifically as possible, including individual and company names (where applicable), as well as the relevant dates, places, events, subjects, and other details.

State your willingness to pay the applicable fees, if any, associated with processing your FOIA request. (See Fees.)

Remember that the more specific you are about the records (or types of records) that you want, the more likely it will be that the NRC will be able to locate those records. If your request does not provide sufficient information to enable the NRC to identify the requested record(s), we will contact you to obtain additional information or clarification in order to process your request. As a general rule, you are not required to state the reason(s) why you are requesting the given records. However, you may do so if you think it might help the NRC to locate the records.

In addition, in order to protect your privacy, whenever you request information about yourself, you must provide proof of identity:

- You may establish your identity by providing your name, address, date of birth, social security number, employee identification number (if any), signature, and one other identifying item (such as a copy of your driver license, Federal agency badge, or passport).
- If you cannot provide the necessary proof of identity, you may provide a notarized statement, affirming or swearing to your identity and the fact that you understand that the NRC may impose penalties for obtaining records under false pretenses. You may obtain forms for such statements by contacting the NRC's FOIA/PA Officer, whose address and phone number are noted above.

Similarly, the NRC will not generally disclose records relating to another person, if such disclosure would invade that person's privacy. For such requests, you must provide either (1) a statement, signed by that other person and witnessed by a notary, that explicitly authorizes the NRC to release the specified information to you, or (2) incontrovertible evidence that the subject of your request is deceased.

The FOIA and its EFOIA amendments also give you the option to specify the form or format in which you would like to receive the requested records. For example, if the agency maintains the requested records in electronic format, you can choose to receive the information electronically (on a disk or CD-ROM) or in hardcopy (a paper printout). However, if you request records in electronic format, but they exist only in paper form or in an electronic format other than the one you've requested, the NRC is only obligated to provide the requested records in the specified electronic format if it can do so with a reasonable amount of effort.

Processing Your FOIA Request

When the NRC's FOIA/PA Officer receives your request, that officer will record the request and assign a tracking number. In addition, the NRC will send you a written acknowledgment letter indicating the name and telephone number of the NRC FOIA/PA Specialist, whom you should contact if you need to discuss the processing and/or status of your request. The acknowledgment will also provide additional information regarding your request, such as your fee category and the charges that may apply to your request.

The NRC will assign your request to the NRC office(s) or region(s) that are likely to have records that would be responsive to your request. The responsible office then assigns staff who are knowledgeable about the subject matter of your request to search for responsive records, review the records to determine whether they can be released to you and, if they cannot, identify the information that they propose to withhold and the reason for nondisclosure. After compiling a package of the responsive records and the disclosure recommendation, the responsible office forwards the package to the central FOIA staff. The assigned FOIA/PA Specialist then reviews the office's response and the office's

recommendations, coordinates any additional agency reviews or referral to other agencies or companies, and prepares the agency determination that is sent to you.

Response Times

All Federal agencies have a statutory responsibility to respond to a FOIA request within 20 business days (excluding legal holidays) after the agency's FOIA/PA Officer receives the request and it is recorded as received by the FOIA/PA Officer. However, the FOIA gives Federal agencies the right to extend that time by 10 business days when a given request requires additional search time or consideration. This may apply when (1) the NRC needs to assemble responsive records from our regional offices; (2) the request involves a "voluminous" amount of records that must be located, compiled, and reviewed; or (3) the NRC must consult with another agency component or another Federal agency that may have originated the information or have a substantial interest in the information. If we need to extend the response time, we will contact you in writing or by telephone to explain the reason for the extension and project when the NRC expects to make a determination.

To ensure the most equitable treatment possible, the NRC processes FOIA requests on a first-in, first-out basis, using multiple tracking systems based upon the estimated time it will take to process the request. The NRC makes a good faith effort to respond to all requests within the statutorily established time frame; however, on occasion, the NRC may not be able to fully respond within that time. In such cases, the NRC will generally provide a series of responses (if possible) so that each requester will receive as much of their requested information as possible within the shortest possible time. If you have not received a response within the statutory time frame, you may contact the responsible FOIA/PA Specialist to discuss the status of your request.

Expedited Processing

Under the Freedom of Information Act (FOIA), the NRC may place your request at the front of the queue if you clearly show a "compelling need" for a speedy response. For purposes of determining whether to grant expedited processing, the statute defines a "compelling need" as follows:

- (1) Failure to obtain the requested records within an expedited time frame could reasonably be expected to pose an imminent threat to an individual's life or physical safety.
- (2) You are "primarily engaged in disseminating information" and there is an urgent need to "inform the public concerning actual or alleged Federal Government activity."

The NRC will not grant a request for expedited processing under the second provision merely because the requester is a representative of the news media. A person requesting expedited processing must include a statement certifying the compelling need as "true and correct to the best of [his or her] knowledge and belief," unless the NRC explicitly waives this certification requirement as a matter of agency discretion. The FOIA requires

the NRC to notify you of its decision about whether to grant expedited processing within 10 days after receiving your letter. If the NRC denies your request for expedited processing, we will advise you of your right to submit an administrative appeal of that denial.

Fees

The NRC does not charge an initial fee for filing a FOIA request. By law, however, the agency is entitled to charge certain fees, depending on the fee category for which you qualify. For the purposes of assessing fees, the FOIA divides requesters into three categories:

- (1) Commercial requesters may be charged fees for searching for, reviewing, and copying the requested records.
- (2) Educational or noncommercial scientific institutions and representatives of the news media are charged only for copying, and only in excess of the first 100 pages. The NRC currently charges \$0.20 per page for copying.
- (3) Other requesters are charged only for record searches and copying, and there is no charge for the first 2 hours of search time or the first 100 pages of copying. The NRC currently charges \$0.20 per page for copying.

In all cases, if the total fee does not exceed a minimum amount (currently \$15.00), the NRC will not charge any fee at all.

As previously indicated, you can avoid delays in the processing of your FOIA request if your request letter states your willingness to pay the applicable fees, if any, associated with processing your request. In so doing, you can also identify any limitation on the fees you are willing to pay. If you do not do so, the NRC will assume that you are willing to pay fees of up to \$25. If NRC estimates that the total fees for processing your request will exceed \$25 or the amount you specify in your request, we will notify you in writing of the estimate and offer you an opportunity to narrow your request in order to reduce the fees. If you continue to want all of the records involved, we will ask you to express your commitment to pay the estimated fees and we will suspend the processing of your request until you agree to do so.

The NRC will not ordinarily require you to actually pay the fees until we have processed your request and sent the records to you. However, if you have failed to pay fees within 30 days of billing in the past, or if the estimated fees exceed \$250, the NRC may require you to pay the estimated fees in advance (that is, before we process your request). If you agree to pay fees and then fail to do so within 30 days of billing, the NRC is authorized to charge interest, penalties, and administrative costs on your overdue balance and we will not process any further requests from you until you have remitted payment in full. If you agree to pay fees for searching for records, be aware that we may require you to pay such fees even if the search does not locate any responsive records or if we withhold the responsive records in their entirety.

If the NRC finds that a requester (or a group of requesters acting in concert) has filed multiple requests that actually constitute a single request, and if those requests involve clearly related matters, we may aggregate all of the related requests in determining the records search time and copying services to be provided without charge.

Fee Waivers

If you expect or are advised that the NRC will charge a fee for processing your FOIA request, you may ask the agency to waive or reduce those fees. However, fee waivers or reductions are limited to situations in which a requester can show that the disclosure of the requested information is in the public interest because it is likely to contribute significantly to public understanding of the agency's operations and activities and is not primarily in the commercial interest of the requester. Note that persons who seek information about themselves usually do not meet this legal standard, and a requester's inability to pay fees is not a legal basis for granting a fee waiver.

If you ask the NRC to waive or reduce its fees for processing your FOIA request, you will need to submit a statement of justification, as follows:

- Describe the purpose for which you intend to use the requested information.
- Explain the extent to which you will extract and analyze the substantive content of the requested records.
- Describe the nature of the specific activity or research in which you will use the requested records and the specific qualifications you possess to utilize information for the intended purpose in such a way that it will contribute to public understanding.
- Describe the likely impact on the public's understanding of the subject, compared to the level of public understanding of the subject before disclosure of the requested information.
- Describe the size and nature of the public segment whose understanding will be increased by disclosing the requested information.
- Describe the means by which you intend to disseminate the requested information to the general public.
- Indicate whether you will provide public access to the requested information free of charge or in return for an access or publication fee.
- Describe any commercial or private interest that you or any other party may have in the requested records.

Initial Request Determinations

Once the NRC has processed your request and resolved any fee-related issues, the agency will send you a written initial determination letter and will usually enclose any records that can be disclosed under the Freedom of Information Act (FOIA) that are not already publicly available. This letter will advise you whether the NRC is withholding any information pursuant to one or more of the exemptions to the FOIA (as discussed below). When the NRC is withholding one or more page(s) in entirety, the initial determination

letter will either specify the number of pages being withheld or will provide a reasonable estimate of the volume of information withheld.

While the intent of the FOIA is to make Government information available to the public, the statute recognizes that there are circumstances when disclosure is not appropriate. The statute includes nine exemptions and three exclusions.

Specifically the FOIA exemptions authorize Federal agencies to withhold the following types of information:

- (1) classified national defense and foreign relations information
- (2) internal agency rules and practices
- (3) information that is prohibited from disclosure by another Federal statute
- (4) trade secrets and other confidential business information
- (5) inter- or intra-agency communications that are protected by legal privileges
- (6) information involving matters of personal privacy
- (7) certain types of information compiled for law enforcement purposes
- (8) information related to the supervision of financial institutions
- (9) geological information on wells Congress recognized, however, that even acknowledging the existence of certain types of records may cause as much harm as disclosing the requested information. The three exclusions, which are rarely used, pertain to especially sensitive law enforcement and national security matters.

You should also note that even if the FOIA statute allows the NRC to withhold certain information, we may still disclose the requested records as a matter of administrative discretion (if no other law prohibits us from doing so). However, the NRC is not legally obligated to do so.

Appeals

Upon receiving the NRC's initial determination letter, you will have 30 calendar days to submit an appeal if the letter indicates that the NRC has decided to deny a FOIA request for (1) access to agency records or portions thereof, (2) waiver or reduction of fees, or (3) expedited processing. You may also appeal any disputed fee matter or any determination that (1) a requested record does not exist, (2) a requested record is not readily reproducible in the desired format, or (3) the requested information is not subject to the FOIA. If you are submitting an appeal because you believe the agency has not located all records related to your request, you should specify why you believe additional records exist and, if possible, where you believe such records may be located.

All appeals must be made in writing, directed to the appellate official identified in the NRC's initial determination letter, and addressed as follows:

Freedom of Information and Privacy Act Officer
U.S. Nuclear Regulatory Commission
Mail Stop T6-D8

Washington, DC 20555-0001

When appealing the NRC's decision to deny access to the requested records, you should clearly identify your appeal (on the envelope and in the letter) as an "Appeal from Initial FOIA Decision."

The NRC has three appellate authorities, and the agency will inform you which authority will handle your appeal. The responsible appellate authority will make a determination within 20 working days of receiving your appeal, or 10 working days if your appeal relates to the denial of a request for expedited processing.

Judicial Review

If you have filed an appeal, but you still believe that the NRC has not handled your request in accordance with the FOIA, you have the right to challenge the agency's decision in a lawsuit. The NRC's response to your appeal will inform you that you may file your suit in a District Court of the United States in the district in which you reside or have a principal place of business, the district in which the relevant agency records are located, or the District of Columbia.