

WSR 11-02-003**PERMANENT RULES****DEPARTMENT OF****SOCIAL AND HEALTH SERVICES**

(Aging and Disability Services Administration)

[Filed December 22, 2010, 3:07 p.m., effective January 22, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: The new chapter 388-816 WAC addresses agency certification and implementation of the problem and pathological gambling treatment program. The rules allow a problem and pathological gambling treatment program to hire staff under the department of health (DOH) agency affiliated credential beginning July 1, 2010. DOH abolished the registered counselor credential as of June 30, 2010, and will issue seven credentials under chapter 18.19 RCW. Chapter 388-816 WAC gives DOH authority to grant credentials to chemical dependency professionals who practice within an agency by allowing the division of behavioral health and recovery of the aging and disability services administration to certify problem and pathological gambling treatment programs.

Statutory Authority for Adoption: Section 1 (1) and (4), chapter 171, Laws of 2010.

Other Authority: RCW 43.20A.890, 74.08.090.

Adopted under notice filed as WSR 10-18-102 on September 1, 2010.

A final cost-benefit analysis is available by contacting Linda Graves, P.O. Box 45330, Olympia, WA 98504-5330, phone (360) 725-3716, fax (360) 586-0343, e-mail linda.graves@dshs.wa.gov.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 33, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 33, Amended 0, Repealed 0.

Date Adopted: December 22, 2010.

Susan N. Dreyfus
Secretary

Chapter 388-816 WAC**Certification requirements for problem and pathological gambling treatment program****SECTION I—PURPOSE AND DEFINITIONS****NEW SECTION**

WAC 388-816-0001 What is the purpose of this chapter? These rules describe the standards and processes necessary to be a certified problem and pathological gambling treatment program. The rules have been adopted under the authority and purposes of the following chapters of law.

(1) Chapter 43.20A RCW, department of social and health services.

(2) Chapter 49.60 RCW, Discrimination-Human rights commission.

NEW SECTION

WAC 388-816-0005 What definitions are important throughout this chapter? "Added service" means the adding of certification for problem and pathological gambling treatment levels of care to an existing agency certified under chapter 388-805 or 388-865 WAC at an approved location.

"Administrator" means the person designated responsible for the operation of the certified treatment program.

"Adult" means a person eighteen years of age or older.

"Assessment" means the ongoing process of identifying a diagnosis and determining the care needed by the problem gambling client. The assessment includes the requirements described in WAC 388-816-0145 in order to develop a treatment plan.

"Authenticated" means written, permanent verification of an entry in a client treatment record by an individual, by means of an original signature including first initial, last name, and professional designation or job title, or initials of the name if the file includes an authentication record, and the date of the entry. If client records are maintained electronically, unique electronic passwords, biophysical or passcard equipment are acceptable methods of authentication.

"Authentication record" means a document that is part of a client's treatment record, with legible identification of all persons initialing entries in the treatment record, and includes:

- (1) Full printed name;
- (2) Signature including the first initial and last name; and
- (3) Initials and abbreviations indicating professional designation or job title.

"Case management" means services provided to assist the client in gaining access to needed medical, social, educational, and other services. Services include case planning, case consultation, and referral, and other support services for the purpose of engaging and retaining or maintaining clients in treatment.

"Certified treatment program" means a legally operated entity certified by the department to provide problem and pathological gambling treatment services. The components of a treatment program are:

- (1) Legal entity/owner;
- (2) Facility; and
- (3) Staff and services.

"Change in ownership" means one of the following conditions:

- (1) When the ownership of a certified problem and pathological gambling treatment program changes from one distinct legal owner to another distinct legal owner;

(2) When the type of business changes from one type to another such as, from a sole proprietorship to a corporation; or

(3) When the current ownership takes on a new owner of five percent or more of the organizational assets.

"Client" means an individual receiving problem or pathological gambling treatment services from a certified program.

"Clinical staff member" means an individual credentialed by the department of health in a counseling profession per chapter 18.19 RCW, chapter 18.83 RCW, or chapter 18.225 RCW.

"Criminal background check" means a search by the Washington state patrol for any record of convictions or civil adjudication related to crimes against children or other persons, including developmentally disabled and vulnerable adults, per RCW 43.43.830 through 43.43.842 relating to the Washington state patrol.

"Critical incident" includes:

- (1) Death of a client;
- (2) Serious injury;
- (3) Sexual assault of clients, staff members, or public citizens on the facility premises;
- (4) Abuse or neglect of an adolescent or vulnerable adult client by another client or program staff member on facility premises;
- (5) A natural disaster presenting a threat to facility operation or client safety;
- (6) A bomb threat; a break in or theft of client identifying information; and
- (7) Suicide attempt at the facility.

"Department" means the Washington state department of social and health services.

"Disability, a person with" means a person whom:

- (1) Has a physical or mental impairment that substantially limits one or more major life activities of the person;
- (2) Has a record of such an impairment; or
- (3) Is regarded as having such an impairment.

"DSM-IV TR" means diagnostic and statistical manual of mental disorders, fourth edition text revision, published by the American psychiatric association.

"Essential requirement" means a critical element of problem and pathological gambling treatment services that must be present in order to provide effective treatment.

"Financial evaluation" means the total of a client's monthly financial obligations including gambling debts.

"Governing body" means the officers, board of directors or trustees of a corporation or limited liability company who make up the body for the purpose of administering the problem or pathological gambling program.

"Outcomes evaluation" means a system for determining the effectiveness of results achieved by clients during or following service delivery, and client satisfaction with those results for the purpose of program improvement.

"Pathological gambling" means a mental disorder characterized by loss of control over gambling, progression in and preoccupation with gambling and in obtaining money to gamble and continuation of gambling despite adverse consequences.

"Problem gambling" means an earlier stage of pathological gambling which compromises, disrupts, or damages family or personal relationships or vocational pursuits.

"Progress notes" are a permanent record of ongoing assessments of a client's participation in and response to treatment, and progress in recovery.

"Qualified personnel" means trained, qualified staff who meet appropriate legal, licensing, certification, and registration requirements.

"Relocation" means change in location from one office space to a new office space, or moving from one office building to another.

"Remodeling" means expansion of existing office space to additional office space at the same address, or remodeling of interior walls and space within existing office space.

"Summary suspension" means an immediate suspension of certification, per RCW 34.05.422(4), by the department pending administrative proceedings for suspension, revocation, or other actions deemed necessary by the department.

"Suspend" means termination of the department's certification of a program's treatment services for a specified period or until specific conditions have been met and the department notifies the program of reinstatement.

"Treatment plan review" means a review of active problems on the client's individualized treatment plan, the need to address new problems, and client placement.

"Vulnerable adult" means a person who lacks the functional, mental, or physical ability to care for oneself.

SECTION II—APPLICATION FOR CERTIFICATION

NEW SECTION

WAC 388-816-0010 What problem and pathological gambling treatment programs are certified by the department? The department certifies problem and pathological gambling treatment programs which includes diagnostic screening and assessment, individual, group, couples and family counseling and case management.

NEW SECTION

WAC 388-816-0015 How do I apply for certification as a new problem and pathological gambling treatment program? (1) A potential new problem and pathological gambling treatment program, referred to as applicant, seeking certification as described under WAC 388-816-0010, must request from the department an application packet of information on how to become a certified problem and pathological gambling treatment program.

(2) The applicant must submit a completed application to the department that includes:

(a) If the applicant is a sole proprietor: The name and address of the applicant, and a statement of sole proprietorship;

(b) If the applicant is a partnership: The name and address of every partner, and a copy of the written partnership agreement;

(c) If the applicant is a limited liability corporation: The name and addresses of its officers and any owner of five percent or more of the organizational assets, and a copy of the certificate of formation issued by the state of Washington, secretary of state;

(d) If the applicant is a corporation: The names and addresses of its officers, board of directors and trustees, and any owner of five percent or more of the organizational assets, and a copy of the corporate articles of incorporation and bylaws;

(e) A copy of the master business license authorizing the organization to do business in Washington state;

(f) The social security number or Federal Employer Identification Number for the governing organization or person;

(g) The name and job description of the individual administrator appointed by the governing body under whose management or supervision the services will be provided;

(h) A copy of the report of findings from a criminal background check of any owner of five percent or more of the organizational assets and the administrator;

(i) Additional disclosure statements or background inquiries if the department has reason to believe that offenses specified under RCW 43.43.830, have occurred since completion of the original application;

(j) The physical location of the facility where services will be provided including, in the case of a location known only by postal route and box numbers, and the street address;

(k) Program facility requirements as set forth in WAC 388-816-0025;

(l) Policy and procedure manuals specific to the program at the proposed site, and meet the manual requirements described later in this regulation, including the:

(i) Administrative manual;

(ii) Personnel manual; and

(iii) Clinical manual.

(m) Sample client records for the treatment service applied for; and

(n) Evidence of sufficient qualified staff to deliver services.

(3) The program owner or legal representative must:

(a) Sign the completed application form and submit the original to the department; and

(b) Report any changes occurring during the certification process.

NEW SECTION

WAC 388-816-0020 How do currently certified or licensed agencies apply for added service? Treatment programs certified or licensed by the department through either chapter 388-805 WAC or chapter 388-865 WAC must apply for an added service by submitting an abbreviated application, including:

(1) The name of the individual administrator providing management or supervision of the program;

(2) A written declaration that a current copy of the agency policy and procedure manual will be maintained for the added service and that the manual has been revised to

accommodate the differences in business and clinical practices at that site;

(3) An organization chart, showing the relationship of the added service to the main organization, job titles, and lines of authority;

(4) Evidence of sufficient qualified staff to deliver services for the added service; and

(5) Evidence of meeting the requirements of:

(a) WAC 388-816-0015 (2)(h) through (l), (2)(n), and (3);

(b) WAC 388-816-0145;

(c) WAC 388-816-0150;

(d) WAC 388-816-0160;

(e) WAC 388-816-0170; and

(f) WAC 388-816-0175.

NEW SECTION

WAC 388-816-0025 What are the requirements for treatment program facilities? (1) For each treatment program facility, the applicant must include a floor plan showing the dimensions and intended use of each room that includes the location of:

(a) Floor to ceiling walls;

(b) Windows and doors;

(c) Restrooms;

(d) Areas serving as confidential counseling rooms;

(e) Confidential client records storage; and

(f) Other therapy and recreation areas and rooms.

(2) The applicant must submit a completed facility accessibility self-evaluation form.

(3) The administrator must ensure the treatment site:

(a) Is accessible to a person with a disability;

(b) Has a reception area separate from therapy areas;

(c) Has adequate private space for personal consultation with a client, staff charting, and therapeutic and social activities, as appropriate;

(d) Has secure storage of active and closed confidential client records;

(e) Has current fire inspection approval;

(f) Has facilities and furnishings that are kept clean and in good repair;

(g) Has adequate lighting, heating, and ventilation; and

(h) Has separate and secure storage of toxic substances, which are used only by staff or supervised persons.

NEW SECTION

WAC 388-816-0030 How does the department conduct an examination of facilities? The department must conduct an on-site examination of each new applicant's facility. The department must determine if the applicant's facility is:

(1) Substantially as described.

(2) Suitable for the purposes intended.

(3) Not a personal residence.

(4) Approved as meeting all building and safety requirements.

NEW SECTION

WAC 388-816-0035 How does the department determine disqualification or denial of an application? The department must consider the ability of each person named in the application to operate in accordance with this chapter before the department grants or renews certification of problem and pathological gambling service.

(1) The department must deny an applicant's certification when any of the following conditions occurred and was not satisfactorily resolved, or when any owner or administrator:

(a) Had a license or certification for a health care agency denied, revoked, or suspended;

(b) Was convicted of child abuse or adjudicated as a perpetrator of substantiated child abuse;

(c) Obtained or attempted to obtain a health provider license, certification, or registration by fraudulent means or misrepresentation;

(d) Committed, permitted, aided, or abetted the commission of an illegal act or unprofessional conduct as defined under RCW 18.130.180;

(e) Demonstrated cruelty, abuse, negligence, misconduct, or indifference to the welfare of a client or displayed acts of discrimination;

(f) Misappropriated client property or resources;

(g) Failed to meet financial obligations or contracted service commitments that affect client care;

(h) Has a history of noncompliance with state or federal regulations in an agency with which the applicant has been affiliated;

(i) Knowingly, or with reason to know, made a false statement of fact or failed to submit necessary information in:

(i) The application or materials attached; and

(ii) Any matter under department investigation.

(j) Refused to allow the department access to records, files, books, or portions of the premises relating to operation of the problem and pathological gambling program service;

(k) Willfully interfered with the preservation of material information or attempted to impede the work of an authorized department representative;

(l) Is in violation of any provision of RCW 43.20A.890;

or

(m) Does not meet criminal background check requirements.

(2) The department may deny certification when an applicant:

(a) Fails to provide satisfactory application materials; or

(b) Advertises itself as certified when certification has not been granted, or has been revoked or canceled.

(3) The applicant may appeal department decisions in accord with chapter 34.05 RCW, the Washington Administrative Procedure Act and chapter 388-02 WAC.

NEW SECTION

WAC 388-816-0040 What happens after I make application for certification? (1) The department may grant a treatment program applicant initial certification after a review of application materials and an on-site visit confirms the applicant has the capacity to operate in compliance with this chapter.

(2) A treatment program's failure to meet and maintain conditions of the initial certification may result in suspension of certification.

(3) An initial certificate of approval may be issued for up to one year.

(4) The treatment program must post the certificate in a conspicuous place on the premises.

NEW SECTION

WAC 388-816-0045 How do I apply for an exemption? (1) The department may grant an exemption from compliance with specific requirements in this WAC chapter if the exemption does not violate:

(a) An existing federal or state law; or

(b) An existing tribal law.

(2) Treatment programs must submit a signed letter requesting the exemption to the Supervisor, Certification Section, Division of Behavioral Health and Recovery, P.O. Box 45330, Olympia, WA 98504-5330. The program must assure the exemption request does not:

(a) Jeopardize the safety, health, or treatment of clients;

or

(b) Impede fair competition of another program.

(3) The department must approve or deny all exemption requests in writing.

(4) The department and the treatment program must maintain a copy of the decision.

SECTION III—MAINTAINING CERTIFICATIONNEW SECTION

WAC 388-816-0070 What do I need to do to maintain program certification? Certificates are effective for one year from the date of issuance. A service program's continued certification and renewal is contingent upon:

(1) Completion of an annual declaration of certification;

(2) Providing the essential requirements for problem and pathological gambling treatment, including the following elements:

(a) Treatment process:

(i) Assessments, as described in WAC 388-816-0145;

(ii) Treatment planning, as described in WAC 388-816-0150 (2)(a) and 388-816-0160(8);

(iii) Documenting client progress, as described in WAC 388-816-0150 (1)(b) and 388-816-0160(10);

(iv) Treatment plan reviews and updates, as described in WAC 388-816-0160(11) and WAC 388-816-0175 (1)(d)(i) and (ii);

(v) Continuing care, and discharge planning, as described in WAC 388-816-0150 (2)(d), 388-816-0150 (6) and (7), and 388-816-0160(14);

(vi) Conducting individual and group counseling, as described in WAC 388-816-0150 (2)(b) and 388-816-0160(10).

(b) Staffing, to include providing sufficient qualified personnel for the care of clients as described in WAC 388-816-0130.

(c) Facility, to include providing sufficient facilities, equipment, and supplies for the care and safety of clients as described in WAC 388-816-0105 (5) and (6).

(3) Findings during periodic on-site surveys and complaint investigations to determine the program's compliance with this chapter. During on-site surveys and complaint investigations, program representatives must cooperate with department representatives to:

(a) Examine any part of the facility at reasonable times and as needed;

(b) Review and evaluate records, including client clinical records, personnel files, policies, procedures, fiscal records, data, and other documents as the department requires to determine compliance; and

(c) Conduct individual interviews with clients and staff members.

(4) The program must post the notice of a scheduled department on-site survey in a conspicuous place accessible to clients and staff.

(5) The program must correct compliance deficiencies found at such surveys immediately or as agreed by a plan of correction approved by the department.

NEW SECTION

WAC 388-816-0075 What do I need to do for a change in ownership? (1) When a certified problem and pathological gambling treatment program plans a change in ownership, the current service program must submit a change in ownership application form sixty or more days before the proposed effective date of ownership change.

(2) The current program must include the following information with the application:

(a) Name and address of each new prospective owner of five percent or more of the organizational assets as required by WAC 388-816-0015 (2)(a) through (d);

(b) Current and proposed name (if applicable) of the service provider;

(c) Date of the proposed transaction;

(d) A copy of the transfer agreement between the outgoing and incoming owner(s);

(e) If a corporation, the names and addresses of the proposed responsible officers or partners;

(f) A statement regarding the disposition and management of client records, as described under 45 CFR, Part 160 through 164, and WAC 388-816-0155; and

(g) A copy of the report of findings from a criminal background check of any new owner of five percent or more of the organizational assets and new administrator when applicable.

(3) The department must determine which, if any, WAC 388-816-0015 or 388-816-0020 requirements apply to the potential new program, depending on the extent of ownership and operational changes.

(4) The department may grant certification to the new owner when the new owner:

(a) Successfully completes the application process; and

(b) Ensures continuation of compliance with rules of this chapter and implementation of plans of correction for deficiencies relating to this chapter, when applicable.

NEW SECTION

WAC 388-816-0080 What do I do to relocate or remodel a facility? (1) When a certified problem or pathological gambling treatment program plans to relocate or change the physical structure of a facility in a manner that affects client care, the program must:

(a) Submit a completed program relocation approval request form, or a request for approval in writing if remodeling, sixty or more days before the proposed date of relocation or change.

(b) Submit a sample floor plan that includes information identified in WAC 388-816-0025.

(c) Submit a completed facility accessibility self-evaluation form.

(d) Provide for department examination of the premises before approval, as described under WAC 388-816-0030.

NEW SECTION

WAC 388-816-0085 How does the department assess penalties? When the department determines that a treatment program fails to comply with requirements of this chapter, the department may cease referrals of new clients who are recipients of services funded by state or federal funds.

NEW SECTION

WAC 388-816-0090 How does the department cancel certification? The department may cancel certification if the treatment program:

(1) Stops providing the certified service.

(2) Voluntarily cancels certification.

(3) Changes ownership without prior notification and approval.

(4) Relocates without prior notification and approval.

NEW SECTION

WAC 388-816-0095 How does the department suspend or revoke certification? (1) The department must suspend or revoke a treatment program's certification when a disqualifying situation described under WAC 388-816-0035 applies to a current program.

(2) The department may suspend or revoke a program's certification when any of the following deficiencies or circumstances occur:

(a) A program fails to provide the essential requirements of problem or pathological gambling treatment as described in WAC 388-816-0070(2), and one or more of the following conditions occur:

(i) Violation of a rule threatens or results in harm to a client;

(ii) A reasonably prudent program should have been aware of a condition resulting in significant violation of a law or rule;

(iii) A program failed to investigate or take corrective or preventive action to deal with a suspected or identified client care problem;

(iv) Noncompliance occurs repeatedly in the same or similar areas; or

(v) There is an inability to attain compliance with laws or rules within a reasonable period of time.

(b) The program fails to submit an acceptable and timely plan of correction for cited deficiencies; or

(c) The program fails to correct cited deficiencies.

(3) The department may suspend certification upon receipt of a written request from the program. Programs requesting voluntary suspension must submit a written request for reinstatement of certification within one year from the effective date of the suspension. The department will review the request for reinstatement, determine if the program is able to operate in compliance with certification requirements, and notify the program of the results of the review for reinstatement.

NEW SECTION

WAC 388-816-0100 What is the prehearing, hearing and appeal process? (1) In case of involuntary certification cancellation, suspension, or revocation of the certification, or a penalty for noncompliance, the department must:

(a) Notify the treatment program of any action to be taken; and

(b) Inform the program of prehearing and dispute conferences, hearing, and appeal rights under chapter 388-02 WAC.

(2) The department may order a summary suspension of the program's certification pending completion of the appeal process when the preservation of public health, safety, or welfare requires emergency action.

SECTION IV—ORGANIZATIONAL STANDARDS

NEW SECTION

WAC 388-816-0105 What are the requirements for the governing body of the program? In treatment programs not certified or licensed under chapter 388-805 WAC or chapter 388-865 WAC, a governing body, legally responsible for the conduct and quality of services provided, must:

(1) Appoint an administrator responsible for the day-to-day operation of the program.

(2) Maintain a current job description for the administrator including the administrator's authority and duties.

(3) Notify the department within thirty days, of changes of the program administrator.

(4) Provide personnel, facilities, equipment, and supplies necessary for the safety and care of clients.

(5) Ensure:

(a) Safety of clients and staff;

(b) Maintenance and operation of the facility; and

(c) The administration and operation of the program is in compliance with:

(i) Chapter 388-816 WAC requirements;

(ii) Applicable federal, state, tribal, and local laws and rules; and

(iii) Applicable federal, state, tribal, and local licenses, permits, and approvals.

NEW SECTION

WAC 388-816-0110 What are the key responsibilities required of a program administrator? In treatment programs not certified or licensed under chapter 388-805 WAC or chapter 388-865 WAC, the administrator must:

(1) Be responsible for the day-to-day operation of the certified treatment service, including:

(a) All administrative matters;

(b) Client care services; and

(c) Meeting all applicable rules and ethical standards.

(2) Delegate the authority and responsibility to act in the administrator's behalf when the administrator is not on duty or on call.

(3) Ensure administrative, personnel, and clinical policy and procedure manuals:

(a) Are developed and adhered to; and

(b) Are reviewed and revised as necessary, and at least annually.

(4) Employ sufficient qualified personnel to provide adequate problem and pathological gambling treatment, facility security, client safety and other special needs of clients.

(5) Ensure all persons providing counseling services are credentialed by the department of health.

(6) Assign the responsibility of TB infection control manager to a program individual in order to assess the program's annual tuberculosis risk according to the center for disease control guidelines.

NEW SECTION

WAC 388-816-0115 What must be included in a program administrative manual? Treatment programs not certified or licensed under chapter 388-805 WAC or chapter 388-865 WAC must have and adhere to an administrative manual, which contains policies and procedures that include:

(1) How services will be made sensitive to the needs of each client, including assurance that:

(a) Certified interpreters or other acceptable alternatives are available for persons with limited English-speaking proficiency and persons having a sensory impairment; and

(b) Assistance will be provided to persons with disabilities in case of an emergency.

(2) An organization chart specifying:

(a) The governing body;

(b) Each staff position by job title, including volunteers, students, and persons on contract; and

(c) The number of full or part-time persons for each position.

(3) A delegation of authority policy.

(4) A copy of current fee schedules.

(5) Implementing state and federal regulations on client confidentiality, including provision of a summary of 45 CFR Part 160 and 164 to each client.

(6) Reporting suspected child abuse and neglect.

(7) Reporting the death of a client to the department within one business day when a client dies on the premises.

(8) A client grievance policy and procedures.

(9) Reporting of critical incidents and actions taken to the department within two business days when an unexpected event occurs.

(10) An evacuation plan for use in the event of a disaster or emergency, addressing:

(a) Communication methods for clients, staff, and visitors including persons with a visual or hearing impairment or limitation;

(b) Evacuation of mobility-impaired persons;

(c) Evacuation of children if child care is offered;

(d) Different types of disasters or emergencies;

(e) Placement of posters showing routes of exit; and

(f) The need to mention evacuation routes at public meetings.

(11) A smoking policy consistent with the Washington clean indoor air act, chapter 70.160 RCW.

SECTION V—HUMAN RESOURCE MANAGEMENT

NEW SECTION

WAC 388-816-0120 What must be included in a treatment program personnel manual? Treatment programs not certified or licensed under chapter 388-805 WAC or chapter 388-865 WAC must have and adhere to a personnel manual, which contains policies and procedures that include:

(1) How the program conducts criminal background checks on its employees in order to comply with the rules specified in RCW 43.43.830 through 43.43.842.

(2) How the program provides staff orientation prior to assigning unsupervised duties, including orientation to:

(a) The administrative, personnel and clinical manuals;

(b) Staff ethical standards and conduct, including reporting of unprofessional conduct to appropriate authorities;

(c) Staff and client grievance procedures; and

(d) The facility evacuation plan.

(3) Provision for a drug free work place which includes:

(a) A philosophy of nontolerance of illegal drug-related activity;

(b) Program standards of prohibited conduct; and

(c) Actions to be taken in the event a staff member misuses alcohol or other drugs.

NEW SECTION

WAC 388-816-0125 What are treatment program personnel file requirements? In treatment programs not certified or licensed under chapter 388-805 WAC or chapter 388-865 WAC the administrator must:

(1) Ensure that there is a current personnel file for each employee, trainee, student, and volunteer, and for each contract staff person who provides or supervises client care.

(2) Designate a person to be responsible for management of personnel files.

(3) Ensure each person's file contains:

(a) Evidence a criminal background check was completed per WAC 388-816-0120(1);

(b) A copy of the results of an initial tuberculin skin test or evidence the person has completed a course of treatment approved by a physician or local health officer if the results are positive and subsequent annual tuberculosis screening and risk assessment based on the program annual TB risk assessment; and

(c) A record of an orientation to the program as described in WAC 388-816-0120(2).

(4) Ensure that each personnel file for clinical staff members providing client care contains:

(a) Verification of qualifications including, for each person engaged in the treatment of problem or pathological gambling, including counselors, physicians, nurses, and other certified, or licensed health care professionals, evidence they comply with the credentialing requirements of their respective professions;

(b) A copy of a current job description, signed and dated by the employee and supervisor which includes:

(i) Job title;

(ii) Minimum qualifications for the position; and

(iii) Summary of duties and responsibilities.

(c) A written performance evaluation for each year of employment:

(i) Conducted by the immediate supervisor of each staff member; and

(ii) Signed and dated by the employee and supervisor.

NEW SECTION

WAC 388-816-0130 What are the minimum qualifications for clinical staff members providing problem and pathological gambling treatment? (1) All clinical staff members and approved clinical supervisors providing problem and pathological gambling treatment must have a credential issued by the department of health in a counseling profession per chapter 18.19 RCW, chapter 18.83 RCW, or chapter 18.225 RCW.

(2) Each clinical staff member credentialed per chapter 18.19 RCW providing treatment services to a client must provide documentation of at least fifteen hundred hours of professionally supervised post-certification or post-registration experience providing mental health or chemical dependency treatment services.

(3) Each clinical staff member providing treatment services must have at least a bachelor's degree from an accredited college-level institution.

(a) The department will review requests for an exemption to this requirement on a case-by-case basis.

(b) In order to qualify for an exemption, the employee must possess year-for-year professional level experience equivalent to a bachelor's degree. The department determines this equivalency at the discretion of the department program manager responsible for monitoring problem gambling treatment programs.

(4) Each clinical staff member providing treatment services under supervision must:

(a) Complete a minimum of thirty hours of unduplicated gambling specific training including the sixteen-hour basic training, approved by a state, national, or international organization including but not limited to:

(i) Washington state gambling counselor certification committee;

(ii) National gambling counselor certification board;

(iii) International gambling counselor certification board; or

(iv) The department.

(b) Provide documentation of a minimum of one hundred hours of supervised experience working with problem and pathological gamblers and their significant others; and

(c) Receive a passing score on the national gambling counselor examination before providing unsupervised treatment services to program clients.

(5) Each clinical staff member credentialed per chapter 18.19 RCW providing unsupervised treatment services to program clients must:

(a) Be certified as a Washington state certified gambling counselor; or

(b) Be certified as a national certified gambling counselor.

(6) Approved clinical supervisors must:

(a) Hold a valid international gambling counselor certification board approved clinical consultant credential; or

(b) Hold a valid national certified gambling counselor II or Washington state certified gambling counselor II certification credential; and

(c) Complete six hours of training on gambling specific clinical supervision approved by the recognized organizations listed in WAC 388-816-0130 (4)(a)(i) through (iv).

SECTION VI—PROFESSIONAL PRACTICES

NEW SECTION

WAC 388-816-0135 What must be included in the treatment program clinical manual? Treatment programs not certified or licensed under chapter 388-805 WAC or chapter 388-865 WAC must have and adhere to a clinical manual, which contains policies and procedures that include:

(1) How the program meets WAC 388-816-0135 through 388-816-0180 requirements.

(2) Identification of resources and referral options so staff can make referrals required by law and as indicated by client needs.

(3) Client admission, continued service, and discharge criteria.

(4) How the program implements the following requirements:

(a) The administrator must not admit or retain a person unless the person's treatment needs can be met.

(b) Clinical staff members must assess and refer each client to the appropriate treatment service.

(5) Tuberculosis (TB) screening for prevention and control of TB in all outpatient programs, including:

(a) Obtaining a history of preventive or curative therapy;

(b) Screening and related procedures for coordinating with the local health department; and

(c) Implementing TB control as provided by the department of health TB control program.

(6) Limitation of group counseling sessions to twelve or fewer clients.

(7) Use of self-help groups.

(8) Client rules and responsibilities.

(9) How the program manages:

(a) Medical emergencies; and

(b) Suicidal, chemically dependent and mentally ill clients.

NEW SECTION

WAC 388-816-0140 What are clients' rights requirements in certified treatment programs? (1) Each certified treatment program must ensure a client:

(a) Is admitted to treatment without regard to race, color, creed, national origin, religion, sex, sexual orientation, age, or disability, except for bona fide program criteria.

(b) Is reasonably accommodated in case of sensory or physical disability, limited ability to communicate, limited English proficiency, and cultural differences.

(c) Is treated in a manner sensitive to individual needs and which promotes dignity and self-respect.

(d) Is protected from invasion of privacy except that staff may conduct reasonable searches to detect and prevent possession or use of contraband on the premises.

(e) Has all clinical and personal information treated in accord with state and federal confidentiality regulations.

(f) Has the opportunity to review their own treatment records in the presence of the administrator or designee.

(g) Has the opportunity to have clinical contact with a same gender counselor, if requested and determined appropriate by the supervisor, either at the program or by referral.

(h) Is fully informed regarding fees charged, including fees for copying records to verify treatment and methods of payment available.

(i) Is protected from abuse by staff at all times, or from other clients who are on program premises, including:

(i) Sexual abuse or harassment;

(ii) Sexual or financial exploitation;

(iii) Racism or racial harassment; and

(iv) Physical abuse or punishment.

(j) Is fully informed and receives a copy of counselor disclosure requirements established under RCW 18.19.060.

(k) Receives a copy of client grievance procedures upon request.

(l) Is, in the event of a program closure or treatment service cancellation:

(i) Given thirty days notice;

(ii) Assisted with relocation;

(iii) Given refunds to which the person is entitled; and

(iv) Advised how to access records to which the person is entitled.

(2) A disclosure authorization to a health care provider or health care facility as required by RCW 70.02.030 must:

(a) Be in writing, dated, and signed by the client;

(b) Identify the nature of the information to be disclosed;

(c) Identify the name and institutional affiliation of the person or class of persons to whom the information is to be disclosed;

(d) Identify the program or person who is to make the disclosure;

(e) Identify the client; and

(f) Contain an expiration date or an expiration event that relates to the client or the purpose of the use or disclosure.

(3) A treatment program must notify clients that outside persons or organizations which provide services to the program are required by written agreement to protect client confidentially.

(4) The administrator must ensure a copy of clients' rights is given at admission to each client receiving services.

(5) The administrator must post a copy of clients' rights in a conspicuous place in the facility accessible to clients and staff.

NEW SECTION

WAC 388-816-0145 What are the requirements for problem and pathological gambling assessments? Treatment programs must require all clinical staff members to obtain, review, evaluate and document a face-to-face diagnostic assessment of each client's involvement with problem and pathological gambling. The assessment must include, if not already documented in a chemical dependency or mental health assessment, the following information:

(1) Legal history describing any involvement with the criminal justice system.

(2) Medical and health history including all prescribed medications.

(3) Mental health history and current mental health status.

(4) Suicidal/homicidal assessment including past suicide attempts, methods, suicide plan, family history of suicide attempts, and suicide intent.

(5) Substance abuse history and screening describing current use, past use including amounts and duration and treatment history.

(6) Family history describing family composition and dynamics.

(7) If client is other than the problem or pathological gambler, a family assessment must be completed.

(8) Education status and history.

(9) Vocational or employment status and history describing skills or trades learned, jobs held, duration of employment, and reasons for leaving.

(10) Peers and friends, indicating interpersonal relationships and interaction with people and groups outside the home.

(11) A financial evaluation and information, including current financial status, gambling debts, any previous bankruptcy or repayment plans, and insurance coverage.

(12) Problem gambling screens.

(13) Documentation of the information collected, including:

(a) A diagnostic assessment statement including sufficient data to determine a client diagnosis supported by DSM IV TR criteria or subsequent editions.

(b) A written summary of the data gathered in subsections (1) through (12) of this section that supports the treatment recommendation.

(14) Evidence the client:

(a) Was notified of the assessment results; and

(b) Documentation of treatment options provided, and the client's choice; or

(c) If the client was not notified of the results and advised of referral options, the reason must be documented.

NEW SECTION

WAC 388-816-0150 What are the requirements for treatment, continuing care, transfer, and discharge plans? (1) Treatment programs must require clinical staff

members be responsible for the overall treatment plan for each client, including:

(a) Client involvement in treatment planning;

(b) Documentation of progress toward client attainment of goals; and

(c) Completeness of client records.

(2) A clinical staff member must:

(a) Develop the individualized treatment plan based upon the assessment and update the treatment plan based upon achievement of goals, or when new problems are identified;

(b) Conduct individual or group counseling;

(c) Develop the continuing care plan; and

(d) Complete the discharge summary.

(3) A clinical staff member must follow up when a client misses an appointment to:

(a) Try to motivate the client to stay in treatment; and

(b) Report a noncompliant client to the committing authority as appropriate.

(4) When a client gives written consent, a clinical staff member must involve each client's family or other support persons:

(a) In the treatment program; and

(b) In self-help or support groups.

(5) A clinical staff member must meet with each client at the time of discharge from any treatment program to:

(a) Finalize a continuing care plan to assist in determining appropriate recommendation for care;

(b) Refer the client in making contact with necessary agencies or services; and

(c) Provide the client a copy of the plan.

(6) When transferring a client to another treatment program, the current program must forward copies of the following information to the receiving program when a release of confidential information is signed by the client:

(a) Client's demographic information;

(b) Diagnostic assessment statement and other assessment information, including:

(i) TB screen or test result;

(ii) The reason for the transfer; and

(iii) Court mandated status or program recommended follow-up treatment.

(c) Discharge summary; and

(d) The plan for continuing care or treatment.

(7) A clinical staff member must complete a discharge summary, within seven days of each client's discharge from the program, which includes:

(a) The date of discharge; and

(b) A summary of the client's progress toward each treatment goal.

NEW SECTION

WAC 388-816-0155 What are the requirements for a client record system? Treatment programs not certified or licensed by either chapter 388-805 WAC or chapter 388-865 WAC must have a comprehensive client record system maintained in accord with recognized principles of health record management. The program must ensure:

(1) A designated individual is responsible for the record system;

(2) A secure storage system which:

(a) Promotes confidentiality of and limits access to both active and inactive records; and

(b) Protects active and inactive files from damage during storage.

(3) Client record policies and procedures on:

(a) Who has access to records;

(b) Content of active and inactive client records;

(c) A systematic method of identifying and filing individual client records so each can be readily retrieved;

(d) Assurance that each client record is complete and authenticated by the person providing the observation, evaluation, or service;

(e) Retention of client records for a minimum of six years after the discharge or transfer of the client; and

(f) Destruction of client records.

(4) In addition to subsections (1) through (3) of this section, that programs maintaining electronic client records:

(a) Make records available in paper form upon request:

(i) For review by the department; and

(ii) To clients requesting record review as authorized by WAC 388-816-0140(6).

(b) Provide secure, limited access through means that prevent modification or deletion after initial preparation;

(c) Provide for back up of records in the event of equipment, media or human error;

(d) Provide for protection from unauthorized access, including network and internet access.

(5) In case of a program closure, the closing treatment program must arrange for the continued management of all client records. The closing program must notify the department in writing of the mailing and street address where records will be stored and specify the person managing the records. The closing program:

(a) May continue to manage the records and give assurance they will respond to authorized requests for copies of client records within a reasonable period of time;

(b) May transfer records of clients who have given written consent to another certified program;

(c) May enter into a business associate agreement with a certified program to store and manage records, when the outgoing program will no longer be a problem and pathological gambling treatment program; or

(d) Must, in the event none of the arrangements listed in (a) through (c) of this subsection can be made, arrange for transfer of client records to the department.

NEW SECTION

WAC 388-816-0160 What are the requirements for client record content? Treatment programs must ensure client record content includes:

(1) Demographic information;

(2) A problem and pathological gambling assessment;

(3) Documentation the client was informed of the diagnostic assessment and options for referral or the reason not informed;

(4) Documentation the client was informed of federal confidentiality requirements and received a copy of the client notice required under 45 CFR, Part 160 through 164;

(5) Documentation the client was informed of treatment service rules, translated when needed, signed and dated by the client before beginning treatment;

(6) Voluntary consent to treatment signed and dated by the client;

(7) Documentation the client received counselor disclosure information, acknowledged by the program and client by signature and date;

(8) Initial and updated individual treatment plans, including results of the initial assessment and periodic reviews, addressing:

(a) Client biopsychosocial problems;

(b) Treatment goals;

(c) Estimated dates or conditions for completion of each treatment goal;

(d) Approaches to resolve the problems;

(e) Identification of persons responsible for implementing the approaches;

(f) Medical orders, if appropriate.

(9) Documentation of referrals made for specialized care or services;

(10) Progress notes as events occur, which include:

(a) Date, duration, and content of counseling and other treatment sessions; and

(b) Ongoing assessments of each client's participation in and response to treatment and other activities.

(11) Treatment plan reviews as required by WAC 388-816-0175 (1)(d)(i) and (ii);

(12) Properly completed authorizations for release of information;

(13) Copies of all correspondence related to the client, including any court orders and reports of noncompliance; and

(14) A continuing care plan and discharge summary.

NEW SECTION

WAC 388-816-0165 What are the requirements for reporting client noncompliance? The following standards define client noncompliance behaviors and sets minimum time lines for reporting these behaviors to the appropriate court or court designated authority.

(1) Reporting client noncompliance is contingent upon obtaining a properly completed authorization to release confidential information form.

(2) For emergent noncompliance: The following non-compliance is considered emergent noncompliance and must be reported to the appropriate court within three working days from obtaining the information. The client:

(a) Fails to follow requirements in court order;

(b) Reports a subsequent gambling related arrest; and

(c) Leaves a program against program advice or is discharged for rule violation.

(3) For nonemergent noncompliance: The following noncompliance is considered nonemergent noncompliance and must be reported to the appropriate court as required by subsection (4) and (5) of this section and needs to include the

program's recommendations for engaging the client. The client:

- (a) Has unexcused absences or failure to report. Programs must report all client unexcused absences.
- (b) Fails to provide program with documentation of attendance at self-help or support groups if required by the treatment plan.
- (c) Fails to make acceptable progress in any part of the treatment plan.
- (4) If a court accepts monthly progress reports, nonemergent noncompliance may be reported in monthly progress reports, which must be mailed to the court within ten working days from the end of each reporting period.
- (5) If a court does not wish to receive monthly reports and only requests notification of noncompliance or other significant changes in client status, the reports should be transmitted as soon as possible, but not longer than ten working days from the date of the noncompliance.

SECTION VII—OUTCOMES EVALUATION

NEW SECTION

WAC 388-816-0170 What are the requirements for outcomes evaluation? Each treatment program:

- (1) Must develop and implement policies and procedures for outcomes evaluation; and
- (2) Is responsible to monitor and evaluate program effectiveness and client satisfaction for the purpose of program improvement.

SECTION VIII—PROGRAM SERVICE STANDARDS

NEW SECTION

WAC 388-816-0175 What are the requirements for outpatient services? All treatment programs certified by this chapter must meet the following requirements:

- (1) A clinical staff member, must:
 - (a) Complete an assessment prior to admission unless participation in this outpatient treatment service is part of the same program's continuum of care.
 - (b) Complete an initial individualized treatment plan prior to the client's participation in treatment.
 - (c) Conduct group, individual or conjoint problem or pathological gambling counseling sessions for each client, each month, according to an individual treatment plan.
 - (d) Conduct and document a treatment plan review for each client:
 - (i) Once a month for the first three months; and
 - (ii) Quarterly thereafter or sooner if required by other laws.

NEW SECTION

WAC 388-816-0180 What are the requirements for providing off-site problem and pathological gambling treatment services? If a certified program wishes to offer treatment services, for which the program is certified, at a site where clients are located primarily for purposes other than problem and pathological gambling, the administrator must:

- (1) Ensure off-site treatment services will be provided:
 - (a) In a private, confidential setting that is discrete from other services provided within the off-site location; and
 - (b) By a clinical staff member.
- (2) Include a description in the program policy and procedures manuals of how confidentiality will be maintained at each off-site location, including how confidential information and client records will be transported between the certified facility and the off-site location.

WSR 11-03-001

PERMANENT RULES

DEPARTMENT OF

SOCIAL AND HEALTH SERVICES

(Medicaid Purchasing Administration)

[Filed January 5, 2011, 12:05 p.m., effective February 5, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: The recent passage of the federal Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009 requires the department to amend its rules regarding newborn eligibility for medical assistance. Per clarification from the federal Centers for Medicare and Medicaid Services (CMS), CHIPRA also requires the elimination of the three-month sanction for nonpayment of the children's health insurance program (CHIP) premium, and allow for medical coverage to be reinstated for all months within the certification period when payment of the delinquent premium is made prior to the end of the certification period. This change to Washington's CHIP program will meet "continuous eligibility" as an enrollment and retention strategy as defined in CHIPRA, which will qualify Washington for the performance bonus described in CHIPRA, section 104. Recently enacted state law (ESHB 2128) changed the name of children's healthcare programs to Apple Health for Kids.

Citation of Existing Rules Affected by this Order: Amending WAC 388-416-0015, 388-450-0215, 388-505-0210, 388-505-0211, and 388-542-0020.

Statutory Authority for Adoption: RCW 74.04.050, 74.04.057, and 74.08.090.

Other Authority: Apple Health for Kids Act (ESHB 2128); 42 U.S.C. 1305; Public Law 111-3 (Children's Health Insurance Program Reauthorization Act of 2009).

Adopted under notice filed as WSR 10-21-090 on October 20, 2010.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 5, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 5, Repealed 0.

Date Adopted: January 3, 2011.

Katherine I. Vasquez
Rules Coordinator

AMENDATORY SECTION (Amending WSR 09-07-086, filed 3/17/09, effective 4/17/09)

WAC 388-416-0015 Certification periods for categorically needy (CN) scope of care medical assistance programs. (1) A certification period is the period of time a person is determined eligible for a categorically needy (CN) scope of care medical program. Unless otherwise stated in this section, the certification period begins on the first day of the month of application and continues to the last day of the last month of the certification period.

(2) For a child eligible for the newborn medical program, the certification period begins on the child's date of birth and continues through the end of the month of the child's first birthday.

(3) For a woman eligible for a medical program based on pregnancy, the certification period ends the last day of the month that includes the sixtieth day from the day the pregnancy ends.

(4) For families the certification period is twelve months with a six-month report required as a condition of eligibility as described in WAC 388-418-0011.

(5) For children, the certification period is twelve months. Eligibility is continuous without regard to changes in circumstances other than aging out of the program, moving out-of-state, failing to pay a required premium(s), incarceration or death.

(6) When the child turns nineteen the certification period ends even if the twelve-month period is not over. The certification period may be extended past the end of the month the child turns nineteen when:

(a) The child is receiving inpatient services (see WAC 388-505-0230) on the last day of the month the child turns nineteen;

(b) The inpatient stay continues into the following month or months; and

(c) The child remains eligible except for exceeding age nineteen.

(7) For an SSI-related person the certification period is twelve months.

(8) When the medical assistance unit is also receiving benefits under a cash or food assistance program, the medical certification period is updated to begin anew at each:

(a) Approved application for cash or food assistance; or

(b) Completed eligibility review.

(9) A retroactive certification period can begin up to three months immediately before the month of application when:

(a) The client would have been eligible for medical assistance if the client had applied; and

(b) The client received covered medical services as described in WAC 388-501-0060 and 388-501-0065.

(10) If the client is eligible only during the three-month retroactive period, that period is the only period of certification, except when:

(a) A pregnant woman is eligible in one of the three months preceding the month of application, but no earlier than the month of conception. Eligibility continues as described in subsection (3);

(b) A child is eligible for a CN medical program as described in WAC 388-505-0210 (1) through ~~((4))~~ (5) and ~~((6))~~ (7) in one of the three months preceding the month of application. Eligibility continues for twelve months from the earliest month that the child is determined eligible.

(11) Any months of a retroactive certification period are added to the designated certification periods described in this section.

(12) Coverage under premium-based programs included in apple health for kids as described in WAC 388-505-0210 and chapter 388-542 WAC begins no sooner than the month after creditable coverage ends.

AMENDATORY SECTION (Amending WSR 08-02-054, filed 12/28/07, effective 2/1/08)

WAC 388-450-0215 How does the department estimate my assistance unit's income to determine my eligibility and benefits? (1) We decide if your assistance unit (AU) is eligible for benefits and calculate your monthly benefits based on an estimate of your AU's gross monthly income and expenses. This is known as prospective budgeting.

(2) We use your current, past, and future circumstances for a representative estimate of your monthly income.

(3) We may need proof of your circumstances to ensure our estimate is reasonable. This may include documents, statements from other people, or other proof as explained in WAC 388-490-0005.

(4) We use one of two methods to estimate income:

(a) **Anticipating monthly income (AM):** With this method, we base the estimate on the actual income we expect your AU to receive in the month (see subsection (5)); and

(b) **Averaging income (CA):** With this method, we add the total income we expect your AU to receive for a period of time and divide by the number of months in the period (see subsection (6)).

(5) Anticipating monthly income: We must use the anticipating monthly method:

(a) For the month you apply for benefits unless:

(i) We are determining eligibility for ~~((children's medical))~~ apple health for kids programs as listed in WAC 388-505-0210 ~~((3) through (6))~~, or pregnancy medical as listed in WAC 388-462-0015. For ~~((children's))~~ apple health for kids and pregnancy medical we can use either method; or

(ii) You are paid less often than monthly (for example: you are paid quarterly or annually). If you are paid less often than monthly, we average your income for the month you apply. Section (6) explains how we average your income.

(b) When we estimate income for anyone in your AU, if you or anyone in your AU receive SSI-related medical benefits under chapter 388-475 WAC.

(c) When we must allocate income to someone who is receiving SSI-related medical benefits under chapter 388-475 WAC.

(d) When you are a destitute migrant or destitute seasonal farmworker under WAC 388-406-0021. In this situation, we must use anticipating monthly (AM) for all your AU's income.

(e) To budget SSI or Social Security benefits even if we average other sources of income your AU receives.

(6) Averaging income: When we average your income, we consider changes we expect for your AU's income. We determine a monthly amount of your income based on how often you are paid:

(a) If you are paid weekly, we multiply your expected income by 4.3;

(b) If you are paid every other week, we multiply your expected income by 2.15;

(c) In most cases if you receive your income other than weekly or every other week, we estimate your income over your certification period by:

(i) Adding the total income for representative period of time;

(ii) Dividing by the number of months in the time frame; and

(iii) Using the result as a monthly average.

(d) If you receive your yearly income over less than a year because you are self employed or work under a contract, we average this income over the year unless you are:

(i) Paid on an hourly or piecework basis; or

(ii) A migrant or seasonal farmworker under WAC 388-406-0021.

(7) If we used the anticipating monthly income method for the month you applied for benefits, we may average your income for the rest of your certification period if we do not have to use this method for any other reason in section (5).

(8) If you report a change in your AU's income, and we expect the change to last through the end of the next month after you reported it, we update the estimate of your AU's income based on this change.

(9) If your actual income is different than the income we estimated, we don't make you repay an overpayment under chapter 388-410 WAC or increase your benefits unless you meet one of the following conditions:

(a) You provided incomplete or false information; or

(b) We made an error in calculating your benefits.

AMENDATORY SECTION (Amending WSR 09-07-086, filed 3/17/09, effective 4/17/09)

WAC 388-505-0210 ((Children's healthcare)) Apple health for kids and other children's medical assistance programs. Funding for ((children's healthcare)) coverage under the apple health for kids programs may come through Title XIX (medicaid), Title XXI ((SCHIP)) CHIP, or through state-funded programs. There are no resource limits for ((children's healthcare)) the apple health for kids programs. ((Children's healthcare programs that fall under the apple health for kids umbrella are described in subsections (1) through (4) below)) Apple health for kids coverage is free to children in households with incomes of no more than two-

hundred percent of the federal poverty level (FPL), and available on a premium basis to children in households with incomes of no more than three-hundred percent FPL.

(1) Newborns are eligible for federally matched categorically needy (CN) coverage through their first birthday when:

(a) ~~((The child's mother was eligible for and receiving medical assistance at the time of the child's birth; and))~~ The newborn is a resident of the state of Washington.

(b) ~~((The child remains with the mother and resides in the state))~~ The newborn's mother is eligible for medical assistance:

(i) On the date of the newborn's birth, including a retroactive eligibility determination; or

(ii) Based on meeting a medically needy (MN) spend-down liability with expenses incurred on, or prior to, the date of the newborn's birth.

(2) Children under the age of nineteen who are U.S. citizens, U.S. nationals, or ~~((qualified))~~ lawfully present aliens as described in WAC 388-424-0001, 388-424-0010(4), and 388-424-0006 (1), (4), and (5) are eligible for free federally matched CN coverage when they meet the following criteria:

(a) State residence as described in chapter 388-468 WAC;

(b) A Social Security number or application as described in chapter 388-476 WAC;

(c) Proof of citizenship or immigrant status and identity as required by WAC 388-490-0005(11);

(d) Family income is at or below two hundred percent of federal poverty level (FPL), as described in WAC 388-478-0075 at each application or review; or

(e) They received supplemental security income (SSI) cash payments in August 1996 and would continue to be eligible for those payments except for the August 1996 passage of amendments to federal disability definitions; or

(f) They are currently eligible for ~~((SSI-related CN or MN coverage))~~ SSI.

(3) Noncitizen children under the age of nineteen, who ~~((do not meet qualified alien status))~~ are not lawfully present as described in WAC ~~((388-424-0006))~~ 388-424-0001, 388-424-0010(4), and 388-424-0006 (1), (4), and (5), are eligible for free state-funded ~~((CN))~~ coverage when they meet the following criteria:

(a) State residence as described in chapter 388-468 WAC; and

(b) Family income is at or below two hundred percent FPL at each application or review.

(4) Children under the age of nineteen who are U.S. citizens, U.S. nationals, or lawfully present aliens as described in WAC 388-424-0001, 388-424-0010(4), and 388-424-0006 (1), (4), and (5) are eligible for premium-based federally-matched CN coverage as described in chapter 388-542 WAC when they meet the following criteria:

(a) State residence as described in chapter 388-468 WAC;

(b) A social security number or application as described in chapter 388-476 WAC;

(c) Proof of citizenship or immigrant status and identity as required by WAC 388-490-0005(11);

(d) Family income is over two hundred percent FPL, as described in WAC 388-478-0075, but not over three-hundred percent FPL at each application or review;

~~((e))~~ (e) They do not have other creditable health insurance as described in WAC 388-542-0050; and

~~((f))~~ (f) They pay the required monthly premiums as described in WAC 388-505-0211

(5) Noncitizen children under the age of nineteen, who are not lawfully present as described in WAC 388-424-0001, 388-424-0010(4), and 388-424-0006 (1), (4), and (5), are eligible for premium-based state-funded CN coverage when they meet the following criteria:

(a) State residence as described in chapter 388-468 WAC;

(b) Family income is over two-hundred percent FPL, as described in WAC 388-478-0075, but not over three-hundred percent FPL at each application or review;

(c) They do not have other creditable health insurance as described in WAC 388-542-0050; and

(d) They pay the required monthly premium as described in WAC 388-505-0211.

(6) Children under age nineteen are eligible for the medically needy (MN) medicaid program when they meet the following criteria:

(a) Citizenship or immigrant status, state residence, and Social Security number requirements as described in subsection (2)(a), (b), and (c);

(b) Are ineligible for other ~~((federal medicaid))~~ federally-matched CN programs; ~~((and))~~

(c) Have income that exceeds three hundred percent FPL; or

(d) Have income less than three hundred percent FPL, but do not qualify for premium-based coverage as described in subsection (4) of this section because of creditable coverage; and

(e) Meet their spenddown ~~((obligation))~~ liability as described in WAC 388-519-0100 and 388-519-0110.

~~((6))~~ (7) Children under the age of ~~((twenty one))~~ nineteen who reside or are expected to reside in a medical institution, intermediate care facility for the mentally retarded (ICF/MR), hospice care center, nursing home, institution for mental diseases (IMD) or inpatient psychiatric facility may be eligible for apple health for kids healthcare coverage based upon institutional rules described in WAC 388-505-0260. Individuals between the age of nineteen and twenty-one may still be eligible for healthcare coverage but not under the apple health for kids programs. See WAC 388-505-0230 "Family related institutional medical" and WAC 388-513-1320 "Determining institutional status for long-term care(-)" for more information.

~~((7))~~ (8) Children who are in foster care under the legal responsibility of the state, or a federally recognized tribe located within the state, and who meet eligibility requirements for residency, social security number, and citizenship as described in subsection (2)(a), (b) and (c) are eligible for federally-matched CN medicaid coverage through the month of their:

(a) Eighteenth birthday;

(b) Twenty-first birthday if the children's administration determines they remain eligible for continued foster care services; or

(c) Twenty-first birthday if they were in foster care on their eighteenth birthday and that birthday was on or after July 22, 2007.

~~((8))~~ (9) Children are eligible for state-funded CN coverage through the month of their eighteenth birthday if they:

(a) Are in foster care under the legal responsibility of the state or a federally-recognized tribe located within the state; and

(b) Do not meet social security number and citizenship requirements in subsection (2)(b) and (c) of this section.

(10) Children who receive subsidized adoption services are eligible for federally-matched CN ~~((medicaid))~~ coverage.

~~((9))~~ (11) Children under the age of nineteen not eligible for apple health for kids programs listed above may ~~((also))~~ be eligible for one of the following medical assistance programs not included in apple health for kids:

(a) Family medical as described in WAC 388-505-0220;

(b) Medical extensions as described in WAC 388-523-0100; ~~((or))~~

(c) SSI-related MN if they:

(i) Meet the blind and/or disability criteria of the federal SSI program, or the condition of subsection (2)(e); and

(ii) Have countable income above the level described in WAC 388-478-0070(1).

~~((10))~~ Children who are ineligible for other programs included in apple health for kids may be eligible for the alien emergency medical program (AEM) if they meet the following criteria:

~~((a))~~ They have a documented emergent medical condition as defined in WAC 388-500-0005;

~~((b))~~ They meet the other AEM program requirements as described in WAC 388-438-0110; and

~~((c))~~ They have income that exceeds three hundred percent FPL; or

~~((d))~~ They are disqualified from receiving premium-based coverage as described in subsection (4) of this section because of creditable coverage or nonpayment of premiums.

~~((11))~~ (d) Home and community based waiver programs as described in chapter 388-515 WAC; or

(e) Alien medical as described in WAC 388-438-0110, if they:

(i) Have a documented emergency medical condition as defined in WAC 388-500-0005;

(ii) Have income more than three hundred percent FPL; or

(iii) Have income less than three hundred percent FPL, but do not qualify for premium-based coverage as described in subsection (5) of this section because of creditable coverage.

(12) Except for a ~~((client))~~ child described in subsection ~~((6))~~ (7), an inmate of a public institution, as defined in WAC 388-500-0005, is not eligible for any ~~((children's healthcare))~~ apple health for kids program.

AMENDATORY SECTION (Amending WSR 09-07-086, filed 3/17/09, effective 4/17/09)

WAC 388-505-0211 Premium requirements for premium-based healthcare coverage under programs included in apple health for kids. (1) For the purposes of this chapter, "premium" means an amount paid for healthcare coverage under programs included in apple health for kids.

(2) Payment of a premium is required as a condition of eligibility for premium-based coverage under programs included in apple health for kids, as described in WAC 388-505-0210(4), unless the child is:

- (a) Pregnant; or
- (b) An American Indian or Alaska native.

(3) The premium requirement begins the first of the month following the determination of eligibility. There is no premium requirement for medical coverage received in a month or months before the determination of eligibility.

(4) The premium amount for the assistance unit is based on the net countable income as described in WAC 388-450-0210 and the number of children in the assistance unit. If the household includes more than one assistance unit, the premium amount billed for the assistance units may be different amounts.

(5) The premium amount for each eligible child shall be:

(a) Twenty dollars per month per child for households with income above two hundred percent FPL, but not above two hundred and fifty percent FPL;

(b) Thirty dollars per month per child for households with income above two hundred and fifty percent FPL, but not above three hundred percent FPL; and

(c) Limited to a monthly maximum of two premiums for households with two or more children.

(6) All children in an assistance unit are ineligible for healthcare coverage when the head of household fails to pay required premium payments for three consecutive months.

(7) When the department terminates the medical coverage of a child due to nonpayment of premiums, the ~~((child has a three-month period of ineligibility beginning the first of the following month. The three-month period of ineligibility is rescinded))~~ child's eligibility is restored only when the:

(a) Past due premiums are paid in full prior to the ~~((begin date of the period of ineligibility))~~ end of the certification period; or

(b) The child becomes eligible for coverage under a non-premium-based CN healthcare program. ~~((The department will not rescind the three-month period of ineligibility for reasons other than the criteria described in this subsection.))~~

(8) The department writes off past-due premiums after twelve months.

(9) ~~((When the designated three-month period of ineligibility is over, all past due premiums that are an obligation of the head of household must be paid or written off before a child can become eligible for premium-based coverage under a program included in apple health for kids))~~ If all past due premiums are paid after the certification period is over:

(a) Eligibility for prior months is not restored; and

(b) Children are not eligible for premium-based coverage under apple health for kids until:

(i) The month the premiums are paid or the department writes off the debt; or

(ii) The family reapplies and is found eligible.

(10) A family cannot designate partial payment of the billed premium amount as payment for a specific child in the assistance unit. The full premium amount is the obligation of the head of household of the assistance unit. A family can decide to request healthcare coverage only for certain children in the assistance unit, if they want to reduce premium obligation.

(11) A change that affects the premium amount is effective the month after the change is reported and processed.

(12) A sponsor or other third party may pay the premium on behalf of the child or children in the assistance unit. The premium payment requirement remains the obligation of head of household of the assistance unit. The failure of a sponsor or other third party to pay the premium does not eliminate the(=

~~(a) Establishment of the period of ineligibility described in subsection (7) of this section; or~~

~~(b) Obligation of the head of household to pay past due premiums))~~ obligation of the head of household to pay past due premiums.

AMENDATORY SECTION (Amending WSR 09-07-086, filed 3/17/09, effective 4/17/09)

WAC 388-542-0020 Other rules that apply to premium-based healthcare coverage under programs included in apple health for kids. In addition to the rules of this chapter, children receiving premium-based coverage under ~~((programs included in))~~ apple health for kids are subject to the following rules:

(1) Chapter 388-538 WAC, Managed care (except WAC 388-538-061, 388-538-063, and 388-538-065) if the child is covered under federally matched CN coverage;

(2) WAC 388-505-0210 (4) and (5), ((Children's health-care)) apple health for kids program eligibility;

(3) WAC 388-505-0211, Premium requirements for premium-based coverage under programs included in apple health for kids;

(4) WAC 388-416-0015(12), Certification periods for categorically needy (CN) scope of care medical assistance programs; and

(5) WAC 388-418-0025, Effect of changes on medical program eligibility.

WSR 11-03-004

PERMANENT RULES

MILITARY DEPARTMENT

[Filed January 5, 2011, 3:38 p.m., effective February 5, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Updates the rules of reimbursement to counties and the Washington state patrol for expenses related to 911 operations, including changes to conform with definitions and purposes of revised statutes.

Citation of Existing Rules Affected by this Order: Amending WAC 118-66-020, 118-66-030, 118-66-040, 118-66-045, 118-66-050, and 118-66-090.

Statutory Authority for Adoption: RCW 38.52.540 and 38.52.545.

Adopted under notice filed as WSR 10-22-107 on November 2, 2010.

Changes Other than Editing from Proposed to Adopted Version: See the attachment [no further information supplied by agency].

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 1, Amended 6, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 1, Amended 6, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 1, Amended 6, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: January 4, 2011.

Kurt A. Hardin
E911 Unit Manager

AMENDATORY SECTION (Amending WSR 03-10-014, filed 4/25/03, effective 7/1/03)

WAC 118-66-020 Purpose and priorities. (1) These rules define the purposes for which available state enhanced 9-1-1 account moneys may be expended, consistent with the eligibility requirements, criteria, and priorities of RCW 38.52.540 and 38.52.545.

~~(2) RCW 38.52.540 authorizes the establishment of ((an)) a state enhanced 9-1-1 account ((in the state treasury and specifies that the funds shall be used only~~

~~(a) To support the statewide coordination and management of the enhanced 9-1-1 system;~~

~~(b) For the implementation of wireless enhanced 9-1-1 statewide; and~~

~~(c) To help supplement, within available funds, the operational costs of the system, including:~~

~~(i) Adequate funding of counties to enable implementation of wireless enhanced 9-1-1 service; and~~

~~(ii) Reimbursement of radio communications service companies for costs incurred in providing wireless enhanced 9-1-1 service pursuant to negotiated contracts between counties or their agents and the radio communications service companies.~~

~~(2)) in the state treasury to be used only for the following purposes:~~

~~(a) To support the statewide coordination and management of the enhanced 9-1-1 system;~~

~~(b) For the implementation of wireless enhanced 9-1-1 statewide;~~

~~(c) For the modernization of enhanced 9-1-1 communications systems statewide; and~~

~~(d) To help supplement, within available funds, the operational costs of the statewide enhanced 9-1-1 emergency communications system, including:~~

~~(i) Adequate funding of counties to enable implementation of wireless enhanced 9-1-1 service; and~~

~~(ii) Reimbursement of radio communications service companies for costs incurred in providing wireless enhanced 9-1-1 service pursuant to negotiated contracts between the counties or their agents and the radio communications service companies.~~

~~(3) RCW 38.52.545 provides that the rules defining the purposes for which available state enhanced 9-1-1 funds may be expended ((shall)) must consider the base needs of individual counties for specific assistance, and establishes the following expenditure priorities for such funds:~~

~~(a) To assure that 9-1-1 dialing is operational statewide;~~

~~(b) To assist counties as necessary to assure they can achieve a basic service level for 9-1-1 operations; and~~

~~(c) To assist counties as practicable to acquire items of a capital nature appropriate to ((increasing)) modernize 9-1-1 systems and increase 9-1-1 effectiveness.~~

~~((3)) (4) The state enhanced 9-1-1 coordinator, with the advice and assistance of the enhanced 9-1-1 advisory committee, is authorized to enter into statewide agreements to improve the efficiency of enhanced 9-1-1 services for all counties and to specify by rule the ((operational)) additional purposes for which ((funds)) moneys, if available, may be expended from the state enhanced 9-1-1 account.~~

~~((4) The purpose of these rules is to define the criteria and priority for enhanced 9-1-1 fundable items and requirements for eligible entities to receive enhanced 9-1-1 assistance from the state enhanced 9-1-1 account.)~~

AMENDATORY SECTION (Amending WSR 03-10-014, filed 4/25/03, effective 7/1/03)

WAC 118-66-030 Definitions. (1) ~~((**"9-1-1 management information system"** shall mean equipment that collects, stores and collates 9-1-1 call data into reports and statistics.~~

~~(2)) **"9-1-1 call(s)"** shall mean voice or data that is routed to a public safety answering point (PSAP) by dialing or accessing 9-1-1 in emergency situations.~~

~~(2) **"9-1-1 demarcation point"** shall mean the point at which the 9-1-1 network begins and provides the ingress from the telecommunications providers' network.~~

~~(3) **"9-1-1 ((voice)) network"** shall mean ((switching systems and circuits which provide the connection between the caller's switching office and the public safety answering point (PSAP).~~

~~(3) **"Address"** shall mean the identification of a unique physical location by street name, number, and postal community, latitude, longitude (and, when available, altitude). When applicable, the address may contain the identification of separately occupied subunits, such as apartment or suite numbers, and where appropriate, other information such as building name or floor number which defines a unique physical location.~~

~~((4))~~ the system of circuits, networks and/or equipment managed and maintained by the Washington state E9-1-1 office to provide 9-1-1 communications from the 9-1-1 demarcation point to the PSAP demarcation point, including the information technology system known as emergency services internet protocol network (ESInet).

(4) "9-1-1 management information system (MIS)" shall mean equipment that collects, stores, and collates 9-1-1 call data into reports and statistics.

(5) "Address" shall mean the identification of a unique physical location by street name, number, postal community (and when available, zip code), latitude, longitude (and, when available, altitude). When applicable, the address may contain the identification of separately-occupied subunits, such as apartment or suite numbers, and where appropriate, other information such as building name or floor number which defines a unique physical location.

(6) "Advisory committee" shall mean the enhanced 9-1-1 advisory committee as established by RCW 38.52.530.

~~((5))~~ (7) "Alternate routing" shall mean a method of routing 9-1-1 calls to a designated alternate PSAP location when all 9-1-1 lines are busy at the primary PSAP location.

~~((6))~~ (8) "ANI/ALI controllers" shall mean the (stand-alone components that provide control functions for retrieving and interpreting information in the ANI and ALI data bases.

~~(7) "ANI/ALI display equipment" shall mean the equipment at the PSAP call answering position necessary for the display of automatic number identification and automatic location identification.~~

~~(8))~~ equipment that processes the 9-1-1 calls and/or data and provides control functions for retrieving and interpreting information in the ANI and ALI data bases.

(9) "ANI/ALI display equipment" shall mean the equipment at the PSAP call answering position necessary for the display of automatic number identification and automatic location identification.

(10) "Automatic location identification (ALI)" shall mean a feature of the enhanced 9-1-1 emergency communications system by which the name and address associated with the calling party's telephone number (identified by ANI feature) is forwarded to the PSAP for display.

~~((9))~~ (11) "Automatic location identification (ALI) data base" shall mean the set of ALI records residing on a computer system at an E9-1-1 Service Provider.

~~((10))~~ (12) "Automatic location identification/data management system (ALI/DMS)" shall mean a system of manual procedures and computer programs used to create, store, and update the data required for automatic location identification in support of enhanced 9-1-1.

~~((11))~~ (13) "Automatic number identification (ANI)" shall mean a feature of the enhanced 9-1-1 emergency communications system that allows for the automatic display of the telephone number used to (place a) access 9-1-1 (call).

~~((12))~~ (14) "B.01/P.01 grade of service" shall mean a level of service where the probability that one call out of one hundred (one percent) will be blocked during the average busy hour.

~~((13))~~ (15) "Call detail recorder" shall mean equipment used to store, record (and) or print ANI/ALI information for 9-1-1 calls.

~~((14) "Cell sector" shall mean an area, geographically defined according to an RCSC's radio frequency coverage data, consisting of a certain portion or all of the total coverage area of a cell site.~~

~~(15) "Cell site" shall mean an RCSC's radio frequency base station that receives calls from wireless end users.)~~

(16) "Computer aided dispatch (CAD)" shall mean equipment capable of receiving and disseminating detailed information related to emergency (services) call taking and dispatching.

(17) "Coordinator professional development" shall mean a defined group of support elements provided to all counties and Washington state patrol.

(18) "Customer premise equipment (CPE)" shall mean equipment utilized by the PSAP to receive and process 9-1-1 communications.

(19) "Department" shall mean the Military Department as referred to in RCW 38.52.010.

~~((18) "E9-1-1 mapping administration" shall mean personnel, hardware, and software necessary to create and maintain map data necessary to interpret Phase II E9-1-1 latitude and longitude (and, when available, altitude), and to display the data on a PSAP call answering position.~~

~~(19) "E9-1-1 service provider" shall mean a LEC providing the selective routing services for county wireline E9-1-1 service.)~~

(20) "Electronic mail" shall mean a means of delivering text, data, graphics and other electronic media via a private computer network or the internet.

~~(21) ("Emergency service number (ESN)" shall mean a number representing an emergency service zone, used to facilitate the selective routing and selective transfer of 9-1-1 calls to the appropriate PSAP.~~

~~(22) "Emergency service zone (ESZ)" shall mean a geographical area with a combination of designated police, fire, and emergency medical service providers.~~

~~(23))~~ "Eligible entities" shall mean the counties and Washington state patrol determined to be eligible for reimbursement of costs for a specified item.

(22) "Emergency services communication system" shall mean a multicounty or county-wide communications network, including an enhanced 9-1-1 system, which provides rapid public access for coordinated dispatching of services, personnel, equipment, and facilities for police, fire, medical, or other emergency services.

(23) "Emergency service zone (ESZ)" shall mean a geographical area with a combination of designated police, fire, and emergency medical service providers.

(24) "Enhanced 9-1-1 (E9-1-1) mapping administration" shall mean personnel, hardware, and software necessary to create and maintain geographical information system (GIS) data necessary to interpret Phase II E9-1-1 latitude and longitude (and, when available, altitude), and to display the data on a PSAP call answering position.

(25) "Enhanced 9-1-1 emergency communications system" shall mean a public communications system consisting of a network, data base, and on-premises equipment that

is accessed by dialing or accessing 9-1-1 and that enables reporting police, fire, medical, or other emergency situations to a public safety answering point. The system includes the capability to selectively route incoming 9-1-1 voice or data to the appropriate public safety answering point that operates in a defined 9-1-1 service area and capability to automatically display the name, address, and telephone number of incoming 9-1-1 voice or data at the appropriate public safety answering point. Enhanced 9-1-1 emergency communications system includes the modernization to next generation 9-1-1 systems.

(26) "Enhanced 9-1-1 information technology services" shall mean the technical support and maintenance of eligible E9-1-1 equipment.

(27) "Enhanced 9-1-1 public education services" shall mean the development and delivery of 9-1-1 public education.

(28) "Enhanced 9-1-1 training coordination" shall mean the development and delivery of a 9-1-1 call receiver in-house training program.

(29) "Geographical information system (GIS)" shall mean an integrated system of hardware and software for capturing, managing, analyzing, and displaying geographically referenced information.

(30) "Instant call check" shall mean equipment which records 9-1-1 call conversations for immediate playback on demand.

~~((24))~~ **(31) "Interconnected voice over internet protocol service (VoIP)"** has the same meaning as established under RCW 82.14B.020.

(32) "Interconnected voice over internet protocol service line" has the same meaning as established under RCW 82.14B.020.

(33) "Language ~~(line)~~ interpreter services" shall mean language ~~(interpreter)~~ translation services for 9-1-1 calls.

~~((25))~~ **"Local exchange company (LEC)"** shall mean every corporation, company, association, joint stock association, partnership, and person, their lessees, trustees, or receivers appointed by any court, and every city or town making available facilities to provide telephone exchange service or exchange access. Such term does not include the provision of radio communications service.

(26) "Location" has the same definition as "address" in this section.

~~((27))~~ **(34) "Location determination technology (LDT)"** shall mean the technology used exclusively to determine position or geographic location using latitude and longitude (and, when available, altitude) of a wireless ~~((E9-1-1))~~ 9-1-1 caller when the mobile switching center (MSC) starts a call or while the MSC is engaged in a call, or of a VoIP 9-1-1 caller when the VoIP switch starts a call or while the VoIP switch is engaged in a call.

~~((28))~~ **(35) "Logging recorder"** shall mean a device that is capable of time stamping, recording and replaying 9-1-1 ~~((call conversations))~~ voice and data.

~~((29))~~ **(36) "Mapping display"** shall mean equipment capable of displaying 9-1-1 call locations on a map.

~~((30))~~ **(37) "Master street address guide (MSAG)"** shall mean a data base of street names and address ranges

within their associated postal communities defining emergency service zones for 9-1-1 purposes.

~~((31))~~ **"Mobile directory number (MDN)"** shall mean the telephone number of the mobile handset used to originate the 9-1-1 call.

~~((32))~~ **(38) "Mobile positioning center (MPC)"** shall mean a point of interface to a wireless network for the emergency service network. The gateway mobile location center (GMLC) serves as the point of interface to the global ~~((standard))~~ system for mobile communications (GSM) wireless network. The MPC and GMLC serve as the entity that retrieves, forwards, stores and controls position data within the location network. The MPC/GMLC entity receives position information from the wireless network, forwards it to the emergency services network upon request and coordinates requests for position update.

~~((33))~~ **(39) "Mobile switching center (MSC)"** shall mean the wireless equivalent of a switching office that provides switching functions for wireless calls.

~~((34))~~ **(40) "MSC Phase I software capabilities"** shall mean software at an MSC that is necessary for the provision of Phase I E9-1-1 service and is used exclusively ~~((for))~~ for this purpose.

~~((35))~~ **(41) "MSC Phase II software capabilities"** shall mean software at the MSC that is necessary for the provision of Phase II E9-1-1 service, and is exclusively used for this purpose.

~~((36))~~ **(42) "Multicounty region"** shall mean two or more counties served by a regional PSAP.

~~((37))~~ **(43) "Next Generation 9-1-1 (NG9-1-1) network"** shall mean the next evolutionary step in the development of the 9-1-1 emergency communications system known as E9-1-1 since the 1970s. NG9-1-1 is a system comprised of managed IP based networks and elements that augment present-day E9-1-1 features and functions and add new capabilities. NG9-1-1 will eventually replace the present E9-1-1 system. NG9-1-1 is designed to provide access to emergency services from all sources, and to provide multimedia data capabilities for PSAPs and other emergency service organizations.

(44) "Night service" shall mean a feature that forwards all 9-1-1 calls routed to a designated PSAP to an alternate directory number preassigned for that PSAP. The alternate directory number may be associated with another PSAP or other alternate destination.

~~((38))~~ **"Phase I 9-1-1 voice network"** shall mean the dedicated 9-1-1 trunks between an MSC and a selective router, and between a selective router and PSAPs.

~~((39))~~ **(45) "Phase I address"** shall mean the identification of a cell site and cell sector from which a 9-1-1 call originates, and includes identification of a cell site address, cell sector orientation, and/or a text description of the area.

~~((40))~~ **(46) "Phase I ALI data base"** shall mean a computer data base used to update the mobile directory number (MDN) information of wireless end user and cell site and cell sector information.

~~((41))~~ **(47) "Phase I ALI data circuit"** shall mean a dedicated 9-1-1 data circuit between an MSC and a service control point (SCP), and between an SCP and an ALI data base.

~~((42))~~ (48) **"Phase I (~~automatic location identification~~) (ALI)"** shall mean the MDN information of wireless end users and the cell site and cell sector information.

~~((43))~~ (49) **"Phase I E9-1-1 service"** shall mean service that facilitates the selective routing of wireless 9-1-1 calls and the display of Phase I ALI at the PSAPs.

~~((44))~~ (50) **"Phase I implementation plan"** shall mean a plan of an RCSC or county for implementation of Phase I E9-1-1 service in a county or counties in Washington state, including, but not limited to: Phase I E9-1-1 service activation date; network flowchart (including the company's relevant MSCs); specification of the technology used for interface to the selective router and the ALI/data management system (ALI/DMS) and a 9-1-1 call flow description; procedures for updating cell site and cell sector information; default and diverse routing plans; and an outline of Phase I E9-1-1 service testing procedures.

~~((45))~~ (51) **"Phase I interface to ALI data base"** shall mean the physical connection of Phase I ALI data circuits from a service control point (SCP) or selective router to the ALI data base, and the ALI feature enabling of the circuits.

~~((46))~~ (52) **"Phase I interface to selective router"** shall mean the physical connection of the Phase I 9-1-1 voice network from an MSC of an RCSC to a selective router, and the selective router feature enabling of the 9-1-1 trunks.

~~((47))~~ (53) **"Phase I master street address guide (MSAG)"** shall mean records in a master street address guide associated with each cell sector that provide cell site and cell sector identification, address, coverage information, service provider name, and PSAP of the cell sector for automatic display at the PSAP when a wireless 9-1-1 call is processed by that cell sector.

~~((48))~~ (54) **"Phase I testing"** shall mean testing conducted by an RCSC when Phase I E9-1-1 service is implemented to ensure the service is working correctly and testing after a company makes Phase I E9-1-1 service affecting additions or changes to their networks.

~~((49))~~ (55) **"Phase II address"** shall mean the latitude and longitude (and, when available, altitude) of the wireless end user.

~~((50))~~ (56) **"Phase II ALI"** shall mean the latitude and longitude (and, when available, altitude) of the wireless end user, in addition to the ~~((MDN))~~ mobile directory number information. When the latitude and longitude are not available the Phase II ALI defaults to Phase I ALI as defined in this chapter.

~~((51))~~ **"Phase II ALI data stream"** shall mean the location information and formatting required for data collected by the LDT and transmitted to the PSAP.

~~((52))~~ (57) **"Phase II computer aided dispatch (CAD) system upgrades"** shall mean upgrades to the PSAP CAD system necessary to interpret the Phase II ALI data stream or to provide output to display Phase II location.

~~((53))~~ (58) **"Phase II E9-1-1 service"** shall mean service provided by an RCSC that delivers Phase I E9-1-1 service and latitude and longitude (and, when available, altitude) of the wireless end user.

~~((54))~~ (59) **"Phase II implementation plan"** shall mean a plan of an RCSC or county for implementation of Phase II E9-1-1 service in a county or counties in Washington

state, including, but not limited to: Phase II E9-1-1 service activation date; network flowchart (including specification of the technology used for Phase II); and an outline of Phase II E9-1-1 service testing procedures.

~~((55))~~ (60) **"Phase II testing"** shall mean testing conducted by an RCSC when Phase II E9-1-1 service is implemented to ensure the service is working correctly, and periodic testing necessary for the maintenance of the service.

~~((56))~~ **"Position determining entity (PDE)"** is used interchangeably with and shall mean location determination technology (LDT) as defined herein.

~~((57))~~ (61) **"Place of primary use,"** as defined in RCW 82.04.065, shall mean the street address representative of where the subscriber's use of the mobile telecommunications service primarily occurs, which must be:

(a) The residential street address or the primary business street address of the subscriber; and

(b) Within the licensed service area of the home service provider.

(62) "PSAP demarcation point" shall mean the point at which the 9-1-1 network accesses the PSAP's CPE.

(63) "PSAP mapping" shall mean a system capable of converting ((Phase II)) latitude and longitude (and, when available, altitude) to a map display at the 9-1-1 call answering positions at the PSAPs.

~~((58))~~ (64) **"Pseudo-ANI (P-ANI)"** shall mean a nondialable telephone number used to support routing of wireless 9-1-1 calls that may identify a wireless cell, cell sector, or PSAP to which the call should be routed; or a nondialable telephone number used to support routing of VoIP 9-1-1 calls that identifies the PSAP to which the call should be routed.

~~((59))~~ (65) **"Public safety answering point (PSAP)"** shall mean the public safety answering location for 9-1-1 calls originating in a given area. PSAPs are designated as primary or secondary, which refers to the order in which calls are directed for answering.

~~((60))~~ (66) **"Radio communications service company (RCSC)"** shall mean every corporation, company, association, joint stock association, partnership, and person, their lessees, trustees, or receivers appointed by any court, and every city or town making available facilities to provide commercial mobile radio communications services, or cellular communications service for hire, sale, and both facilities-based and nonfacilities-based resellers, and does not include radio-paging providers.

~~((61))~~ **"Regional PSAP"** shall mean a single facility answering 9-1-1 calls for multiple counties (two or more) on a twenty-four hours a day, seven days a week basis and operated under a single management and fiscal structure.

~~((62))~~ (67) **"Reverse ALI search"** shall mean the ability to electronically query the ALI data base to obtain an address associated with a known telephone number.

~~((63))~~ (68) **"Route diversity"** shall mean a method of assuring continuity of service by using multiple transmission routes to deliver a particular service between two points on a network.

~~((64))~~ (69) **"Selective router"** shall mean a ~~((switching office that provides tandem))~~ device that provides the switching of 9-1-1 calls and controls delivery of a voice call with ANI to the PSAP and provides selective routing, speed

calling, selective transfer, fixed transfer, and certain maintenance functions for each PSAP.

~~((65))~~ (70) **"Selective routing"** shall mean a feature that permits a 9-1-1 call to be routed to a predesignated PSAP based upon the address and/or location associated with the originating ~~((telephone number))~~ 9-1-1 access point.

~~((66))~~ (71) **"Service control point (SCP)"** (also referred to as "signal control point") shall mean a remote data base within the signaling system 7 (SS7) signaling network that supplies the translation and routing data needed to deliver advanced network services.

~~((67))~~ **"Service control point (SCP) Phase I capabilities"** shall mean data base and routing translations necessary for interpretation of data provided by the MSC on wireless 9-1-1 calls to allow 9-1-1 calls to be routed to the correct PSAP and display the correct MDN of the wireless phone and the correct cell site and cell sector information.

~~((68))~~ **"Service control point (SCP) Phase II capabilities"** shall mean specific functions and features necessary for interpretation of Phase II data provided by the MPC on wireless 9-1-1 calls to allow 9-1-1 calls to be routed to the correct PSAP and display the latitude and longitude (and, when available, altitude) of the caller.

~~((69))~~ (72)(a) **"Service control point (SCP) Phase I capabilities"** shall mean data base and routing translations necessary for interpretation of data provided by the MSC on wireless 9-1-1 calls to allow 9-1-1 calls to be routed to the correct PSAP and display the correct MDN of the wireless phone and the correct cell site and cell sector information.

(b) **"Service control point (SCP) Phase II capabilities"** shall mean specific functions and features necessary for interpretation of Phase II data provided by the MPC on wireless 9-1-1 calls to allow 9-1-1 calls to be routed to the correct PSAP and display the latitude and longitude (and, when available, altitude) of the caller.

(73) **"Signaling system 7 (SS7)"** shall mean an out of band signaling system used to provide basic routing information, call set-up and other call termination functions in which signaling is removed from the voice channel itself and put on a separate data network.

~~((70))~~ (74) **"Statewide services"** shall mean services which benefit all counties and the Washington state patrol and do not require local revenue to be used prior to state reimbursement. Some are paid directly by the state E9-1-1 office and some are reimbursed through county contracts.

(75) **"Switching office"** shall mean a telecommunications provider facility that houses the switching and trunking equipment serving telephones in a defined area.

~~((71))~~ (76) **"Switching office enabling"** shall mean the technology that allows the public network telephone switching office to recognize and accept the digits 9-1-1.

~~((72))~~ (77) **"Telecommunications provider"** shall mean a telecommunications company as defined in RCW 80.04.010, a RCSC as defined herein, and a commercial mobile radio service provider as defined in 47 CFR, section 20.3, and providers of VoIP as defined herein and/or data service.

~~((73))~~ **"TTY"** (78) **"Telecommunications services priority (TSP)"** shall mean a service that assigns a priority to telecommunications lines for service restoration.

(79) **"Teletype (TTY)"** shall mean a telecommunications device that permits typed telephone conversations with or between deaf, hard of hearing, or speech impaired people with a machine at their location.

~~((74))~~ (80) **"Traffic studies"** shall mean 9-1-1 call studies performed by a telecommunications provider.

~~((75))~~ (81) **"Uninterruptible power supply (UPS)"** shall mean a system designed to provide power, without delay or electrical transients, during a period when the normal power supply is incapable of performing acceptably.

~~((76))~~ **"Wireless end user"** shall mean any person or entity placing a 9-1-1 call on an RCSC's network. (82) **"Voice over internet protocol (VoIP) service"** shall mean as defined by the Federal Communications Commission (FCC) in 47 CFR Sec. 9.3.

(83) **"VoIP ALI"** shall mean a feature by which the name and registered address associated with the calling party's VoIP telephone number is forwarded to the PSAP for display.

(84) **"VoIP ALI data base"** shall mean a set of VoIP ALI records residing on a computer system at an E9-1-1 service provider or VoIP positioning center.

(85) **"VoIP interface to ALI data base"** shall mean the data connection between the VoIP positioning center (VPC) and the ALI data base that serves the PSAP.

(86) **"VoIP positioning center (VPC)"** shall mean the entity that retrieves, forwards, stores and controls position data within the location network.

(87) **"VoIP service provider"** shall mean a provider of VoIP service as defined by the Federal Communications Commission (FCC) in 47 CFR Sec. 9.3.

(88) **"VoIP service provider soft switch"** shall mean the VoIP equivalent of a switching office that provides switching functions for VoIP calls.

(89) **"VoIP testing"** shall mean testing conducted by a VoIP service provider when E9-1-1 service is implemented to ensure the service is working correctly, and testing after a company makes E9-1-1 service affecting additions or changes to their networks.

AMENDATORY SECTION (Amending WSR 03-10-014, filed 4/25/03, effective 7/1/03)

WAC 118-66-040 County eligibility for funding. (1) As required by RCW 38.52.510, each county ~~((shall))~~ must provide funding for the enhanced 9-1-1 emergency communications system in the county ~~((or district))~~ in an amount equal to the amount the maximum taxes under RCW 82.14B.030(1) would generate in the county ~~((or district))~~ or the amount necessary to provide full funding of the system in the county ~~((or district, whichever is less))~~.

(2) A county in the state of Washington may be eligible to receive available ~~((wireline))~~ funds from the state enhanced 9-1-1 account for certain eligible ~~((wireline))~~ enhanced 9-1-1 expenses as described in this chapter only if the county has imposed the maximum county ~~((wireline))~~ enhanced 9-1-1 tax allowed under RCW 82.14B.030 (1) and (2).

~~((3))~~ A county in the state of Washington may be eligible to receive available wireless funds from the enhanced 9-1-1

account for certain eligible wireless enhanced 9-1-1 expenses as described in this chapter related to implementation and operation of the enhanced wireless communication system only if the county has imposed the maximum county wireless enhanced 9-1-1 tax allowed under RCW 82.14B.030(2).

(4) Funds for wireless enhanced 9-1-1 service shall not be distributed to any county that has not negotiated or in good faith attempted to negotiate a wireless enhanced 9-1-1 Phase I or Phase II service agreement with the applicable RCSC(s:))

AMENDATORY SECTION (Amending WSR 03-10-014, filed 4/25/03, effective 7/1/03)

WAC 118-66-045 Washington state patrol (WSP) (~~eligibility for wireless funding~~) eligible expenses. Upon designation by a county as a (~~public safety answering point~~) primary PSAP for wireless 9-1-1 calls, a Washington state patrol communications center(s) may be eligible to receive available wireless funds from the state enhanced 9-1-1 account for the following eligible components:

(~~ANI/ALI controllers and necessary interfaces to send data to other PSAP equipment, Phase I E9-1-1 voice network, PSAP mapping, Phase II CAD upgrades, and for ANI/ALI display equipment. Such eligibility shall be based on the portion of wireless 9-1-1 calls initially received by the regional Washington state patrol communications center serving the designating county.~~) (1) Statewide dialing items:

- (a) Coordinator professional development;
- (b) Wireless Phase I E9-1-1 service components:
 - (i) Phase I automatic location identification (ALI);
 - (ii) Phase I address;
 - (iii) Service control point Phase I capabilities;
 - (iv) Phase I ALI data base;
 - (v) Phase I interface to selective router;
 - (vi) Phase I interface to ALI data base;
 - (vii) Phase I testing;
 - (viii) Phase I implementation plans;
 - (ix) Phase I implementation agreements;
 - (x) Pseudo-ANI (P-ANI);
 - (xi) MSC Phase I software capabilities;
 - (xii) Traffic studies between the MSC and selective

router;

- (xiii) Phase I ALI data circuits;

(c) Wireless E9-1-1 Phase II service components (including all Phase I components):

- (i) Location determination technology;
- (ii) Phase II implementation plan;
- (iii) Phase II testing;
- (iv) MSC Phase II software capabilities;
- (v) Service control point Phase II capabilities; and
- (vi) Mobile positioning center;
- (d) NG9-1-1 network;
- (e) 9-1-1 network equivalent (B.01/P.01 grade of service level required);

- (f) Selective routing;
- (g) Automatic location identification (ALI) data base;
- (h) Traffic studies between selective router and PSAP;
- (i) Telecommunications service priority;
- (j) Language interpretive service;

(k) Alternate routing and/or night service;

(l) Customer premise equipment (CPE)/telephone system and maintenance;

(m) TTY required for compliance with the Americans with Disabilities Act (ADA);

(n) ANI/ALI controllers and necessary interfaces to send data to other PSAP equipment;

(o) ANI/ALI display equipment for primary PSAPs;

(p) PSAP mapping and maintenance;

(q) 9-1-1 coordinator duties;

(2) Basic service items:

(a) Uninterruptible power supply (UPS) for PSAP enhanced 9-1-1 equipment and maintenance;

(b) Route diversity between selective router and PSAP;

(c) E9-1-1 mapping administration;

(d) Instant call check equipment and maintenance;

(e) Mapping display for call answering positions that are ANI/ALI equipped;

(f) 9-1-1 Management information system;

(g) Call detail recorder or printer and maintenance;

(h) Headsets for 9-1-1 call receivers;

(3) Capital items:

(a) Logging recorder for 9-1-1 calls and maintenance;

(b) Computer aided dispatch (CAD) system hardware and software and maintenance;

(c) Auxiliary generator and generator maintenance to provide 9-1-1 eligible equipment/telephone services backup power;

(d) Clock synchronizer and maintenance; and

(e) Console furniture for 9-1-1 call receiving equipment and maintenance.

AMENDATORY SECTION (Amending WSR 03-10-014, filed 4/25/03, effective 7/1/03)

WAC 118-66-050 State eligible expenses. Enhanced 9-1-1 communications systems are comprised of multiple components. Subject to available funds, expenses for implementation, operation, and maintenance costs of these components may be eligible for reimbursement if incurred by eligible entities. The components listed below may be eligible for reimbursement to eligible entities from the state enhanced 9-1-1 account based on a reasonable prioritization by the state E9-1-1 coordinator with the advice and assistance of the enhanced 9-1-1 advisory committee and in accordance with the purposes and priorities established by statute and regulation, including WAC 118-66-020. The state E9-1-1 coordinator will adopt policies defining specific details related to reimbursement eligibility.

(1) Expenses for the following wireline service components may be eligible for reimbursement from the state enhanced 9-1-1 account from funds generated under the state wireline/VoIP enhanced 9-1-1 (~~excess tax~~) account (RCW 82.14B.030(~~(3)~~)) (5) and (7) as statewide dialing items:

(a) (~~Statewide dialing items:~~

(i)) Switching office enabling;

(ii)) (b) Automatic number identification (ANI);

(iii) 9-1-1 voice network (B.01/P.01 grade of service level required);

~~(iv))~~ (c) Traffic studies between switching offices and the selective router;

~~((v) MSAG coordination and maintenance;~~

~~(vi))~~ (d) ALI/DMS service;

~~((vii))~~ (e) Reverse ALI search capability(;

~~(b) Basic service items:~~

~~(i) Route diversity between switching offices and selective router;)).~~

(2) Expenses for the following wireless components may be eligible for reimbursement from state enhanced 9-1-1 account funds generated under the state wireless enhanced 9-1-1 excise tax (RCW 82.14B.030(~~((4))~~) (6) as statewide dialing items:

(a) Wireless Phase I E9-1-1 service components:

(i) Phase I automatic location identification (ALI);

(ii) Phase I address;

(iii) Service control point Phase I capabilities;

(iv) Phase I ALI data base;

~~(v) ((Phase I MSAG coordination;~~

~~(vi))~~ Phase I interface to selective router;

~~((vii))~~ (vi) Phase I interface to ALI data base;

~~((viii))~~ (vii) Phase I testing;

~~((ix))~~ (viii) Phase I implementation plans;

~~((x))~~ (ix) Phase I implementation agreements;

~~((xi))~~ (x) Pseudo-ANI (P-ANI);

~~((xii) Phase I 9-1-1 voice network;~~

~~(xiii))~~ (xi) MSC Phase I software capabilities;

~~((xiv))~~ (xii) Traffic studies between the MSC and selective router;

~~((xv))~~ (xiii) Phase I ALI data circuits;

(b) Wireless E9-1-1 Phase II service components (including all Phase I components):

(i) ~~((PSAP mapping;~~

~~(ii) Phase II CAD system upgrades;~~

~~(iii))~~ Location determination technology;

~~((iv))~~ (ii) Phase II implementation plan;

~~((v))~~ (iii) Phase II testing;

~~((vi))~~ (iv) MSC Phase II software capabilities;

~~((vii))~~ (v) Service control point Phase II capabilities;

and

~~((viii))~~ (vi) Mobile positioning center.

(3) Expenses for the following components are shared with wireline/VoIP and wireless enhanced 9-1-1 services and may be eligible for reimbursement from state enhanced 9-1-1 account funds generated under the state wireline/VoIP enhanced 9-1-1 excise tax (RCW 82.14B.030(~~((3))~~) (5) and (7)) and from state enhanced 9-1-1 account funds generated under the statewide wireless enhanced 9-1-1 excise tax (RCW 82.14B.030(~~((4))~~) (6):

(a) Statewide dialing items:

(i) ~~((Selective routing;~~

~~(ii) Automatic location identification (ALI) data base;~~

~~(iii) Traffic studies between selective router and PSAP;~~

~~(iv) ANI/ALI controllers and necessary interfaces to send data to other PSAP equipment;~~

~~(v) ANI/ALI display equipment for primary PSAPs;~~

~~(vi) That portion of a telephone system compatible with enhanced 9-1-1 that is used to answer 9-1-1 calls;~~

~~(vii) TTY required for compliance with the American Disabilities Act (ADA);~~

~~(viii) County 9-1-1 coordinator duties;))~~ Coordinator professional development;

(ii) NG9-1-1 network;

(iii) 9-1-1 network equivalent (B.01/P.01 grade of service level required);

(iv) Selective routing;

(v) Automatic location identification (ALI) data base;

(vi) Traffic studies between selective router and PSAP;

(vii) Telecommunications service priority;

(viii) Language interpretive service;

(ix) Alternate routing and/or night service;

(x) Customer premise equipment (CPE)/telephone system and maintenance;

(xi) TTY required for compliance with the Americans with Disabilities Act (ADA);

(xii) ANI/ALI controllers and necessary interfaces to send data to other PSAP equipment;

(xiii) ANI/ALI display equipment for primary PSAPs;

(xiv) PSAP mapping and maintenance;

(xv) County 9-1-1 coordinator duties;

(xvi) MSAG coordination and maintenance;

(xvii) Mapping/GIS coordination and maintenance;

(xviii) 9-1-1 information technology services;

(xix) 9-1-1 call receiver salaries and benefits;

(xx) 9-1-1 public education coordination;

(xxi) 9-1-1 training coordination.

(b) Basic service items:

(i) Uninterruptible power supply (UPS) for PSAP enhanced 9-1-1 equipment and maintenance;

(ii) Route diversity between selective router and PSAP;

(iii) 9-1-1 Coordinator training;

(iv) MSAG training;

(v) Mapping/GIS training;

(vi) Information technology (IT) training;

(vii) Call receiver training;

(viii) E9-1-1 mapping administration;

(ix) Instant call check equipment and maintenance;

(x) Mapping display for call answering positions that are ANI/ALI equipped;

(xi) 9-1-1 Management information system;

(xii) Call detail recorder (~~and~~) or printer and maintenance;

~~((ii) E9-1-1 mapping administration;~~

~~(iii) Mapping display for call answering positions that are ANI/ALI equipped.~~

~~(iv) Instant call check equipment (one per 9-1-1 call answering position);~~

~~(v) Uninterruptible power supply (UPS) for PSAP enhanced 9-1-1 equipment;~~

~~(vi) 9-1-1 management information system;~~

~~(vii))~~ (xiii) Headsets for 9-1-1 call ~~((takers))~~ receivers;

~~((viii) 9-1-1 call receiver salaries and benefits;~~

~~(ix) Language line service;~~

~~(x) Call receiver training;~~

~~(xi))~~ (xiv) Enhanced 9-1-1 document ~~((retention and) destruction;~~

~~((xii))~~ (xv) 9-1-1 coordinator electronic mail(;

~~(xiii) Route diversity between selective router and PSAP;~~

~~(xiv) Alternate routing and/or night service;)).~~

(c) Capital:

(i) Logging recorder for 9-1-1 calls and maintenance;

(ii) Computer aided dispatch (CAD) system hardware and software and maintenance;

(iii) Auxiliary generator and generator maintenance to ((support)) provide 9-1-1 ((emergency telephone)) eligible equipment/telephone services ((for)) backup power;

((ii)) Logging recorder for 9-1-1 call;

((iii)) Computer aided dispatch (CAD) system hardware and software; and)

(iv) Clock synchronizer and maintenance; and

(v) Console furniture for 9-1-1 call receiving equipment and maintenance.

(4) Within available funds and consistent with statutory and regulatory purposes and priorities, the state enhanced 9-1-1 coordinator (with the advice and assistance of the enhanced 9-1-1 advisory committee) has the discretion to allocate state enhanced 9-1-1 account funds to eligible entities as reimbursement for wireline/VoIP and wireless enhanced 9-1-1 eligible expenses.

(5) Eligible expenses for wireline/VoIP components established in WAC 118-66-050(1) may only be eligible for reimbursement from state enhanced 9-1-1 account funds generated under the state wireline/VoIP enhanced 9-1-1 excise tax (RCW 82.14B.030 (5) and (7)). Such funds shall be allocated based on statutory and regulatory purposes and priorities and WAC 118-66-020.

(6) Eligible expenses for wireless components established in WAC 118-66-050(2) may only be eligible for reimbursement from enhanced 9-1-1 account funds generated under the state wireless enhanced 9-1-1 excise tax (RCW 82.14B.030(6)). Such funds shall be allocated based on statutory and regulatory purposes and priorities and WAC 118-66-020.

(7) Eligible expenses for components established in WAC 118-66-050(3) may be eligible for reimbursement from state enhanced 9-1-1 account funds generated under the state wireline/VoIP enhanced 9-1-1 excise tax (RCW 82.14B.030 (5) and (7)) and state enhanced 9-1-1 account funds generated under the state wireless enhanced 9-1-1 excise tax (RCW 82.14B.030(6)). (All shared components.) The amount allocated from each tax source will be based on an equitable distribution determined by the state E9-1-1 coordinator with the advice and assistance of the enhanced 9-1-1 advisory committee. Such funds shall be allocated based on statutory and regulatory purposes and priorities and WAC 118-66-020.

NEW SECTION

WAC 118-66-060 County eligible expenses. (1) In addition to the state reimbursement eligible items listed in WAC 118-66-050 (1) through (3), PSAP and 9-1-1 administration cost items are eligible county 9-1-1 expenses, including the following items, which are not listed in order of priority:

- (a) Management services;
- (b) Human resources services;
- (c) Legal costs;
- (d) Financial services;
- (e) PSAP and 9-1-1 administration lease/purchase costs;

(f) E9-1-1 building repair and maintenance, and major systems replacement/repair;

(g) E9-1-1 property and liability insurance;

(h) PSAP and 9-1-1 administrative telephone system;

(i) E9-1-1/NG9-1-1 reserve accounts; and

(j) Radio communications services companies wireless enhanced 9-1-1 recovery expenses.

(2) The items listed in subsection (1) of this section are not eligible for funding from the state enhanced 9-1-1 account nor shall such items be used in the determination of eligibility in receiving state assistance from the state enhanced 9-1-1 account.

(3) When the items listed in subsection (1) of this section are used with other PSAP operations such as dispatching, the county 9-1-1 eligible amount shall be determined by percentage of use.

AMENDATORY SECTION (Amending WSR 03-10-014, filed 4/25/03, effective 7/1/03)

WAC 118-66-090 Other rules. Through other ((state)) governmental agencies, such as((:)) the Federal Communications Commission and the Washington utilities and transportation commission, rules have and will be adopted which will impact the statewide operation of enhanced 9-1-1. By this reference, this rule is intended to be consistent with and complementary to these other rules.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 118-66-080 Allocation of funds.

WSR 11-03-020

PERMANENT RULES

DEPARTMENT OF HEALTH

[Filed January 7, 2011, 3:31 p.m., effective February 7, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: WAC 246-220-010, 246-249-010, 246-249-090, and 246-250-010 are amended to make Washington state compatible with the federal rules as amended by the Energy Policy Act of 2005 regarding byproduct material. Under the formal agreement between the state of Washington and the chairman of the Atomic Energy Commission (now the United States Nuclear Regulatory Commission (NRC)), the Washington state radiation control program is required to remain compatible with NRC regulations.

Citation of Existing Rules Affected by this Order: Amending WAC 246-220-010, 246-249-010, 246-249-090, and 246-250-010.

Statutory Authority for Adoption: RCW 70.98.050 and 70.98.080.

Adopted under notice filed as WSR 10-16-107 on August 2, 2010.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal

Rules or Standards: New 0, Amended 4, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 4, Repealed 0.

Date Adopted: January 7, 2011.

Mary C. Selecky
Secretary

AMENDATORY SECTION (Amending WSR 09-06-003, filed 2/18/09, effective 3/21/09)

WAC 246-220-010 Definitions. As used in chapters 246-220 through 246-254 WAC, these terms have the definitions set forth below. Additional definitions used only in a certain chapter will be found in that chapter.

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

(2) **"Accelerator produced material"** means any material made radioactive by exposing it in a particle accelerator.

(3) **"Act"** means Nuclear energy and radiation, chapter 70.98 RCW.

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

(5) **"Adult"** means an individual eighteen or more years of age.

(6) **"Agreement state"** means any state with which the United States Nuclear Regulatory Commission has entered into an effective agreement under section 274 b. of the Atomic Energy Act of 1954, as amended (73 Stat. 689).

(7) **"Airborne radioactive material"** means any radioactive material dispersed in the air in the form of particulates, dusts, fumes, mists, vapors, or gases.

(8) **"Airborne radioactivity area"** means a room, enclosure, or operating area in which airborne radioactive material exists in concentrations (a) in excess of the derived air concentration (DAC) specified in WAC 246-221-290, Appendix A, or (b) to the 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 twelve DAC-hours.

(9) **"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.

(10) **"Alert"** means events may occur, are in progress, or have occurred that could lead to a release of radioactive material but that the release is not expected to require a

response by offsite response organizations to protect persons offsite.

(11) **"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 0.05 Sv (5 rem) or a committed dose equivalent of 0.5 Sv (50 rem) to any individual organ or tissue. ALI values for intake by ingestion and by inhalation of selected radionuclides are given in WAC 246-221-290.

(12) **"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.

(13) **"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.

(14) **"Background radiation"** means radiation from cosmic sources; naturally occurring radioactive materials, including radon, except as a decay product of source or special nuclear material, and including 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 sources of radiation from radioactive materials regulated by the department.

(15) **"Becquerel"** (Bq) means the SI unit of activity. One becquerel is equal to 1 disintegration or transformation per second (s⁻¹).

(16) **"Bioassay"** 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. For purposes of these regulations, "radiobioassay" is an equivalent term.

(17) **"~~(Byproduct)~~ By-product material"** means:

(a) 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~~) using special nuclear material;

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

(c) (~~any material that has been made radioactive by use of a particle accelerator;~~ (d)) (i) Any discrete source of radium 226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research (~~use; and (e))~~ activity; or

(ii) Any material that:

(A) Has been made radioactive by use of a particular accelerator; and

(B) Is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; and

(d) Any discrete source of naturally occurring radioactive material((s-which)), other than source material, that:

(i) The commission, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security, and the head of any other appropriate federal agency determines would pose a threat similar to the threat posed by a discrete source of radium 226 to the public health and safety or the common defense and security((,-that is produced, extracted,-)); and

(ii) Before, on, or after August 8, 2005, is extracted or converted after extraction for use for in a commercial, medical, or research ((activities)) activity.

(18) **"Calendar quarter"** means at least twelve but no more than fourteen consecutive weeks. The first calendar quarter of each year begins in January and subsequent calendar quarters shall be arranged so that no day is included in more than one calendar quarter and no day in any one year is omitted from inclusion within a calendar quarter. A licensee or registrant may not change the method of determining calendar quarters for purposes of these regulations.

(19) **"Calibration"** means the determination of (a) the response or reading of an instrument relative to a series of known radiation values over the range of the instrument, or (b) the strength of a source of radiation relative to a standard.

(20) **"CFR"** means Code of Federal Regulations.

(21) **"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 ten days, for Class W, Weeks, from ten to one hundred days, and for Class Y, Years, of greater than one hundred days. For purposes of these regulations, "lung class" and "inhalation class" are equivalent terms. For "class of waste" see WAC 246-249-040.

(22) **"Collective dose"** means 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.

(23) **"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 fifty-year period following the intake.

(24) **"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 each of these organs or tissues ($H_{E,50} = \sum S_{gr}; w_T H_{T,50}$).

(25) **"Consortium"** means an association of medical use licensees and a PET radionuclide production facility in the same geographical area that jointly own or share in the operation and maintenance cost of the PET radionuclide production facility that produces PET radionuclides for use in producing radioactive drugs within the consortium for non-commercial distributions among its associated members for medical use. The PET radionuclide production facility within

the consortium must be located at an educational institution or a federal facility or a medical facility.

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

(27) **"Controlled area."** See "Restricted area."

(28) **"Curie"** means a unit of quantity of radioactivity. One curie (Ci) is that quantity of radioactive material which decays at the rate of 3.7×10^{10} transformations per second (tps).

(29) **"Declared pregnant woman"** means a woman who has voluntarily informed the licensee or registrant, 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.

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

(31) **"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.

(32) **"Department"** means the Washington state department of health, which has been designated as the state radiation control agency under chapter 70.98 RCW.

(33) **"Depleted uranium"** means the source material uranium in which the isotope Uranium-235 is less than 0.711 percent by weight of the total uranium present. Depleted uranium does not include special nuclear material.

(34) **"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 two thousand hours under conditions of light work, results in an intake of one ALI. For purposes of these regulations, the condition of light work is an inhalation rate of 1.2 cubic meters of air per hour for two thousand hours in a year. DAC values are given in WAC 246-221-290.

(35) **"Derived air concentration-hour"** (DAC-hour) means 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 or registrant may take two thousand DAC-hours to represent one ALI, equivalent to a committed effective dose equivalent of 0.05 Sv (5 rem).

(36) **"Discrete source"** means a radionuclide that has been processed so that its concentration within a material has been purposely increased for use for commercial, medical or research activities.

(37) **"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).

(38) **"Dose"** is a generic term that means absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, total organ

dose equivalent, or total effective dose equivalent. For purposes of these rules, "radiation dose" is an equivalent term.

(39) **"Dose commitment"** means the total radiation dose to a part of the body that will result from retention in the body of radioactive material. For purposes of estimating the dose commitment, it is assumed that from the time of intake the period of exposure to retained material will not exceed fifty years.

(40) **"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 sievert (Sv) and rem.

(41) **"Dose limits"** means the permissible upper bounds of radiation doses established in accordance with these regulations. For purposes of these regulations, "limits" is an equivalent term.

(42) **"Dosimetry processor"** means a person that processes and evaluates individual monitoring devices in order to determine the radiation dose delivered to the monitoring devices.

(43) **"dpm"** means disintegrations per minute. See also "curie."

(44) **"Effective dose equivalent"** (H_E) means the sum of the products of the dose equivalent to each organ or tissue (H_T) and the weighting factor (w_T) applicable to each of the body organs or tissues that are irradiated ($H_E = \sum w_T H_T$).

(45) **"Embryo/fetus"** means the developing human organism from conception until the time of birth.

(46) **"Entrance or access point"** means any opening through which an individual or extremity of an individual could gain access to radiation areas or to licensed radioactive materials. This includes entry or exit portals of sufficient size to permit human entry, without respect to their intended use.

(47) **"Exposure"** means (a) being exposed to ionizing radiation or to radioactive material, or (b) the quotient of ΔQ by Δm where " ΔQ " is the absolute value of the total charge of the ions of one sign produced in air when all the electrons (negatrons and positrons) liberated by photons in a volume element of air having mass " Δm " are completely stopped in air. The special unit of exposure is the roentgen (R) and the SI equivalent is the coulomb per kilogram. One roentgen is equal to 2.58×10^{-4} coulomb per kilogram of air.

(48) **"Exposure rate"** means the exposure per unit of time, such as roentgen per minute and milliroentgen per hour.

(49) **"External dose"** means that portion of the dose equivalent received from any source of radiation outside the body.

(50) **"Extremity"** means hand, elbow, arm below the elbow, foot, knee, and leg below the knee.

(51) **"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.

(52) **"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.

(53) **"Fit test"** means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

(54) **"Former United States Atomic Energy Commission (AEC) or United States Nuclear Regulatory Commission (NRC) licensed facilities"** means nuclear reactors, nuclear fuel reprocessing plants, uranium enrichment plants, or critical mass experimental facilities where AEC or NRC licenses have been terminated.

(55) **"Generally applicable environmental radiation standards"** means standards issued by the United States 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.

(56) **"Gray"** (Gy) means the SI unit of absorbed dose. One gray is equal to an absorbed dose of 1 joule/kilogram (100 rad).

(57) **"Healing arts"** means the disciplines of medicine, dentistry, osteopathy, chiropractic, podiatry, and veterinary medicine.

(58) **"Helmet"** means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

(59) **"High radiation area"** means any 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 1 mSv (0.1 rem) in one hour at 30 centimeters from any source of radiation or 30 centimeters from any surface that the radiation penetrates. For purposes of these regulations, rooms or areas in which diagnostic X-ray systems are used for healing arts purposes are not considered high radiation areas.

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

(61) **"Human use"** means the intentional internal or external administration of radiation or radioactive material to human beings.

(62) **"Immediate"** or **"immediately"** means as soon as possible but no later than four hours after the initiating condition.

(63) **"IND"** means investigatory new drug for which an exemption has been claimed under the United States Food, Drug and Cosmetic Act (Title 21 CFR).

(64) **"Individual"** means any human being.

(65) **"Individual monitoring"** means the assessment of:

(a) Dose equivalent (i) by the use of individual monitoring devices or (ii) by the use of survey data; or

(b) Committed effective dose equivalent (i) by bioassay or (ii) by determination of the time-weighted air concentrations to which an individual has been exposed, that is, DAC-hours.

(66) **"Individual monitoring devices"** (individual monitoring equipment) means devices designed to be worn by a single individual for the assessment of dose equivalent e.g., as film badges, thermoluminescent dosimeters (TLDs),

pocket ionization chambers, and personal ("lapel") air sampling devices.

(67) **"Inspection"** means an official examination or observation by the department including but not limited to, tests, surveys, and monitoring to determine compliance with rules, orders, requirements and conditions of the department.

(68) **"Interlock"** means a device arranged or connected so that the occurrence of an event or condition is required before a second event or condition can occur or continue to occur.

(69) **"Internal dose"** means that portion of the dose equivalent received from radioactive material taken into the body.

(70) **"Irretrievable source"** means any sealed source containing licensed material which is pulled off or not connected to the wireline downhole and for which all reasonable effort at recovery, as determined by the department, has been expended.

(71) **"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 centimeters (300 mg/cm²).

(72) **"License"** means a license issued by the department.

(73) **"Licensed material"** means radioactive material received, possessed, used, transferred, or disposed under a general or specific license issued by the department.

(74) **"Licensee"** means any person who is licensed by the department under these rules and the act.

(75) **"Licensing state"** means any state with regulations equivalent to the suggested state regulations for control of radiation relating to, and an effective program for, the regulatory control of NARM and which has been granted final designation by the Conference of Radiation Control Program Directors, Inc.

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

(77) **"Lost or missing licensed material"** means licensed material whose location is unknown. This definition includes licensed material that has been shipped but has not reached its planned destination and whose location cannot be readily traced in the transportation system.

(78) **"Member of the public"** means an individual except when the individual is receiving an occupational dose.

(79) **"Minor"** means an individual less than eighteen years of age.

(80) **"Monitoring"** means the measurement of radiation, radioactive material concentrations, surface area activities or quantities of radioactive material and the use of the results of these measurements to evaluate potential exposures and doses. For purposes of these regulations, radiation monitoring and radiation protection monitoring are equivalent terms.

(81) **"NARM"** means any naturally occurring or accelerator-produced radioactive material. It does not include by-product, source, or special nuclear material. For the purpose of meeting the definition of a licensing state by the Conference of Radiation Control Program Directors, Inc. (CRCPD), NARM refers only to discrete sources of NARM. Diffuse sources of NARM are excluded from consideration by the CRCPD for Licensing State designation purposes.

(82) **"Nationally tracked source"** means a sealed source containing a quantity equal to or greater than Category 1 or Category 2 levels of any radioactive material listed in WAC 246-221-236. In this context a sealed source is defined as radioactive material that is sealed in a capsule or closely bonded, in a solid form and which is not exempt from regulatory control. It does not mean material encapsulated solely for disposal, or nuclear material contained in any fuel assembly, subassembly, fuel rod, or fuel pellet. Category 1 nationally tracked sources are those containing radioactive material at a quantity equal to or greater than the Category 1 threshold. Category 2 nationally tracked sources are those containing radioactive material at a quantity equal to or greater than the Category 2 threshold but less than the Category 1 threshold.

(83) **"Natural radioactivity"** means radioactivity of naturally occurring nuclides.

(84) **"NDA"** means a new drug application which has been submitted to the United States Food and Drug Administration.

(85) **"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.

(86) **"Nonstochastic effect"** means a health effect, 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. For purposes of these rules, a "deterministic effect" is an equivalent term.

(87) **"Nuclear Regulatory Commission"** (NRC) means the United States Nuclear Regulatory Commission or its duly authorized representatives.

(88) **"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, registrant, or other person. Occupational dose does not include dose received: From background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under chapter 246-240 WAC, from voluntary participation in medical research programs, or as a member of the public.

(89) **"Ore refineries"** means all processors of a radioactive material ore.

(90) **"Particle accelerator"** means any machine capable of accelerating electrons, protons, deuterons, or other charged particles in a vacuum and of discharging the resultant particulate or other radiation into a medium at energies usually in excess of 1 MeV. For purposes of this definition, "accelerator" is an equivalent term.

(91) **"Permittee"** means a person who has applied for, and received, a valid site use permit for use of the low-level waste disposal facility at Hanford, Washington.

(92) **"Person"** means any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, political subdivision of this state, any other state or political subdivision or agency thereof, and any legal successor, representative, agent or agency of the foregoing, but shall not include federal government agencies.

(93) **"Personal supervision"** means supervision where the supervisor is physically present at the facility and in sufficient proximity that contact can be maintained and immediate assistance given as required.

(94) **"Personnel monitoring equipment."** See individual monitoring devices.

(95) **"PET"** means positron emission tomography.

(96) **"Pharmacist"** means an individual licensed by this state to compound and dispense drugs, and poisons.

(97) **"Physician"** means a medical doctor or doctor of osteopathy licensed by this state to prescribe and dispense drugs in the practice of medicine.

(98) **"Planned special exposure"** means an infrequent exposure to radiation, separate from and in addition to the annual occupational dose limits.

(99) **"Positive pressure respirator"** means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

(100) **"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.

(101) **"Practitioner"** means an individual licensed by the state in the practice of a healing art (i.e., physician, dentist, podiatrist, chiropractor, etc.).

(102) **"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.

(103) **"Public dose"** means the dose received by a member of the public from exposure to sources of radiation under the licensee's or registrant's control or to radiation or radioactive material released by the 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 chapter 246-240 WAC, or from voluntary participation in medical research programs.

(104) **"Qualified expert"** means an individual who has demonstrated to the satisfaction of the department he/she has the knowledge, training, and experience to measure ionizing radiation, to evaluate safety techniques, and to advise regarding radiation protection needs. The department reserves the right to recognize the qualifications of an individual in specific areas of radiation protection.

(105) **"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.

(106) **"Quality factor"** (Q) means the modifying factor, listed in Tables I and II, that is used to derive dose equivalent from absorbed dose.

TABLE I
QUALITY FACTORS AND ABSORBED DOSE EQUIVALENCIES

TYPE OF RADIATION	Quality Factor (Q)	Absorbed Dose Equal to A Unit Dose Equivalent ^a
X, gamma, or beta radiation and high-speed electrons	1	1

TYPE OF RADIATION	Quality Factor (Q)	Absorbed Dose Equal to A Unit Dose Equivalent ^a
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 Sv.

If it is more convenient to measure the neutron fluence rate rather than to determine the neutron dose equivalent rate in sievert per hour or rem per hour as required for Table I, then 0.01 Sv (1 rem) of neutron radiation of unknown energies may, for purposes of these regulations, 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 or registrant may use the fluence rate per unit dose equivalent or the appropriate Q value from Table II to convert a measured tissue dose in gray or rad to dose equivalent in sievert or rem.

TABLE II
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)	Fluence per Unit Dose Equivalent ^b (neutrons cm ⁻² Sv ⁻¹)
(thermal) 2.5 x 10 ⁻⁸	2	980 x 10 ⁶	980 x 10 ⁸
1 x 10 ⁻⁷	2	980 x 10 ⁶	980 x 10 ⁸
1 x 10 ⁻⁶	2	810 x 10 ⁶	810 x 10 ⁸
1 x 10 ⁻⁵	2	810 x 10 ⁶	810 x 10 ⁸
1 x 10 ⁻⁴	2	840 x 10 ⁶	840 x 10 ⁸
1 x 10 ⁻³	2	980 x 10 ⁶	980 x 10 ⁸
1 x 10 ⁻²	2.5	1010 x 10 ⁶	1010 x 10 ⁸
1 x 10 ⁻¹	7.5	170 x 10 ⁶	170 x 10 ⁸
5 x 10 ⁻¹	11	39 x 10 ⁶	39 x 10 ⁸
1	11	27 x 10 ⁶	27 x 10 ⁸
2.5	9	29 x 10 ⁶	29 x 10 ⁸
5	8	23 x 10 ⁶	23 x 10 ⁸
7	7	24 x 10 ⁶	24 x 10 ⁸
10	6.5	24 x 10 ⁶	24 x 10 ⁸
14	7.5	17 x 10 ⁶	17 x 10 ⁸
20	8	16 x 10 ⁶	16 x 10 ⁸
40	7	14 x 10 ⁶	14 x 10 ⁸
60	5.5	16 x 10 ⁶	16 x 10 ⁸
1 x 10 ²	4	20 x 10 ⁶	20 x 10 ⁸
2 x 10 ²	3.5	19 x 10 ⁶	19 x 10 ⁸
3 x 10 ²	3.5	16 x 10 ⁶	16 x 10 ⁸
4 x 10 ²	3.5	14 x 10 ⁶	14 x 10 ⁸

^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.

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

(108) **"Quarter"** means a period of time equal to one-fourth of the year observed by the licensee, approximately thirteen 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.

(109) **"Rad"** means the special unit of absorbed dose. One rad equals one-hundredth of a joule per kilogram of material; for example, if tissue is the material of interest, then 1 rad equals 100 ergs per gram of tissue. One rad is equal to an absorbed dose of 100 erg/gram or 0.01 joule/kilogram (0.01 gray).

(110) **"Radiation"** means alpha particles, beta particles, gamma rays, X rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. For purposes of these regulations, ionizing radiation is an equivalent term. Radiation, as used in these regulations, does not include magnetic fields or nonionizing radiation, like radiowaves or microwaves, visible, infrared, or ultraviolet light.

(111) **"Radiation area"** means any area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.05 mSv (0.005 rem) in one hour at thirty centimeters from the source of radiation or from any surface that the radiation penetrates.

(112) **"Radiation machine"** means any device capable of producing ionizing radiation except those devices with radioactive materials as the only source of radiation.

(113) **"Radiation safety officer"** means an individual who has the knowledge and responsibility to apply appropriate radiation protection regulations and has been assigned that responsibility by the licensee or registrant.

(114) **"Radiation source."** See "Source of radiation."

(115) **"Radioactive material"** means any material (solid, liquid, or gas) which emits radiation spontaneously.

(116) **"Radioactive waste"** means any radioactive material which is no longer of use and intended for disposal or treatment for the purposes of disposal.

(117) **"Radioactivity"** means the transformation of unstable atomic nuclei by the emission of radiation.

(118) **"Reference man"** means a hypothetical aggregation of human physical and physiological characteristics determined 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.

(119) **"Registrable item"** means any radiation machine except those exempted by RCW 70.98.180 or exempted by the department under the authority of RCW 70.98.080.

(120) **"Registrant"** means any person who is registered by the department or is legally obligated to register with the department in accordance with these rules and the act.

(121) **"Registration"** means registration with the department in accordance with the regulations adopted by the department.

(122) **"Regulations of the United States Department of Transportation"** means the regulations in 49 CFR Parts 170-189, 14 CFR Part 103, and 46 CFR Part 146.

(123) **"Rem"** means the special unit of any of the quantities expressed as dose equivalent. The dose equivalent in rem is equal to the absorbed dose in rad multiplied by the quality factor (1 rem = 0.01 Sv).

(124) **"Research and development"** means: (a) Theoretical analysis, exploration, or experimentation; or (b) the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, devices, equipment, materials, and processes. Research and development does not include the internal or external administration of radiation or radioactive material to human beings.

(125) **"Respiratory protective equipment"** means an apparatus, such as a respirator, used to reduce an individual's intake of airborne radioactive materials.

(126) **"Restricted area"** means any area to which access is limited by the licensee or registrant for purposes of protecting individuals against undue risks from exposure to radiation and radioactive material. "Restricted area" does not include any areas used for residential quarters, although a separate room or rooms in a residential building may be set apart as a restricted area.

(127) **"Roentgen"** (R) means the special unit of exposure. One roentgen equals 2.58×10^{-4} coulombs/kilogram of air.

(128) **"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 or registrant.

(129) **"Sealed source"** means any radioactive material that is encased in a capsule designed to prevent leakage or the escape of the radioactive material.

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

(131) **"Shallow dose equivalent"** (H_s), which applies to the external exposure of the skin of the whole body or the skin of an extremity, means the dose equivalent at a tissue depth of 0.007 centimeter (7 mg/cm²).

(132) **"SI"** means an abbreviation of the International System of Units.

(133) **"Sievert"** means the SI unit of any of the quantities expressed as dose equivalent. The dose equivalent in sievert is equal to the absorbed dose in gray multiplied by the quality factor (1 Sv = 100 rem).

(134) **"Site area emergency"** means events may occur, are in progress, or have occurred that could lead to a significant release of radioactive material and that could require a response by offsite response organizations to protect persons offsite.

(135) **"Site boundary"** means that line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee or registrant.

(136) **"Source container"** means a device in which radioactive material is transported or stored.

(137) **"Source material"** means: (a) Uranium or thorium, or any combination thereof, in any physical or chemical form, or (b) ores which contain by weight one-twentieth of one percent (0.05 percent) or more of (i) uranium, (ii) thorium, or (iii) any combination thereof. Source material does not include special nuclear material.

(138) **"Source material milling"** means the extraction or concentration of uranium or thorium from any ore processing primarily for its source material content.

(139) **"Source of radiation"** means any radioactive material, or any device or equipment emitting or capable of producing ionizing radiation.

(140) **"Special nuclear material"** means:

(a) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material that the United States Nuclear Regulatory Commission, under the provisions of section 51 of the Atomic Energy Act of 1954, as amended, determines to be special nuclear material, but does not include source material; or

(b) Any material artificially enriched in any of the foregoing, but does not include source material.

(141) **"Special nuclear material in quantities not sufficient to form a critical mass"** means uranium enriched in the isotope U-235 in quantities not exceeding three hundred fifty grams of contained U-235; uranium-233 in quantities not exceeding two hundred grams; plutonium in quantities not exceeding two hundred grams; or any combination of them in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified above for the same kind of special nuclear material. The sum of the ratios for all of the kinds of special nuclear material in combination shall not exceed "1" (i.e., unity). For example, the following quantities in combination would not exceed the limitation and are within the formula:

$$\frac{175 \text{ (grams contained U-235)}}{350} + \frac{50 \text{ (grams U-233)}}{200} + \frac{50 \text{ (grams Pu)}}{200} < 1$$

(142) **"Stochastic effect"** means a health effect that occurs 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. For purposes of these regulations, probabilistic effect is an equivalent term.

(143) **"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.

(144) **"Survey"** means an evaluation of the radiological conditions and potential hazards incident to the production, use, release, disposal, or presence of sources of radiation. When appropriate, the evaluation includes, but is not limited to, tests, physical examinations, calculations and measure-

ments of levels of radiation or concentration of radioactive material present.

(145) **"Test"** means (a) the process of verifying compliance with an applicable regulation, or (b) a method for determining the characteristics or condition of sources of radiation or components thereof.

(146) **"These rules"** mean all parts of the rules for radiation protection of the state of Washington.

(147) **"Tight-fitting facepiece"** means a respiratory inlet covering that forms a complete seal with the face.

(148) **"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.

(149) **"Total organ dose equivalent"** (TODE) means the sum of the deep dose equivalent and the committed dose equivalent to the organ or tissue receiving the highest dose.

(150) **"United States Department of Energy"** means the Department of Energy established by Public Law 95-91, August 4, 1977, 91 Stat. 565, 42 U.S.C. 7101 et seq., to the extent that the department exercises functions formerly vested in the United States Atomic Energy Commission, its chairman, members, officers and components and transferred to the United States Energy Research and Development Administration and to the administrator thereof under sections 104 (b), (c) and (d) of the Energy Reorganization Act of 1974 (Public Law 93-438, October 11, 1974, 88 Stat. 1233 at 1237, 42 U.S.C. 5814 effective January 19, 1975) and retransferred to the Secretary of Energy under section 301(a) of the Department of Energy Organization Act (Public Law 95-91, August 4, 1977, 91 Stat. 565 at 577-578, 42 U.S.C. 7151, effective October 1, 1977).

(151) **"Unrefined and unprocessed ore"** means ore in its natural form prior to any processing, such as grinding, roasting, beneficiating, or refining.

(152) **"Unrestricted area"** (uncontrolled area) means any area which is not a restricted area. Areas where the external dose exceeds 2 mrem in any one hour or where the public dose, taking into account occupancy factors, will exceed 100 mrem total effective dose equivalent in any one year must be restricted.

(153) **"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.

(154) **"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 5 Gy (500 rad) in one hour at one meter from a source of radiation or one meter from any surface that the radiation penetrates.

(155) **"Waste"** means those low-level radioactive wastes containing source, special nuclear or ~~(by-product)~~ by-product material that are acceptable for disposal in a land disposal facility. For purposes of this definition, low-level radioactive waste means radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or ~~(by-product)~~ by-product material as defined in sub-

section (b), (c), and (d) of the definition of by-product material in this section.

(156) **"Waste handling licensees"** mean persons licensed to receive and store radioactive wastes prior to disposal and/or persons licensed to dispose of radioactive waste.

(157) **"Week"** means seven consecutive days starting on Sunday.

(158) **"Weighting factor"** w_T for an organ or tissue (T) means 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	0.30 ^a
Whole Body	1.00 ^b

- ^a 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.
- ^b 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.

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

(160) **"Worker"** means an individual engaged in activities under a license or registration issued by the department and controlled by a licensee or registrant but does not include the licensee or registrant. Where the licensee or registrant is an individual rather than one of the other legal entities defined under "person," the radiation exposure limits for the worker also apply to the individual who is the licensee or registrant. If students of age eighteen years or older are subjected routinely to work involving radiation, then the students are considered to be workers. Individuals of less than eighteen years of age shall meet the requirements of WAC 246-221-050.

(161) **"Working level"** (WL) means any combination of short-lived radon daughters in 1 liter of air that will result in the ultimate emission of 1.3×10^5 MeV of potential alpha particle energy. The short-lived radon daughters are — 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.

(162) **"Working level month"** (WLM) means an exposure to one working level for one hundred seventy hours — two thousand working hours per year divided by twelve

months per year is approximately equal to one hundred seventy hours per month.

(163) **"Year"** means the period of time beginning in January used to determine compliance with the provisions of these regulations. The licensee or registrant may change the starting date of the year used to determine compliance by the licensee or registrant provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years.

AMENDATORY SECTION (Amending WSR 05-21-128, 05-23-113 and 06-01-105, filed 10/19/05, 11/18/05 and 12/21/05, effective 8/15/06)

WAC 246-249-010 Definitions. As used in this chapter, the following definitions apply:

(1) (~~"Low-level radioactive waste," consistent with the Low-Level Radioactive Waste Policy Amendments Act of 1985, Public Law 99-240, means radioactive waste not classified as high-level radioactive waste, spent nuclear fuel, or by-product material as defined in section 11e.(2) of the Atomic Energy Act.~~

(2)) **"Broker"** means a person who performs one or more of the following functions for a radioactive waste generator:

- (a) Arranges for transportation of the radioactive waste;
- (b) Collects and/or consolidates shipments of radioactive waste (waste collector);

(c) Processes radioactive waste in some manner, not including carriers whose sole function is to transport radioactive waste (waste processor).

(2) **"By-product material"** means:

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

(b) 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 by-product material within this definition;

(c)(i) Any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; or

(ii) Any material that:

(A) Has been made radioactive by use of a particle accelerator; and

(B) Is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; and

(d) Any discrete source of naturally occurring radioactive material, other than source material, that:

(i) The Nuclear Regulatory Commission, in consultation with the administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security, and the head of any other appropriate federal agency, determines would pose a threat similar to the threat

posed by a discrete source of radium-226 to the public health and safety or the common defense and security; and

(ii) Before, on, or after August 8, 2005, is extracted or converted after extraction for use in a commercial, medical, or research activity.

(3) "Chelating agent" means amine polycarboxylic acids (e.g., EDTA, DTPA), hydroxy-carboxylic acids, and polycarboxylic acids (e.g., citric acid, carboic acid, and glucinic acid).

(4) "Chemical description" means a description of the principal chemical characteristics of a radioactive waste.

(5) "Computer-readable medium" means the regulatory agency's computer can transfer the information from the medium into its memory.

(6) "Consignee" means the designated receiver of the shipment of radioactive waste.

(7) "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 section, is not considered to be a consignee for radioactive waste shipments.

(8) "Disposal container" means a container principally used to confine 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.

(9) "EPA identification number" means the number assigned by the EPA administrator under 40 CFR Part 263.

(10) "Generator" means any entity including a licensee operating under a commission or agreement state license who:

(a) Is a waste generator as defined in this part; or

(b) Is the entity or 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).

(11) "High integrity container (HIC)" means a container commonly designed to meet the structural stability requirements of this chapter, and to meet department of transportation Type A package requirements.

(12) "Land disposal facility" means the land, buildings, and equipment which are intended to be used for the disposal of radioactive wastes. For the purposes of this chapter, a land disposal facility does not include a geologic repository.

(13) "Motor vehicle" means any vehicle, truck, tractor, semi-trailer, or trailer (or any permitted combination of these), driven by mechanical power and used upon the highways to carry property.

(14) "Motor common carrier" means a person holding itself out to the general public to provide motor vehicle transportation for compensation over regular or irregular routes, or both.

(15) "Motor contract carrier" means a person other than a common carrier providing motor vehicle transportation of property for compensation under continuing agreements with one or more persons.

(16) "Motor private carrier" means a person, other than a motor carrier, transporting property by motor vehicle when the person is the owner, lessee, or bailee of the property being

transported; and the property is being transported for sale, lease, rent, or bailment, or to further a commercial enterprise.

(17) "Motor carrier" means a motor common carrier and a motor contract carrier.

(18) "Naturally occurring and accelerator produced material" (NARM) means any radioactive material of natural or accelerator origin; but does not include by-product, source or special nuclear material. Diffuse NARM is low activity NARM that has less than 2 nCi/g of 226-Ra.

(19) "NRC Forms 540, 540A, 541, 541A, 542, and 542A" are official NRC Forms referenced in this section. 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.

(20) "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.

(21) "Physical description" means the items on NRC Form 541 that describe a radioactive waste.

(22) "Radioactive waste" means either or both low-level radioactive waste and naturally occurring and accelerator produced radioactive material.

(23) "Residual waste" means 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.

(24) "Rollover volume" means the difference, in a calendar year, between the volume of NARM disposed at the disposal site and the site volume limit set forth under WAC 246-249-080(4).

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

(26) "Shipment" means the total radioactive waste material transported in one motor vehicle.

(27) "Shipping paper" means NRC Form 540 and, if required, NRC Form 540A which includes the information required by DOT in 49 CFR Part 172.

(28) "Transuranic waste" means material contaminated with elements that have an atomic number greater than 92.

(29) "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.

(30) "Waste" means those low-level radioactive wastes containing source, special nuclear, or by-product material that are acceptable for disposal in a land disposal facility. For the purposes of this definition, low-level radioactive waste means radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or by-prod-

uct material as defined in WAC 246-249-010 (2)(b), (c), and (d).

~~((31))~~ (31) "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.

~~((32))~~ (32) "Waste description" means the physical, chemical and radiological description of a radioactive waste as called for on NRC Form 541.

~~((32))~~ (33) "Waste generator" means an entity, operating under a commission or agreement state license, who:

(a) Possesses any material or component that contains radioactivity or is radioactively contaminated for which the licensee foresees no further use; and

(b) 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 radioactive waste from its facility is defined as "residual waste."

~~((33))~~ (34) "Waste processor" means an entity, operating under a commission or agreement state license, whose principal purpose is to process, repackage, or otherwise treat radioactive material or waste generated by others prior to eventual transfer of waste to a licensed low-level radioactive waste land disposal facility.

~~((34))~~ (35) "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 or stabilized in a specifically defined media).

AMENDATORY SECTION (Amending WSR 05-21-128, 05-23-113 and 06-01-105, filed 10/19/05, 11/18/05 and 12/21/05, effective 8/15/06)

WAC 246-249-090 Transfer for disposal and manifests. The requirements of this section are designed to control transfers of radioactive waste by any waste generator, waste collector, or waste processor licensee who ships radioactive waste either directly, or indirectly through a waste collector or waste processor, to a licensed low-level waste land disposal facility; establish a manifest tracking system; and supplement existing requirements concerning transfers and recordkeeping for those wastes.

(1) Effective March 1, 1998, each shipment of radioactive waste intended for disposal at a licensed land disposal facility in the state of Washington must be accompanied by a uniform low-level radioactive waste shipment manifest.

(2) 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 this section.

(a) Each shipment manifest must include a certification by the waste generator as specified in this section.

(b) 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 this section.

(c) Any licensee shipping by-product material as defined in subsection (2)(c) and (d) of this section intended for ultimate disposal at a land disposal facility licensed under chapter 246-250 WAC 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 this section.

(d) When recording information on shipment manifests, information must be recorded in the International System of Units (SI) or in SI and units of curie, rad, rem, including multiples and subdivisions.

(3) A waste generator, collector, or processor who transports, or offers for transportation, radioactive waste intended for ultimate disposal at a licensed low-level radioactive waste land disposal facility must prepare a manifest 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 the department to comply with the manifesting requirements of this section when they ship:

(a) Radioactive waste for processing and expect its return (i.e., for storage under their license) prior to disposal at a licensed land disposal facility;

(b) Radioactive waste 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 section may be legible carbon copies, photocopies, or computer printouts that reproduce the data in the format of the uniform manifest.

This section includes information requirements of the U.S. 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 section.

(4) Information requirements.

(a) General information.

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

(i) The name, facility address, and telephone number of the licensee shipping the waste;

(ii) 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

(iii) 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:

(i) The date of the waste shipment;

(ii) The total number of packages/disposal containers;

(iii) The total disposal volume and disposal weight in the shipment;

(iv) The total radionuclide activity in the shipment;

(v) The activity of each of the radionuclides H-3, C-14, Tc-99, and I-129 contained in the shipment; and

(vi) 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:

(i) An alphabetic or numeric identification that uniquely identifies each disposal container in the shipment;

(ii) A physical description of the disposal container, including the manufacturer and model of any high integrity container;

(iii) The volume displaced by the disposal container;

(iv) The gross weight of the disposal container, including the waste;

(v) For waste consigned to a disposal facility, the maximum radiation level at the surface of each disposal container;

(vi) A physical and chemical description of the waste;

(vii) 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;

(viii) The approximate volume of waste within a container;

(ix) The sorbing, stabilization, or solidification media, if any, and the identity of the solidification or stabilization media vendor and brand name;

(x) 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;

(xi) The total radioactivity within each container; and

(xii) For wastes consigned to a disposal facility, the classification of the waste under this chapter. The shipper must

identify the waste if it does not meet the structural stability requirements in this chapter.

(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:

(i) The approximate volume and weight of the waste;

(ii) A physical and chemical description of the waste;

(iii) If the chelating agent exceeds 0.1% by weight, the total weight percentage of chelating agent plus the identity of the principal chelating agent;

(iv) For waste consigned to a disposal facility, the classification of the waste under this chapter. The shipper must identify the waste if it does not meet the structural stability requirements in this chapter;

(v) 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

(vi) For wastes consigned to a disposal facility, the maximum radiation levels at the surface of the waste.

(e) Multigenerator disposal container information.

This subsection applies to disposal containers enclosing mixtures of waste originating from different generators. (Note: The origin of the radioactive waste resulting from a processor's activities may be attributable to one or more "generators," including "waste generators." 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.)

(i) For homogeneous mixtures of waste, such as incinerator ash, provide waste description applicable to the mixture and the volume of the waste attributed to each generator.

(ii) 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 stabilization or 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, solidification, or stabilization media, if any, and the identity of the stabilization media vendor and brand name, if the media is claimed to meet stability requirements in WAC 246-249-050(2); 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.

(5) 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, the U.S. Nuclear Regulatory Commission, and the department. 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.

(6) 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 (a)(i) through (ix) of this subsection. Any licensee who transfers waste to a licensed waste processor for waste treatment or repackaging shall comply with the requirements of (a)(iv) through (ix) of this section. A licensee shall:

(i) Prepare all wastes so that the waste is classified according to WAC 246-249-040 and meets the waste characteristics requirements in WAC 246-249-050;

(ii) 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 WAC 246-249-040;

(iii) Conduct a quality assurance program to assure compliance with WAC 246-249-040 and 246-249-050 (the program must include management evaluation of audits);

(iv) Prepare the NRC Uniform Low-Level Radioactive Waste Manifest as required by this section;

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

(vi) Include NRC Form 540 (and NRC Form 540A, if required) with the shipment regardless of the option chosen in (a)(v) of this subsection;

(vii) Receive ((~~acknowledgement~~) acknowledgment) of the receipt of the shipment in the form of a signed copy of NRC Form 540;

(viii) Retain a copy of, or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of ((~~acknowledgement~~) acknowledgment) of receipt as the record of transfer of licensed material as required by these regulations; and

(ix) For any shipments or any part of a shipment for which ((~~acknowledgement~~) acknowledgment) of receipt has not been received within the times set forth in this section, conduct an investigation in accordance with (e) of this subsection.

(b) Any waste collector licensee who handles only pre-packaged waste shall:

(i) Acknowledge receipt of the waste from the shipper within one week of receipt by returning a signed copy of NRC Form 540;

(ii) Prepare a new manifest to reflect consolidated shipments that meet the requirements of this section. The waste collector shall ensure that, for each container of waste in the

shipment, the manifest identifies the generator of that container of waste;

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

(iv) Include NRC Form 540 (and NRC Form 540A, if required) with the shipment regardless of the option chosen in (b)(iii) of this subsection;

(v) Receive ((~~acknowledgement~~) acknowledgment) of the receipt of the shipment in the form of a signed copy of NRC Form 540;

(vi) Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of ((~~acknowledgement~~) acknowledgment) of receipt as the record of transfer of licensed material as required by these regulations;

(vii) For any shipments or any part of a shipment for which ((~~acknowledgement~~) acknowledgment) of receipt has not been received within the times set forth in this section, conduct an investigation in accordance with this section; and

(viii) Notify the shipper and the department when any shipment, or part of a shipment, has not arrived within sixty days after receipt of an advance manifest, unless notified by the shipper that the shipment has been canceled.

(c) Any licensed waste processor who treats or repackages waste shall:

(i) Acknowledge receipt of the waste from the shipper within one week of receipt by returning a signed copy of NRC Form 540;

(ii) Prepare a new manifest that meets the requirements of this section. 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 subsection (4)(e) of this section;

(iii) Prepare all wastes so that the waste is classified according to WAC 246-249-040 and meets the waste characteristics requirements in WAC 246-249-050;

(iv) Label each package of waste to identify whether it is Class A waste, Class B waste, or Class C waste, in accordance with WAC 246-249-040 and 246-249-060;

(v) Conduct a quality assurance program to assure compliance with WAC 246-249-040 and 246-249-050 (the program shall include management evaluation of audits);

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

(vii) Include NRC Form 540 (and NRC Form 540A, if required) with the shipment regardless of the option chosen in (c)(vi) of this subsection;

(viii) Receive ((~~acknowledgement~~) acknowledgment) of the receipt of the shipment in the form of a signed copy of NRC Form 540;

(ix) Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of ~~((acknowledgement))~~ acknowledgment of receipt as the record of transfer of licensed material as required by these regulations;

(x) For any shipment or any part of a shipment for which ~~((acknowledgement))~~ acknowledgment of receipt has not been received within the times set forth in this section, conduct an investigation in accordance with (e) of this subsection; and

(xi) Notify the shipper and the department when any shipment, or part of a shipment, has not arrived within sixty days after receipt of an advance manifest, unless notified by the shipper that the shipment has been canceled.

(d) The land disposal facility operator shall:

(i) 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;

(ii) Maintain copies of all completed manifests and electronically store the information required by WAC 246-250-600(8) until the license is terminated; and

(iii) Notify the shipper and the department when any shipment, or part of a shipment, has not arrived within sixty days after receipt of an advance manifest, unless notified by the shipper that the shipment has been canceled.

(e) If the shipper does not receive ~~((acknowledgement))~~ acknowledgment from the land disposal facility operator for any shipment or part of a shipment within the times set in this section, the shipper must:

(i) Investigate if the shipper has not received notification or receipt within twenty days after transfer; and

(ii) Trace the shipment or part of shipment and report the investigation to the department. Each licensee who conducts a trace investigation shall file a written report with the department within two weeks of completion of the investigation.

AMENDATORY SECTION (Amending WSR 97-02-014, filed 12/20/96, effective 1/20/97)

WAC 246-250-010 Definitions. As used in this chapter, the following definitions apply:

(1) "Active maintenance" means any significant activity needed during the period of institutional control to maintain a reasonable assurance that the performance objectives of WAC 246-250-170 and 246-250-180 are met. Such active maintenance includes ongoing activities such as the pumping and treatment of water from a disposal unit or one-time measures such as replacement of a disposal unit cover. Active maintenance does not include custodial activities such as repair of fencing, repair or replacement of monitoring equipment, revegetation, minor additions to soil cover, minor repair of disposal unit covers, and general disposal site upkeep such as mowing grass.

(2) "Buffer zone" means a portion of the disposal site that is controlled by the licensee or by the United States Department of Energy and that lies under the disposal units and between the disposal units and the boundary of the site.

(3) "By-product material" means:

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

(b) 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 "by-product material" within this definition;

(c)(i) Any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; or

(ii) Any material that:

(A) Has been made radioactive by use of a particular accelerator; and

(B) Is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; and

(d) Any discrete source of naturally occurring radioactive material, other than source material, that:

(i) The commission, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security, and the head of any other appropriate federal agency determines would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety or the common defense and security; and

(ii) Before, on, or after August 8, 2005, is extracted or converted after extraction for use in a commercial, medical, or research activity.

(4) "Chelating agent" means amine polycarboxylic acids, hydroxy-carboxylic acids, gluconic acid, and polycarboxylic acids.

~~((4))~~ (5) "Commencement of construction" means any clearing of land, excavation, or other substantial action that would adversely affect the environment of a land disposal facility. The term does not mean disposal site exploration, necessary roads for disposal site exploration, borings to determine foundation conditions, or other preconstruction monitoring or testing to establish background information related to the suitability of the disposal site or the protection of environmental values.

~~((5))~~ (6) "Custodial agency" means an agency of the government designated to act on behalf of the government owner of the disposal site.

~~((6))~~ (7) "Disposal" means the isolation of wastes from the biosphere inhabited by man and his food chains by emplacement in a land disposal facility.

~~((7))~~ (8) "Disposal site" means that portion of a land disposal facility which is used for disposal of waste. It consists of disposal units and a buffer zone.

~~((8))~~ (9) "Disposal unit" means a discrete portion of the disposal site into which waste is placed for disposal. For near-surface disposal, the unit is usually a trench.

~~((9))~~ (10) "Engineered barrier" means a man-made structure or device that is intended to improve the land disposal facility's ability to meet the performance objectives in this chapter.

~~((10))~~ (11) "Explosive material" means any chemical compound, mixture, or device which produces a substantial instantaneous release of gas and heat spontaneously or by contact with sparks or flame.

~~((11))~~ (12) "Hazardous waste" means those wastes designated as hazardous by United States Environmental Protection Agency regulations in 40 CFR Part 261.

~~((12))~~ (13) "Hydrogeologic unit" means any soil or rock unit or zone which by virtue of its porosity or permeability, or lack thereof, has a distinct influence on the storage or movement of ground water.

~~((13))~~ (14) "Inadvertent intruder" means a person who might occupy the disposal site after closure and engage in normal activities, such as agriculture, dwelling construction, or other pursuits in which an individual might be unknowingly exposed to radiation from the waste.

~~((14))~~ (15) "Intruder barrier" means a sufficient depth of cover over the waste that inhibits contact with waste and helps to ensure that radiation exposures to an inadvertent intruder will meet the performance objectives set forth in this chapter, or engineered structures that provide equivalent protection to the inadvertent intruder.

~~((15))~~ (16) "Land disposal facility" means the land, buildings, and equipment which are intended to be used for the disposal of wastes into the subsurface of the land. For purposes of this chapter, a land disposal facility does not include a geologic repository.

~~((16))~~ (17) "Monitoring" means observing and making measurements to provide data to evaluate the performance and characteristics of the disposal site.

~~((17))~~ (18) "Near-surface disposal facility" means a land disposal facility in which waste is disposed within approximately the upper thirty meters of the earth's surface.

~~((18))~~ (19) "Pyrophoric liquid" means any liquid that ignites spontaneously in dry or moist air at or below 130°F (54.4°C).

~~((19))~~ (20) "Pyrophoric solid" means any solid material, other than one classed as an explosive, which under normal conditions, is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily and, when ignited, burns so vigorously and persistently as to create a serious transportation, handling, or disposal hazard. Included are spontaneously combustible and water-reactive materials.

~~((20))~~ (21) "Site closure and stabilization" means those actions that are taken upon completion of operations that prepare the disposal site for custodial care and that assure that the disposal site will remain stable and will not need ongoing active maintenance.

~~((21))~~ (22) "Stability" means structural stability.

~~((22))~~ (23) "Surveillance" means monitoring and observation of the disposal site for purposes of visual detection of need for maintenance, custodial care, evidence of

intrusion, and compliance with other license and regulatory requirements.

~~((23))~~ (24) "Waste" means those low-level radioactive wastes containing source, special nuclear, or by-product material that are acceptable for disposal in a land disposal facility. For the purposes of this definition, low-level radioactive waste ~~((has the same meaning as in the Low-Level Radioactive Waste Policy Amendments Act of 1985, Public Law 99-240, that is,))~~ means radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or by-product material as defined in ~~((section 11 e.(2) of the Atomic Energy Act (uranium or thorium tailings and waste)))~~ WAC 246-250-010 (3)(b), (c), and (d).

WSR 11-03-028

PERMANENT RULES

DEPARTMENT OF LICENSING

[Filed January 11, 2011, 7:35 a.m., effective February 11, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: To require professional boxing, martial arts and wrestling promoters to provide an ambulance or paramedical unit with transport and resuscitation capabilities, with a minimum of two attendants, to be present at the event location at all times during the event.

Citation of Existing Rules Affected by this Order: Amending WAC 36-12-360 and 36-13-110.

Statutory Authority for Adoption: RCW 67.08.017, 43.24.023.

Adopted under notice filed as WSR 10-24-094 on November 30, 2010.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 2, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 2, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 2, Repealed 0.

Date Adopted: January 11, 2011.

Walt Fahrner
Rule[s] Coordinator

AMENDATORY SECTION (Amending WSR 02-03-069, filed 1/11/02, effective 2/11/02)

WAC 36-12-360 Promoters. (1) Promoters shall not release the names of boxing contestants in an event to the media or otherwise publicize a contest unless a boxer/promoter contract has been signed and the contest approved by the department.

(2) Promoters shall not schedule an event intermission that exceeds twenty minutes.

(3) Promoters shall dispense drinks only in plastic or paper cups.

(4) Promoters shall not schedule less than twenty-six rounds of boxing without approval of the department.

(5) Advance notices for all boxing shows must be in the office of the department seven days prior to the holding of any boxing show. In addition to the regular scheduled boxers the advance notice must show the names of boxers engaged by the promoter for an emergency bout.

(6) Changes in announced or advertised programs for any contest must be approved prior to the contest by the department. Notice of such change or substitution must also be given to the press, conspicuously posted at the box office, and announced from the ring before the opening contest. If any ticket holders desire a refund, such refund shall be made at the box office prior to the start of the first contest.

(7) The promoter of an event shall contract with each boxer for a contest. Original contracts shall be filed with the department at least five days prior to the event. The contract shall be on a form supplied by the department and contain at least the following:

(a) The weight of the boxer at weigh-in;

(b) The amount of the purse to be paid for the contest;

(c) The date and location of the contest;

(d) Any other payment or consideration provided to the boxer;

(e) List of all fees, charges and expenses including training expenses that will be assessed to the boxer or deducted from the boxer's purse;

(f) Any reduction in a boxer's purse contrary to a previous agreement between the promoter and the boxer; and

(g) The amount of any compensation or consideration that a promoter has contracted to receive from a match.

(8) If a boxer/promoter contract is renegotiated, the promoter shall provide the department with the contract at least two hours prior to an event's scheduled start time.

(9) If the information from the contract in subsection (7)(e), (f) and (g) of this section is discloseable under Washington state public disclosure law, the promoter may instead provide the information to the Association of Boxing Commissions instead of including the information in the boxer/promoter contract.

(10) A promoter for an event shall not be a manager for a boxer who is contracted for ten rounds or more of boxing at that event or have direct or indirect financial interest in a boxer in the event.

(11) The promoter of an event shall provide payments for the boxers' purses and event official's fee in the form of checks or money orders to the department prior to an event. The department may allow other forms of payment if arranged in advance. The department shall pay the boxers and officials immediately after the event, but not later than seventy-two hours from the conclusion of the event.

(12) Promoters shall provide seats for event officials and department representatives at ringside for each event.

(13) Promoters shall provide an ambulance or paramedical unit with transport and resuscitation capabilities, with a

minimum of two attendants, to be present at the event location at all times during the event.

AMENDATORY SECTION (Amending WSR 02-20-094, filed 10/1/02, effective 1/1/03)

WAC 36-13-110 Miscellaneous provisions. (1) Dangerous conduct; punishment. The referee shall not permit physically dangerous conduct or tactics by any participant. Any participant who fails to discontinue such tactics, after being warned by the referee or a department official shall be disqualified and subject to disciplinary action.

(2) Wrestling participants or other licensees shall not engage in the practice known as "juicing." "Juicing" is the practice of using a razor blade or similar contrivance, or any other means to draw blood from oneself, one's opponent, or from any other participant of the wrestling exhibition or show. The referee shall immediately terminate any match in which blood from a participant appears from "juicing," and the participants shall cease the wrestling match and return to the dressing room. Should an accidental cut to a wrestling participant occur, the match may continue but should be concluded as soon as possible at the discretion of the referee.

(3) Duties of licensees. It shall be the duty of the promoter, his/her agents, employees, and the participants in any wrestling show or exhibition to maintain peace, order, and decency in the conduct of any show or exhibition. There shall be no abuse of a department official at any time. Foul and profane language by participants is prohibited.

(4) Responsibility of promoter.

(a) Each promoter shall be directly responsible to the department for the conduct of its employees and any violation of the laws, rules, or regulations of the department by any employee of a promoter shall be deemed to be a violation by the promoter.

(b) Promoters are responsible for any violations of the law or department rules by their participants.

(c) Promoters shall provide an ambulance or paramedical unit with transport and resuscitation capabilities, with a minimum of two attendants, to be present at the event location at all times during the event.

(5) Postponement or cancellation. A small advance sale of tickets shall not be regarded as a legitimate reason for a postponement or cancellation. Indoor wrestling shows or exhibitions shall not be canceled for any reason except with the approval of the department.

(6) Discrimination. Discrimination against any participant in regard to sex, race, color, creed or national origin shall be referred to the human rights commission.

(7) Appeals.

(a) Licensees may appeal any suspension or revocation to the department in the manner provided in chapter 34.05 RCW.

(b) Such appeals must be received in the department office within twenty days from the date of the notice sent by the department.

WSR 11-03-048
PERMANENT RULES
HORSE RACING COMMISSION

[Filed January 14, 2011, 8:48 a.m., effective February 14, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: To clarify who is considered a racing official and what restrictions should be placed on them in regards to holding dual licensees and their ability to wager.

Citation of Existing Rules Affected by this Order: Amending WAC 260-24-500 Racing officials.

Statutory Authority for Adoption: RCW 67.16.020.

Adopted under notice filed as WSR 10-24-003 on November 18, 2010.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 1, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 1, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 1, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: January 13, 2011.

Douglas L. Moore
Deputy Secretary

AMENDATORY SECTION (Amending WSR 08-05-088, filed 2/15/08, effective 3/17/08)

WAC 260-24-500 Racing officials. (1) Officials at a race meet include the following:

- (a) Stewards;
- (b) Racing secretary;
- (c) Assistant racing secretary;
- ~~(d)~~ (d) Horsemen's bookkeeper;
- ~~((e))~~ (e) Mutuel manager or designee;
- ~~((f))~~ (f) Official veterinarian(s);
- ~~((g))~~ (g) Horse identifier;
- ~~((h))~~ (h) Paddock judge;
- ~~((i))~~ (i) Starter;
- ~~((j))~~ (j) Assistant starters;
- (k) Security director, association;
- ~~((l))~~ (l) Commission investigator(s);
- ~~((m))~~ (m) Commission auditor;
- ~~((n))~~ (n) Clerk of scales;
- ~~((o))~~ (o) Jockey room supervisor;
- ~~((p))~~ (p) Film analyst;
- ~~((q))~~ (q) Clocker(s);
- ~~((r))~~ (r) Race timer;
- ~~((s))~~ (s) Paddock plater;
- ~~((t))~~ (t) Mutuel inspector;
- ~~((u))~~ (u) Outrider(s);

~~((v))~~ (v) Any other person designated by the commission.

(2) The association officials of a race meet will include but are not limited to: Racing secretary, mutuel manager, starter, horsemen's bookkeeper, association security director, jockey room supervisor and outrider(s).

(3) Eligibility:

(a) To qualify as a racing official, the appointee must be;

(i) Of good character and reputation;

(ii) Familiar with the duties of the position and with the commission's rules of racing;

(iii) Mentally and physically able to perform the duties of the job; and

(iv) In good standing and not under suspension or ineligible in any recognized racing jurisdiction.

(b) To qualify for appointment as a steward the appointee must be an ~~((Association of Racing Commissioners International))~~ Racing Officials Accreditation Program-accredited steward, unless the appointee has been appointed as a substitute steward as provided in WAC 260-24-510, and be in good standing with all Association of Racing Commissioners International member jurisdictions. The commission may waive this accreditation requirement for Class C race meets.

(4) The commission, in its sole discretion, may determine the eligibility of a racing official and, in its sole discretion, may approve or disapprove any such official for licensing.

(5) While serving in an official capacity, racing officials ~~((and their assistants))~~ may not:

(a) ~~((Participate in the sale, purchase, or ownership of any horse racing at the meet; unless disclosed in advance and approved by the board of stewards;~~

~~((b))~~ Sell or solicit horse insurance on any horse racing at the meet;

~~((c))~~ (c) Be licensed in any other capacity without permission of the ~~((executive secretary, or in case of an emergency, the permission of the))~~ board of stewards;

~~((d))~~ Make a wager on the outcome of any horse race at a race meet under the jurisdiction of the commission; or

~~((e))~~ If the board of stewards approves a racing official to be licensed in any other capacity, the board of stewards may impose conditions that may include participating in the sale, purchase, claim, or ownership of any horse racing at the meet;

(c) Consume or be under the influence of alcohol and/or drugs while performing official duties.

(6) The following association officials are prohibited from wagering on the outcome of any horse race at the race meet under the jurisdiction of the commission:

(a) Stewards;

(b) Racing secretary;

(c) Assistant racing secretary;

(d) Starter;

(e) Assistant starters;

(f) Jockey room supervisor;

(g) Paddock plater;

(h) Outriders;

(i) Mutuel manager or designee.

(7) Racing officials (~~and their assistants~~) must immediately report to the stewards every observed violation of these rules.

~~((7))~~ (8) Complaints against officials:

(a) Any complaint against an association racing official other than a steward will be made to the board of stewards in writing and signed by the complainant. The presiding steward will report to the executive secretary the action taken or recommended by the board of stewards. The executive secretary will determine whether the matter will be referred to the commission. The board of stewards will notify the complainant, in writing, of the action taken or recommended;

(b) Any complaint against a commission racing official, including an association steward, will be made to the executive secretary. The executive secretary will, if able, notify the complainant in writing of the action taken.

~~((8))~~ (9) Should any steward be absent at race time, and no approved alternate steward be available, the remaining stewards may appoint a substitute for the absent steward. If a substitute steward is appointed, the presiding steward will notify the executive secretary and the association.

WSR 11-03-049

PERMANENT RULES

HORSE RACING COMMISSION

[Filed January 14, 2011, 8:49 a.m., effective February 14, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Amends the minimum age to obtain a jockey's license from eighteen to sixteen to be consistent with other competing jurisdictions.

Citation of Existing Rules Affected by this Order: Amending WAC 260-32-010 Minimum requirements to obtain a jockey's license.

Statutory Authority for Adoption: RCW 67.16.020.

Adopted under notice filed as WSR 10-24-031 on November 22, 2010.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 1, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 1, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 1, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: January 13, 2011.

Douglas L. Moore
Deputy Secretary

AMENDATORY SECTION (Amending WSR 06-07-065, filed 3/10/06, effective 4/10/06)

WAC 260-32-010 Minimum requirements to obtain a jockey's license. In order to obtain a jockey license a person must meet the following minimum requirements:

- (1) Be at least ~~((eighteen))~~ sixteen years of age; and
- (2) Be engaged by a trainer to ride in a race.

WSR 11-03-050

PERMANENT RULES

HORSE RACING COMMISSION

[Filed January 14, 2011, 8:50 a.m., effective February 14, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Clarifies the authority of the racing secretary to accept "conditional entries," entry that may be allowed to scratch based on agreed upon conditions.

Citation of Existing Rules Affected by this Order: Amending WAC 260-40-010 Nominations and scratches.

Statutory Authority for Adoption: RCW 67.16.020.

Adopted under notice filed as WSR 10-24-004 on November 18, 2010.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 1, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 1, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 1, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: January 13, 2011.

Douglas L. Moore
Deputy Secretary

AMENDATORY SECTION (Amending WSR 07-07-010, filed 3/8/07, effective 4/8/07)

WAC 260-40-010 Nominations and scratches. (1) A horse may not be considered nominated or scratched out of an engagement until the owner, trainer or designee provides written notice to the racing secretary before the time set by the association.

(2) For stake races, if a horse is not named through the entry box before the close of entries for that race, the horse is automatically out.

(3) If the validity of any nomination is alleged, the complainant must provide satisfactory proof of the error that is alleged; otherwise, the nomination will be accepted.

(4) Any owner, trainer, or designee who has entered a horse will be allowed the right to scratch the horse from the

race entered prior to the published scratch time, until no fewer than eight interests remain in the race. If there are more requests to scratch than are available, permission to scratch must be decided by lot. However, in all races involving the daily double, no entry may be scratched that would reduce the starting field to less than the number designated by the racing secretary, without permission of the board of stewards. No other entries will be excused as provided above except upon receipt of a veterinarian's certificate of unfitness, change of track conditions since time of entry or other causes acceptable to the board of stewards.

(5) The racing secretary is authorized to accept entries that will be allowed to scratch based upon predetermined conditions established by the racing secretary at entry time.

(6) All horses must be scratched by the designated scratch time set by the association, and consistent with subsection (1) of this section.

~~((6))~~ (7) If the racing secretary does not designate a scratch time, no horse will be allowed to scratch without permission of the board of stewards.

~~((7))~~ (8) The scratch of a horse out of an engagement is irrevocable.

WSR 11-03-052

PERMANENT RULES

HORSE RACING COMMISSION

[Filed January 14, 2011, 8:51 a.m., effective February 14, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Amends the timeframe for horses placed on the veterinarian's list that is [are] not required to perform a workout prior to being removed.

Citation of Existing Rules Affected by this Order: Amending WAC 260-40-180 Horse on veterinarian's list and 260-70-580 Official veterinarian's list.

Statutory Authority for Adoption: RCW 67.16.020.

Adopted under notice filed as WSR 10-24-036 on November 22, 2010.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 2, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 2, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 2, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: January 13, 2011.

Douglas L. Moore
Deputy Secretary

AMENDATORY SECTION (Amending WSR 07-07-010, filed 3/8/07, effective 4/8/07)

WAC 260-40-180 Horse on veterinarian's list. A horse on the veterinarian's list (~~((may not be))~~) must comply with WAC 260-70-580 prior to being entered, or (~~((start))~~) starting in a race.

AMENDATORY SECTION (Amending WSR 07-07-036, filed 3/12/07, effective 4/12/07)

WAC 260-70-580 Official veterinarian's list. (1) An official veterinarian will maintain a list of all horses determined by an official veterinarian to be unfit to compete in a race due to illness, physical distress, unsoundness, infirmity or other medical condition.

(2) A horse may be removed from the veterinarian's list when an official veterinarian determines the horse is capable of competing in a race.

(a) Horses placed on the veterinarian's list that are required to work prior to being removed from the list will remain on the list for a minimum of ten days. (For purposes of counting days, the first day is the day the horse is placed on the veterinarian's list.)

(b) ~~((After the tenth day, an owner or trainer may request a horse be removed from the veterinarian's list.))~~ Horses that must work to be removed from the veterinary list due to soreness, lameness, or certain injuries will be allowed to work no sooner than the eleventh day after being placed on the list.

(i) Works should be scheduled with an official veterinarian twenty-four hours in advance.

(ii) Horses must work a minimum distance to be determined by an official veterinarian in a time comparable for the track condition that day.

(iii) A blood test will be taken by an official veterinarian following the workout and medications levels may not exceed permitted post-race levels.

(c) Horses placed on the veterinarian's list that are not required to work may not race for a minimum of thirteen days from the date placed on the list. (For purposes of counting days, the first day is the day the horse is placed on the veterinarian's list.)

WSR 11-03-053

PERMANENT RULES

HORSE RACING COMMISSION

[Filed January 14, 2011, 8:51 a.m., effective February 14, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Amends several penalty guidelines to reflect current practice. Also, removes most required automatic referrals to the commission.

Citation of Existing Rules Affected by this Order: Amending chapter 260-84 WAC, Penalties.

Statutory Authority for Adoption: RCW 67.16.020.

Adopted under notice filed as WSR 10-24-002 on November 18, 2010.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal

Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 1, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 1, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 1, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: January 13, 2011.

Douglas L. Moore
Deputy Secretary

AMENDATORY SECTION (Amending WSR 09-05-066, filed 2/13/09, effective 3/16/09)

WAC 260-84-060 Penalty matrixes. (1) The imposition of reprimands, fines and suspensions will be based on the following penalty matrixes:

Class A and B Licensed Facilities			
	1st Offense	2nd Offense	3rd Offense or subsequent offense
Disturbing the peace WAC 260-80-140	Warning to \$200 and/or suspension	Warning to \$500 and/or suspension	Suspension
Person performing duties for which they are not licensed WAC 260-36-010	\$100	\$200	\$300
Unlicensed or improperly licensed personnel WAC 260-28-230, 260-36-150, and 260-28-295	\$100	\$200	\$300
Violation of any claiming rule in chapter 260-60 WAC	\$200 to \$500 plus possible suspension		
Failure of jockey agent to honor riding engagements (call) WAC 260-32-400	\$75	\$100	\$200
Failure of jockey to report correct weight WAC 260-32-150	\$100	\$200	\$300
Failure of jockey to appear for films WAC 260-24-510	\$50	\$100	\$200
Failure of jockey to fulfill riding engagement WAC 260-32-080	\$100	\$150	\$200
Jockey easing mount without cause WAC 260-52-040	\$250 and/or suspension	\$500 and/or suspension	\$1000 and/or suspension
Jockey failing to maintain straight course or careless riding with no disqualification (jockey at fault) WAC 260-52-040	Warning to \$750 and/or suspension (riding days)		
Jockey failing to maintain straight course or careless riding resulting in a disqualification (jockey at fault) WAC 260-52-040	\$500 and/or suspension (riding days) ((and possible fine))	Suspension (riding days)	
Rider's misuse of whip WAC 260-52-040	Warning to \$2500		
Entering ineligible horse or unauthorized late scratch chapter 260-40 WAC and WAC 260-80-030	\$200	\$200 to \$300	\$200 to \$500
Arriving late to the paddock or receiving barn WAC 260-28-200	Warning to \$50	\$50 to \$100	\$100 to \$200

Class A and B Licensed Facilities			
	1st Offense	2nd Offense	3rd Offense or subsequent offense
Failure to deliver furosemide treatment form to official veterinarian by appointed time WAC 260-70-650	Warning to \$50	\$50 to \$100	\$100 to \$200
Failure to obtain permission for equipment changes WAC 260-44-010	\$50	\$100	\$200
Failure to report performance records WAC 260-40-100	Warning to \$50	\$100	\$150
Trainer failure to report proper identity of horses in their care WAC 260-28-295	<u>\$50</u>	<u>\$100</u>	<u>\$200</u>
Failure to submit gelding report WAC 260-28-295	\$100	\$200	\$300

Class C Licensed Facilities			
	1st Offense	2nd Offense	3rd Offense or subsequent offense
Disturbing the peace WAC 260-80-140	Warning to \$100 and/or suspension	\$250 and/or suspension	Suspension
Person performing duties for which they are not licensed WAC 260-36-010	\$50	\$100	\$150
Unlicensed or improperly licensed personnel WAC 260-28-230, 260-36-150, and 260-28-295	\$50	\$100	\$200
Violation of any claiming rule in chapter 260-60 WAC	\$100 to \$250 plus possible suspension		
Failure of jockey agent to honor riding engagements (call) WAC 260-32-400	\$25	\$50	\$100
Failure of jockey to report correct weight WAC 260-32-150	\$25	\$50	\$100
Failure of jockey to appear for films WAC 260-24-510	\$25	\$50	\$100
Failure of jockey to fulfill riding engagement WAC 260-32-080	\$50	\$100	\$200
Jockey easing mount without cause WAC 260-52-040	\$100	\$200 and/or suspension	\$400 and/or suspension
Jockey failing to maintain straight course or careless riding with no disqualification (jockey at fault) WAC 260-52-040	Warning to \$(750) <u>500</u> and/or suspension (riding days)		
Jockey failing to maintain straight course or careless riding resulting in a disqualification (jockey at fault) WAC 260-52-040	<u>\$100 to \$500 and/or suspension (riding days)</u> (and possible fine)		
Rider's misuse of whip WAC 260-52-040	Warning to \$2500		

Class C Licensed Facilities			
	1st Offense	2nd Offense	3rd Offense or subsequent offense
Entering ineligible horse or unauthorized late scratch chapter 260-40 WAC and WAC 260-80-030	\$(100) <u>50</u>	\$100 to \$200	\$200 to \$300
Arriving late to the paddock WAC 260-28-200	Warning to \$25	\$50	\$100
Failure to deliver furosemide treatment form to official veterinarian by appointed time WAC 260-70-650	Warning to \$25	\$50	\$100
Failure to obtain permission for equipment change WAC 260-44-010	\$25	\$50	\$100
Failure to report performance records WAC 260-40-100	Warning to \$25	\$50	\$100
Failure to submit gelding report WAC 260-28-295	\$50	\$100	\$200
Class A, B and C Licensed Facilities			
	1st Offense	2nd Offense	3rd Offense or subsequent offense
Smoking in restricted areas WAC 260-20-030	\$50	\$100	\$250 and/or suspension
Tampering with a fire protection, prevention or suppression system or device WAC 260-20-030	\$200	\$500	\$1000 and/or suspension
Failure to post problem gambling signs WAC 260-12-250	Warning to \$50	\$100	\$200
Issuing a check to the commission with not sufficient funds WAC 260-28-030	\$50	\$100	\$200
Failure to ride in a safe or prudent manner WAC 260-80-145	(\$50) <u>Warning</u>	\$(100) <u>50</u>	(\$200) <u>\$50 - subsequent offenses \$50 plus possible suspensions</u>
Use of improper, profane, or indecent language WAC 260-80-130	Warning to \$200	\$200 to \$300	\$300 to \$500
Failure to complete temporary license application within fourteen days WAC 260-36-200	\$100 and suspension of license	\$250 and suspension of license	\$500 and suspension of license
Failure to register employees with the commission (trainers responsibility) WAC 260-28-230	Warning to \$50	\$100	\$200
Failure to furnish fingerprints WAC 260-36-100	\$100 and suspension of license	\$250 and suspension of license	\$500 and suspension of license
Nonparticipation - licensing WAC 260-36-080	License canceled		
(False application) <u>Pending felony charges or conviction - ineligible for licensing</u> WAC (260-36-050) <u>260-36-120(2)</u>	(\$50 to \$250 and/or possible) <u>Denial, suspension or revocation of license</u>		

Class A, B and C Licensed Facilities			
	1st Offense	2nd Offense	3rd Offense or subsequent offense
Failure to divulge a ((misdemeanor or gross misdemeanor)) felony conviction WAC 260-36-050	((Warning to)) \$100 to \$250		
((Failure to divulge a felony)) False information or failure to provide accurate and complete information on application WAC 260-36-050	(((\$100)) Warning to \$250 ((and/or denial, suspension, or revocation of license))		
Failure to provide full disclosure, refusal to respond to questions, or responding falsely to stewards or commission investigators WAC 260-24-510	\$500 fine and/or denial, suspension or revocation of license		
Failure to pay proper industrial insurance premium(s) WAC 260-36-220 and 260-36-230	In addition to being required to pay the full industrial insurance premium, the trainer will be assessed a fine equal to fifty percent of the <u>total</u> premium ((due))		
Failure to pay L&I payment agreement (per contract)	Immediate suspension until premium paid and \$50 fine for each quarter payment is late		
Financial responsibility WAC 260-28-030	((Resolution with mutual agreement between the parties – failure to comply with the agreement will result in immediate)) Suspension of license until debt is satisfied ((suspension may be stayed with a mutual payment agreement and licensee remains compliant with agreement))		
Failure to appear for a ruling conference WAC 260-24-510	Suspension (conference may be held in individual's absence)		
Failure to pay fine ((within 7 days of ruling conference)) when due (no extension granted or no request for hearing filed) WAC 260-24-510	Suspension until fine paid		
Possession or use of a stimulating device (may include batteries) WAC 260-52-040 and 260-80-100	Immediate ejection from the grounds ((, 1 year suspension, and mandatory referral to commission for)) and <u>permanent</u> revocation		
Offering or accepting a bribe in an attempt to influence the outcome of a race WAC 260-80-010	Immediate ejection from the grounds ((, 1 year suspension, and mandatory referral to commission for)) and <u>permanent</u> revocation		
Failure to wear proper safety equipment WAC 260-12-180 and 260-32-105	\$50	\$100	\$200
Horses shod with improper toe grabs WAC 260-44-150	Horse scratched and \$250 fine to trainer and plater	Horse scratched and \$500 fine to trainer and plater	Horse scratched and \$1000 fine to trainer and plater
Failure to display or possess license badge when in restricted area WAC 260-36-110	\$25	\$50	\$100

(2) In determining whether an offense is a first, second, third or subsequent offense, the commission, or designee will include violations which occurred in Washington as well as any other recognized racing jurisdiction within the calendar year, absent mitigating circumstances. The stewards may impose more stringent penalties if aggravating circumstances exist. If a penalty is not listed under second or third/subse-

quent offense columns, the penalty listed in the "first offense" column will apply to each violation.

(3) Except as otherwise provided in this chapter, for any other violation not specifically listed above, the stewards have discretion to impose the penalties as provided in WAC 260-24-510 (3)(a). ~~((For violations considered minor, the fine can be up to \$500 and/or suspension for up to sixty days.~~

~~Fines for violations considered major can be up to \$2,500 and/or suspension up to one year, or revocation.)~~

(4) Circumstances which may be considered for the purpose of mitigation or aggravation of any penalty will include, but are not limited to, the following:

- (a) The past record of the licensee or applicant;
- (b) The impact of the offense on the integrity of the pari-mutuel industry;
- (c) The danger to human and/or equine safety;
- (d) The number of prior violations of these rules of racing or violations of racing rules in other jurisdictions; and/or
- (e) The deterrent effect of the penalty imposed.

(5) For violations covered by chapter 260-70 WAC, Medication, the stewards will follow the penalty guidelines as set forth in WAC 260-84-090, 260-84-100, 260-84-110, 260-84-120, and 260-84-130.

(6) The executive secretary or stewards may refer any matter to the commission and may include recommendations for disposition. The absence of a referral will not preclude commission action in any matter. An executive secretary's or stewards' ruling will not prevent the commission from imposing a more severe penalty.

AMENDATORY SECTION (Amending WSR 09-05-066, filed 2/13/09, effective 3/16/09)

WAC 260-84-065 Licensees—Drug and alcohol penalties. (1) Engaging in the illegal sale or distribution of alcohol in violation of WAC 260-34-020(2).

(a) First offense - ~~((thirty-day))~~ five-day suspension; ~~((and))~~

(b) Second ~~((or subsequent))~~ offense - ~~((one-year))~~ thirty-day suspension ~~((and referral to the commission for revocation));~~

(c) Third offense - one-year suspension; and

(d) Subsequent offense, (within five years) - revocation.

(2) Possessing any equipment, products or materials of any kind, which are used or intended for use in injecting, ingesting, inhaling or otherwise introducing into the human body an illegal controlled substance, other than marijuana in violation of WAC 260-34-020(5); or possessing or having within their body while on the grounds of a licensed race meet any illegal controlled substance, in violation of WAC 260-34-020 (1) or (4).

(a) First offense - thirty-day suspension; ~~((and))~~

(b) Second offense - one-year suspension ~~((and referral to the commission for revocation)); and~~

(c) Third and subsequent offenses - revocation.

(3) Possessing any equipment, products or materials of any kind, which are used or intended for use in ingesting, inhaling or otherwise introducing into the human body marijuana, in violation of WAC 260-34-020(5); or possessing or having within their body marijuana, an illegal controlled substance, while on the grounds of any licensed race meet, in violation of WAC 260-34-020(1).

(a) First offense - three-day suspension;

(b) Second offense - thirty-day suspension; ~~((and))~~

(c) Third ~~((or subsequent))~~ offense~~((s))~~ - one-year suspension ~~((and referral to commission for revocation)); and~~

(d) Subsequent offenses - revocation.

(4) Being under the influence of or affected by intoxicating liquor and/or drugs in violation of WAC 260-34-020(1), excluding persons on horseback.

(a) First offense - warning to one-day suspension;

(b) Second offense - three-day suspension;

(c) Third offense - thirty-day suspension; and

(d) Subsequent offenses - one-year suspension ~~((and referral to commission for revocation)).~~

(5) Being under the influence of or affected by intoxicating liquor and/or drugs, and being on horseback in violation of WAC 260-34-020(1).

(a) First offense - warning to three-day suspension;

(b) Second offense - ~~((up to a))~~ three to thirty-day suspension; ~~((and))~~

(c) Third offense - ~~((up to a))~~ thirty-day to one-year suspension ~~((and referral to commission for revocation)); and~~

(d) Subsequent offenses - revocation.

(6) Refusing to submit to a drug or alcohol test, in violation of WAC 260-34-020(6) will result in immediate ejection from the grounds and a penalty of a one-year suspension ~~((plus referral to the commission for))~~ or revocation.

(7) Possessing any equipment or material used to manufacture or distribute any controlled substance, or engaging in the sale, manufacturing or distribution of any illegal controlled substance or possessing an illegal controlled substance with intent to deliver on the grounds of any licensed race meet in violation of WAC 260-34-020 (3) or (5), immediate ejection from the grounds ~~((, a one-year suspension plus referral to the commission for))~~ and revocation.

(8)(a) For violations of WAC 260-34-020 (1) and (4), the board of stewards may stay a suspension if the licensee or applicant shows proof of participation in a drug rehabilitation or alcohol treatment program approved or certified by the department of social and health services. Individuals will only be allowed a stay of a suspension under this subsection once in a five-year period. If during the period of the stay a licensee or applicant violates the provisions of chapter 260-34 WAC, the violation for which the stay of suspension was entered will be considered as a prior violation for penalty purposes. Before being granted a stay of the suspension, the licensee or applicant must also agree to comply with the following conditions during the duration of the treatment program:

(i) Remain in compliance with the rehabilitation and/or treatment program.

(ii) Submit to random drug or alcohol testing at the discretion of the board of stewards or commission security investigators.

(iii) Have no violations of chapter 260-34 WAC.

Upon completion of the rehabilitation or treatment program, the licensee or applicant must provide documentation of completion to the board of stewards. Upon making a determination that the licensee or applicant successfully completed the rehabilitation or treatment program, the board of stewards may direct that the final disposition of the violation will be that the licensee or applicant completed a treatment program in lieu of suspension.

(b) If the board of stewards ~~((, after a conference,))~~ finds that the licensee or applicant failed to comply with the conditions required in (a)(iii) of this subsection, the board of stew-

ards (~~has discretion to~~) may impose the original suspension (~~authorized by this rule~~). If the failure to comply with the conditions of the stay is a violation of chapter 260-34 WAC, the board of stewards may also hold a ruling conference for that rule violation and impose such penalty as is provided for that violation.

(9) Any licensee or applicant who tests positive (presumptive or confirmatory) for the presence of an illegal controlled substance is prohibited from performing any duties for which a license is required until the licensee does not test positive (presumptive or confirmatory) for the presence of any illegal controlled substance.

(10) Any licensee or applicant who is affected by intoxicating liquor or who has an alcohol concentration of 0.08 percent or higher is prohibited from performing any duties for which a license is required until the licensee is not affected by intoxicating liquor and his/her alcohol concentration is below 0.08 percent.

(11) Any licensee or applicant who has an alcohol concentration of 0.02 percent or higher while on horseback is prohibited from being on horseback until his/her alcohol concentration is below 0.02 percent.

AMENDATORY SECTION (Amending WSR 08-05-086, filed 2/15/08, effective 3/17/08)

WAC 260-84-100 Furosemide penalties. (1) Penalties will be assessed against any person found to be responsible or party to the improper administration of furosemide or failure

Concentration	1st offense within 365 days	2nd offense within 365 days	3rd and subsequent offenses within 365 days
> 5.0 but < 6.5 mcg/ml	Warning	Fine not to exceed \$300	Fine not to exceed \$500
> 6.5 but < 10.0 mcg/ml	Fine not to exceed \$300	Fine not to exceed \$500	Fine not to exceed \$1000
> 10.0 mcg/ml	Fine not to exceed \$500	Fine not to exceed \$1000	Fine not to exceed \$2500 and possible suspension

(3) Detection of any unreported permitted medication, drug, or substance by the primary testing laboratory may be grounds for disciplinary action.

(4) As reported by the primary testing laboratory, failure of any test sample to show the presence of a permitted medication, drug or substance when such permitted medication, drug or substance was required to be administered may be grounds for disciplinary action, which may include a fine not to exceed three hundred dollars. Multiple violations by an individual within a three hundred sixty-five day period may (~~be referred to the commission for further action, which may~~) include (~~an~~) additional fines and/or suspension or revocation.

(5) In assessing penalties for equine medication, prior offenses will count regardless of whether the violation(s) occurred in Washington or another recognized racing jurisdiction, and regardless of the prior concentration level.

AMENDATORY SECTION (Amending WSR 08-05-086, filed 2/15/08, effective 3/17/08)

WAC 260-84-130 Penalties for prohibited practices. For a person or persons found to be responsible for violation

to administer furosemide when required, in chapter 260-70 WAC (~~as follows~~).

~~The penalties may include a fine not to exceed three hundred dollars. Multiple violations by an individual within a three hundred sixty-five day period may (be referred to the commission for further action, which may) include (an) additional fines, and/or suspension, or revocation of license.~~

(2) Equine medication violations from Washington and all recognized racing jurisdictions, will be considered when assessing penalties.

AMENDATORY SECTION (Amending WSR 08-05-086, filed 2/15/08, effective 3/17/08)

WAC 260-84-120 Penalties relating to permitted medication. (1) Should the laboratory analysis of serum or plasma taken from a horse show the presence of more than one approved nonsteroidal anti-inflammatory drug (NSAID) in violation of these rules the following penalties will be assessed:

(a) For a first offense within a three hundred sixty-five day period - Fine not to exceed \$300;

(b) For a second offense within a three hundred sixty-five day period - Fine not to exceed \$750;

(c) For a third offense within a three hundred sixty-five day period - Fine not to exceed \$1,000.

(2) Should the laboratory analysis of serum or plasma taken from a horse show the presence of phenylbutazone in excess of the quantities authorized by this rule, the following penalties will be assessed:

of WAC 260-70-545, including the treating veterinarian, the following penalties will be assessed:

(1) For violations of WAC 260-70-545, except WAC 260-70-545 (4)(b);

(a) For first offense - Thirty day suspension and \$1,000 fine;

(b) For second offense - Sixty day suspension and \$2,000 fine;

(c) For third offense - One year suspension, \$2,500 fine; and (~~a mandatory referral to the commission~~)

(d) For subsequent offense(s) - Revocation of license and a \$2500 fine.

(2) For violations of WAC 260-70-545(4), the person or persons found to be responsible for the violation, including the treating veterinarian (~~will be suspended for one year, pay~~) a \$2,500 fine and (~~referred to the commission~~) revocation of license.

WSR 11-03-054
PERMANENT RULES
DEPARTMENT OF
FISH AND WILDLIFE

[Order 11-13—Filed January 14, 2011, 9:03 a.m., effective February 14, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Amends WAC 232-28-619 to restrict use of lead fishing tackle on common loon territorial nesting lakes. Supports conservation efforts to protect territorial common loon pairs and juveniles on identified lakes.

Citation of Existing Rules Affected by this Order: Amending WAC 232-28-619.

Statutory Authority for Adoption: RCW 77.04.012, 77.04.055, and 77.12.047.

Adopted under notice filed as WSR 10-17-100 on August 17, 2010, and WSR 10-19-144 on September 22, 2010.

Changes Other than Editing from Proposed to Adopted Version: Only makes the changes related to the lead/loon issue. These changes were adopted by the fish and wildlife commission on December 4, 2010. All other changes proposed in the CR-102 and supplemental CR-102 are scheduled for adoption on February 4-5, 2011.

Creates a new subsection (2) to read: "As used in this section, 'lead jig' means a lure consisting of a hook permanently or temporarily attached directly to a lead weight by any method. 'Lead weight' means material constructed of lead and applied to a fishing line or lure and designed to help keep the hook, bait, or lure underwater."

Amends subsection (6) to limit lead tackle use in the following waterways:

- Ferry Lake (Ferry County), Swan Lake (Ferry County), Pierre Lake (Stevens County), Big Meadow Lake (Pend Oreille County), Yocum Lake (Pend Oreille County), South Skookum Lake (Pend Oreille County), Lost Lake (Okanogan County), Blue Lake (Okanogan County), Bonaparte Lake (Okanogan County), Calligan Lake (King County), Hancock Lake (King County), Lake Hozomeen (Whatcom County) - Unlawful to use lead weights or lead jigs that measure 1 1/2-inch or less along the longest axis.
- Long Lake (Ferry County) - Unlawful to use flies containing lead.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 1, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Mak-

ing: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: December 4, 2010.

Miranda Wecker, Chair
 Fish and Wildlife Commission

AMENDATORY SECTION (Amending Order 10-137, filed 5/27/10, effective 6/27/10)

WAC 232-28-619 Washington food fish and game fish—Freshwater exceptions to statewide rules. (1) All freshwater streams and lakes not listed as open for salmon fishing are closed to fishing for salmon.

(2) As used in this section, "lead jig" means a lure consisting of a hook permanently or temporarily attached directly to a lead weight by any method. "Lead weight" means material constructed of lead and applied to a fishing line or lure and designed to help keep the hook, bait, or lure underwater.

(3) Freshwater terminal gear restrictions: In all waters with freshwater terminal gear restrictions, including, but not limited to, selective gear rules, whitefish gear rules, single point barbless hooks required, fly-fishing only, and anti-snagging rules, violation of the gear rules is an infraction, punishable under RCW 77.15.160. It is unlawful to possess fish taken with gear in violation of the freshwater terminal gear restrictions. Possession of fish while using gear in violation of the freshwater terminal gear restrictions is a rebuttable presumption that the fish were taken with such gear. Possession of such fish is punishable under RCW 77.15.380 Unlawful recreational fishing in the second degree, unless the fish are taken in the amounts or manner to constitute a violation of RCW 77.15.370 Unlawful recreational fishing in the first degree.

~~((3))~~ (4) County freshwater exceptions to statewide rules:

(a) Adams and Grant counties: All seasons in specific freshwater exceptions to statewide rules apply to inlet and outlet streams of named lakes in Grant and Adams counties.

(b) Adams, Douglas, Franklin, Grant, and Okanogan counties, except Zosel Dam (Okanogan River): Lawful to fish to base of all dams.

(c) Ferry and Lincoln counties: Except those tributaries listed under specific water exceptions to statewide rules, all tributaries to Lake Roosevelt between Grand Coulee Dam and the State Highway 25 Bridge at Northport except Barnaby and Nancy creeks: Saturday before Memorial Day through October 31 season. Trout: Daily limit 5, no minimum size.

(d) Kitsap County and Mason County on Tahuya Peninsula west of Belfair-Bremerton Highway (S.R. 3): Beaver ponds: Last Saturday in April through October 31 season. Trout: No minimum length.

(e) Kitsap County and Mason County east of Belfair-Bremerton Highway (S.R. 3): Beaver ponds: First Saturday in June through October 31 season. Trout: No minimum length.

~~((4))~~ (5) Rivers, streams, and beaver ponds that drain into Puget Sound or the Strait of Juan de Fuca are closed to fishing unless listed as open below.

~~((5))~~ (6) Specific freshwater exceptions to statewide rules:

Aberdeen Lake (Grays Harbor County): Last Saturday in April through October 31 season. Trout: No more than two over 15 inches in length may be retained per day.

Abernathy Creek (Cowlitz County):

From mouth to a point five hundred feet downstream from salmon hatchery: The first Saturday in June through August 31 and November 1 through March 15 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

From Abernathy falls to posted markers five hundred feet downstream from salmon hatchery: Closed waters.

Aeneas Lake (Okanogan County): Last Saturday in April through October 31 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit one.

Ahtanum Creek, including North and Middle Forks (Yakima County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. North Fork from Grey Rock Trailhead Bridge crossing to Shellneck Creek and Middle Fork from the A2000 Road Bridge at Tree Phones Campground downstream to the A2000 Spur Road Bridge in NE Section 34: Closed waters.

Alder Creek (Cowlitz County): Closed waters.

Alder Lake (Thurston County): Kokanee not included in trout daily limit. Kokanee daily limit 10. All tributaries: The first Saturday in June through October 31 season. Trout: Minimum size fourteen inches.

Aldrich Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Aldwell Lake (Clallam County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit two, minimum length twelve inches.

Alexander Lake (Kitsap County): Closed waters.

Alkali Lake (Grant County): Crappie: Not more than five greater than eight inches in length. Bluegill: Not more than five greater than six inches in length.

All Creek (Skagit County) (Suiattle River tributary): First Saturday in June through October 31 season. Selective gear rules.

Alma Creek (Skagit County): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Amon Creek (Benton County): Selective gear rules.

Alta Lake (Okanogan County): Last Saturday in April through September 30 season.

Amber Lake (Spokane County): Last Saturday in April through September 30 season. Selective gear rules. Unlawful

to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit two, minimum length fourteen inches; release rainbow trout with a clipped adipose fin and a healed scar at the site of the clipped fin. Additional season October 1 through November 30 and March 1 through Friday before last Saturday in April. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

American Lake (Pierce County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee. Chumming permitted.

American River (Yakima County): Closed waters: From Highway 410 Bridge at river mile 5.4 to the Mesatchee Creek Trail crossing at river mile 15.8 July 16 through September 15. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Anderson Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Anderson Creek (Whatcom County) (Nooksack River tributary): First Saturday in June through October 31 season. Selective gear rules.

Anderson Lake (Jefferson County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited. From September 1 through October 31, selective gear rules and trout: Release all trout.

Armstrong Lake (Snohomish County): Last Saturday in April through October 31 season.

Asotin Creek, mainstem and forks (Asotin County): Closed to fishing for steelhead.

From SR 129 Bridge upstream to the forks: Lawful to fish up to base of Headgate Dam.

North Fork from mouth upstream to USFS boundary: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

North Fork from USFS boundary upstream and all other tributaries: Closed waters.

South Fork and tributaries: Closed waters.

Bacon Creek (Skagit County): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Bacus Creek (Skagit County): First Saturday in June through October 31 season. Selective gear rules.

B.C. Mill Pond (Stevens County): Last Saturday in April through October 31 season.

Badger Lake (Spokane County): Last Saturday in April through September 30 season.

Bainbridge Island - all streams (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Baker Lake (Whatcom County): Last Saturday in April through October 31 season, except closed waters in an area two hundred feet in radius around the pump discharge at the south end of the lake. Chumming permitted. Trout: Minimum length six inches and maximum length eighteen inches.

Baker River (Skagit County): Mouth to Highway 20 Bridge: September 1 through October 31 season. Anti-snagging rule and night closure. Trout: Minimum length fourteen inches, except Dolly Varden/Bull Trout. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit, minimum length twenty inches.

Highway 20 Bridge to Baker River fish barrier dam: Closed waters.

From fish barrier dam to headwaters, including all tributaries and their tributaries except Channel Creek: First Saturday in June through October 31 season.

Banks Lake (Grant County): Chumming allowed. Perch: Daily limit twenty-five. Crappie: Daily limit 10, minimum size 9 inches in length.

Barnaby Slough (Skagit County): Closed waters.

Battle Ground Lake (Clark County): Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: No more than 2 trout 20 inches or greater in length may be retained.

Bay Lake (Pierce County): Last Saturday in April through October 31 season.

Bayley Lake (Stevens County): Last Saturday in April through July 4 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit one, minimum length fourteen inches. Additional season, July 5 through October 31. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. All species: Release all fish. Inlet stream: Closed waters.

Bear Creek (Yakima County), tributary to South Fork Tieton River: From the mouth to the falls (approximately 3/4 mile): Closed waters.

Bear Lake (Spokane County): Juveniles, holders of reduced fee licenses or designated harvester cards, and licensed adults accompanied by a juvenile only.

Bear River (Pacific County): The first Saturday in June through March 31 season. Anti-snagging rule and night closure August 16 through November 30. Single point barbless hooks required August 16 through November 30 downstream from the Lime Quarry Road. All species: Release all fish except salmon and except up to two hatchery steelhead may be retained each day. From the Lime Quarry Road to the Longview Fiber Bridge: Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor the first Saturday in June through March 31. All species: Release all fish, except up to two hatchery steelhead may be retained per day. Salmon: Open only September 1 through November 30 from mouth to Lime Quarry Road. Daily limit 6 fish of which no more than 2 may be adult fish and of these two fish no more than one may be a wild adult

coho. Release chum and wild Chinook. Upstream of Longview Fiber Bridge: Closed waters.

Beaver Creek (Pierce County) (South Prairie Creek tributary): First Saturday in June through October 31 season.

Beaver Creek (tributary to Elochoman River) (Wahkiakum County): Closed waters.

Beaver Lake (Clallam County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Maximum size 12 inches in length.

Beaver Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited.

Beaver Lake (King County): Trout: Daily limit 5, no more than 2 over 15 inches in length.

Beda Lake (Grant County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one fish.

Beehive (Lake) Reservoir (Chelan County): Last Saturday in April through October 31 season. July 5 through October 31, selective gear rules, and all species: Release all fish. Unlawful to fish from a floating device equipped with an internal combustion motor.

Bennington Lake (Mill Creek Reservoir) (Walla Walla County): Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Benson Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

~~((Berry Creek (tributary to Nisqually River) (Lewis County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.))~~

Bertrand Creek (Whatcom County) (Nooksack River tributary): First Saturday in June through October 31 season. Selective gear rules.

Big Bear Creek (tributary of Sammamish River) (Snohomish/King counties): The first Saturday in June through August 31 season. Juveniles only.

Big Beaver Creek (Whatcom County):

From one-quarter mile upstream of closed water markers on Ross Lake upstream including tributary streams, and beaver ponds that are tributary to Big Beaver Creek: July 1 through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Big Beef Creek (Kitsap County) from Seabeck Highway Bridge to Lake Symington: The first Saturday in June through August 31 season. Closed waters August 1 through August 31: Waters within 100 feet of the Seabeck Highway NW Bridge. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

From Lake Symington upstream: First Saturday in June through October 31 season. All species: Selective gear rules. Release all trout.

Big Creek (Skagit County) (Suiattle River tributary): From TeePee falls to source: First Saturday in June through October 31 season. Selective gear rules.

Big Four Lake (Columbia County): March 1 through October 31 season. Fly fishing only. Fishing from any floating device prohibited. Trout: Daily limit two.

Big Lake (Skagit County): Crappie: Daily limit ten, minimum length nine inches. Salmon: Landlocked salmon rules apply.

Big Meadow Lake (Pend Oreille County): Last Saturday in April through October 31 season. Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Big Mission Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Big Quilcene River (Jefferson County): See Quilcene River.

Big River (Clallam County): The first Saturday in June through last day in February season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length fourteen inches.

Big Scandia Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Big Tiffany Lake (Okanogan County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Release all cutthroat.

Big Twin Lake (Okanogan County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Bird Creek (Klickitat County): Trout: Daily limit five.

Blackjack Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Blackbird Island Pond (Chelan County): July 1 through September 30 season. Juveniles only.

Black Lake (Okanogan County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Black Lake (Pacific County): Last Saturday in April through October 31 season.

Black Lake (Stevens County): Last Saturday in April through October 31 season.

Black Lake (Thurston County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained,

except no size restriction for kokanee. Crappie: Daily limit ten, minimum length nine inches.

Black Lake Ditch (Thurston County) from the confluence with Percival Creek upstream to Black Lake: First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Black River (Thurston County) from mouth to Black Lake and including all tributaries west of Interstate Highway 5, including Waddell Creek, Mima Creek, Dempsey Creek, Beaver Creek, Salmon Creek, and Blooms Ditch: Last Saturday in June through October 31 season. Selective gear rules. Trout: Minimum length fourteen inches.

Blackman's Lake (Snohomish County): Trout: Daily limit 3.

Blockhouse Creek (Klickitat County): Trout: Daily limit five.

Bloodgood Creek (Klickitat County): Trout: Daily limit five.

Blue Creek (Lewis County), from mouth to Spencer Road: Closed waters except December 1 through December 31 season from mouth to posted sign at rearing pond outlet. Closed waters: Upstream from cable crossing to posted signs at fence. Anti-snagging rule and night closure. Only anglers who permanently use a wheelchair may fish from posted signs above rearing pond to posted signs approximately 40 feet downstream at fence including the rearing pond outlet. Trout: Daily limit five. Minimum size 12 inches no more than two fish over 20 inches. Release wild cutthroat.

Blue Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Blue Lake (Cowlitz County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Blue Lake (Grant County): Last Saturday in April through September 30 season.

Blue Lake (near Sinlahekin) (Okanogan County): Last Saturday in April through October 31 season. Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Blue Lake (near Wannacut Lake) (Okanogan County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Bobcat Creek and Ponds (Adams County): April 1 through September 30 season.

Bogachiel River (Clallam County), from mouth to Olympic National Park boundary: The first Saturday in June through April 30 season. The first Saturday in June through November 30, selective gear rules and December 1 through April 30,

selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor from Highway 101 to Olympic National Park boundary. Trout: Minimum length fourteen inches. November 1 through last day in February, daily limit three steelhead downstream from Highway 101 Bridge. February 16 through April 30, mouth to Highway 101, one wild steelhead per day may be retained. Salmon: Open only July 1 through November 30 from mouth to Highway 101 Bridge. July 1 through August 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release wild adult Chinook and wild adult coho. September 1 through November 30, daily limit 6 fish of which no more than 4 may be adult salmon, and of the 4 adult salmon, no more than 2 may be any combination of Chinook, wild coho, pink, sock-eye, and chum salmon.

Boise Creek (King County) (White River tributary) upstream of Highway 410 crossing: First Saturday in June through October 31 season.

Bonaparte Creek (Okanogan County): Closed Waters from mouth to falls one mile upstream.

Bonaparte Lake (Okanogan County): Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis. Trout: No more than one over twenty inches in length may be retained.

Bosworth Lake (Snohomish County): Last Saturday in April through October 31 season.

Boulder Creek and tributaries (Okanogan County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten, no minimum size. Release all cut-throat.

Boulder Creek (Skagit County) (Cascade River tributary): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish.

Boulder River (Snohomish County) (NF Stillaguamish River tributary): Mouth to Boulder Falls. First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

From Boulder Falls upstream: First Saturday in June through October 31 season.

Bowman Creek (Klickitat County): Trout: Daily limit five.

Box Canyon Creek (Kittitas County), from mouth to waterfall approximately 2 miles upstream (including the portion flowing through the dry lakebed): Closed waters. From waterfall approximately 2 miles upstream of mouth to USFS Road #4930 Bridge: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Boxley Creek (North Bend) (King County), from the falls located at approximately river mile 0.9 upstream: First Saturday in June through October 31 season.

Boyle Lake (King County): Last Saturday in April through October 31 season. The inlet and outlet streams to Boyle Lake are closed waters.

Bradley Lake (Pierce County): Salmon: Landlocked salmon rules apply. May 15 through the last day of Free Fishing Weekend (as defined in WAC 220-55-160): Juveniles only.

Bridges Lake (King County): Last Saturday in April through October 31 season. The inlet and outlet streams to Bridges Lake are closed waters.

Brookies Lake (Grant County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one fish.

Browns Creek (Pend Oreille County): Fly fishing only.

Browns Lake (Pend Oreille County): Last Saturday in April through October 31 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: No more than one fish greater than 11 inches in length may be retained.

Buck Creek (Skagit County) (Suiattle River tributary): From upstream boundary of Buck Creek campground to source: First Saturday in June through October 31 season. Selective gear rules.

Buck Lake (Kitsap County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Buckskin Creek and tributaries (Yakima County), from mouth to the west boundary of Suntides Golf Course: Closed waters.

Bumping Lake (Reservoir) (Yakima County): Chumming permitted. Trout: Kokanee not counted in daily trout limit. Kokanee daily limit sixteen.

Bumping River (Yakima County):

From mouth to Bumping Reservoir: Lawful to fish to base of Bumping Dam. Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor the first Saturday in June through October 31. Whitefish: Additional December 1 through March 31 season. Whitefish gear rules apply.

Burbank Slough (Walla Walla County): Fishing from any floating device prohibited.

Burke Lake (Grant County): March 1 through July 31 season.

Burley Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum length fourteen inches.

Butter Creek (Lewis County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length ten inches.

Buttermilk Creek, mouth to confluence of East and West Forks (Okanogan County): Closed waters.

Buzzard Lake (Okanogan County): Last Saturday in April through October 31 season. All species: Selective gear rules. Trout: Daily limit 1.

Cadet Creek (Snohomish County) (Sauk River tributary): First Saturday in June through October 31 season. All species: Selective gear rules.

Cady Lake (Mason County): Fly fishing only. Fishing from a floating device equipped with an internal combustion motor prohibited. All species: Release all fish.

Cain Lake (Whatcom County): Last Saturday in April through October 31 season.

Calawah River (Clallam County), from mouth to forks: The first Saturday in June through April 30 season. December 1 through April 30, selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor from Highway 101 to forks. Trout: Minimum length fourteen inches. November 1 through last day in February, daily limit three steelhead from mouth to Highway 101 Bridge. February 16 through April 30, mouth to Highway 101, one wild steelhead per day may be retained. Salmon: Open only July 1 through November 30 from mouth to Highway 101 Bridge. July 1 through August 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release wild adult Chinook and wild adult coho. September 1 through November 30, daily limit 6 fish of which no more than 4 may be adult salmon, and of the 4 adult salmon, no more than 2 may be any combination of Chinook, wild coho, pink, sockeye, and chum salmon.

Calawah River, South Fork (Clallam County) from mouth to Olympic National Park boundary: The first Saturday in June through last day in February season. First Saturday in June through last day in February, selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor December 1 through last day in February. Trout: Minimum length fourteen inches.

Caldwell Lake (Pend Oreille County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: Daily limit two, minimum length twelve inches.

Caliche Lakes, Lower, Upper and West (Grant County): March 1 through July 31 season.

California Creek (Whatcom County): First Saturday in June through October 31 season. Selective gear rules.

Calispell Creek (Calispell River) (Pend Oreille County):

From mouth to Calispell Lake: Year around season.

From Calispell Lake upstream to source: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Calispell Creek and tributaries: Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Calligan Lake (King County): June 1 through October 31 season. All tributary streams, and the upper third of the outlet are closed waters. Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Camas Slough: Waters of the Columbia River downstream from the mouth of the Washougal River, north of Lady Island, and downstream of the Highway 14 Bridge at the upstream end of Lady Island. Season: Open when the adjacent mainstem Columbia or Washougal rivers are open to fishing for salmon. Daily limit same as most liberal regulation of either area, except for salmon, only hatchery Chinook and hatchery coho may be retained.

Camp Creek (Snohomish County) (Whitechuck River tributary): First Saturday in June through October 31 season. Selective gear rules.

Campbell Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Campbell Lake (Okanogan County): April 1 through August 31: Selective gear rules and all species: Release all fish. Unlawful to fish from a floating device equipped with an internal combustion motor.

Campbell Lake (Skagit County): Crappie: Daily limit ten, minimum length nine inches.

Canyon Creek (Clark County): Trout: Daily limit five.

Canyon Creek (Snohomish County) (Suiattle River tributary): First Saturday in June through October 31 season. Selective gear rules.

Canyon Creek (S.F. Stillaguamish River) (Snohomish County), mouth to forks: The first Saturday in June through February 15 season. Release all fish except up to two hatchery steelhead may be retained.

Canyon Creek (Whatcom County) (North Fork Nooksack River): From Canyon Creek Road Bridge upstream: First Saturday in June through October 31 season. Selective gear rules.

Canyon River (Mason County and Grays Harbor County): Closed waters.

Capitol Lake (Thurston County) ~~((, from its outlet to a point four hundred feet below the lowest Tumwater Falls (Deschutes River) fish ladder. Closed waters. Pereival Cove, west of a set of markers on the western shoreline of the south basin of Capitol Lake. Year round season. Selective gear rules. Anti snagging rule and night closure August 1 through November 30. Trout: Release all trout))~~; Closed to all fishing.

Carbon River (Pierce County), from its mouth to Voight Creek: September 1 through last day in February season. Anti-snagging rule, night closure and single point barbless hooks required September 1 through November 30. Trout: Minimum length fourteen inches September 1 through November 30. December 1 through last day of February selective gear rules and release all fish except up to two hatchery steelhead may be retained. Voight Creek to Highway 162 Bridge: November 1 through last day in February season: Selective gear rules and release all fish except up to two hatchery steelhead may be retained. Salmon: Open only September 1 through November 30 mouth to Voight Creek.

Daily limit 6 fish of which no more than 4 may be adult salmon and of these 4 fish no more than 2 may be adult hatchery Chinook. Release chum and wild adult Chinook salmon.

Carlisle Lake (Lewis County): Last Saturday in April through last day in February season. Fishing from a floating device equipped with an internal combustion motor prohibited. Salmon: Landlocked salmon rules apply.

Carl's Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Carney Lake (Pierce County): Last Saturday in April through June 30 and September 1 through November 30 seasons. Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee. Salmon: Landlocked salmon rules apply.

Carson Lake (Mason County): Last Saturday in April through October 31 season.

Cascade Lake (Grant County): March 1 through July 31 season.

Cascade Lake (San Juan County): Last Saturday in April through October 31 season.

Cascade River (Skagit County):

From the mouth to the Rockport-Cascade Road Bridge: June 1 through July 15 and September 16 through last day in February season. All species: Anti-snagging rule and night closure June 1 through July 15 and September 16 through November 30. Trout: Trout except Dolly Varden/Bull Trout, minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit, minimum length twenty inches. Salmon: Open June 1 through July 15. Daily limit 4 hatchery Chinook, of which no more than 2 may be adult hatchery Chinook. Open September 16 through November 30. Daily limit 4 coho salmon.

From the Rockport-Cascade Road Bridge upstream: The first Saturday in June through last day in February season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead may be retained per day.

Cases Pond (Pacific County): Last Saturday in April through November 30 season. Juveniles only. Salmon: Landlocked salmon rules apply.

Cassidy Lake (Snohomish County): Crappie: Daily limit ten, minimum length nine inches.

Castle Lake (Cowlitz County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one, minimum length sixteen inches.

Cattail Lake (Grant County): April 1 through September 30 season.

Cavanaugh Lake (Skagit County): Chumming permitted.

Cayada Creek (Pierce County)(Carbon River tributary): First Saturday in June through October 31 season.

Cedar Creek (tributary of N.F. Lewis) (Clark County), from mouth to Grist Mill Bridge: First Saturday in June through August 31 and November 1 through March 15 seasons. Trout: Release all fish except up to two hatchery steelhead may be retained per day. From the Grist Mill Bridge to 100 feet upstream of the falls: Closed waters. From 100 feet upstream of the falls upstream: The first Saturday in June through August 31 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Cedar Creek (Jefferson County): The first Saturday in June through last day in February season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length fourteen inches.

Cedar Creek (Mason County): First Saturday in June through October 31 season.

Cedar Creek (Okanogan County), from mouth to Cedar Falls: Closed waters.

Cedar Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Cedar Lake (Stevens County): Last Saturday in April through October 31 season.

Cedar River (King County), from mouth to Landsburg Road: The first Saturday in June through August 31 season. Selective gear rules and night closure. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all trout.

Cedar River (Pacific County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead per day may be retained.

Chain Lake (Pend Oreille County): Last Saturday in April through October 31 season. Release kokanee.

~~((Chambers Creek (Pierce County): July 1 through November 15 season. All species: Selective gear rules and night closure. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all trout.))~~

Chambers Creek from the mouth to markers 400 feet below the Boise-Cascade Dam (Pierce County): July 1 through November 15 season. Night closure and anti-snagging rule. Trout: Minimum length fourteen inches. Salmon: Open only July 1 through November 15. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho.

From Boise-Cascade Dam to Steilacoom Lake: July 1 through October 31 season. Night closure and anti-snagging rule. Selective gear rules. Trout: Minimum size fourteen inches.

Chambers Lake (within Ft. Lewis Military Reservation) (Pierce County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all trout.

Channel Creek (Skagit County) (Baker River tributary): First Saturday in June through September 15 season.

Chaplain Lake (Snohomish County): Closed waters.

Chapman Lake (Spokane County): Last Saturday in April through October 31 season. Chumming permitted. Trout: Kokanee not counted in daily trout limit. Kokanee daily limit ten.

Chehalis River (Grays Harbor County), from Highway 101 Bridge in Aberdeen to high bridge on Weyerhaeuser 1000 line (approximately 400 yards downstream from Roger Creek): The first Saturday in June through April 15 season. Single point barbless hooks required August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: From mouth to Fuller Bridge: Open September 16 through January 31. September 16 through October 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum and Chinook. November 1 through January 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, Chinook, and wild coho. From Fuller Bridge to Porter Bridge: Open September 16 through January 31. September 16 through November 30, daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum and Chinook. December 1 through January 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, Chinook, and wild coho. From Porter Bridge to high bridge on Weyerhaeuser 1000 line: Open September 16 through January 31. September 16 through November 30, daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum and Chinook. December 1 through January 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, Chinook, and wild coho. Sturgeon: Open year-round, and no night closure from mouth to high bridge on Weyerhaeuser 1000 line.

From the High Bridge on Weyerhaeuser 1000 line, upstream, including all forks and tributaries: The first Saturday in June through April 15 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish, except up to two hatchery steelhead may be retained per day.

Chehalis River, South Fork (Lewis County), from mouth to Highway Bridge at Boistfort School: The first Saturday in June through April 15 season. Trout: Minimum length fourteen inches.

Chehalis River Potholes (adjacent to the Chehalis River south of Highway 12 in Grays Harbor County, this does not include sloughs or beaver ponds): Last Saturday in April through October 31 season.

Chelan Hatchery Creek (Chelan County): Closed waters.

Chelan Lake (Chelan County): Closed waters: Within 400 feet of all tributaries south of a line from Purple Point at Stehekin and Painted Rocks. Trout except kokanee and lake trout: Daily limit 5. Release wild cutthroat. Lake trout not

counted in daily trout limit. Lake trout no minimum size, no daily limit. Kokanee not counted in daily trout limit. Kokanee daily limit 10, no minimum length. North of a line between Purple Point at Stehekin and Painted Rocks: April 1 through July 31: All game fish: Release all fish except lake trout. Salmon and lake trout: Open year-round: Salmon daily limit 1, minimum length 15 inches.

Chelan Lake Tributaries (Chelan County), from mouths upstream one mile except Stehekin River: August 1 through September 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release wild cutthroat.

Chelan River (Chelan County): From the railroad bridge to the Chelan P.U.D. safety barrier below the power house: May 15 through August 31 season. Anti-snagging rule. Trout: Release all trout.

Chewuch River (Chewack River) (Okanogan County), from mouth to Eight Mile Creek: The first Saturday in June through August 15 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Upstream from Eight Mile Creek to Pasayten Wilderness boundary: Closed waters the first Saturday in June through October 31.

From mouth to Pasayten Wilderness boundary: Additional December 1 through March 31 season. Whitefish gear rules apply.

Chikamin Creek (Chelan County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Chiliwack River (Whatcom County) including all tributaries and their tributaries: First Saturday in June through October 31 season.

Chimacum Creek (Jefferson County):

From mouth to Ness's Corner Road: The first Saturday in June through August 31 season. Selective gear rules and release all fish.

From Ness's Corner Road to headwaters: First Saturday in June through October 31 season. Selective gear rules and release all fish.

Chiwaukum Creek (Chelan County): Mouth to Fool Hen Creek: Closed waters.

Chiwawa River (Chelan County): Mouth to Buck Creek: Closed waters.

Chopaka Lake (Okanogan County): Last Saturday in April through October 31 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit one.

Church Creek (Mason County) upstream of bridge on U.S. Forest Service Road #2361: First Saturday in June through October 31 season.

Cispus River (Lewis County), from mouth to North Fork: Trout: Release all cutthroat. Additional season November 1 through the Friday before the first Saturday in June. Trout:

Release all trout except up to two hatchery steelhead may be retained per day. Salmon: Open year around. Salmon minimum size 8 inches. January 1 through July 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release wild coho and wild Chinook. August 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult Chinook. Release wild coho.

Cispus River, North Fork (Lewis County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: No more than one over twelve inches in length. Release cutthroat.

Clallam River (Clallam County): The first Saturday in June through October 31 season. Selective gear rules and release all fish. Additional November 1 through last day in February season. Trout: Minimum length fourteen inches.

Clara Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Clear Creek (Chelan County): Closed waters.

Clear Creek (Snohomish County) (Sauk River tributary): From Asbestos Creek Falls to source: First Saturday in June through October 31 season.

Clear Lake (Chelan County): Last Saturday in April through October 31 season. From July 5 through October 31, selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Clear Lake (Pierce County): Last Saturday in April through October 31 season. Chumming permitted. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee. Salmon: Landlocked salmon rules apply.

Clear Lake (Spokane County): Last Saturday in April through October 31 season.

Clear Lake (Thurston County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Clearwater River (Jefferson County):

From mouth to Snahapish River: The first Saturday in June through April 15 season. Trout: Minimum length fourteen inches. February 16 through April 15, one wild steelhead per day may be retained. Salmon: Open only September 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult salmon.

From Snahapish River upstream: Trout, minimum length fourteen inches.

Clearwater River (Pierce County): July 1 through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length fourteen inches.

Cle Elum Lake (Reservoir) (Kittitas County): Trout except kokanee: Daily limit two, minimum length twelve inches.

Kokanee not counted in daily trout limit. Kokanee daily limit sixteen, no minimum size.

Cle Elum River (Kittitas County), from mouth to Cle Elum Dam: Lawful to fish to base of Cle Elum Dam. Year-round season. Unlawful to fish from a floating device equipped with an internal combustion motor. Selective gear rules, except December 1 through March 31 bait and one single point barbed hook three-sixteenths or smaller point to shank may be used. Trout: Release all trout. Above Cle Elum Lake to outlet of Hvas Lake except Tucquala Lake: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Cliff Lake (Grant County): March 1 through July 31 season.

Cloquallum Creek (Grays Harbor County):

From mouth to second bridge on Cloquallum Road: The first Saturday in June through last day in February season. Trout: Minimum length fourteen inches.

From mouth to Highway 8 Bridge: Additional March 1 through March 31 season. Trout: Minimum length fourteen inches.

Clover Creek (Pierce County) upstream of Steilacoom Lake, including all tributaries: July ((2)) 1 through October 31 season.

Coal Creek (Cowlitz County), from mouth to four hundred feet below falls: The first Saturday in June through August 31 and November 1 through last day in February season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Coal Creek (tributary of Lake Washington) (King County): The first Saturday in June through August 31 season. Juveniles only.

Coal Creek (near Snoqualmie) (King County), from mouth to Highway I-90: Last Saturday in April through October 31 season. Juveniles only. Trout: No minimum length.

From Highway I-90 upstream. First Saturday in June through October 31 season.

Coffee Pot Lake (Lincoln County): March 1 through September 30 season. Selective gear rules. Trout: Daily limit one, minimum length eighteen inches. Crappie: Daily limit ten, minimum length nine inches.

Coldwater Lake (Cowlitz County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one, minimum length sixteen inches.

Coldwater Lake inlet and outlet streams (Cowlitz County): Closed waters.

Collins Lake (Mason County): Last Saturday in April through October 31 season.

Columbia Basin Hatchery Creek (Grant County): Hatchery outflow to confluence with Rocky Coulee Wasteway: April 1 through September 30 season. Juveniles and holders of reduced fee licenses or designated harvester cards only. Trout: No minimum size, daily limit three.

Columbia Park Pond (Benton County): Juveniles and holders of reduced fee licenses or designated harvester cards only. All species: Daily limit of five fish combined.

Columbia River, including impoundments and all connecting sloughs, except Wells Ponds: Year-round season unless otherwise provided. General species provisions (unless otherwise provided for in this section): Bass: Below McNary Dam: Daily limit five fish, bass 12 to 17 inches in length may be retained. Up to but not more than three of the daily limit may be over 15 inches. Trout: Daily limit two fish, minimum length 12 inches, except release all Dolly Varden/Bull Trout. Whitefish: Daily limit 15 fish. All other game fish: No daily limit, except release all grass carp. Effective January 1, 2011: Salmon and steelhead - barbless hooks required from mouth to McNary Dam.

In the Columbia River between Washington and Oregon, the license of either state is valid. Anglers must comply with the fishing regulations of the state in which they are fishing. This provision does not allow an angler licensed in Oregon to fish on the Washington shore, or in the sloughs or tributaries in Washington except Camas Slough, where the license of either state is valid when fishing from a floating device.

Anglers fishing the Columbia River are restricted to one daily limit, as defined by the laws of the state in which they are fishing, even if they are licensed by both states.

From a true north-south line through Buoy 10, upstream to a line projected from Rocky Point on the Washington bank through Red Buoy 44 to the navigation light at Tongue Point on the Oregon bank: Trout: Release all trout except hatchery steelhead. Walleye: No minimum size. Daily limit ten, of which no more than five may be greater than eighteen inches in length and one greater than twenty-four inches in length. Fishing from the north jetty is allowed during both Area 1 and Buoy 10 salmon season openings, (barbed hooks allowed through December 31, 2010) and the daily limit is the more liberal if both areas are open. Salmon and steelhead: Open only June 16 through March 31. June 16 through July 31, daily limit 6 fish, of which no more than 2 may be adult hatchery Chinook or hatchery steelhead, or one of each. Release all salmon other than hatchery Chinook. Closed to fishing for salmon and steelhead from Buoy 10 to the Megler-Astoria Bridge. August 1 through August 31, daily limit 2 salmon or 2 hatchery steelhead or one of each; only 1 may be a Chinook. Release all salmon except Chinook and hatchery coho. Chinook minimum length 24 inches. Coho minimum length 16 inches. September 1 through September 30, daily limit 2 hatchery coho or 2 hatchery steelhead or one of each. Release all salmon other than hatchery coho. Coho minimum length 16 inches. October 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult hatchery coho or hatchery steelhead, or one of each. Release all salmon except hatchery coho. January 1 through March 31, daily limit 6 fish, of which no more than 2 may be adult hatchery Chinook salmon or hatchery steelhead or one of each. Release all salmon except hatchery Chinook. Fishing from the north jetty for salmon open during both Area 1 and Buoy 10 fishery openings, (barbed hooks allowed through December 31, 2010) and the daily limit is the more liberal if both areas are open. Sturgeon: Release sturgeon May 1 through May 8, June 29 through July 1, and July 6 through December

31. Minimum size when open to retain sturgeon is 38 inches fork length January 1 through April 30, and 41 inches fork length May 9 through July 5. Bottomfish: Daily limits, seasons, size restrictions and gear restrictions are the same as those in the adjacent portion of Marine Area 1.

From a line projected from Rocky Point on the Washington bank through Red Buoy 44 to the navigation light at Tongue Point on the Oregon bank, upstream to the I-5 Bridge: Trout: Release all trout except hatchery steelhead and hatchery cutthroat. Release all trout April 1 through May 15. Walleye: No minimum size. Daily limit ten, of which no more than five may be greater than eighteen inches in length and one greater than twenty-four inches in length. Salmon and steelhead: Open only May 16 through March 31. May 16 through July 31, daily limit 6 fish, of which no more than 2 may be adult hatchery Chinook or hatchery steelhead or one of each. Release all salmon except hatchery Chinook. May 16 through June 15, release adult Chinook. August 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult salmon or hatchery steelhead or one of each; of the adult salmon, only 1 may be a Chinook. Release all salmon except Chinook and hatchery coho. September 12 through December 31, release Chinook downstream of a line projected from the Warrior Rock Lighthouse, through Red Buoy #4, to the orange marker atop the dolphin on the Washington shore. January 1 through March 31, daily limit 6 fish, of which no more than 2 may be adult hatchery Chinook or hatchery steelhead or one of each. Release all salmon except hatchery Chinook. (1) Release sturgeon May 1 through May 8, June 29 through July 1, and July 6 through December 31 downstream from the Wauna powerlines. Minimum size when open to retain sturgeon is 38 inches fork length January 1 through April 30, and 41 inches fork length May 9 through July 5; (2) I-5 Bridge downstream to Wauna powerlines, lawful to retain sturgeon only on Thursdays, Fridays, and Saturdays from January 1 through July 31, and October 1 through December 31. Release sturgeon on other days and during other time periods.

From the I-5 Bridge to the Highway 395 Bridge at Pasco: Closed waters: (1) From the upstream line of Bonneville Dam to boundary markers located six hundred feet below the fish ladder, and closed to fishing from a floating device or fishing by any method except hand-casted gear from shore from Bonneville Dam downstream to a line from the Hamilton Island boat ramp to an Oregon boundary marker on Robins Island. (2) Waters from the upstream side of the Interstate Bridge at The Dalles to upper line of The Dalles Dam except that bank fishing is permitted up to the downstream navigation lock wall on the Washington shore. (3) From John Day Dam downstream about three thousand feet except that bank fishing is permitted up to four hundred feet below the fishway entrance on the Washington shore. (4) From McNary Dam downstream to a line across the river from the red and white marker on the Oregon shore on a line that intersects the downstream end of the wing wall of the boat lock near the Washington shore. August 1 through October 15: Salmon and steelhead: Anti-snagging rule from Bonneville Dam to McNary Dam and night closure from Bonneville Dam to The Dalles Dam. Trout: Release all trout except hatchery steelhead. Walleye: No minimum size. Daily limit ten, of which

no more than five may be greater than eighteen inches in length and one greater than twenty-four inches in length. Snake River Confluence Protection Area: From the first powerline crossing the Columbia upstream of Sacajawea State Park to the railroad bridge between Burbank and Kennewick: All species: Daily limits, seasons, size restrictions and gear restrictions are the same as those in the adjacent portion of the Snake River. Sturgeon: (1) Sturgeon fishing is closed from Bonneville Dam to a line from a boundary marker on the Washington shore approximately 4,000 feet below the fish ladder to the downstream end of Cascade Island to an Oregon angling boundary on Bradford Island (the Cascade Island - Bradford Island line). (2) It is unlawful to fish for sturgeon from May 1 through July 31 from Cascade Island - Bradford Island line downstream to a line from navigation marker 85 on the Washington shore at a right angle to the thread of the river to the Oregon shore, from 400 feet below McNary Dam to the Highway 82 Bridge and from John Day Dam downstream to a line crossing the Columbia at a right angle to the thread of the river from the west end of the grain silo at Rufus, Oregon. (3) Cascade Island - Bradford Island line downstream to I-5 Bridge, lawful to retain sturgeon only on Thursdays, Fridays, and Saturdays from January 1 through July 31 and October 1 through December 31, except for May 1 - July 31 closure downstream to the navigation marker 85 line. Release sturgeon on other days and during other time periods. (4) Release sturgeon August 1 through December 31 from the upstream line of Bonneville Dam and 400 feet below McNary Dam. (5) From the Hamilton Island boat launch (USACE boat restricted zone boundary) to Bonneville Dam, anglers must stop fishing for sturgeon once a daily limit has been retained. (6) Release sturgeon from August 1 through January 31 from McNary Dam to Priest Rapids Dam. Closed to fishing for sturgeon from May 1 through July 31 from the ~~((trolley cableway 2.5 miles))~~ boundary marker on the river bank 400 feet downstream from Priest Rapids ((Dam)) Hatchery outlet channel (Jackson Creek) to Priest Rapids Dam. Salmon and steelhead: From I-5 Bridge to Bonneville Dam: Open June 16 through December 31 except salmon closed November 1 through December 31 from Beacon Rock to Bonneville Dam. June 16 through July 31, daily limit 6 fish, of which no more than 2 may be adult hatchery Chinook or hatchery steelhead or one of each. Release all salmon except hatchery Chinook. August 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult salmon or hatchery steelhead or one of each; of the adult salmon, only 1 may be a Chinook. Release all salmon except Chinook and hatchery coho. Steelhead: Additional season January 1 through March 31. Daily limit 2. From Bonneville Dam to Highway 395 Bridge at Pasco: Open June 16 through December 31. June 16 through July 31, daily limit 6 fish, of which no more than 2 may be adult hatchery Chinook or hatchery steelhead or one of each. Release all salmon except hatchery Chinook. August 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult salmon or hatchery steelhead or one of each. Release all salmon except Chinook and coho. Release wild coho from Bonneville Dam to Hood River Bridge. Steelhead: Additional season January 1 through March 31. Daily limit 2.

From the Highway 395 Bridge at Pasco to the old Hanford townsite (wooden towers) powerline crossing, in Sec. 30, T13N, R28E except Ringold Area Bank Fishery waters: Closed waters: Ringold Springs Creek (Hatchery Creek). Trout: Release all trout, except up to two hatchery steelhead having both adipose and ventral fin clips may be retained per day, October 1 through October 31. Release all trout, except up to two hatchery steelhead may be retained per day, November 1 through March 31. Salmon: Open June 16 through July 31. Daily limit 6 fish, of which no more than 2 may be adult hatchery Chinook. Release all salmon other than hatchery Chinook. Open August 1 through October 22. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release sockeye. Walleye: Daily limit 10 fish. No minimum size, no more than 5 fish over 18 inches in length. No more than 1 fish over 24 inches in length. Ringold Area Bank Fishery waters (from WDFW markers 1/4 mile downstream from the Ringold wasteway outlet, to WDFW markers 1/2 mile upstream from Spring Creek): Open only April 1 through April 15, except closed for salmon fishing. Fishing allowed only from the bank and only on the hatchery side of the river. Trout: Release all trout, except hatchery steelhead. Salmon: Open only May 1 through June 30. Fishing allowed only from the bank and only on the hatchery side of the river. Daily limit two hatchery Chinook. Night closure.

From the old Hanford townsite (wooden towers) powerline crossing in Sec. 30, T13N, R28E, to Vernita Bridge, (Highway 24): February 1 through October 22 season. Trout: Release all trout. Walleye: Daily limit 10 fish. No minimum size, no more than 5 fish over 18 inches in length. No more than 1 fish over 24 inches in length. Salmon: Open June 16 through July 31. Daily limit 6 fish of which no more than 2 fish may be adult hatchery Chinook. Release all salmon except hatchery Chinook. Open August 1 through October 22. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release sockeye.

From Vernita Bridge (Highway 24) to Priest Rapids Dam: Closed waters: (1) Priest Rapids Dam - waters between the upstream line of Priest Rapids Dam downstream to the boundary markers six hundred fifty feet below the fish ladders. (2) Jackson (Moran Creek or Priest Rapids Hatchery outlet) Creek - all waters of the Priest Rapids Hatchery system to the outlet on the Columbia River, extending to mid-stream Columbia between boundary markers located one hundred feet upstream and four hundred feet downstream of the mouth. Trout: Release all trout. Walleye: Daily limit 10 fish. No minimum size, no more than 5 fish over 18 inches in length. No more than 1 fish over 24 inches in length. Salmon: Open June 16 through July 31. Daily limit 6 fish of which no more than 2 may be adult hatchery salmon. Release all salmon except hatchery Chinook. Open August 1 through October 22. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release sockeye.

From Priest Rapids Dam to Chief Joseph Dam, including up to base of Washburn Pond outlet structure: Closed waters: (1) Wanapum Dam - waters between the upstream line of Wanapum Dam to the boundary markers seven hundred fifty feet downstream of the east fish ladder and five hundred feet downstream of the west fish ladder. (2) Rock Island Dam to boundary markers four hundred feet downstream of the fish

ladders. (3) Rocky Reach Dam - waters between the upstream line of Rocky Reach Dam to boundary markers four hundred feet downstream of the fish ladders. (4) Wells Dam - waters between the upstream line of Wells Dam to boundary markers four hundred feet downstream of the spawning channel discharge (Chelan County) and fish ladder (Douglas County). (5) Chief Joseph Dam - closed to fishing from the Okanogan County shore between the dam and the Highway 17 Bridge. Closed to fishing from a floating device from the boundary marker to the Corps of Engineers safety zone marker. Trout: Release all trout. All species: Anti-snagging rule and night closure from Rocky Reach Dam to the most upriver edge of Turtle Rock. Salmon: From Priest Rapids Dam to Wanapum Dam, open July 1 through October 22. July 1 through August 31, daily limit 6 fish, of which no more than 3 may be adult salmon, and of the 3 adult salmon, only 1 may be a wild adult salmon. Release coho and sockeye. September 1 through October 22, daily limit 6 fish, of which no more than 2 may be adult salmon. Release coho and sockeye. From Wanapum Dam to Wells Dam, open July 1 through October 15. Daily limit 6 fish, of which no more than 3 may be adult salmon, and of the 3 adult salmon, only 1 may be a wild adult salmon. Release coho and sockeye. From Wells Dam to Highway 173 Bridge at Brewster: Open July 16 through August 31. Daily limit 6 fish, of which no more than 3 may be adult salmon, and of the 3 adult salmon, only 1 may be a wild adult salmon. Release coho and sockeye. From Highway 173 Bridge at Brewster to Highway 17 Bridge at Bridgeport: Open July 1 through October 15. Daily limit 6 fish, of which no more than 3 may be adult salmon, and of the 3 adult salmon, only 1 may be a wild adult salmon. Release coho and sockeye. Sturgeon: Release all sturgeon.

Above Chief Joseph Dam: See Lake Roosevelt and Rufus Woods Lake.

Colville River (Stevens County):

From mouth to bridge at Town of Valley: Year-round season. Trout: Daily limit five fish, not more than two of which may be brown trout October 1 through November 30. Walleye: Daily limit 8 fish. No minimum size. Not more than one walleye greater than 22 inches may be retained. Sturgeon: Unlawful to fish for or retain sturgeon.

From bridge at Valley upstream and tributaries: Saturday before Memorial Day through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Conconully Lake (Okanogan County): Last Saturday in April through October 31 season.

Conconully Reservoir (Okanogan County): Last Saturday in April through October 31 season.

Conger Pond (Pend Oreille County): Last Saturday in April through October 31 season.

Connelly Creek and tributaries (Lewis County), from four hundred feet below the city of Morton Dam to its source: Closed waters.

Conner Lake (Okanogan County): Last Saturday in April through October 31 season.

Cooper River (Kittitas County): Mouth to Cooper Lake: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Coot Lake (Grant County): April 1 through September 30 season.

Copalis River (Grays Harbor County): The first Saturday in June through last day in February season. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through January 31 from mouth to Carlisle Bridge. Daily limit 6 fish of which no more than 2 may be adult salmon. Release chum and adult Chinook.

Corral Canyon Creek (Benton County): Selective gear rules.

Cottage Lake (King County): Last Saturday in April through October 31 season.

Cottonwood Creek (Lincoln County): Year-round season.

Cottonwood Creek (Walla Walla County): Closed waters.

Cougar Creek (tributary to Yale Reservoir) (Cowlitz County): The first Saturday in June through August 31 season.

Cougar Lake (Pasayten Wilderness) (Okanogan County): All species: Selective gear rules.

Cougar Lake (near Winthrop) (Okanogan County): April 1 through August 31 - all species: Selective gear rules. Release all fish.

Coulter Creek (Kitsap/Mason counties): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

County Line Ponds (Skagit County): Closed waters.

Coweeman River (Cowlitz County), from mouth to Mulholland Creek: The first Saturday in June through August 31 and November 1 through March 15 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day. From Mulholland Creek upstream: The first Saturday in June through August 31 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Cowiche Creek (Yakima County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Cowlitz Falls Reservoir (Lake Scanewa) (Lewis County): June 1 through last day in February season. The upstream boundary of the reservoir in the Cowlitz arm is the posted PUD sign on Peters Road. The upstream boundary of the reservoir in the Cispus arm is the posted markers at the Lewis County PUD kayak launch, approximately 1.5 miles upstream from the confluence of the Cowlitz and Cispus arms. Trout and salmon: Minimum length eight inches. Trout: Release cutthroat. Release rainbow trout except rainbow trout with a clipped adipose fin and a healed scar at the site of the clipped fin. Salmon: Open only June 1 through last day in February. January 1 through last day in February and June 1 through July 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release wild coho and wild Chinook. August 1 through December 31, daily limit 6 fish, of

which no more than 2 may be adult Chinook. Release wild coho.

Cowlitz River (Lewis County):

From mouth to Mayfield Dam: Closed waters: (1) From 400 feet or posted markers below Cowlitz salmon hatchery barrier dam to boundary markers near the Cowlitz salmon hatchery water intake approximately 1,700 feet upstream of the Cowlitz salmon hatchery barrier dam. (2) From 400 feet below the Mayfield powerhouse upstream to Mayfield Dam. (3) Within a 100 foot radius of the new Cowlitz Trout Hatchery outfall structure except anglers who permanently use a wheelchair may fish within posted markers when adjacent waters are open. Year-round season except closed to fishing from south bank May 1 through June 15 from Mill Creek to the Cowlitz salmon hatchery barrier dam. Lawful to fish up to four hundred feet or the posted deadline at the Cowlitz salmon hatchery barrier dam. Lawful to fish up to Tacoma Power safety signs at Onion Rock below Mossyrock Dam. Lawful to fish up to Lewis County P.U.D. safety signs below Cowlitz Falls Dam. From the Cowlitz salmon hatchery barrier dam downstream to a line from the mouth of Mill Creek to a boundary marker on the opposite shore, it is unlawful to fish from any floating device. Anti-snagging rule and night closure April 1 through October 31 from mouth of Mill Creek to the Cowlitz salmon hatchery barrier dam. All game fish: Release all fish except steelhead April 1 through the Friday before the first Saturday in June. Trout: The first Saturday in June through March 31, daily limit five, minimum length twelve inches, no more than two over twenty inches, except release wild cutthroat. Salmon: Open year-round. January 1 through July 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release all salmon except hatchery Chinook and hatchery coho. August 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult Chinook. Release all salmon except hatchery coho and hatchery Chinook. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in adjacent waters of mainstem Columbia River.

From posted PUD sign on Peters Road to mouth of (~~Ohanapecosh~~) Ohanapecosh River and mouth of Muddy Fork: Trout: Release cutthroat. Additional November 1 through Friday before the first Saturday in June season. Trout: Release all trout except up to two hatchery steelhead may be retained per day. Salmon: Open year-round from upstream boundary of Lake Scanewa. Salmon minimum size 12 inches. January 1 through July 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release wild coho and wild Chinook. August 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult Chinook. Release wild coho.

Cowlitz River, Clear and Muddy Forks (Lewis County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release cutthroat.

Coyote Creek and Ponds (Adams County): April 1 through September 30 season.

Crab Creek (Adams/Grant counties):

From Highway 26 to Morgan Lake Road in Section 36: April 1 through September 30 season.

From Morgan Lake Road in Section 36 to O'Sullivan Dam (including Marsh Unit I and II impoundments): Closed waters.

Crab Creek (Lincoln/Grant counties) and tributaries: Year-round season. In those waters from Grant County Road 7 to the fountain buoy and shoreline markers or 150 feet downstream of the Alder Street fill March 1 through May 31 terminal gear restricted to one single hook measuring 3/4 inch or less point to shank. Year-round: Daily limits and size limits same as Moses Lake. From Moses Lake downstream to the confluence of the outlet streams March 1 through May 31 terminal gear restricted to one single-point hook measuring 3/4 inch or less point to shank. Year-round: Daily limits and size limits same as Potholes Reservoir.

Crabapple Lake (Snohomish County): Last Saturday in April through October 31 season.

Cranberry Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Crawfish Lake (Okanogan County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion engine prohibited.

Crescent Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Crescent Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Crescent Lake (Pierce County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Crocker Lake (Jefferson County): Closed waters.

Crystal Lake (Grant County): March 1 through July 31 season.

Cup Lake (Grant County): March 1 through July 31 season.

Curl Lake (Columbia County): Last Saturday in April through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Dakota Creek (Whatcom County): First Saturday in June through October 31 season. Selective gear rules. Salmon: Open only October 1 through December 31 from mouth to Giles Road Bridge. Daily limit 2 salmon.

Dalton Lake (Franklin County): Trout: No more than two over 13 inches in length may be retained.

Damon Lake (Grays Harbor County): The first Saturday in June through October 31 season.

Dan's Creek (Snohomish County) (Sauk River tributary): First Saturday in June through October 31 season. All spe-

cies: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Davis Lake (Ferry County): Last Saturday in April through October 31 season.

Davis Lake (Lewis County): Last Saturday in April to last day in February season.

Davis Lake (Okanogan County): April 1 through August 31: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Davis Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Dayton Pond (Columbia County): Juveniles, anglers with reduced-fee licenses or designated harvesters only. Trout: No more than 2 trout over 13 inches in length may be retained.

Deadman Lake (Adams County): April 1 through September 30 season.

De Coursey Pond (Pierce County): Last Saturday in April through November 30 season. Juveniles only. Salmon: Landlocked salmon rules apply.

Deep Creek (Clallam County): December 1 through last day in February season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained per day.

Deep Creek (tributary to Bumping Lake) (Yakima County): Mouth to second bridge crossing on USFS Rd. 1808 (approximately 3.7 miles from junction of USFS Rds. 1800 and 1808): Closed waters.

Deep Lake (Grant County): Last Saturday in April through September 30 season.

Deep Lake (Stevens County): Last Saturday in April through October 31 season.

Deep Lake (Thurston County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Deep River (Wahkiakum County): Year-round season. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open year-round only from mouth to town bridge. January 1 through July 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release wild Chinook and wild coho. August 1 through December 31, daily limit 6 fish of which no more than 2 may be adult Chinook. Release chum and wild coho. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in adjacent waters of mainstem Columbia River.

Deer Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Deer Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout:

No more than 2 trout over 13 inches in length may be retained.

Deer Lake (Island County): Last Saturday in April through October 31 season.

Deer (Deer Springs) Lake (Lincoln County): Last Saturday in April through September 30 season.

Deer Lake (Mason County): Last Saturday in April through October 31 season.

Deer Lake (Stevens County): March 1 through October 31 season. Trout: No more than two over thirty inches in length may be retained.

De Roux Creek (Kittitas County): Mouth to the USFS Trail #1392 (De Roux Cr. Trail) stream crossing (approximately one river mile): Closed waters. Upstream of USFS Trail #1392 stream crossing: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Deschutes River (Thurston County): From old U.S. Highway 99 Bridge near Tumwater to Henderson Boulevard Bridge near Pioneer Park: ~~((The first Saturday in June through October 15))~~ Year-round season. Selective gear rules. Anti-snagging rule and night closure August 1 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only July 1 through October 15. Daily limit 6 fish of which no more than 2 may be adult salmon. Release coho.

From Henderson Boulevard Bridge upstream: Year-round season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all trout. Salmon: Open only July 1 through October 15. Daily limit 6 fish of which no more than 2 may be adult salmon. Release coho.

Devereaux Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Devil's Lake (Jefferson County): Last Saturday in April through October 31 season.

Dewatto River (Mason County): First Saturday in June through August 15 and October 1 through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Night closure October 1 through October 31 from mouth to Dewatto-Holly Road Bridge. Game fish: Release all fish. Salmon: Open only October 1 through October 31 mouth to Dewatto-Holly Road Bridge. Daily limit two coho. Release all salmon other than coho.

Diamond Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Dickey River (Clallam County): The first Saturday in June through April 30 season in mainstem Dickey outside Olympic National Park and East Fork Dickey upstream to D5200 road and the first Saturday in June through March 15 in East Fork Dickey upstream from D5200 road and West Fork Dickey. Trout: Minimum length fourteen inches. February

16 through April 30, one wild steelhead per day may be retained. Salmon: Open only July 1 through November 30 from mouth to East Fork Dickey. July 1 through August 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release wild adult Chinook and wild adult coho. September 1 through November 30, daily limit 6 fish of which no more than 4 may be adult salmon, and of the 4 adult salmon, no more than 2 may be any combination of Chinook, wild coho, pink, sockeye, and chum salmon.

Dillacort Creek (Klickitat County): Trout: Release all trout.

Diobsud Creek (Skagit County): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Dog Lake (Yakima County): Trout: Daily limit may contain no more than 1 fish over 14 inches in length.

Dogfish Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Donovan Creek (Jefferson County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Dosewallips River (Jefferson County), from mouth to Olympic National Park boundary about three-quarters mile downstream of falls: The first Saturday in June through August 31 season mouth to park boundary and November 1 through December 15 season mouth to Highway 101 Bridge. Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor the first Saturday in June through August 31. All species: Release all fish except salmon may be retained November 1 through December 15. Salmon: Open only November 1 through December 15 from mouth to Highway 101 Bridge. Daily limit 2 chum salmon.

Dot Lake (Grant County): March 1 through July 31 season.

Downey Creek (Snohomish County) (Suiattle River tributary): First Saturday in June through October 31 season. Selective gear rules.

Downs Lake (Lincoln/Spokane counties): March 1 through September 30 season. Crappie: Daily limit ten, minimum length nine inches.

Dry Creek (Walla Walla County): Upstream from the middle Waitsburg Road: Closed waters.

Dry Falls Lake (Grant County): April 1 through November 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Duck Lake (Grays Harbor County): Crappie: Daily limit ten, minimum length nine inches.

Duckabush River (Jefferson County), from mouth to the Olympic National Park Boundary: The first Saturday in June through August 31 season mouth to park boundary and November 1 through December 15 season mouth to Mason

County P.U.D. No. 1 overhead electrical distribution line. Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor the first Saturday in June through August 31. All species: Release all fish except salmon may be retained November 1 through December 15. Salmon: Open only November 1 through December 15 from mouth to Mason County P.U.D. No. 1 overhead electrical distribution line. Daily limit 2 chum salmon.

Dune Lake (Grant County): All species: Selective gear rules. Trout: Daily limit 1.

Dungeness River (Clallam County):

From mouth to forks at Dungeness Campground: October 16 through last day in February season. Trout: Minimum length fourteen inches. Salmon: Open only October 16 through December 31 from mouth to the hatchery intake pipe at river mile 11.3. Daily limit 4 coho salmon.

From junction of Gold Creek upstream to headwaters: First Saturday in June through October 31 season.

Dusty Lake (Grant County): March 1 through November 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one fish.

Dyes Inlet (Kitsap County) - all streams: First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Eaton Creek (Thurston County) (Lake St. Clair tributary): First Saturday in June through October 31 season. Selective gear rules.

Early Winters Creek (Okanogan County): Closed waters.

East Little Walla Walla River (Walla Walla County): Closed waters.

East Twin River (Clallam County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Easton Lake (Kittitas County): Saturday before Memorial Day through October 31 season. Trout: Daily limit five fish of which no more than 2 may be trout other than Eastern brook trout. Minimum length 8 inches.

Ebey Lake (Little Lake) (Snohomish County): Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit one, minimum length eighteen inches.

Echo Lake (Snohomish County): Last Saturday in April through October 31 season.

Eglon Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size 14 inches.

Eightmile Lake (Chelan County): Trout: Daily limit five, not more than two mackinaw may be retained.

Elbow Lake (Stevens County): Last Saturday in April through October 31 season.

Elk River (Grays Harbor County), from the Highway 105 Bridge upstream: The first Saturday in June through last day in February season. Single point barbless hooks required August 16 through November 30 downstream of the confluence of the east and middle branches. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 30 from Highway 105 Bridge to the confluence of the East and Middle Branches. Daily limit 2 fish. Release chum, Chinook, and wild coho.

Ell Lake (Okanogan County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Ellen Lake (Ferry County): Last Saturday in April through October 31 season. All species: Catch and release except up to five rainbow trout may be retained.

Elliot Creek (Snohomish County) (Sauk River tributary): First Saturday in June through October 31 season. All species: Selective gear rules.

Elochoman River (Wahkiakum County): Closed waters: Waters from 100 feet above the upper hatchery rack downstream to the Elochoman Hatchery Bridge located 400 feet below the upper hatchery rack; waters from a point 50 feet above to 100 feet below the outlet pipes from the most downstream Elochoman Hatchery rearing pond and extending 30 feet out from the south bank of the river; waters between the department of fish and wildlife temporary rack downstream to Foster (Risk) Road Bridge while rack is installed in the river; mainstem waters from the confluence of the west fork to source.

From mouth to West Fork: The first Saturday in June through March 15 season. Anti-snagging rule, night closure, and stationary gear restriction August 1 through October 31. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open only from the first Saturday in June through December 31. First Saturday in June through July 31, daily limit 6 hatchery Chinook, of which no more than 2 may be adults. August 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult Chinook. Release chum, wild coho, and wild Chinook.

Eloika Lake (Spokane County): Crappie: Daily limit ten, minimum length nine inches.

Elwha River (Clallam County): Through February 28, 2012: From mouth to two hundred feet below the south spillway on the Aldwell Dam: October 1 through last day in February season. Fishing from any floating device prohibited. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 15. Daily limit 6 coho salmon of which no more than 4 may be adult coho salmon.

From Lake Aldwell upstream to Olympic National Park boundary, including all tributaries: First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout except Eastern brook trout: Minimum length twelve inches. Eastern brook trout: No minimum size. Beginning March 1, 2012: From mouth upstream to Olympic

National Park boundary, including all tributaries and remaining waters of Lake Aldwell and Lake Mills: Closed waters. As the Elwha and Glines Canyon dams are removed, Lake Aldwell and Lake Mills will recede.

Empire Lake (Ferry County): Last Saturday in April through October 31 season.

Entiat River (Chelan County), from mouth to Entiat Falls: December 1 through March 31 season. Whitefish gear rules apply. Above Entiat Falls: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit 5 trout, not more than one of which may be greater than 12 inches in length. Eastern brook trout not included in trout daily limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Ephrata Lake (Grant County): Closed waters.

Erie Lake (Skagit County): Last Saturday in April through October 31 season.

Evans Creek (Pierce County) (Carbon River tributary) from Carbon River-Fairfax Road upstream: First Saturday in June through October 31 season.

Failor Lake (Grays Harbor County): Last Saturday in April through October 31 season. Trout: No more than two over 15 inches in length may be retained per day.

Falls Creek (Snohomish County) (Sauk River tributary): First Saturday in June through October 31 season. All species: Selective gear rules.

Fan Lake (Pend Oreille County): Last Saturday in April through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Fazon Lake (Whatcom County): Fishing from any floating device prohibited from first Friday in October through January 15. Channel catfish: Daily and possession limit two.

Ferry Lake (Ferry County): Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Fio Rito Lakes (Kittitas County): Fishing from a floating device equipped with an internal combustion motor prohibited.

Fish Lake (Chelan County): Trout: No more than two over fifteen inches in length may be retained. Perch: Daily limit 25.

Fish Lake (Ferry County): Last Saturday in April through October 31 season.

Fish Lake (Okanogan County): Last Saturday in April through October 31 season.

Fish Lake (Spokane County): Last Saturday in April through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Fisher Slough (Snohomish County): Mouth to I-5 Bridge: First Saturday in June through October 31 season. Trout: Minimum length fourteen inches.

Fishhook Pond (Walla Walla County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Fishtrap Creek (Whatcom County): From Koh Road to Bender Road: First Saturday in June through October 31 season. Juveniles only.

Fishtrap Lake (Lincoln/Spokane counties): Last Saturday in April through September 30 season.

Fiske Creek (Pierce County) (Puyallup River tributary) upstream from Fiske Road: First Saturday in June through October 31 season.

Forde Lake (Okanogan County): Last Saturday in April through October 31 season.

Fort Borst Park Pond (Lewis County): Last Saturday in April through last day in February season. Juveniles only.

Fortson Mill Pond # 2 (Snohomish County): Last Saturday in April through October 31 season. Juveniles only.

Found Creek (Skagit County) (Cascade River tributary): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish.

Fourth of July Lake (Adams/Lincoln counties): December 1 through March 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: No more than two over fourteen inches in length may be retained.

Fox Creek (Pierce County) (Puyallup River tributary) upstream from Fiske Road: First Saturday in June through October 31 season.

Franz Lake (Skamania County): Closed waters.

Frater Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Frenchman Hills Lake (Grant County): February 1 through September 30 season.

Friday Creek (Whatcom County) (Samish River tributary): First Saturday in June through October 31 season. Selective gear rules.

Fulton Creek (Mason County) from mouth to falls at river mile 0.8: First Saturday in June through October 31 season. Selective gear rules and release all fish.

From falls at river mile 0.8 upstream: First Saturday in June through October 31 season.

Gadwall Lake (Grant County): April 1 through September 30 season.

Gale Creek (Pierce County) (South Prairie Creek tributary) upstream of confluence with Wilkeson Creek: First Saturday in June through October 31 season.

Gamble Creek (Kitsap County): First Saturday in June through October 31 season: Selective gear rules and release all fish.

Garfield Juvenile Pond (Whitman County): Juveniles only.

George Lake (Grant County): March 1 through July 31 season.

Geneva Lake (King County): Last Saturday in April through October 31 season.

Germany Creek (Cowlitz County), from mouth to end of Germany Creek Road (approximately five miles): The first Saturday in June through August 31 and November 1 through March 15 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Gibbs Lake (Jefferson County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all trout.

Gillette Lake (Stevens County): Last Saturday in April through October 31 season.

Gissberg Pond, North (Snohomish County): Juveniles only.

Gissberg Ponds (Snohomish County): Channel catfish: Daily limit 2, no minimum size.

Goat Creek (Okanogan County): Closed waters.

Gobar Creek (tributary to Kalama River) (Cowlitz County): The first Saturday in June through March 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Gold Creek, Gold Creek Pond and Outlet Channel (tributary to Keechelus Lake) (Kittitas County): Closed waters.

Gold Creek (Okanogan County): From mouth to confluence north fork Gold Creek: Closed waters.

Goldsborough Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Golf Course Pond (Asotin County): Trout: No more than 2 trout over 13 inches in length may be retained.

Goodell Creek (Skagit County): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Goodman Creek (Jefferson County) outside Olympic National Park: The first Saturday in June through last day in February season. Trout, minimum length fourteen inches.

Goodwin Lake (Snohomish County): Chumming permitted.

Goose Creek (Lincoln County), within the city limits of Wilbur: Year around season. Juveniles and holders of reduced fee licenses or designated harvester cards only.

Goose Lake, Lower (Adams County): Crappie: Daily limit ten, minimum length nine inches. Bluegill: Not more than five over six inches in length.

Goss Lake (Island County): Last Saturday in April through October 31 season.

Grade Creek (Snohomish County) (Suitttle River tributary): First Saturday in June through October 31 season. Selective gear rules.

Grande Ronde River (Asotin County):

From mouth to County Road Bridge about two and one-half miles upstream: Year-round season. Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor September 1 through May 31. Trout: Minimum length ten inches, maximum length twenty inches. Channel catfish: No daily limit mouth to Oregon state line.

From County Road Bridge upstream to Oregon state line and all tributaries: Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor the first Saturday in June through August 31 and barbless hooks required September 1 through October 31. Additional season November 1 through April 15: Barbless hooks required. All tributaries: Closed waters. All species: Release all fish except whitefish and hatchery steelhead. Trout: Daily limit three hatchery steelhead.

Granite Creek and tributaries (Pend Oreille County): Closed waters.

Granite Lakes (near Marblemount) (Skagit County): Grayling: Release all grayling.

Grass Lake (Mason County): Last Saturday in April through October 31 season.

Gray Wolf River (Clallam County): From bridge at river mile 1.0 upstream: First Saturday in June through October 31 season. All species: Selective gear rules and release all fish. Unlawful to fish from a floating device equipped with an internal combustion motor.

Grays River (Wahkiakum County), from mouth to Highway 4 Bridge: First Saturday in June through October 15 and November 15 through March 15 season; and from Highway 4 Bridge to mouth of South Fork: First Saturday in June through October 15 and December 1 through March 15 season. Anti-snagging rule, night closure and stationary gear restriction August 1 through October 15. All game fish: Release all fish except hatchery steelhead. Salmon: From mouth to Highway 4 Bridge: Open first Saturday in June through October 15 and November 15 through December 31. First Saturday in June through July 31, daily limit 6 hatchery Chinook, of which no more than 2 may be adults. August 1 through October 15 and November 15 through December 31, daily limit 6 fish, of which no more than 2 may be adult Chinook. Release chum, wild coho, and unmarked Chinook. Unmarked Chinook are Chinook without either a clipped ventral fin or a clipped adipose fin. From Highway 4 Bridge to South Fork: Open first Saturday in June through October 15 and December 1 through December 31. First Saturday in June through July 31, daily limit 6 hatchery Chinook, of which no more than 2 may be adults. August 1 through October 15 and December 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult Chinook. Release

chum, wild coho and unmarked Chinook. Unmarked Chinook are Chinook without either a clipped ventral fin or a clipped adipose fin.

Grays River, East Fork (Wahkiakum County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Grays River, West Fork (Wahkiakum County), downstream from hatchery intake/footbridge: The first Saturday in June - October 15 season. August 1 through October 15: Anti-snagging rule, night closure and stationary gear restriction. Additional December 1 through March 15 season downstream from hatchery intake footbridge. Release all fish other than hatchery steelhead. Salmon: Open only from first Saturday in June through October 15 and December 1 through December 31. First Saturday in June through July 31, daily limit 6 hatchery Chinook, of which no more than 2 may be adults. August 1 through October 15 and December 1 through December 31, daily limit 6 fish of which not more than 2 may be adult Chinook. Release chum, wild coho and unmarked Chinook. Unmarked Chinook are Chinook without either a clipped ventral fin or a clipped adipose fin.

Green Lake (Okanogan County): April 1 through November 30: Selective gear rules, and unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Green Lake (Lower) (Okanogan County): April 1 through November 30: Selective gear rules, and unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Green River (Cowlitz County): Closed waters: All tributaries.

From mouth to 2800 Bridge: The first Saturday in June through November 30 season except closed from 400 feet above to 400 feet below the water intake at the upper end of the hatchery grounds during the period September 1 through November 30 and from 400 feet or posted signs above and below the salmon hatchery rack when the rack is installed in the river. Anti-snagging rule and night closure September 1 through October 31 from mouth to 400 feet below salmon hatchery rack. All species: When anti-snagging rule in effect, only fish hooked inside the mouth may be retained. Trout: Release all trout except hatchery steelhead. Salmon: Open August 1 through November 30. Daily limit 6 fish, of which not more than 2 may be adult Chinook. Release chum, wild coho, and wild Chinook.

From 2800 Bridge to Miner's Creek: Closed waters.

From Miner's Creek upstream: All species: Catch and release and selective gear rules.

Green (Duwamish) River (King County):

From the First Avenue South Bridge to Tukwila International Boulevard/Old Highway 99: The first Saturday in June through July 31 and September 1 through February 15 season. In years ending in odd numbers, additional season August 22 through August 31 with the following restrictions: Night closure, bait prohibited, only 1 single-point hook may be used, and hook must measure less than 1/2 inch from point

to shank. Anti-snagging rule and night closure September 16 through November 30. Fishing from any floating device prohibited November 1 through February 15. Trout: Minimum length fourteen inches. Salmon: In years ending in odd numbers, open August 22 through December 31. Daily limit 6 salmon, no more than 3 may be any combination of adult coho and adult chum. Release Chinook. In years ending in even numbers, open September 1 through December 31. Daily limit 6 salmon, no more than 3 may be adult salmon. Release Chinook.

From Tukwila International Boulevard/Old Highway 99 to the Interstate 405 Bridge: The first Saturday in June through July 31 and September 1 through February 15 season. Anti-snagging rule and night closure September 1 through November 30. Fishing from any floating device prohibited November 1 through February 15. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through December 31. In years ending in odd numbers, daily limit 6 salmon, no more than 3 may be any combination of adult coho and adult chum, release Chinook. In years ending in even numbers, daily limit 6 salmon, no more than 3 may be adult salmon, and only 1 may be a Chinook.

From the Interstate 405 Bridge to South 277th Street Bridge in Auburn: Open only the first Saturday in June through July 31 and October 1 through February 15. In years ending in odd numbers, additional season September 1 through September 30 with the following restrictions: Night closure, bait prohibited, only 1 single-point hook may be used, and hook must measure less than 1/2 inch from point to shank. Anti-snagging rule and night closure October 1 through November 30. Fishing from any floating device prohibited November 1 through February 15. Trout: Minimum length fourteen inches. Salmon: In years ending in odd numbers, open September 1 through December 31. Daily limit 6 salmon, no more than 3 may be any combination of adult coho and adult chum. Release Chinook. In years ending in even numbers, open October 1 through December 31. Daily limit 6 salmon, no more than 3 may be adult salmon. Release Chinook.

From the 277th Street Bridge to Auburn-Black Diamond Road Bridge: Open only the first Saturday in June through August 15 and October 16 through last day in February. In years ending in odd numbers, additional season September 16 through October 15 with the following restrictions: Night closure, bait prohibited, only 1 single-point hook may be used, and hook must measure less than 1/2 inch from point to shank. Anti-snagging rule and night closure October 16 through November 30. Fishing from a floating device prohibited November 1 through last day in February. Trout, minimum length fourteen inches. Salmon: In years ending in odd numbers, open September 16 through December 31. Daily limit 6 salmon, no more than 3 may be any combination of adult coho and adult chum. Release Chinook. In years ending in even numbers, open October 16 through December 31. Daily limit 6 salmon, no more than 3 may be adult salmon. Release Chinook.

From the Auburn-Black Diamond Road Bridge to the water pipeline walk bridge (1/2 mile downstream of Tacoma Headworks Dam): The first Saturday in June through last day in February season. Anti-snagging rule and night closure

August 1 through November 30. Closed waters: Within 150 feet of the Palmer Pond outlet rack and within 150 feet of the mouth of Keta Creek. Trout: Minimum length 14 inches. Salmon: Open only November 1 through December 31. In years ending in odd numbers, daily limit 6 salmon, no more than 3 may be any combination of adult coho and adult chum. Release Chinook. In years ending in even numbers, daily limit 6 salmon, no more than 3 may be adult salmon. Release Chinook.

From Friday Creek upstream, including all tributaries and their tributaries: First Saturday in June through October 31 season.

Greenwater River (King County), from mouth to Greenwater Lakes: November 1 through January 31 season. Release all fish except whitefish. Whitefish gear rules.

From Greenwater Lakes upstream: First Saturday in June through October 31 season.

Grimes Lake (Douglas County): June 1 through August 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Grizzly Lake (Skamania County): Closed waters.

Groves Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Halfmoon Lake (Adams County): April 1 through September 30 season.

Halfmoon Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Hamilton Creek (Skamania County): Trout: Release all fish except up to two hatchery steelhead may be retained per day. All tributaries downstream from the Highway 14 Bridge: Closed waters.

Hamma Hamma River (Mason County):

From mouth to four hundred feet below falls: The first Saturday in June through August 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

From falls upstream: First Saturday in June through October 31 season.

Hampton Lakes, Lower and Upper (Grant County): April 1 through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Hancock Lake (King County): Last Saturday in April through October 31 season. All tributary streams and the upper third of the outlet are closed waters. Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Hansen Creek (Skagit County) including all tributaries and their tributaries: First Saturday in June through October 31 season. Selective gear rules.

Harris Lake (Grant County): All species: Selective gear rules. Trout: Daily limit 1.

Harvey Creek (tributary to Sullivan Lake) (Pend Oreille County):

From mouth to Bridge 4830 on county road (about one and one-half miles): Closed waters.

From Bridge 4830 upstream: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Hatch Lake (Stevens County): December 1 through March 31 season. All species: Catch and release except up to five rainbow trout may be retained.

Hatchery Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Haven Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Hawk Creek and tributaries (Lincoln County): Year-round season.

Hays Creek and Ponds (Adams County): April 1 through September 30 season.

Headgate Pond (Asotin County): Last Saturday in April through October 31 season. Juveniles, seniors and holders of reduced fee licenses or designated harvester cards only.

Heart Lake (near Anacortes) (Skagit County): Last Saturday in April through October 31 season.

Heins Lake (Kitsap County): Closed waters.

Hemlock Lake (Trout Creek Reservoir) (Skamania County): Closed waters.

Hen Lake (Grant County): April 1 through September 30 season.

Heritage Lake (Stevens County): Last Saturday in April through October 31 season.

Herman Lake (Adams County): April 1 through September 30 season.

Hicks Lake (Thurston County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Hilt Creek (Skagit County) (Sauk River tributary): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Hog Canyon Creek (Spokane County): Hog Canyon Dam to Scroggie Road: Year-round season.

Hog Canyon Lake (Spokane County): December 1 through March 31 season. Trout: No more than two over fourteen inches in length may be retained.

Hoh River (Jefferson County), outside of Olympic National Park:

From Olympic National Park boundary upstream to DNR Oxbow Campground Boat Launch: May 16 through April 15 season. May 16 through the Friday before the first Saturday in June, open Wednesday through Sunday only each week, and catch and release, except up to two hatchery steelhead may be retained on open days. First Saturday in June through April 15, trout: Minimum length fourteen inches. November 1 through February 15, daily limit may include 1 additional hatchery steelhead. February 16 through April 15, one wild steelhead per day may be retained. Salmon: Open May 16 through August 31, Wednesday through Sunday only each week, daily limit 6 fish of which no more than 1 may be an adult salmon, and release wild Chinook. Open September 1 through November 30, daily limit 6 fish of which no more than 2 may be adult salmon.

From DNR Oxbow Campground Boat Launch to Willoughby Creek: May 16 through April 15 season. Selective gear rules August 1 through October 15 and December 1 through April 15, and unlawful to fish from a floating device equipped with an internal combustion motor. Release all game fish except up to two hatchery steelhead may be retained. May 16 through the Friday before the first Saturday in June, open Wednesday through Sunday only each week. Salmon: Open May 16 through August 31, Wednesday through Sunday only each week, daily limit 6 fish of which no more than 1 may be an adult salmon, and release wild Chinook. Open October 16 through November 30, daily limit 6 fish of which no more than 2 may be adult salmon.

From Willoughby Creek to Morgan's Crossing boat launch site: First Saturday in June through April 15 season. Selective gear rules August 1 through October 15 and December 1 through April 15, and unlawful to fish from a floating device equipped with an internal combustion motor. Release all game fish except up to two hatchery steelhead may be retained. Salmon: Open October 16 through November 30, daily limit 6 fish of which no more than 2 may be adult salmon.

From Morgan's Crossing boat launch site upstream to Olympic National Park boundary below mouth of South Fork Hoh River: First Saturday in June through April 15 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Release all fish except up to two hatchery steelhead may be retained.

Hoh River South Fork (Jefferson County), outside Olympic National Park: The first Saturday in June through April 15 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length fourteen inches.

Hoko River (Clallam County): From mouth to upper Hoko Bridge: First Saturday in June through March 15 season. Fly fishing only September 1 through October 31. Trout: Minimum length fourteen inches.

From upper Hoko Bridge to Ellis Creek Bridge (river mile 18.5): The first Saturday in June through March 31 season. Fly fishing only. All species: Release all fish except up to two hatchery steelhead per day may be retained.

Homestead Lake (Grant County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one fish.

Hoquiam River, including all forks (Grays Harbor County): The first Saturday in June through last day of February season. Single point barbless hooks required August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 30 from mouth to bridge on Dekay Road on mainstem and East Fork mouth to mouth of Berryman Creek. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, Chinook, and wild coho.

Horseshoe Lake (Clark/Cowlitz counties): Trout: No more than 2 trout 20 inches or greater in length may be retained. Salmon: Landlocked salmon rules apply.

Horseshoe Lake (Jefferson County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit 1.

Horseshoe Lake (Kitsap County): Last Saturday in April through October 31 season. Salmon: Landlocked salmon rules apply. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Horseshoe Lake (Pend Oreille County): Last Saturday in April through October 31 season. Trout except kokanee: Daily limit five. Kokanee not counted in daily trout limit. Kokanee daily limit ten.

Horsethief Lake (Klickitat County): Last Saturday in April through October 31 season.

Hourglass Lake (Grant County): April 1 through September 30 season.

Howard Lake (Snohomish County): Last Saturday in April through October 31 season.

Howe Creek (Jefferson County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Howell Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Hozomeen Lake (Whatcom County): July 1 through October 31 season. Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Huff Lake (Pend Oreille County): Closed waters.

Humptulips River (Grays Harbor County): From mouth to Ocean Beach Road: The first Saturday in June through March 31 season, except closed September 1 through September 30. Night closure and single-point barbless hooks required August 16 through August 31 and October 1 through November 30. Trout: Minimum length fourteen inches. Salmon: Open October 1 through January 31. Daily limit of 6 salmon, of which no more than two may be adult salmon, and of the 2 adult salmon, only one may be a Chinook. Release chum and wild coho. From Ocean Beach Road to Highway 101: The first Saturday in June through March 31 season, except closed September 1 through September 15.

Night closure and single-point barbless hooks required August 16 through August 31 and September 16 through November 30. All species: Bait prohibited September 16 through September 30. Trout: Minimum length fourteen inches. Salmon: Open September 16 through January 31. Daily limit of 6 salmon, of which no more than two may be adult salmon, and of the 2 adult salmon, only one may be a Chinook. Release chum and wild coho. From Highway 101 Bridge to the confluence of the East and West forks: The first Saturday in June through last day in February season. Night closure and single point barbless hooks required August 16 through November 30. Trout: Minimum length fourteen inches. Additional season March 1 through March 31 with the following restrictions: Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor. March 1 through March 31, game fish: Release all fish except up to two hatchery steelhead may be retained. Salmon: Open September 16 through January 31. Daily limit of 6 salmon, of which no more than two may be adult salmon, and of the 2 adult salmon, only one may be a Chinook. Release chum and wild coho. Bait prohibited September 16 through September 30.

Humptulips River, East Fork (Grays Harbor County), from mouth to concrete bridge on Forest Service Road between Humptulips Guard Station and Gridale: Anti-snagging rule and night closure August 16 through October 31. Trout: Minimum length fourteen inches.

Humptulips River, West Fork (Grays Harbor County), from mouth to Donkey Creek: The first Saturday in June through last day in February season. Anti-snagging rule and night closure August 16 through November 30. Trout: Minimum length fourteen inches. Additional season March 1 through March 31. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead may be retained.

Hutchinson Creek (Whatcom County) (SF Nooksack tributary): First Saturday in June through October 31 season. All species: Selective gear rules. Trout: Minimum size fourteen inches.

Hutchinson Lake (Adams County): April 1 through September 30 season. Fishing from a floating device equipped with an internal combustion engine prohibited.

I-82 Ponds, 1 through 7 (Yakima County): Fishing from vessels equipped with internal combustion motors prohibited.

Icehouse Lake (Skamania County): Trout: No more than 2 trout 20 inches or greater in length may be retained.

Icicle River (Creek) (Chelan County):

From mouth to four hundred feet below Leavenworth National Fish Hatchery rack: Closed waters. From Leavenworth National Fish Hatchery rack upstream to Leland Creek: First Saturday in June through September 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Illabot Creek (Skagit County): First Saturday in June through October 31 season. Selective gear rules.

Illahee Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size 14 inches.

Indian Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Indian Creek (Yakima County): From mouth to waterfall approximately six miles upstream (including the portion of the creek that flows through the dry lakebed): Closed waters. Upstream of waterfall: Eastern brook trout do not count as part of trout daily limit. Eastern brook trout: No minimum size and no daily limit.

Indian Heaven Wilderness Lakes (Skamania County): Trout: Daily limit three.

Ingall's Creek (Chelan County): Mouth to Wilderness boundary: Closed waters.

Isabella Lake (Mason County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Island Lake (Kitsap County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Island Lake (Mason County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Issaquah Creek (King County): The first Saturday in June through August 31 season. Juveniles only.

Jackman Creek (Skagit County): First Saturday in June through October 31 season. Selective gear rules.

Jackson Lake (Pierce County): Last Saturday in April through October 31 season.

Jameson Lake (Douglas County): Last Saturday in April through July 4 and October 1 through October 31 seasons.

Jasmine Creek (Okanogan County): Year-round season. Juveniles only.

Jefferson Creek (Mason County): First Saturday in June through October 31 season.

Jefferson Park Pond (Walla Walla County): Juveniles only. Trout: No more than 2 trout over 13 inches in length may be retained.

Jennings Park Pond (Snohomish County): Last Saturday in April through October 31 season. Juveniles only.

Jewitt Creek (Klickitat County): Juveniles only. Trout: Daily limit five, no minimum length.

Jimmy-Come-Lately Creek (Clallam County) mouth to confluence with East Fork: The first Saturday in June through August 31 season. Selective gear rules and release all fish.

From confluence with East Fork upstream, including East Fork: First Saturday in June through October 31 season.

Joe Creek (Grays Harbor County): Upstream from State Highway 109 Bridge to Ocean Beach Road Bridge: The first Saturday in June through November 30 season. Single point barbless hooks required August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through November 30. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release adult Chinook, and chum.

Johns Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Johns River (Grays Harbor County): Mouth to Ballon Creek: The first Saturday in June through last day in February season. Single point barbless hooks required August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 30. Daily limit 2 fish. Release chum, Chinook, and wild coho.

Ballon Creek upstream, including North and South Forks: The first Saturday in June through September 30 and December 1 through last day in February season. Trout: Minimum length 14 inches.

Johnson Creek (tributary to Cowlitz River) (Lewis County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length ten inches.

Johnson Creek (Whatcom County), from Northern Pacific Railroad tracks to the Lawson Street footbridge in Sumas: First Saturday in June through October 31 season. Juveniles only.

Jones Creek (Skagit County): First Saturday in June through October 31 season. Selective gear rules.

Jordan Creek (Skagit County) (Cascade River tributary): First Saturday in June through October 31 season. Selective gear rules.

Jorsted Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Jump-Off Joe Lake (Stevens County): Last Saturday in April through October 31 season.

Kachess Lake (Reservoir) (Kittitas County): Chumming permitted. Trout except kokanee: Daily limit two, minimum length twelve inches. Kokanee not counted in daily trout limit. Kokanee daily limit sixteen.

Kachess River (Kittitas County): Lawful to fish to base of Kachess Dam. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. From Kachess Lake (Reservoir) upstream to waterfall approximately one-half mile above Mineral Creek: Closed waters.

Kalaloch Creek (Jefferson County), outside Olympic National Park: Closed waters: Those waters within the section posted as the Olympic National Park water supply the

first Saturday in June through last day in February season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length fourteen inches.

Kalama River (Cowlitz County):

From mouth upstream to one thousand feet below fishway at upper salmon hatchery: Year-round season except during the period the temporary fish rack is installed. Waters from Modrow Bridge downstream to one thousand five hundred feet below the rack are closed waters when the rack is installed. Anti-snagging rule and night closure April 1 through October 31 from the mouth to the intake at the lower salmon hatchery. Stationary gear restriction September 1 through October 31 from mouth to the natural gas pipeline at Mahaffey's Campground. All species: When anti-snagging rule in effect only fish hooked inside the mouth may be retained. Fishing from a floating device equipped with an internal combustion motor prohibited upstream of Modrow Bridge. September 1 through October 31: Fly fishing only from the pipeline crossing to the posted deadline at the intake to the lower salmon hatchery. All game fish: Release all fish year-round except up to two hatchery steelhead may be retained per day. Salmon: Open year-round. January 1 through July 31, daily limit 6 hatchery Chinook of which no more than 1 may be an adult salmon. August 1 through December 31, daily limit 6 fish of which no more than 2 may be adult Chinook. Release chum, wild Chinook, and wild coho.

From one thousand feet below to one thousand feet above the fishway at upper salmon hatchery: Closed waters.

From one thousand feet above the fishway at the upper salmon hatchery to Summers Creek: Year-round season. Fishing from a floating device equipped with a motor prohibited. Selective gear rules. All species: Release all fish.

From Summers Creek upstream to the 6420 Road at about one mile above the gate at the end of the county road: The first Saturday in June through March 31 season. Fishing from a floating device equipped with a motor prohibited. Fly fishing only. All species: Release all fish.

From 6420 Road to Kalama Falls: Closed waters.

Kalispell Creek and tributaries (Pend Oreille County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Kapowsin Lake (Pierce County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Keechelus Lake (Reservoir) (Kittitas County): Chumming permitted. Trout except kokanee: Daily limit two, minimum length twelve inches, additionally up to sixteen kokanee may be retained.

Kelsey Creek (tributary of Lake Washington) (King County): The first Saturday in June through August 31 season. Juveniles only.

Kendall Creek (Whatcom County) (NF Nooksack tributary) above the hatchery grounds: First Saturday in June through October 31 season. Selective gear rules.

Kennedy Creek (Thurston County), from mouth to four hundred feet below falls: The first Saturday in June through last day in February season. Selective gear rules. Anti-snagging rule and night closure October 1 through December 31. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 30 from mouth to northbound Highway 101 Bridge. Barbless hooks required. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho.

From falls upstream: First Saturday in June through October 31 season. Selective gear rules.

Kennedy Creek Pond (Thurston County): Last Saturday in April through October 31 season.

Kettle River (Stevens County):

The Saturday before Memorial Day through October 31 season. All species: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length 12 inches. Sturgeon: Unlawful to fish for or retain sturgeon.

Additional season: November 1 through May 31. Whitefish gear rules apply.

Ki Lake (Snohomish County): Last Saturday in April through October 31 season.

Kidney Lake (Skamania County): Last Saturday in April through last day in February season.

Kimball Creek (near Snoqualmie) (King County): Last Saturday in April through October 31 season. Juveniles only. Trout: No minimum length.

Kindy Creek (Skagit County) (Cascade River tributary): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish.

King's Creek (Pierce County) (Puyallup River tributary): First Saturday in June through October 31 season.

Kings Lake and tributaries (Pend Oreille County): Closed waters.

Kings Lake Bog (King County): Closed waters.

Kitsap Lake (Kitsap County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Kiwanis Pond (Kittitas County): Juveniles and holders of reduced fee licenses or designated harvester cards only.

Klaus Lake (King County): Last Saturday in April through October 31 season. Closed waters: The inlet and outlet to first Weyerhaeuser spur.

Klickitat River (Klickitat County):

From mouth to Fisher Hill Bridge: April 1 through January 31 season. Anti-snagging rule and night closure April 1 through May 31. Anti-snagging rule August 1 through January 31. Game fish: Closed December 1 through January 31. Release game fish other than hatchery steelhead April 1 through May 31. Trout: Minimum length twelve inches. Steelhead and salmon: Open April 1 through May 31 on Sundays, Mondays, Wednesdays and Saturdays only; daily limit

2 hatchery steelhead or 2 salmon, or 1 of each. Release wild Chinook. Salmon: Open June 1 through January 31. June 1 through July 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release wild Chinook. August 1 through January 31, daily limit 6 fish of which no more than 2 may be adult Chinook.

From Fisher Hill Bridge to four hundred feet above # 5 fishway: Closed waters.

From four hundred feet above # 5 fishway to the Yakama Indian Reservation boundary: June 1 through November 30 season, except waters from boundary markers above Klickitat salmon hatchery to boundary markers below hatchery are closed waters. Trout: Minimum length twelve inches. Additional December 1 through March 31 season. Whitefish gear rules apply. Salmon: Open only June 1 through November 30 from 400 feet above No. 5 Fishway to boundary markers below Klickitat Salmon Hatchery. June 1 through July 31, daily limit 6 salmon. Release adult salmon and release wild Chinook. August 1 through October 31, daily limit 6 fish of which no more than 2 may be adult Chinook. November 1 through November 30, daily limit 6 fish. Release Chinook.

From the Yakama Indian Reservation boundary upstream to source, including all tributaries: Closed waters.

Klineline Ponds (Clark County): Trout: No more than 2 trout 20 inches in length or greater may be retained.

Koeneman Lake (Fern Lake) (Kitsap County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Kokanee Lake (Mason County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Kress Lake (Cowlitz County): Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: No more than 2 trout 20 inches in length or greater may be retained. Salmon: Landlocked salmon rules apply.

Lacamas Creek (Clark County): From mouth to footbridge at lower falls: First Saturday in June through August 31 season. From footbridge at lower falls upstream: Lawful to fish upstream to the base of Lacamas Lake Dam.

Lacamas Creek, tributary of Cowlitz River (Lewis County): Trout: Release all trout except up to two hatchery steelhead may be retained per day.

Ladder Creek (Skagit County): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Lake Creek (Okanogan County): Mouth to Black Lake: Closed waters. Black Lake to Three Prong Creek: Closed waters.

Langlois Lake (King County): Last Saturday in April through October 31 season.

Latah (Hangman) Creek (Spokane County): Year-round season.

Lawrence Lake (Thurston County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Leader Lake (Okanogan County): Last Saturday in April through September 30 season.

LeBar Creek (Mason County) from the falls at river mile one upstream: First Saturday in June through October 31 season.

Le Clerc Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Ledbetter Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Ledking Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Leech Lake (White Pass area) (Yakima County): Fly fishing only. Fishing prohibited from floating devices equipped with motors. Trout: No more than one over 14 inches in length.

Leland Creek (Jefferson County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Leland Lake (Jefferson County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Lemna Lake (Grant County): April 1 through September 30 season.

Lena Creek (Mason County): First Saturday in June through October 31 season.

Lenice Lake (Grant County): March 1 through November 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Lena Lake, Lower (Jefferson County): Closed waters: Inlet stream from mouth upstream to footbridge (about one hundred feet).

Lenore Lake (Grant County): Closed waters: Area within two hundred yard radius of trash rack leading to the irrigation pumping station (south end of lake) and area approximately one hundred yards beyond the mouth of inlet stream to State Highway 17. March 1 through May 31 season: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish. Additional season the first Saturday in June through November 30: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Leo Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Lewis River (Clark County), from mouth to forks: Year-round season. Trout: Release all fish except up to two hatch-

ery steelhead may be retained per day. Salmon: Open year-round. January 1 through July 31, daily limit six hatchery Chinook of which not more than 1 may be an adult salmon. August 1 through September 30, daily limit 6 hatchery salmon, of which no more than 2 may be adult hatchery Chinook. Release all salmon except hatchery Chinook and hatchery coho. October 1 through December 31, daily limit 6 hatchery coho. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in adjacent waters of mainstem Columbia River.

Lewis River, East Fork (Clark/Skamania counties): Closed waters: From the posted markers at the lower end of Big Eddy to one hundred feet above Lucia Falls; from four hundred feet below to four hundred feet above Molton Falls; from four hundred feet below Horseshoe Falls upstream including all tributaries above Horseshoe Falls.

Mouth to 400 feet below Horseshoe Falls: The first Saturday in June through March 15 season. Trout: Release all trout except up to two hatchery steelhead per day may be retained. Mouth to top boat ramp at Lewisville Park: Additional April 16 through the Friday before the first Saturday in June season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Release all fish except up to two hatchery steelhead may be retained per day.

Lewis River, North Fork (Clark/Skamania counties):

From mouth to Colvin Creek: Year-round season except those waters shoreward of the cable buoy and corkline at the mouth of the Lewis River Salmon Hatchery fish ladder are closed waters. Anti-snagging rule and night closure April 1 through November 30 from Johnson Creek to Colvin Creek. When anti-snagging rule is in effect, only fish hooked inside the mouth may be retained. October 1 through December 15, fishing from any floating device prohibited from Johnson Creek to Colvin Creek. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open year-round. January 1 through July 31, daily limit 6 hatchery Chinook of which only 1 may be an adult salmon. August 1 through September 30, daily limit 6 hatchery salmon, of which no more than 2 may be adult hatchery Chinook. Release all salmon except hatchery Chinook and hatchery coho. October 1 through December 31, daily limit 6 hatchery coho. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in waters of mainstem Columbia River adjacent to mouth of Lewis River.

From mouth of Colvin Creek to overhead powerlines at Merwin Dam: May 1 through September 30 and December 16 through April 30 season. Anti-snagging rule and night closure April 1 through September 30. When anti-snagging rule is in effect, only fish hooked inside the mouth may be retained. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open only January 1 through September 30 and December 16 through December 31. January 1 through July 31, daily limit 6 hatchery Chinook of which only 1 may be an adult salmon. August 1 through September 30, daily limit 6 hatchery salmon, of which no more than 2 may be adult hatchery Chinook. Release all salmon except hatchery Chinook and hatchery coho. December 16 through December 31, daily limit 6

hatchery coho. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in waters of mainstem Columbia River adjacent to mouth of Lewis River.

From overhead powerlines at Merwin Dam to Merwin Dam: Closed waters.

From the cable crossing 1,300 feet below Yale Dam to Yale Dam: Closed waters.

Within Lewis River Power Canal: From the fishing pier to the access road at Swift Dam: Last Saturday in April through October 31 season. Fishing from a floating device prohibited. Trout: No minimum size, daily limit 5.

From Eagle Cliff Bridge to lower falls including all tributaries: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Liberty Lake (Spokane County): March 1 through October 31 season.

Lilliwaup River (Mason County): Mouth to 200 feet below falls: The first Saturday in June through August 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

From falls upstream: First Saturday in June through October 31 season.

Lilly Lake (Chelan County): Last Saturday in April through October 31 season. July 5 through October 31, selective gear rules, and unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Lime Creek (Snohomish County) (Suitttle River tributary): First Saturday in June through October 31 season. Selective gear rules.

Limerick Lake (Mason County): Last Saturday in April through October 31 season.

Lincoln Pond (Clallam County): Juveniles only.

Lions Park Pond (Walla Walla County): Juveniles only. Trout: No more than 2 trout over 13 inches in length may be retained.

Little Ash Lake (Skamania County): Trout: No more than 2 trout 20 inches in length or greater may be retained.

Little Bear Creek (tributary of Sammamish River) (Snohomish/King counties): The first Saturday in June through August 31 season. Juveniles only.

Little Hoko River (Clallam County): First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Little Klickitat River (Klickitat County), within Goldendale city limits: Last Saturday in April through October 31 season. Juveniles only. Trout: Daily limit five, no minimum length.

Little Lost Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Little Mission Creek (Mason County) from falls upstream: First Saturday in June through October 31 season. Selective gear rules and release all fish.

Little Naches River (Yakima County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Little Nisqually River (Lewis County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum length (~~((ten))~~) fourteen inches.

Little Pend Oreille River (Stevens County) from the Little Pend Oreille wildlife refuge boundary about 1 mile downstream from the refuge headquarters office to Crystal Falls: Saturday before Memorial Day through October 31 season. Selective gear rules, and unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to five Eastern brook trout may be retained.

Little Quilcene River (Jefferson County), from mouth to the Little Quilcene River Bridge on Penny Creek Road: First Saturday in June through October 31 season. All species: Selective gear rules, unlawful to fish from a floating device equipped with an internal combustion motor, and release all fish. Closed waters: Mouth to Highway 101 Bridge September 1 through October 31.

From Little Quilcene River Bridge on Penny Creek Road upstream: First Saturday in June through October 31 season.

Little Scandia Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Little Spokane River (Spokane County):

From mouth to SR 291 Bridge: Year-round season.

From SR 291 Bridge upstream to the West Branch: Last Saturday in April through October 31 season. Additional December 1 through March 31 season. Whitefish gear rules apply.

Upstream from bridge at Friderger Road: Closed waters: From the inlet to Chain Lake upstream one-quarter mile to the railroad crossing culvert. Trout: Release kokanee taken upstream from bridge.

Little Twin Lake (Okanogan County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Little Twin Lake (Stevens County): Last Saturday in April through October 31.

Little Wenatchee River (Chelan County): From Lake Wenatchee to the falls below U.S. Forest Service Road 6700 Bridge at Riverside Campground: Closed waters.

Little White Salmon River (Skamania County): Closed waters: From the orange fishing boundary markers at Drano Lake upstream to the intake near the Little White Salmon National Fish Hatchery north boundary. Trout: Daily limit five. Drano Lake (waters downstream of markers on point of land downstream and across from Little White Salmon National Fish Hatchery): Night closure March 16 through

June 30. The area west of a line projected from the eastern-most pillar of the Highway 14 Bridge to a posted marker on the north shore - open only to bank fishing from April 16 through June 30. Anti-snagging rule August 1 through December 31. Year-round season; except closed Wednesdays beginning the second Wednesday in April through May 31, closed from 6 p.m. Tuesdays through 6 p.m. Wednesdays during October, closed for game fish other than trout during April, release all trout except hatchery steelhead, and trout other than steelhead closed March 16 through July 31. Trout: August 1 through March 15, daily limit of two hatchery steelhead. Salmon and steelhead: March 16 through July 31, daily limit of two hatchery steelhead or two hatchery Chinook, or one of each. Salmon: Open August 1 through December 31. Daily limit six fish of which no more than two may be adult salmon. Release wild coho and wild Chinook.

Lone Lake (Island County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one, minimum length 18 inches.

Long Lake (Ferry County): Last Saturday in April through October 31 season. Fly fishing only. Unlawful to use flies containing lead. Unlawful to fish from floating devices equipped with motors.

Long Lake (Okanogan County): Last Saturday in April through September 30 season.

Long Lake (Thurston County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Long's Pond (Thurston County): Juveniles only.

Loomis Lake (Pacific County): Last Saturday in April through October 31 season.

Loomis Pond (Grays Harbor County): Closed waters.

Loon Lake (Stevens County): Last Saturday in April through October 31 season. Trout except kokanee: Daily limit five, except no more than two over twenty inches in length may be retained. Kokanee not counted in daily trout limit. Kokanee daily limit ten.

Lost Lake (Kittitas County): Trout: Not more than 1 fish over 14 inches in length.

Lost Lake (Mason County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Lost Lake (Okanogan County): Unlawful to fish from a floating device equipped with an internal combustion engine. Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Lost River (Okanogan County):

From mouth to mouth of Monument Creek: Closed waters.

From mouth of Monument Creek to outlet of Cougar Lake: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout:

Legal to retain Dolly Varden/Bull Trout as part of trout daily limit. Dolly Varden/Bull Trout daily limit two, minimum length fourteen inches.

Love Lake (Clark County): Closed waters.

Lucky Duck Pond (Stevens County): Juveniles only.

Ludlow Creek (Jefferson County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Ludlow Lake (Jefferson County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Lyle Lake (Adams County): April 1 through September 30 season.

Lyle Creek (King County) (White River tributary): First Saturday in June through October 31 season.

Lyre River (Clallam County):

From mouth to falls near river mile 3: The first Saturday in June through last day in February season. Trout: Minimum length fourteen inches.

From falls to source: First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Mad River (Chelan County), from mouth upstream to Jimmy Creek: Closed waters.

Maggie Lake (Mason County): Last Saturday in April through November 30 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee. Salmon: Landlocked salmon rules apply.

Maple Creek (Whatcom County) (NF Nooksack tributary): First Saturday in June through October 31 season. Selective gear rules.

Marble Creek (Skagit County) (Cascade River tributary): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish.

Malaney Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Margaret Lake (King County): Last Saturday in April through October 31 season.

Marshal Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Martha Lake (Grant County): March 1 through July 31 season.

Martha Lake (Snohomish County): Last Saturday in April through October 31 season.

Mattoon Lake (Kittitas County): Fishing from a floating device equipped with an internal combustion engine prohibited.

May Creek (tributary of Lake Washington) (King County): The first Saturday in June through August 31 season. Juveniles only.

Mayfield Lake (Reservoir) (Lewis County): Mayfield Dam to 400 feet below Mossyrock Dam: Closed waters: Tacoma Power safety signs at Onion Rock Bridge to Mossyrock Dam. Trout and salmon: Minimum length eight inches. Trout: Release cutthroat. Release rainbow trout except rainbow trout with a clipped adipose fin and a healed scar at the site of the clipped fin. Salmon: Open only September 1 through December 31. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho.

McAllister Creek (Thurston County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum length fourteen inches.

McCabe Pond (Kittitas County): Fishing from any floating device prohibited. All species: Five fish daily limit for all species combined.

McDonald Creek (Clallam County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

McDowell Lake (Stevens County): Last Saturday in April through October 31 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. All species: Release all fish.

McIntosh Lake (Thurston County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

McLane Creek (Thurston County): First Saturday in June through October 31 season. Selective gear rules. Night closure August 1 through October 31. Trout: Minimum length fourteen inches.

McLane Creek Ponds (Thurston County): Last Saturday in April through October 31 season.

McManaman Lake (Adams County): April 1 through September 30 season.

McMurray Lake (Skagit County): Last Saturday in April through October 31. Salmon: Landlocked salmon rules apply.

Medical Lake (Spokane County): March 1 through October 31 season. Selective gear rules. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit two, minimum length fourteen inches.

Medical Lake, West (Spokane County): Last Saturday in April through September 30 season.

Melbourne Lake (Mason County): Last Saturday in April through October 31 season.

Mercer Creek (Kittitas County), that portion within Ellensburg city limits: Juveniles only.

Mercer Slough (tributary of Lake Washington) (King County): The first Saturday in June through August 31 season. Juveniles only.

Merrill Lake (Cowlitz County): All species: Fly fishing only and release all fish. Unlawful to fish from a floating device equipped with an internal combustion engine.

Merritt Lake (Chelan County): Trout: Daily limit sixteen.

Merry Lake (Grant County): March 1 through November 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Merwin Lake (Reservoir) (Clark/Cowlitz County): Salmon: Landlocked salmon rules apply.

Methow River (Okanogan County):

Mouth to County Road 1535 (Burma Road) Bridge: Closed waters. County Road 1535 (Burma Road) Bridge to the Hwy 153 Bridge at McFarland Creek: The first Saturday in June through September 15 season: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish. Highway 153 Bridge at McFarland Creek to Foghorn Dam: The first Saturday in June through September 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish. Foghorn Dam to Weeman Bridge: The first Saturday in June through August 15 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish. Upstream from Weeman Bridge to the falls above Brush Creek: Closed waters the first Saturday in June through October 31. Additional season Gold Creek to falls above Brush Creek: December 1 through March 31. Whitefish gear rules apply.

Methow River tributaries not otherwise provided for: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Maximum length twenty inches.

Middle Nemah Pond (Pacific County): The first Saturday in June through October 31 season.

Milk Creek (Snohomish County) (Suiattle River tributary): First Saturday in June through October 31 season. Selective gear rules.

Mill Creek (Chelan County): Closed waters.

Mill Creek (Cowlitz County): The first Saturday in June through August 31 and November 1 through March 15 seasons. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Mill Creek (Lewis County): Additional season December 1 through December 31, mouth to hatchery road crossing culvert. Anti-snagging rule and night closure. All species: Release all fish except that up to two hatchery steelhead may be retained per day.

Mill Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum length fourteen inches.

Mill Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Mill Creek (Walla Walla County):

From mouth to Bennington Dam: Closed waters.

From Bennington Dam upstream: All tributaries: Closed waters. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all steelhead.

Mill Creek Pond (Grays Harbor County): Juveniles only.

Mill Pond (Auburn) (King County): Last Saturday in April through October 31 season. Juveniles only except open to all ages during Free Fishing Weekend (as defined in WAC 220-56-160).

Mill Pond (Pend Oreille County): Last Saturday in April through October 31 season.

Mineral Creek (tributary to upper Kachess River) (Kittitas County), from mouth to Wilderness Boundary: Closed waters.

Mineral Creek (tributary to Nisqually River), and Mineral Creek, North Fork (Lewis County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length ((~~twelve~~) fourteen) inches.

Mineral Lake (Lewis County): Last Saturday in April through September 30 season.

Minter Creek (Pierce/Kitsap counties) from the department intake dam upstream: The first Saturday in June through October 31 season. Trout: Minimum length fourteen inches. Salmon: Open only November 1 through December 31 from mouth to 50 feet downstream of the hatchery rack. Night closure. Daily limit 4 chum.

Mirror Lake (Grant County): Last Saturday in April through September 30 season.

Mission Lake (Kitsap County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Moclips River (Grays Harbor County), from mouth to the Quinault Indian Reservation: The first Saturday in June through last day in February season. Trout: Minimum length fourteen inches.

Molson Lake (Okanogan County): Fishing from a floating device equipped with an internal combustion engine prohibited.

Monte Cristo Lake (Snohomish County): The first Saturday in June through August 31 season. All species: Selective

gear rules and catch and release except up to two hatchery steelhead may be retained. Unlawful to fish from a floating device equipped with an internal combustion motor.

Moose Pond (Pacific County): The first Saturday in June through October 31 season.

Moran Slough (including inlet and outlet streams) (Grant County): Closed waters.

Morgan Lake (Adams County): April 1 through September 30 season.

Morse Creek (Clallam County), from mouth to Port Angeles Dam: December 1 through last day in February season. Trout: Minimum length fourteen inches.

From Port Angeles Dam upstream: First Saturday in June through October 31 season.

Moses Lake (Grant County): Crappie: Daily limit ten, only crappie more than nine inches in length may be retained. Bluegill: Daily limit five, only bluegill more than eight inches in length may be retained. Walleye: Daily limit 8 walleye. Minimum length twelve inches. No more than one walleye over 22 inches in length may be retained. Yellow perch: Daily limit 25 yellow perch.

Mosquito Creek (Jefferson County), outside Olympic National Park: The first Saturday in June through last day in February season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length fourteen inches.

Mountain Lake (San Juan County): Trout: Daily limit may not contain more than one trout over 18 inches in length.

Mud Lake (Mason County): Last Saturday in April through October 31 season.

Mud Lake (Yakima County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Mudget Lake (Stevens County): Last Saturday in April through October 31 season.

Munn Lake (Thurston County): All species: Selective gear rules, unlawful to fish from a floating device equipped with an internal combustion motor, and release all fish.

Muskegon Lake (Pend Oreille County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit two.

Myron Lake (Yakima County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Mystic Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Naches River (Yakima/Kittitas counties):

From the mouth to Little Naches River: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length twelve inches, maximum length twenty inches. Release trout

the first Saturday in June through October 31 from confluence with Tieton River to mouth of Rattle Snake Creek. Additional December 1 through March 31 season. Whitefish gear rules apply.

Nahwatzel Lake (Mason County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Naneum Creek (Kittitas County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Naneum Pond (Kittitas County): Juveniles only.

Napeequa River (Chelan County): Mouth to Twin Lakes Creek: Closed waters.

Naselle River (Pacific/Wahkiakum counties), from Highway 101 Bridge upstream including all forks: Closed waters: Area from four hundred feet below falls in Sec. 6, T10N, R8W (Wahkiakum County) to falls, and from attraction channel downstream four hundred feet. Waters from the temporary hatchery weir downstream to Highway 4 closed August 16 through October 15.

From Highway 101 Bridge to North Fork: The first Saturday in June through April 15 season, except sturgeon. From Highway 101 Bridge to the Highway 4 Bridge: Night closure and anti-snagging rule August 16 through November 15, stationary gear restriction above mouth of South Fork August 16 through November 30, and selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor above mouth of South Fork March 1 through April 15. From Highway 4 Bridge to Crown Main Line Bridge: Night closure, single point barbless hooks required, and stationary gear restriction August 16 through November 15; and selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor March 1 through April 15. From Crown Main Line Bridge to North Fork: Night closure and anti-snagging rule August 16 through November 30, and selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor March 1 through April 15. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only August 1 through January 31 from Highway 101 Bridge to Highway 4 Bridge and October 1 through January 31 from the Highway 4 Bridge to the Crown Main Line Bridge. Daily limit 6 fish, of which no more than 3 may be adult salmon and of these 3 adult fish, no more than 2 may be wild adult Chinook and no more than 2 may be wild adult coho. Release chum.

Sturgeon: Open year-round from mouth to Highway 4 Bridge.

From mouth of North Fork to source: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead per day may be retained.

South Fork, from mouth to Bean Creek: The first Saturday in June through last day in February season, except sturgeon. Anti-snagging rule and night closure August 16 through November 30. Game fish: Release game fish except

up to two hatchery steelhead per day may be retained. Sturgeon: Open year-round.

Nason Creek (Chelan County): From the mouth upstream to Smith Brook: Closed waters.

From Smith Brook to Stevens Creek: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Negro Creek (Lincoln County): Year-round season from mouth at Sprague Lake to the fish barrier dam at Fishtrap Lake.

Negro Creek (Whitman County): Last Saturday in April through July 15 season.

Nemah River, North, Middle, and South: The first Saturday in June through March 31 season, except closed August 1 through September 30 on North Nemah from Highway 101 Bridge upstream to Nemah Hatchery. Single point barbless hooks required on North Nemah upstream to the lower bridge on dead end lower Nemah Road October 1 through November 30, on Middle Nemah upstream to the Department of Natural Resources Bridge on Middle Nemah A-line Road August 16 through November 30, and on South Nemah upstream to confluence with Middle Nemah August 16 through November 30. Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor on Middle Nemah above DNR Bridge and South Nemah above confluence with Middle Nemah. Night closure August 16 through November 30 on South Nemah to the confluence with Middle Nemah and Middle Nemah and October 1 through November 30 on North Nemah. Anti-snagging rule on North Nemah upstream from bridge on dead end lower Nemah Road and the Middle Nemah from the DNR Bridge on A-line Road upstream August 16 through November 30. On the North Nemah from the mouth to the lower bridge on dead end lower Nemah Road, stationary gear restriction during the period October 1 through November 30. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only August 1 through January 31 on Middle Nemah from mouth to DNR Bridge and South Nemah from mouth to confluence with Middle Nemah, and open October 1 through January 31 on North Nemah from mouth to the lower bridge on dead end Lower Nemah Road. Middle and South Nemah: Daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, wild coho, and wild Chinook. North Nemah: Daily limit 6 fish of which no more than 3 may be adult salmon. Release chum, wild coho, and wild Chinook.

Newaukum River, main river and South Fork upstream to Highway 508 Bridge near Kearny Creek (Lewis County): The first Saturday in June through March 31 season. Night closure and single point barbless hooks required August 16 through November 30 from mouth to Leonard Road. Trout: Minimum length fourteen inches from mouth to Highway 508 Bridge near Kearny Creek. Salmon: Open only September 16 through last day in February from mouth to Leonard Road. September 16 through November 30, daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, and Chinook. December 1 through last day in February, daily

limit 6 fish, of which no more than 2 may be adult salmon. Release chum, Chinook, and wild coho.

Newaukum River, Middle Fork, mouth to Taucher Road Bridge (Lewis County): The first Saturday in June to March 31 season. Trout: Minimum length fourteen inches.

Newaukum River, North Fork (Lewis County):

From mouth to four hundred feet below Chehalis city water intake: The first Saturday in June through March 31 season. Trout: Minimum length fourteen inches.

From 400 feet below Chehalis city water intake upstream: Closed waters.

Newhalem Creek (Skagit County): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Newhalem Ponds (Whatcom County): Closed waters.

New Pond Creek (Pierce County) (South Prairie Creek tributary): First Saturday in June through October 31 season.

Niawiakum River (Pacific County): From Highway 101 Bridge to the South Bend/Palix Road Bridge: Night closure and single point barbless hooks required August 16 through November 30. All game fish: Release all fish. Salmon: Open only September 1 through November 30 from Highway 101 Bridge to South Bend/Palix Road Bridge. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, wild coho, and wild Chinook.

Nile Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Nisqually River (Pierce County), from mouth to Military Tank Crossing Bridge: July 1 through January 31 season. Anti-snagging rule and night closure August 1 through November 30. Trout: Minimum length fourteen inches. All species: Release all species except salmon December 1 through January 31. Salmon: Open only July 1 through January 31 from mouth to Military Tank Crossing Bridge. July 1 through October 31, daily limit 6 fish of which no more than 3 may be adult salmon, and of the adult salmon only 2 may be any combination of chum and coho. Release wild Chinook. November 1 through January 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release wild Chinook.

From Military Tank Crossing Bridge to four hundred feet below LaGrande Powerhouse: July 1 through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead may be retained per day.

From Alder Reservoir upstream including all tributaries: ~~(July 1)~~ The first Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size fourteen inches.

Nookachamps Creek (Skagit County) including all tributaries and their tributaries: First Saturday in June through October 31 season. Selective gear rules.

Nooksack River (Whatcom County), from mouth to forks: The first Saturday in June through February 15 season except

closed the first Saturday in June through September 30 from yellow marker at the FFA High School barn at Deming to confluence of the North and South Forks. Anti-snagging rule and night closure the first Saturday in June through November 30. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through December 31 from Lummi Indian Reservation boundary to yellow marker at the FFA High School barn in Deming. Open only October 1 through December 31 from the FFA barn to the confluence of the North and South Forks. Daily limit 2 salmon, plus 2 additional hatchery coho, except release wild coho and release wild Chinook. In years ending in odd numbers, release pink salmon.

Nooksack River, North Fork (Whatcom County): From mouth to Nooksack Falls: First Saturday in June through February 15 season. November 1 through February 15 - unlawful to fish from a floating device equipped with a motor. First Saturday in June through November 30 night closure and anti-snagging rule from mouth to Maple Creek. Salmon: Open only October 1 through November 30 from mouth to Maple Creek. Minimum size twelve inches, daily limit 2, plus 2 additional hatchery coho. Release wild Chinook and wild coho. In years ending in odd numbers, release pink salmon. From Maple Creek to Nooksack Falls: Selective gear rules.

Above Nooksack Falls including all tributaries and their tributaries: First Saturday in June through October 31 season.

Nooksack River, Middle Fork (Whatcom County) mouth to city of Bellingham diversion dam: First Saturday in June through February 15 season. Selective gear rules. Trout minimum size 14 inches. November 1 through February 15 - motors prohibited.

Above diversion dam, including all tributaries and their tributaries: First Saturday in June through October 31 season.

Nooksack River, South Fork (Skagit/Whatcom counties): From mouth to Skookum Creek: The first Saturday in June through February 15 season. Selective gear rules. Release all game fish except up to two hatchery steelhead may be retained. Unlawful to fish from a floating device equipped with an internal combustion motor. Night closure the first Saturday in June through November 30. Salmon: Open only October 1 through December 31. Daily limit 2 salmon, plus 2 additional hatchery coho, except release chum, wild Chinook and wild coho. In years ending in odd numbers, release pink salmon.

No Name Lake (Pend Oreille County): Last Saturday in April through October 31 season.

North Creek (Okanogan County): From mouth to falls at river mile 0.8: Closed waters.

North Creek (tributary of Sammamish River) (Snohomish/King counties): The first Saturday in June through August 31 season. Juveniles only.

North Elton Ponds (Yakima County): December 1 through March 31 season. Fishing from a floating device equipped

with an internal combustion engine prohibited. Trout: Daily limit two.

North Lake (King County): Last Saturday in April through October 31 season.

North Potholes Reserve Ponds (Grant County): February 1 through the day before opening of waterfowl season. Fishing from any floating device prohibited, except float tubes permitted.

North River (Grays Harbor/Pacific counties), from Highway 105 Bridge upstream to Falls River: The first Saturday in June through last day in February season, except sturgeon. Night closure August 16 through November 30. Single point barbless hooks required August 16 through November 30 upstream to Salmon Creek. Anti-snagging rule and night closure from Salmon Creek to Falls River August 16 through November 30. All game fish: Release all fish except that up to two hatchery steelhead per day may be retained. Salmon: Open only September 1 through November 30 from Highway 105 Bridge to Salmon Creek. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum and wild Chinook. Sturgeon: Open year-round from Highway 105 Bridge to Salmon Creek.

Upstream from Falls River: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead per day may be retained.

Northern State Hospital Pond (Skagit County): Last Saturday in April through October 31 season. Juveniles only.

Northwestern Reservoir (Klickitat/Skamania counties): Last Saturday in April through last day in February season.

Nunnally Lake (Grant County): March 1 through November 30 season. Closed waters: Outlet stream of Nunnally Lake. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one.

Ohanapecosh Creek (tributary to Cowlitz River) (Lewis/Pierce counties): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length twelve inches.

Ohop Creek (Pierce County): July 1 through October 31 season. All species: Selective gear rules, unlawful to fish from a floating device equipped with an internal combustion motor, and release all fish except up to two hatchery steelhead per day may be retained.

Ohop Lake (Pierce County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Okanogan River (Okanogan County):

From the mouth to the Highway 97 Bridge immediately upstream of mouth: Year-round season. Anti-snagging rule and night closure July 1 through October 15. Trout: Release all trout. Salmon: Open July 1 through October 15. Daily limit 6 fish, of which no more than 3 may be adult salmon,

and of these three salmon no more than one may be a wild adult salmon. Release coho and sockeye.

From the Highway 97 Bridge immediately upstream of mouth to the highway bridge at Malott: Year-round season. Anti-snagging rule and night closure July 1 through September 15. Trout: Release all trout. Salmon: Open July 1 through September 15. Daily limit 6 fish, of which no more than 3 may be adult salmon, and of these three salmon no more than one may be a wild adult salmon. Release coho and sockeye. Upstream from the highway bridge at Malott: The first Saturday in June through August 31 season. Anti-snagging rule and night closure July 1 through September 15. Trout: Release all trout. Salmon: Open July 1 through September 15. Daily limit 6 fish of which no more than 3 may be adult salmon, and of these three salmon no more than one may be a wild adult salmon. Release coho and sockeye.

Closed waters: From Zosel Dam downstream to first Highway 97 Bridge.

Olalla Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size 14 inches.

Old Fishing Hole Pond (Kent) (King County): Last Saturday in April through October 31 season. Juveniles only.

Old Mill Stream (Chelan County): Closed waters.

Olequa Creek (Lewis County): Trout: Release all trout except up to two hatchery steelhead may be retained per day.

Olson Creek (Skagit County): First Saturday in June through October 31 season. Selective gear rules.

Osborne Lake (Mason County): Last Saturday in April through October 31 season.

Outlet Creek (Klickitat County): Trout: Daily limit five.

Owens Pond (Pacific County): The first Saturday in June through October 31 season.

Owl Creek (Snohomish County) (Whitechuck River tributary): First Saturday in June through October 31 season. Selective gear rules.

Packwood Lake (Lewis County): Closed waters: All inlet streams and outlet from log boom to dam. Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit five, minimum length ten inches.

Padden Lake (Whatcom County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Palix River, including all forks (Pacific County): The first Saturday in June through March 31 season, except sturgeon. Single point barbless hooks and night closure August 16 through November 30 upstream to the mouth of the Middle Fork. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. South Fork and all waters upstream of the mouth of Middle Fork: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Anti-snagging rule and night

closure August 16 through November 30. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only September 1 through November 30 from the Highway 101 Bridge to the mouth of the Middle Fork. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, wild coho, and wild Chinook. Sturgeon: Open year-round from the Highway 101 Bridge to the mouth of the Middle Fork.

Palouse River and tributaries, except Rock Creek (Whitman County): Year-round season. Mainstem from mouth to base of Palouse Falls. Trout: Daily limit 6 fish, minimum length 10 inches, no more than 3 trout over 20 inches may be retained, except release all trout April 1 through June 15 and release steelhead June 16 through August 31. Barbless hooks required when fishing for steelhead. Walleye: Daily limit 10 fish, no minimum size. No more than 5 walleye over 18 inches in length may be retained, and no more than 1 walleye over 24 inches in length may be retained. Channel catfish: No daily limit.

Palouse River mainstem above Palouse Falls and tributaries except Rock Creek: Year-round season.

Pampa Pond (Whitman County): March 1 through September 30 season. Fishing from any floating device prohibited. Trout: No more than two over 13 inches in length may be retained.

Panhandle Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Panther Creek (Chelan County): Closed waters.

Panther Creek (tributary to Wind River) (Skamania County): Closed waters.

Panther Lake (Kitsap/Mason counties): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Para-Juvenile Lake (Adams/Grant counties): April 1 through September 30 season. Juveniles only.

Park Lake (Grant County): Last Saturday in April through September 30 season.

Parker Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Pass Lake (Skagit County): Fly fishing only. Fishing from a floating device equipped with a motor prohibited. All species: Release all fish.

Pataha Creek (Garfield County):

Within the city limits of Pomeroy: Juveniles only.

From city limits of Pomeroy upstream: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Pattison Lake (Thurston County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more

than two over 14 inches in length may be retained, except no size restriction for kokanee.

Peabody Creek (Clallam County): First Saturday in June through October 31 season. Juveniles only.

Penny Creek (Jefferson County): First Saturday in June through October 31 season.

Perry Creek (Thurston County) from mouth to falls: First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size 14 inches.

Pearrygin Lake (Okanogan County): Last Saturday in April through September 30 season.

Pend Oreille River (Pend Oreille County): Year-round season. All sloughs within the boundaries of the Kalispell Reservation except Calispell Slough: Closed waters.

Perch Lake (Grant County): Last Saturday in April through September 30 season.

Percival Creek (Thurston County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum length fourteen inches.

Peshastin Creek (Chelan County): Mouth to Ruby Creek: Closed waters.

Petit Lake (Pend Oreille County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Phalon Lake (Stevens County): Closed waters.

Pheasant Lake (Jefferson County): Last Saturday in April to October 31 season.

Phelps Creek (Chelan County): From mouth to falls at river mile 1: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Phillips Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Phillips Lake (Stevens County): Last Saturday in April through October 31 season.

Pierre Lake (Stevens County): Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Pilchuck Creek (Snohomish County), mouth to Highway 9 Bridge: The first Saturday in June through February 15 season. Trout: Minimum length 14 inches. Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor the first Saturday in June through November 30.

From Highway 9 Bridge to Pilchuck Falls: First Saturday in June through October 31 season. Selective gear rules. Trout minimum size 14 inches.

From Pilchuck Falls upstream, including all tributaries and their tributaries and all tributaries to Lake Cavanaugh: First Saturday in June through October 31 season.

Pilchuck River (Snohomish County):

From its mouth to five hundred feet downstream from the Snohomish City diversion dam: December 1 through February 15 season. Fishing from any floating device prohibited. Trout: Minimum length fourteen inches.

Pillar Lake (Grant County): April 1 through September 30 season.

Pine Creek (Mason County): First Saturday in June through October 31 season.

Pine Lake (King County): Last Saturday in April through October 31 season.

Pine Lake (Mason County): Last Saturday in April through October 31 season.

Ping Pond (Grant County): Third Saturday in April through Labor Day season. Juveniles and holders of reduced fee licenses or designated harvester cards only. Game fish: Daily limit of five fish in the aggregate. No minimum or maximum size for any species.

Pioneer Ponds (tributary to Stillaguamish River) (Snohomish County): Closed waters.

Pit Lake (Douglas County): Juveniles only.

Pleasant Lake (Clallam County): Trout: Kokanee minimum length eight inches, maximum length twenty inches.

Plummer Lake (Lewis County): Last Saturday in April through last day in February season.

Poacher Lake (Grant County): April 1 through September 30 season.

Potholes Reservoir (Grant County): Crappie: Minimum length nine inches. Crappie and bluegill: Combined daily limit twenty-five fish. Perch: Daily limit twenty-five fish. Walleye: Minimum size 12 inches in length. Daily limit 8 walleye, not more than 1 of which may be greater than 22 inches in length.

Potter's Pond (Stevens County): Last Saturday in April through October 31 season.

Powerline Lake (Franklin County): Trout: Daily limit 2.

Pratt River (tributary to Middle Fork Snoqualmie) (King County): First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Prices Lake (Mason County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Promised Land Pond (Grays Harbor County): The first Saturday in June through October 31 season.

Pugh Creek (Snohomish County) (Whitechuck River tributary): First Saturday in June through October 31 season. Selective gear rules.

Purdy Creek (Mason County): The first Saturday in June through July 31 season. All species: Selective gear rules and release all fish.

Puyallup River (Pierce County):

From mouth to city of Puyallup outfall structure near junction of Freeman Road and North Levee Road: Game fish season is open only when salmon fishing is open. Single-point barbless hooks, anti-snagging rule and night closure August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only August 16 through December 31 from mouth to Carbon River, except closed August 22, 29, and 30, and September 5, 6, 7, 12, 13 and 14 from mouth to city of Puyallup outfall structure near junction of Freeman Road and North Levee Road. In years ending in even numbers, daily limit 6 fish, of which no more than 2 may be adult salmon. Release wild adult Chinook. In years ending in odd numbers, daily limit 6 fish, of which no more than 4 may be adult salmon, and of the adult salmon, no more than 2 may be any combination of Chinook, coho, and chum. Release wild adult Chinook.

From city of Puyallup outfall structure near junction of Freeman Road and North Levee Road to the Electron power plant outlet: Game fish season is open only when salmon fishing is open. Single-point barbless hooks, anti-snagging rule and night closure August 1 through November 30 from the mouth to the Carbon River. Trout: Minimum length fourteen inches. Salmon: Open only August 1 through December 31. In years ending in even numbers, daily limit 6 fish, of which no more than 2 may be adult salmon. Release wild adult Chinook. In years ending in odd numbers, daily limit 6 fish, of which no more than 4 may be adult salmon, and of the adult salmon, no more than 2 may be any combination of Chinook, coho, and chum. Release wild adult Chinook.

From Carbon River upstream: September 1 through last day of February season. Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Pyramid Creek (King County) upstream of Forest Service Road 7000: First Saturday in June through October 31 season.

Pysht River (Clallam County): The first Saturday in June through October 31 season. Selective gear rules and release all fish. Additional November 1 through last day in February season. Trout: Minimum length fourteen inches.

Quail Lake (Adams County): Fly fishing only. Fishing from any floating device equipped with a motor prohibited. All species: Release all fish.

Quarry Pond (Walla Walla County): Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Quigg Lake (Grays Harbor County): The first Saturday in June through April 15 season. Trout: Daily limit 2. Minimum length fourteen inches. Salmon: Open only October 1 through January 31. Daily limit 6 hatchery coho salmon of which no more than 4 may be adult hatchery coho.

Quilcene River (Jefferson County):

From mouth to Rodgers Street: First Saturday in June through August 15 season. Selective gear rules and release all fish. Unlawful to fish from a floating device equipped with an internal combustion motor.

From Rodgers Street to Highway 101 Bridge: First Saturday in June through October 31 season. Release all game fish. First Saturday in June through August 15. Selective gear rules. Salmon: Open only August 16 through October 31 from Rodgers Street to the Highway 101 Bridge. Night closure and only one single point barbless hook may be used. Daily limit 4 coho salmon. Only coho salmon hooked inside the mouth may be retained.

From electric weir at Quilcene National Fish Hatchery to upper boundary of Falls View Campground: First Saturday in June through October 31 season. Selective gear rules and release all fish. Unlawful to fish from a floating device equipped with an internal combustion motor.

From upper boundary of Falls View Campground upstream: First Saturday in June through October 31 season.

Quillayute River (Clallam County): Open year-round outside of Olympic National Park only. May 1 through the Friday before the first Saturday in June release all game fish except up to two hatchery steelhead per day may be retained. Trout: Minimum length fourteen inches. November 1 through last day in February, daily limit three steelhead. February 16 through April 30, one wild steelhead per day may be retained. Salmon: Open only February 1 through November 30. February 1 through August 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release wild adult Chinook and wild adult coho. September 1 through November 30, daily limit 6 fish of which no more than 4 may be adult salmon, and of the 4 adult salmon, no more than 2 may be any combination of Chinook, wild coho, pink, sockeye, and chum salmon.

Quinault River, Upper (Jefferson County), from mouth at upper end of Quinault Lake to the National Park boundary: The first Saturday in June through April 15 season. Trout: Minimum length fourteen inches. February 16 through April 15, one wild steelhead per day may be retained. Salmon: Open only July 1 through October 31. July 1 through September 30, daily limit 6 jack salmon only. Single-point barbless hooks required. October 1 through October 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release sockeye, pink, and chum.

Quincy Lake (Grant County): March 1 through July 31 season.

Racehorse Creek (Whatcom County) (NF Nooksack tributary): First Saturday in June through October 31 season. Selective gear rules.

Radar Ponds (Pacific County): Salmon: Landlocked salmon rules apply.

Raging River (King County), from its mouth to the Highway 18 Bridge: The first Saturday in June through February 15 season. Trout: Minimum length fourteen inches.

From Highway 18 Bridge upstream: First Saturday in June through October 31 season.

Rainbow Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Rapjohn Lake (Pierce County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Rat Lake (Okanogan County): April 1 through November 30: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Rattlesnake Creek (Yakima County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Rattlesnake Lake (King County): Selective gear rules and catch and release. Unlawful to fish from a floating device equipped with an internal combustion motor.

Ravensdale Lake (King County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit two, minimum length twelve inches.

Red Creek (King County) (White River tributary): First Saturday in June through October 31 season.

Reflection Pond (Okanogan County): Last Saturday in April through October 31 season.

Rendsland Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Renner Lake (Ferry County): Last Saturday in April through October 31 season.

Riffe Lake (Reservoir) (Lewis County): Mossyrock Dam to 400 feet below Cowlitz Falls Dam. Closed waters: Lewis County PUD safety signs approximately 800 feet below Cowlitz Falls Dam to Dam. Lawful to fish up to the base of Swofford Pond Dam. Salmon: Landlocked salmon rules apply.

Rigley Lake (Stevens County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit two, minimum length twelve inches.

Riley Lake (Snohomish County): Last Saturday in April through October 31 season.

Rimrock Lake (Reservoir) (Yakima County): Chumming permitted. Trout except kokanee: Daily limit five. Kokanee not counted in daily trout limit. Kokanee daily limit sixteen.

Ringold Springs Creek (Hatchery Creek) (Franklin County): Closed waters.

Ripley Creek (Jefferson County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Robbins Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Rock Creek (Adams/Whitman counties): Mouth to Endicott Road year-round season.

Endicott Road to bridge on George Knott Road at Revere: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Upstream from bridge on George Knott Road: Year-round season.

Rock Creek (Chelan County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Rock Creek (Klickitat County): Mouth to the Army Corps of Engineers Park: Year-round season. Daily limits, size restrictions and gear restrictions are the same as those in the adjacent portion of the Columbia River.

Rock Creek (Skamania County): Mouth to falls. Trout: Release all trout except up to two hatchery steelhead may be retained per day. Above falls, additional November 1 through March 15 season.

Rocky Brook Creek (Jefferson County)(Dosewallips River tributary): From falls 1000 feet upstream of mouth upstream: First Saturday in June through October 31 season.

Rocky Creek ((Mason) Pierce/Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Rocky Creek (Skagit County): First Saturday in June through October 31 season. Selective gear rules.

Rocky Ford Creek and Ponds (Grant County): Fly fishing only. Fishing from bank only (no wading). All species: Release all fish.

Rocky Lake (Stevens County): Last Saturday in April through October 31 season. June 1 through October 31 selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Roesiger Lake (Snohomish County): Crappie: Daily limit ten, minimum length nine inches.

Roosevelt Lake (Ferry/Lincoln/Stevens counties): All species: Closed waters: (1) March 1 through the Friday immediately preceding Memorial Day weekend from the Little Dalles power line crossing upstream approximately one mile to marked rock point, and from Northport power line crossing upstream to most upstream point of Steamboat Rock; (2) January 1 through May 31 in San Poil arm upstream from outlet of French Johns Lake; and (3) April 1 through Friday before Memorial Day in Kettle arm upstream to Barstow Bridge. Trout except kokanee: Daily limit five. No more than two

over twenty inches in length. Kokanee daily limit six, no more than two with intact adipose fins. Walleye: No minimum size. Daily limit 8 fish not more than one of which may be longer than 22 inches. Salmon: Landlocked salmon rules apply. Sturgeon: Unlawful to fish for or retain sturgeon from Roosevelt Lake and tributaries. Carp: Unlawful to fish for carp with bow and arrow.

Rose Lake (Mason County): Last Saturday in April through October 31 season.

Ross Lake (Reservoir) (Whatcom County): July 1 through October 31 season. Selective gear rules. Trout: Daily limit three, possession limit six, minimum length thirteen inches.

Ross Lake tributary streams (Whatcom County), except Big Beaver Creek and Ruby Creek: From one mile above their mouths to headwaters: July 1 through October 31 season.

Round Lake (Okanogan County): Last Saturday in April through September 30 season.

Rowland Lakes (Klickitat County): Last Saturday in April through last day in February season.

Royal Lake (Adams County): Closed waters.

Royal Slough (including Marsh Unit IV impoundments) (Adams County): Closed waters.

Ruby Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Rufus Woods Lake (Douglas County): (~~Chumming allowed~~) Trout: Daily limit two. Only uninjured trout caught using artificial lures or flies with single barbless hooks may be released. Sturgeon: Unlawful to fish for or retain sturgeon from Rufus Woods Lake and tributaries.

Sacheen Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Saddle Mountain Lake (Grant County): Closed waters.

Sago Lake (Grant County): April 1 through September 30 season.

Saint Clair Lake (Thurston County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Salmon Creek (Clark County), from mouth to 72nd Avenue N.E.: The first Saturday in June through March 15 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Salmon Creek, mainstem (Okanogan County): Closed waters.

Salmon Creek, North Fork and West Fork from mouth to South Fork (Okanogan County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Salmon Creek (tributary of Naselle River) (Pacific County): The first Saturday in June through last day in February season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead per day may be retained.

Salmon River (Jefferson County) outside of Olympic National Park and Quinalt Indian Reservation: The first Saturday in June through last day in February season. Trout: Minimum length fourteen inches. Hatchery steelhead in this river are steelhead with a dorsal fin height of less than 2-1/8 inches or with an adipose or ventral fin clip. Salmon: Open only September 1 through November 30. Daily limit 6 fish of which no more than 3 may be adult salmon and of the adult salmon not more than 2 may be adult Chinook salmon.

Salmonberry Creek (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size 14 inches.

Salt Creek (Clallam County): From mouth to bridge on Highway 112: First Saturday in June through last day in February season. Selective gear rules. Release all fish except November 1 through the last day in February up to 2 hatchery steelhead may be retained.

Samish Lake (Whatcom County): Trout: Cutthroat trout daily limit two, minimum length fourteen inches.

Samish River (Whatcom County):

From its mouth to the I-5 Bridge: The first Saturday in June through December 31 season. Stationary gear restriction, anti-snagging rule, and night closure August 1 through December 31. Additional season January 1 through March 31. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

From the I-5 Bridge to the Hickson Bridge: Closed waters from the old Highway 99 Bridge to the WDFW salmon rack. First Saturday in June through March 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

From Hickson Bridge upstream: First Saturday in June through October 31 season. Selective gear rules.

Sammamish Lake (King County): Closed to fishing within 100 yards of the mouth of Issaquah Creek August 16 through November 30. Trout: Release all kokanee. Kokanee/sockeye under fifteen inches are kokanee while those fifteen inches and over are sockeye salmon. December 1 through June 30: Release all steelhead and rainbow trout over twenty inches in length. Salmon: Open only August 16 through November 30. Daily limit four salmon, of which only two may be Chinook. Release sockeye.

Sammamish River (Slough) (King County), from the 68th Avenue N.E. Bridge to Lake Sammamish: January 1 through August 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all trout.

Sandysore Lake (Jefferson County): Last Saturday in April to October 31 season. Trout: Daily limit 5, no more than two

over 14 inches in length may be retained, except no size restriction for kokanee.

San Poil River (Ferry County): Unlawful to fish for or retain sturgeon.

Sarge Hubbard Park Pond (Yakima County): Juveniles and holders of reduced fee licenses or designated harvester cards only.

Satsop Lakes (Grays Harbor County): Last Saturday in April through October 31 season.

Satsop River (Grays Harbor County): Trout: Minimum length 14 inches in mainstem and all forks. Mainstem and East Fork, single point barbless hooks and night closure August 16 through November 30 except only August 16 through October 31 on East Fork upstream from bridge at Schafer State Park. Middle and West forks downstream from Cougar Smith Road anti-snagging rule and night closure August 16 through November 30. Middle and West Forks upstream from Cougar Smith Road anti-snagging rule and night closure August 16 through October 31.

From mouth to bridge at Schafer Park: The first Saturday in June through March 31 season. Salmon: Open only October 1 through January 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, Chinook, and wild coho.

Middle Fork (Turnow Branch), from mouth to Cougar Smith Road: The first Saturday in June through last day in February season.

West Fork, from mouth to Cougar Smith Road: The first Saturday in June through last day in February season.

Sauk River (Skagit/Snohomish counties):

From mouth to the mouth of the White Chuck River: The first Saturday in June through last day in February season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead may be retained per day.

From mouth to the Darrington Bridge: Additional March 1 through April 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead may be retained per day.

From the mouth of the White Chuck River to headwaters, including North Fork and South Fork upstream to Elliot Creek: First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead may be retained per day.

South Fork upstream from Elliot Creek: The first Saturday in June through August 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead may be retained per day.

Sawyer, Lake (King County): Chumming permitted. Crappie: Daily limit ten, minimum length nine inches.

Scatter Creek (King County) (White River tributary): First Saturday in June through October 31 season.

Schaefer Lake (Chelan County): Trout: Daily limit sixteen.

Schneider Creek (Thurston County) from mouth to falls: First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum size 14 inches.

Scooteney Reservoir (Franklin County): Walleye: Minimum size 12 inches.

Sedge Lake (Grant County): All species: Selective gear rules. Trout: Daily limit 1.

Sekiu River (Clallam County):

From mouth to forks: First Saturday in June through October 31 season. Selective gear rules and release all fish. Additional November 1 through last day in February season. Trout minimum length 14 inches.

From forks upstream: First Saturday in June through October 31 season. Selective gear rules and release all fish.

Serene Lake (Snohomish County): Last Saturday in April through October 31 season.

Shady Lake (King County): June 1 through October 31 season. Trout: No more than one over fourteen inches in length.

Shannon, Lake (Skagit County): Last Saturday in April through October 31 season. Chumming permitted. Trout: Minimum length six inches and maximum length eighteen inches.

Shellneck Creek (Yakima County): Closed waters.

Shelton Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Sherman Creek (Ferry County):

From the mouth at Lake Roosevelt upstream to four hundred feet above the water diversion dam for the hatchery: Closed waters, except first Saturday in June through October 31 season from the mouth upstream to the hatchery boat dock.

Sherry Lake (Stevens County): Last Saturday in April through October 31 season.

Sherwood Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Sherwood Creek Mill Pond (Mason County): The first Saturday in June through October 31 season. Trout: Minimum length 14 inches, daily limit 2 fish.

Shine Creek (Jefferson County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Shiner Lake (Adams County): April 1 through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Shoe Lake (Mason County): Last Saturday in April through October 31 season.

Shoveler Lake (Grant County): April 1 through September 30 season.

Shye Lake (Grays Harbor County): The first Saturday in June through October 31 season.

Sidley Lake (Okanogan County): Trout: Daily limit two.

Siebert Creek (Clallam County): Trout: First Saturday in June through October 31 season. Selective gear rules and release all fish.

Silent Lake (Jefferson County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion engine prohibited. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Silesia Creek (Chiliwack River tributary) (Whatcom County): First Saturday in June through October 31 season.

Silvas Creek (Klickitat County): Trout: Release all trout.

Silver Creek (tributary to Cowlitz River) (Lewis County), mouth to USFS Road 4778: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length twelve inches.

Silver Creek (Skagit County) (Samish River tributary): First Saturday in June through October 31 season. Selective gear rules.

Silver Creek (Whatcom County)(Nooksack River tributary): First Saturday in June through October 31 season. Selective gear rules.

Silver Lake (Cowlitz County): Crappie: Daily limit ten crappie. Minimum size nine inches in length.

Silver Lake (Pierce County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Silver Lake (Spokane County): Crappie: Daily limit ten, minimum length nine inches.

Silver Lake, North (Spokane County): March 1 through September 30 and November 1 through December 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. March 1 through September 30: Trout: Daily limit 2 fish, minimum length 14 inches, except release fish with clipped adipose fin. November 1 through December 31: All species: Release all fish.

Silver Lake (Whatcom County): Last Saturday in April through October 31 season.

Silver Nail Lake (Okanogan County): Juveniles only.

Similkameen River (Okanogan County):

From mouth to Enloe Dam: December 1 through March 31 season. Whitefish gear rules apply. Salmon: Open only July 1 through September 15. Daily limit 6 fish, of which no more than 3 may be adult salmon, and of these three adult

salmon no more than one may be a wild adult salmon. Release coho and sockeye. Anti-snagging rule and night closure July 1 through September 15.

From Enloe Dam to Canadian border: Additional December 1 through March 31 season. Whitefish gear rules apply.

Sinlahekin Creek (Okanogan County), from Palmer Lake to Cecile Creek bridge: The first Saturday in June through August 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Additional December 1 through March 31 season. Whitefish gear rules apply.

Sixteen Lake (Skagit County): Last Saturday in April through October 31 season.

Skagit River (Skagit/Whatcom counties):

From mouth to the Memorial Highway Bridge (Highway 536 at Mt. Vernon): Year-round season. Selective gear rules February 15 through May 31. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: In years ending in even numbers, open September 1 through December 31. Daily limit 3 salmon. Release Chinook and chum. In years ending in odd numbers, open August 16 through December 31. Daily limit 2 salmon plus 2 additional pink. Release Chinook and chum.

From Memorial Highway Bridge (Highway 536 at Mt. Vernon) upstream to Gilligan Creek: June 1 through February 15 season. Night closure rule July 1 through November 30. Anti-snagging rule August 16 through November 30. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Additional February 16 through March 15 season. All species: Release all fish except up to 2 hatchery steelhead may be retained. Selective gear rules. Unlawful to fish from a floating device while under power. Salmon: In years ending in even numbers, open September 1 through December 31. Daily limit 3 salmon. Release Chinook and chum. In years ending in odd numbers, open August 16 through December 31. Daily limit 2 salmon plus 2 additional pink. Release Chinook and chum.

From Gilligan Creek to the Dalles Bridge at Concrete: June 1 through February 15 season. Anti-snagging rule and night closure July 1 through November 30. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit; minimum length twenty inches. Salmon: In years ending in even numbers, open September 16 through December 31. Daily limit 3 salmon. Release Chinook and chum. In years ending in odd numbers, open August 16 through December 31. Daily limit 2 salmon plus 2 additional pink. Release Chinook and chum. Additional season February 16 through March 15. All species: Release all fish except up to 2 hatchery steelhead may be retained. Selective gear rules. Unlawful to fish from a floating device while under power.

From the Dalles Bridge at Concrete to the Highway 530 Bridge at Rockport: June 1 through February 15 season, except closed June 1 through August 31, between a line 200

feet above the east bank of the Baker River to a line 200 feet below the west bank of the Baker River. Anti-snagging rule and night closure July 1 through November 30. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit; minimum length twenty inches. Salmon open September 16 through December 31. In years ending in even numbers, daily limit 3 salmon. Release Chinook and chum. In years ending in odd numbers, daily limit 2 salmon plus 2 additional pink. Release Chinook and chum. Additional season: February 16 through April 30. Selective gear rules. Unlawful to fish from a floating device while under power. All species: Release all fish except up to two hatchery steelhead may be retained.

From the Highway 530 Bridge at Rockport to the Cascade River: June 1 through February 15 season. Anti-snagging rule and night closure June 1 through November 30. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit; minimum length twenty inches. Salmon open June 1 through July 15. Daily limit four hatchery Chinook salmon, of which only two may be adult hatchery Chinook. Salmon open September 16 through December 31. In years ending in even numbers, daily limit 3 salmon. Release Chinook and chum. In years ending in odd numbers, daily limit 2 salmon plus 2 additional pink. Release Chinook and chum. Additional season: February 16 through April 30. Selective gear rules. Unlawful to fish from a floating device while under power. All species: Release all fish except up to two hatchery steelhead may be retained.

From Cascade River to Gorge Powerhouse: June 1 through March 15 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead may be retained per day.

From Gorge Dam to Ross Dam and all tributaries to this section except Stetattle Creek: First Saturday in June through October 31 season.

Skamokawa Creek (Wahkiakum County), mouth to forks just below Oatfield and Middle Valley Road: June 1 through October 31 season. Trout: Release all trout except up to two hatchery steelhead may be retained.

Skate Creek (tributary to Cowlitz River) (Lewis County): Trout: Daily limit five, no more than one over twelve inches in length. Release cutthroat. Release rainbow trout except rainbow trout having a clipped adipose fin and a healed scar at the site of the clipped fin.

Skokomish River (Mason County), mouth to Highway 106 Bridge: Night closure, anti-snagging rule and single point barbless hooks required August 1 through November 30. The first Saturday in June through July 31 and October 1 through December 15 season. All game fish: Release all fish. Salmon: Open only August 1 through December 15. Terminal gear restricted to no closer than 25 feet of a tribal gill net. August 1 through September 30: Daily limit 2 salmon, except release chum and wild Chinook; only fish hooked inside the mouth may be retained; and anglers must keep the first 2 salmon, if legal to do so and stop fishing for the day. Daily limit 6 salmon October 1 through December 15, except

daily limit may contain no more than 4 adult fish and release Chinook. October 1 through October 15 release chum salmon.

From Highway 106 Bridge to Highway 101 Bridge: Night closure, anti-snagging rule and single point barbless hooks required August 1 through November 30. The first Saturday in June through July 31 and October 1 through December 15 season. All game fish: Release all fish. Salmon: Open only August 1 through December 15, except closed August 2, 9, 16, 23, and 30, and September 13. Terminal gear restricted to no closer than 25 feet of a tribal gill net. August 1 through September 30: Daily limit 2 salmon, except release chum and wild Chinook; only fish hooked inside the mouth may be retained; and anglers must keep the first 2 salmon, if legal to do so and stop fishing for the day. October 1 through December 15, daily limit 6 salmon, except daily limit may contain no more than 4 adult fish and release Chinook. October 1 through October 15 release chum salmon.

From Highway 101 Bridge to forks: First Saturday in June through October 31 season. Selective gear rules and release all fish.

Skokomish River, North Fork (Mason County):

From mouth to lower dam: The first Saturday in June through October 31 season. All species: Release all fish. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Above Lake Cushman, mouth to Olympic National Park boundary: The first Saturday in June through August 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Release all fish.

Skokomish River, South Fork (Mason County):

From mouth to mouth of LeBar Creek: First Saturday in June through October 31 season. All species: Release all fish. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

From mouth of Rule Creek to headwaters: First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length twelve inches.

Skookum Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Skookum Lake, North (Pend Oreille County): Last Saturday in April through October 31 season.

Skookum Lake, South (Pend Oreille County): Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Skookumchuck Creek (Klickitat County): Trout: Release all trout.

Skookumchuck Reservoir (Thurston County): The first Saturday in June through October 31 season. Trout: Daily limit two, minimum length twelve inches.

Skookumchuck River (Thurston County):

From mouth to one hundred feet below the outlet of the Trans Alta steelhead rearing pond located at the base of the Skookumchuck Dam: The first Saturday in June through April 30 season. Single point barbless hooks and night closure August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only September 16 through last day in February. September 16 through November 30, daily limit 6 fish of which no more than 2 may be adult salmon, and of the adult salmon, only 1 of which may be wild adult coho. Release chum and Chinook. December 1 through last day in February, daily limit 6 fish of which no more than 2 may be adult salmon. Release chum, Chinook, and wild coho.

From Skookumchuck Reservoir upstream and all tributaries: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length twelve inches.

Skykomish River (Snohomish County):

From mouth to mouth of Wallace River: June 1 through February 15 season. Anti-snagging rule and night closure August 1 through November 30 mouth to Lewis Street Bridge in Monroe and June 1 through November 30 from Lewis Street Bridge in Monroe to Wallace River. Fishing from any floating device prohibited November 1 through February 15 from the boat ramp below Lewis Street Bridge at Monroe downstream two thousand five hundred feet. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: Open June 1 through July 31 mouth to Wallace River. Daily limit 2 hatchery Chinook. In years ending in even numbers, open September 1 through December 31 mouth to Wallace River. Daily limit 2 coho only. In years ending in odd numbers, open August 16 through December 31 mouth to Lewis Street Bridge in Monroe and open September 1 through December 31 Lewis Street Bridge to Wallace River. Daily limit 2 salmon plus 2 additional pink. Release Chinook.

From the mouth of the Wallace River to the forks: June 1 through February 15 season, except closed June 1 to 8:00 a.m. August 1 in those waters one thousand five hundred feet upstream and one thousand feet downstream of the outlet at Skykomish Rearing Ponds. Anti-snagging rule and night closure August 1 through November 30. Fishing from any floating device prohibited in the area one thousand five hundred feet upstream and one thousand feet downstream of the outlet at Skykomish Rearing Ponds August 1 through February 15. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: Open only September 1 through December 31. In years ending in even numbers, daily limit 2 coho only. In years ending in odd numbers, daily limit 2 salmon plus 2 additional pink. Release Chinook.

Skykomish River, North Fork (Snohomish County):

From mouth to one thousand feet downstream from Bear Creek Falls: The first Saturday in June through February 15 season. Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

From Deer Falls (about 1/4 mile upstream of Goblin Creek) upstream: First Saturday in June through October 31 season.

Skykomish River, South Fork (King/Snohomish counties):

From mouth to six hundred feet downstream from the Sunset Falls Fishway: The first Saturday in June through February 15 season. Anti-snagging rule and night closure August 1 through November 30. Trout: Minimum length fourteen inches.

From Sunset Falls to source including all tributaries and their tributaries: The first Saturday in June through November 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length fourteen inches. Whitefish: Additional December 1 through last day in February season. Release all fish other than whitefish. All tributaries: Closed waters.

Slate Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Sloan Creek (Snohomish County) (Sauk River tributary): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish.

Smith Creek (near North River) (Pacific County): The first Saturday in June through last day in February season, except sturgeon. Single point barbless hooks, and night closure August 16 through November 30 upstream to the Highway 101 Bridge. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only September 1 through November 30 from mouth to Highway 101 Bridge. Daily limit 6 fish of which no more than 2 may be adult salmon. Release chum and wild Chinook. Sturgeon: Open year-round from mouth to Highway 101 Bridge.

Smith Creek (Whatcom County)(Nooksack River tributary): First Saturday in June through October 31 season. Selective gear rules.

Snake River: Year-round season. Closed to the taking of all trout April 1 through June 15. All species: April 24 through June 15 from Texas Rapids boat launch upstream to the Corps of Engineers boat launch approximately 1 mile upstream of Little Goose Dam: Night closure, barbless hooks only, and hooks must measure 5/8 inch or less from point to shank. Trout: Daily limit six, minimum length ten inches, no more than three over twenty inches. Release all steelhead June 16 through August 31. Barbless hooks required when fishing for steelhead. Sturgeon: Release all sturgeon from August 1 through January 31 from the mouth to Ice Harbor Dam. Closed to fishing for sturgeon from May 1 through July 31 from the downstream end of Goose Island to Ice Harbor Dam. Unlawful to retain sturgeon in mainstem and tributaries upstream from Lower Granite Dam. Walleye: Daily limit 10 fish. No minimum size. No more than 5 fish over 18 inches in length. No more than 1 fish over 24 inches in length. Channel catfish: No daily limit. Salmon: Open only April 24 through

June 15 from Texas Rapids boat launch upstream to the Corps of Engineers boat launch approximately 1 mile upstream of Little Goose Dam. Daily limit 1 hatchery Chinook.

Closed waters: Within four hundred feet of the base of any dam and within a four hundred foot radius around the fish ladder entrance at Lyons Ferry Hatchery, within a two hundred foot radius upstream of the fish ladder exit above Lower Granite Dam, and within an area one thousand two hundred feet downstream from the base of the west lock gate at Little Goose Dam on the south bank of the Snake River and one hundred feet out into the river from said river bank.

Snipe Lake (Grant County): April 1 through September 30 season.

Snipes Creek (Benton County): Selective gear rules.

Snohomish River (Snohomish County), including all channels, sloughs, and interconnected waterways, but excluding all tributaries: The first Saturday in June through February 15 season, except sturgeon. Anti-snagging rule and night closure August 1 through November 30. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: In years ending in even numbers, open only September 1 through December 31. Daily limit 2 coho only. In years ending in odd numbers: Open only August 16 through December 31. Daily limit 2 salmon plus 2 additional pink. Release Chinook. Sturgeon: Open year-round from mouth to Highway 2 Bridge.

Snoqualmie River (King County):

From mouth to the falls: The first Saturday in June through last day in February season, except the first Saturday in June through February 15 from the mouth to the boat launch at Plumb. Waters within the Puget Power tunnel at the falls and within fifty feet of any point on Puget Power's lower Plant # 2 building (north bank) are closed waters. The first Saturday in June through November 30 selective gear rules. Fishing from any floating device prohibited November 1 through last day in February from the mouth of Tokul Creek downstream to the boat ramp at Plumb access, about one-quarter mile. Night closure September 1 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through December 31. Daily limit 2 coho only.

From Snoqualmie Falls upstream, including the North and South Forks: First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length ten inches. Additional November 1 through the Friday before the first Saturday in June season. Selective gear rules. All species: Release all fish. All tributaries except Tate, Sunday and ((Phillapa)) Phillipa creeks: First Saturday in June through October 31 season.

Snoqualmie Middle Fork from mouth to source including all tributaries except Pratt and Taylor rivers: Year-round season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Snyder Creek (Klickitat County): Trout: Release all trout.

Sol Duc River (Clallam County):

From mouth to concrete pump station at the Sol Duc Hatchery: Open year-round. May 1 through the Friday before the first Saturday in June, release all game fish except up to two hatchery steelhead per day may be retained. First Saturday in June through April 30, trout: Minimum length fourteen inches. November 1 through last day in February, daily limit may include 1 additional hatchery steelhead. February 16 through April 30, one wild steelhead per day may be retained. Salmon: Open only February 1 through November 30. February 1 through August 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release wild adult Chinook and wild adult coho. September 1 through November 30, daily limit 6 fish of which no more than 4 may be adult salmon, and of the 4 adult salmon, no more than 2 may be any combination of Chinook, wild coho, pink, sockeye, and chum salmon.

From concrete pump station at Sol Duc Hatchery to Highway 101 Bridge downstream of Snider Creek: First Saturday in June through April 30 season. Trout: Minimum length fourteen inches. November 1 through April 30: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

From Highway 101 Bridge downstream of Snider Creek to Olympic National Park boundary: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Release all fish except up to two hatchery steelhead may be retained.

Sooes River (Suez River) (Clallam County): The first Saturday in June through last day in February season. Trout: Minimum length fourteen inches.

Soos Creek (King County), from mouth to hatchery rack: The first Saturday in June through August 31 season. Trout: Minimum length fourteen inches.

South Bend Mill Pond (Pacific County): Juveniles only.

South Prairie Creek (Pierce County), from city of Buckley diversion dam upstream: First Saturday in June through October 31 season.

South Skookum Lake (Pend Oreille County): Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Spada Lake (Reservoir) (Snohomish County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Maximum length twelve inches.

Spada Lake (Reservoir) tributaries (Snohomish County): Closed waters.

Spanaway Lake and Spanaway Lake outlet downstream to the dam (approximately 800 feet) (Pierce County): Year-round season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Spearfish Lake (Klickitat County): Last Saturday in April through last day in February season.

Spectacle Lake (Okanogan County): April 1 through September 30 season.

Spencer Lake (Mason County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Spirit Lake (Skamania County): Closed waters.

Spokane River (Spokane County):

From SR 25 Bridge upstream to the upstream boundary at Plese Flats Day Use Area (Riverside State Park), except Long Lake, formed by Long Lake Dam (see also Long Lake): Year-round season except walleye. Trout: Daily limit five, no more than two over twenty inches in length. Walleye: Daily limit eight, no minimum length, no more than one over twenty-two inches in length. April 1 through May 31 release all walleye. Salmon: Landlocked salmon rules apply. Sturgeon: Unlawful to fish for or retain sturgeon.

From the upstream boundary at Plese Flats Day Use Area (Riverside State Park) upstream to the Monroe Street Dam: June 1 through March 15 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit one. Release wild trout. Salmon: Landlocked salmon rules apply. Sturgeon: Unlawful to fish for or retain sturgeon.

From Monroe Street Dam upstream to Upriver Dam: Year-round season. Salmon: Landlocked salmon rules apply.

From Upriver Dam upstream to the Idaho/Washington state line: The first Saturday in June through March 15 season. Selective gear rules. All species: Release all fish.

Sprague Lake (Adams/Lincoln counties): Closed waters: Waters of Cow Creek, the marsh at the southwest end of the lake from the lakeside edge of the reeds to Danekas Road, the small bay at the southeast end of the lake, and those waters within 50 feet of Harper Island. All other waters southwest of the southwest tip of Harper Island: Closed waters from October 1 through April 30. Trout: No more than two over twenty inches in length may be retained. Crappie and bluegill: Combined daily limit twenty-five fish. Crappie: Minimum length nine inches.

Spring Creek (Benton County): Selective gear rules.

Spring Creek (Klickitat County): Trout: Daily limit five.

Spring Hill Reservoir (Black Lake, Lower Wheeler Reservoir) (Chelan County): Last Saturday in April through October 31 season. July 5 through October 31, selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Spring Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Spring Lakes (Grant County): March 1 through July 31 season.

Squalicum Creek (Whatcom County): First Saturday in June through October 31 season. Selective gear rules.

Squalicum Lake (Whatcom County): Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit two.

Squire Creek (Snohomish County) (NF Stillaguamish River tributary): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Stan Coffin Lake (Grant County): Bass: Release all bass.

Starvation Lake (Stevens County): Last Saturday in April through May 31 season. Additional June 1 through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Steel Lake (King County): Last Saturday in April through October 31 season.

Stehekin River (Chelan County), from the mouth to Agnes Creek: July 1 through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length fifteen inches. Release cutthroat. Additional March 1 through June 30 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Steilacoom Lake (Pierce County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Stetattle Creek (Whatcom County) above the mouth of Bucket Creek (one and one-half miles upstream): First Saturday in June through October 31 season.

Stevens Creek (Grays Harbor County), mouth to Highway 101 Bridge: The first Saturday in June through September 30 and December 1 through last day in February season. Trout: Minimum length fourteen inches.

Stevens, Lake (Snohomish County): Chumming permitted. Kokanee: Kokanee not included in trout daily limit. Kokanee daily limit ten fish.

Steves Lake (Mason County): Last Saturday in April through October 31 season.

Stickney Lake (Snohomish County): Last Saturday in April through October 31 season.

Stillaguamish River (Snohomish County):

From mouth to Marine Drive, including all sloughs: Year-round season. Anti-snagging rule and night closure August 1 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through December 31. In years ending in even numbers, daily limit 2 coho only. In years ending in odd numbers, daily limit 2 salmon plus 2 additional pink. Release Chinook.

From Marine Drive to the forks, except from the barrier dam (downstream of I-5) downstream two hundred feet which is closed waters: The first Saturday in June through

February 15 season. Night closure August 1 through November 30. Selective gear rules the first Saturday in June through November 30. Game fish: The first Saturday in June through November 30 release all fish except up to two hatchery steelhead per day may be retained. Trout: Minimum length fourteen inches December 1 through last day in February. Salmon: Open only September 1 through December 31. In years ending in even numbers, daily limit 2 coho only. In years ending in odd numbers, daily limit 2 salmon plus 2 additional pink. Release Chinook.

Stillaguamish River, North Fork (Snohomish County), from mouth to Swede Heaven Bridge: The first Saturday in June through February 15 season. Anti-snagging rule and night closure August 1 through November 30. Fishing from any floating device prohibited upstream of the Highway 530 Bridge at mile post 28.8 (Cicero Bridge). Fishing from any floating device equipped with a motor prohibited downstream from the Highway 530 Bridge. The first Saturday in June through November 30: All species: Release all fish except hatchery steelhead. The first Saturday in June through November 30 fly fishing only. December 1 through February 15: Trout: Minimum length fourteen inches.

From Swede Heaven Bridge to falls approximately one mile upstream of Cascade Creek: First Saturday in June through October 31 season. All species: Selective gear rules and release all fish except up to two hatchery steelhead may be retained.

Upstream of falls: First Saturday in June through October 31 season.

Stillaguamish River, South Fork (Snohomish County):

From mouth to four hundred feet downstream of the outlet to fishway at Granite Falls: The first Saturday in June through February 15 season. Anti-snagging rule and night closure August 1 through November 30. Trout: Minimum length fourteen inches.

From Mt. Loop Highway Bridge above Granite Falls to source: The first Saturday in June through November 30 season. Selective gear rules and unlawful to fish from a floating device equipped with a motor. Anti-snagging rule and night closure August 1 through November 30.

Stimson Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Storm Lake (Snohomish County): Last Saturday in April through October 31 season.

Straight Creek (Snohomish County) (Suiattle River tributary): First Saturday in June through October 31 season. Selective gear rules.

Stratford/Brook Lake (Grant County): February 1 through September 30 season.

Stump Lake (Mason County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion engine prohibited. Trout daily limit 5, no more than 2 over 15 inches in length.

Suiattle River (Skagit County): First Saturday in June through October 31 season. Selective gear rules. Trout:

Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

Sullivan Creek (Pend Oreille County), from Mill Pond upstream and tributaries: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Sullivan Lake (Pend Oreille County): Trout: Daily limit 2 trout, except kokanee not counted in daily trout limit. Kokanee daily limit ten.

Sulphur Creek (Snohomish County) (Suiattle River tributary): First Saturday in June through October 31 season. Selective gear rules.

Sultan River (Snohomish County), from its mouth to a point four hundred feet downstream from the diversion dam at river mile 9.7: The first Saturday in June through February 15 season. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

Upstream of the diversion dam to Culmback Dam: First Saturday in June through October 31 season.

Sumas River (Whatcom County) including all tributaries except Johnson Creek: First Saturday in June through October 31 season.

Summit Lake (Stevens County): Last Saturday in April through October 31 season.

Summit Lake (Thurston County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Susan Lake (Thurston County): Selective gear rules and release all fish.

Sutherland Lake (Clallam County): Chumming permitted. Beginning November 1, 2011: Closed waters.

Swale Creek (Klickitat County): Trout: Release all trout.

Swamp Creek (tributary to Sammamish River) (Snohomish/King counties): The first Saturday in June through August 31 season. Juveniles only.

Swan Lake (Ferry County): Last Saturday in April through October 31 season. Unlawful to use lead weights or lead jigs that measure 1 1/2 inch or less along the longest axis.

Swan's Mill Pond (Stossel Creek) (King County): The first Saturday in June through October 31 season.

Swauk Creek (Kittitas County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Swift Reservoir (Skamania County): Last Saturday in April through November 30 season. From posted markers below

Eagle Cliff Bridge to Bridge: Selective gear rules. Salmon: Landlocked salmon rules apply.

Swofford Pond (Lewis County): Fishing from a floating device equipped with an internal combustion motor prohibited.

Sylvia Lake (Grays Harbor County): Trout: No more than two over 15 inches in length may be retained per day.

Symington Lake (Kitsap County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Tacoma Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Tahuya River (Mason County) from mouth to marker approximately 1 mile upstream of North Shore Road Bridge: First Saturday in June through August 15 and October 1 through October 31 season. Selective gear rules, unlawful to fish from a floating device equipped with an internal combustion motor, and release all fish except salmon. Night closure October 1 through October 31. Salmon: Open only October 1 through October 31. Daily limit 2 coho salmon.

From marker approximately one mile upstream of North Shore Road Bridge upstream: First Saturday in June through October 31 season. Selective gear rules and release all fish.

Taneum Creek (Kittitas County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Tanwax Creek (Thurston County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Tanwax Lake (Pierce County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee. Crappie: Daily limit ten, minimum length nine inches.

Tapps Lake (Reservoir) and Tapps Lake (Reservoir) intake canal (Pierce County), to within four hundred feet of the screen at Dingle Basin: Year-round season.

Tarboo Creek (Jefferson County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Tarboo Lake (Jefferson County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion engine prohibited. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Taylor River (tributary to the Middle Fork Snoqualmie) (King County): First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating

device equipped with an internal combustion motor. All species: Release all fish.

Teal Lakes (North and South) (Grant County): April 1 through September 30 season.

Teal Lake (Jefferson County): Fishing from a floating device equipped with an internal combustion engine prohibited. Selective gear rules. Trout daily limit one fish.

Teanaway River (Kittitas County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all trout.

Teanaway River, North Fork (Kittitas County): Mouth to Beverly Creek including all tributaries: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all trout. Beverly Creek to impassable waterfall at the end of USFS Road 9737 (about 8 river miles): Closed waters.

Tee Lake (Mason County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Tenas Creek (Skagit County) (Suiattle River tributary): First Saturday in June through October 31 season. Selective gear rules.

Tenas Lake (Mason County): Last Saturday in April through October 31 season.

Ten Mile Creek (Whatcom County) (Nooksack River tributary): First Saturday in June through October 31 season. Selective gear rules.

Tennant Lake (Whatcom County): Fishing from any floating device prohibited from first Friday in October through January 15.

Tern Lake (Grant County): All species: Selective gear rules. Trout: Daily limit 1.

Terrell Creek (Whatcom County): First Saturday in June through October 31 season. Selective gear rules.

Terrell, Lake (Whatcom County): Fishing from any floating device prohibited the first Saturday after Labor Day through the following Friday and from October 1 through January 31 except fishing from floating dock permitted.

Thomas Creek (Skagit County) (Samish River tributary): First Saturday in June through October 31 season. Selective gear rules.

Thomas Lake (Stevens County): Last Saturday in April through October 31 season.

Thorndyke Creek (Jefferson County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Thornton Creek (tributary to Lake Washington) (King County): The first Saturday in June through August 31 season. Juveniles only.

Thorton Creek (Skagit County): First Saturday in June through October 31 season. All species: Release all fish except up to two hatchery steelhead may be retained.

Thread Lake (Adams County): April 1 through September 30 season.

Tibbetts Creek (tributary to Lake Sammamish) (King County): The first Saturday in June through August 31 season. Juveniles only.

Tieton River (Yakima County): Lawful to fish to base of Tieton (Rimrock) Dam. Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor the first Saturday in June through October 31. Additional December 1 through March 31 season: Whitefish gear rules apply.

Tieton River, North Fork (Yakima County): Closed waters: Clear Lake spillway channel and the river within 400' of Clear Lake Dam. Entire river, including that portion of the river that flows through the dry lakebed of Rimrock Reservoir: The first Saturday in June through August 15 season.

Tieton River, South Fork (Yakima County): From the bridge on USFS Road 1200 to bridge on USFS Rd. 1070 (approximately 12.5 miles): Closed waters.

Tiger Lake (Kitsap/Mason counties): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Tilton River (Lewis County), from mouth to West Fork: The first Saturday in June through March 31 season. Trout: Daily limit five, no more than one over twelve inches in length. Release cutthroat. Release rainbow trout except rainbow trout having a clipped adipose fin and a healed scar at the site of the clipped fin. Salmon: Open only first Saturday in June through December 31. Minimum length eight inches. First Saturday in June through July 31, daily limit 6 fish, of which no more than 2 may be adult salmon. Release wild coho. August 1 through December 31, daily limit 6 fish, of which no more than 2 may be adult Chinook. Release wild coho.

Tilton River, East, North, South and West Forks (Lewis County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length twelve inches.

Toad Lake (Whatcom County): Last Saturday in April through October 31 season.

Tokul Creek (King County):

From mouth to the Fish Hatchery Road Bridge: December 1 through last day in February season, closed 5:00 p.m. to 7:00 a.m. daily. Anti-snagging rule. Trout: Minimum length fourteen inches.

From Fish Hatchery Road Bridge to posted cable boundary marker located approximately four hundred feet downstream of the hatchery intake: January 15 through last day in February season, closed 5:00 p.m. to 7:00 a.m. daily. Anti-snagging rule. Trout: Minimum length 14 inches.

From the posted cable boundary marker located approximately four hundred feet downstream of the hatchery intake to the railroad trestle: Closed waters.

Tolt River (King County):

From mouth to the USGS trolley cable near the confluence of the North and South Forks: The first Saturday in June through February 15 season. The first Saturday in June through November 30, selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length fourteen inches.

From falls upstream on North Fork: First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

From dam upstream on South Fork: First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length ten inches.

Touchet River (Columbia/Walla Walla counties):

From confluence of north and south forks upstream, including Robinson and Wolf Forks: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all steelhead. Tributaries other than North Fork, South Fork, Robinson Fork, and Wolf Fork: Closed waters.

North Fork: Upstream of Spangler Creek the first Saturday in June through August 31 season.

South Fork: Upstream from Griffin Creek the first Saturday in June through August 31 season.

Wolf Fork: Upstream from Coates Creek the first Saturday in June through August 31 season.

From mouth to confluence of north and south forks: Additional season: November 1 through March 31. Barbless hooks required. All species: Release all fish except hatchery steelhead and brown trout. Trout: Daily limit three fish.

Toutle River (Cowlitz County):

From mouth to forks, and North Fork from the mouth to the posted deadline below the fish collection facility: The first Saturday in June through November 30 season. Anti-snagging rule and night closure September 1 through October 15 on North Fork from confluence with South Fork to mouth of Green River. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only August 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult Chinook. Release chum, wild coho, and wild Chinook.

From the posted deadline below the fish collection facility upstream to the headwaters, including all tributaries, but excepting Castle and Coldwater Lakes: Closed waters.

Toutle River, South Fork (Cowlitz County), mouth to source: Closed waters: All tributaries. The first Saturday in June through November 30 season. All species: Release all fish except hatchery steelhead. Trout: Minimum length twenty inches. Mouth to 4100 Road Bridge: Additional December 1 through March 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except hatchery steelhead.

Trail's End Lake (Mason County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Trapper Lake (Chelan County): Trout: Daily limit two.

Trout Creek (tributary to Wind River) (Skamania County): Closed waters.

Trout Lake (Ferry County): Last Saturday in April through October 31 season.

Trout Lake (tributary to Big White Salmon River) (Klickitat County): The first Saturday in June through October 31 season.

Tucannon River (Columbia/Walla Walla counties): Closed waters: All tributaries.

From the mouth upstream to Turner Road Bridge: Additional November 1 through March 31 season. Barbless hooks required. All species: Release all fish except hatchery steelhead and whitefish. Trout: Daily limit three hatchery steelhead.

From the Turner Road Bridge upstream to the Tucannon Hatchery Bridge: Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor the first Saturday in June through October 31. Additional season November 1 through March 31. Barbless hooks required. All species: Release all fish except hatchery steelhead and whitefish. Trout: Daily limit three hatchery steelhead.

From the Tucannon Hatchery Bridge upstream to 500 feet above the Rainbow Lake intake: Closed waters.

From 500 feet above the Rainbow Lake intake to the Cow Camp Bridge: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Release steelhead.

From Cow Camp Bridge upstream: Closed waters.

Tucquala Lake (Kittitas County): The first Saturday in June through October 31 season.

Tunnel Lake (Skamania County): Trout: No more than 2 trout 20 inches in length or greater may be retained.

Twin Lake (Jefferson County): Last Saturday in April through October 31 season.

Twin Lake (Mason County): Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Twin Lakes (Chelan County) and tributaries and outlet stream to junction with the Napeequa River: Closed waters.

Twisp River (Okanogan County), from mouth to War Creek: The first Saturday in June through August 15 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish. War Creek to South Fork Twisp River: Closed waters.

Tye River (King County): Foss River to Alpine Falls the first Saturday in June through October 31 season: All species: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Mini-

mum length fourteen inches. Whitefish: Additional November 1 through last day in February season. Release all fish other than whitefish. All tributaries to this section and their tributaries: First Saturday in June through October 31 season.

From Alpine falls upstream including all tributaries: First Saturday in June through October 31 season.

U Lake (Mason County): Last Saturday in April through October 31 season.

Umtanum Creek (Kittitas County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor.

Uncle John Creek (Mason County): First Saturday in June through October 31 season. Selective gear rules. Trout: Release all trout.

Union Creek (Yakima County): From mouth upstream to falls (approximately 1/4 mile): Closed waters.

Union River (Mason County) Mouth to North Shore Road Bridge: First Saturday in June through August 15 season. All species: Release all fish.

From North Shore Road Bridge to lower bridge on Old Belfair Highway: The first Saturday in June through August 15 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

From lower bridge on Old Belfair Highway upstream to watershed boundary: First Saturday in June through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish.

Upper Wheeler Reservoir (Chelan County): Closed waters.

Valley Creek (Clallam County): First Saturday in June through October 31 season. Juveniles only.

Vance Creek/Elma Ponds (Grays Harbor County): Pond One: Last Saturday in April through November 30 season. Juveniles, holders of a senior license and holders of a department reduced fee license or a designated harvester card only. Trout: No more than two over 15 inches in length may be retained per day. Salmon: Landlocked salmon rules apply. Pond Two: Last Saturday in April through November 30 season. Trout: No more than two over 15 inches in length may be retained per day. Salmon: Landlocked salmon rules apply.

Vancouver Lake and all other waters west of Burlington-Northern Railroad from Columbia River drawbridge near Vancouver downstream to Lewis River (Clark County): Closed waters: April 1 through May 30 the Vancouver Lake flushing channel is closed and it is closed to fishing from the lake shoreline within 400 feet east and west of the channel exit. Chumming permitted. Trout: Daily limit two, minimum length twelve inches. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in adjacent waters of mainstem Columbia River.

Vanes Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Van Winkle Creek (Grays Harbor County): Mouth to 400 feet below outlet of Lake Aberdeen Hatchery: All species: Anti-snagging rule and night closure August 16 through November 30. Game fish: Minimum length 14 inches. Salmon: Open only September 1 through January 31. Daily limit 6 fish, of which no more than 2 may be adult fish. Release chum, Chinook and wild coho.

Vic Meyers (Rainbow) Lake (Grant County): Last Saturday in April through September 30 season.

Vogler Lake (Skagit County): Last Saturday in April through October 31 season. Fly fishing only. All species: Release all fish.

Voight Creek (Pierce County): From falls under powerline upstream: First Saturday in June through October 31 season.

Wagners Lake (Snohomish County): Last Saturday in April through October 31 season.

Wahkiacus Creek (Klickitat County): Trout: Release all trout.

Waitts Lake (Stevens County): Last Saturday in April through last day in February season.

Walker Lake (King County): Last Saturday in April through October 31 season.

Wallace River (Snohomish County):

From its mouth to 200 feet upstream of the water intake of the salmon hatchery: The first Saturday in June through last day in February season. Closed waters: From 363rd Avenue S.E./Reece Road to a point two hundred feet upstream of the water intake of the salmon hatchery during the period the first Saturday in June through September 15. Fishing from any floating device prohibited November 1 through last day in February. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: Open only September 16 through November 30. Daily limit 2 coho.

From 200 feet upstream of the water intake of the salmon hatchery to Wallace Falls: November 1 through last day in February season. Fishing from any floating device prohibited. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

From Wallace Falls upstream: First Saturday in June through October 31 season.

Walla Walla River (Walla Walla County):

From mouth to the Touchet River: Year-round season. Trout: Barbless hooks required when fishing for steelhead. Trout: Release trout April 1 through May 31. Daily limit three hatchery steelhead. Channel catfish: No daily limit.

From the Touchet River upstream to state line: Trout: All tributaries except Mill Creek, maximum length twenty inches. Channel catfish: No daily limit. Additional season November 1 through March 31. All species: Barbless hooks required and release all fish except hatchery steelhead. Trout: Daily limit three hatchery steelhead.

Walupt Lake (Lewis County): Closed waters: All inlet streams. Last Saturday in April through October 31 season. Selective gear rules. Trout: Minimum length ten inches.

Wannacut Lake (Okanogan County): Last Saturday in April through October 31 season.

Wapato Lake (Chelan County): Last Saturday in April through October 31 season. From August 1 through October 31: Selective gear rules. Trout: Release all trout.

Wapato Lake (Pierce County): Juveniles only.

Ward Lake (Ferry County): Last Saturday in April through October 31 season.

Ward Lake (Thurston County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Warden Lake and Warden Lake, South (Grant County): Last Saturday in April through September 30 season.

Washburn Island Pond (Okanogan County): April 1 through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Washburn Lake (Okanogan County): Last Saturday in April through October 31 season. Trout: Daily limit two.

Washington Creek (Mason County): First Saturday in June through October 31 season.

Washington, Lake, including that portion of the Sammamish River from the 68th Avenue N.E. Bridge downstream (King County): Fishing from floating device prohibited one hundred yards either side of the floating bridges. Chumming permitted. Trout: December 1 through last day in February, daily limit 5, no minimum length. Release steelhead and rainbow trout over twenty inches in length. March 1 through June 30, daily limit 5, minimum length twelve inches. Release steelhead and rainbow trout over twenty inches in length. Kokanee/sockeye less than fifteen inches in length are kokanee while those fifteen inches and over in length are sockeye salmon. Salmon: Open only September 16 through October 31 north of Highway 520 Bridge and east of Montlake Bridge. Daily limit four coho salmon.

Washington, Lake, Ship Canal (King County) (waters east of a north-south line 400 feet west of the fish ladder at the Chittenden Locks and west of a north-south line at the eastern ends of the concrete abutments east of the Montlake Bridge): West of Fremont Bridge: Fishing from floating device prohibited. East of Fremont Bridge: Chumming permitted.

From west boundary to a north-south line 400 feet east of the eastern end of the northern wing wall of Chittenden Locks: Closed waters.

From 400 feet east of the eastern end of the northern wing wall of Chittenden Locks to the east boundary: Open year-round. Trout: December 1 through last day in February daily limit five, no minimum length. Release steelhead and rainbow trout over twenty inches in length. March 1 through June 30, daily limit five, minimum length twelve inches. Release steelhead and rainbow trout over twenty inches in

length. July 1 through November 30, daily limit five, no minimum length. Kokanee/sockeye less than fifteen inches in length are kokanee and fifteen inches and over in length are sockeye salmon.

Washougal River (Clark County): Night closure year-round.

From mouth to bridge at Salmon Falls: The first Saturday in June through March 15 season. Anti-snagging rule and stationary gear restriction July 1 through October 31. When anti-snagging rule is in effect, only fish hooked inside the mouth may be retained. Trout: Release all trout except up to 2 hatchery steelhead per day may be retained. Salmon: Open only August 1 through December 31. Daily limit 6 fish of which no more than 2 may be adult Chinook. Release chum, wild coho, and wild Chinook.

From mouth to Mt. Norway Bridge: Additional April 16 through the Friday before the first Saturday in June season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all trout except up to 2 hatchery steelhead per day may be retained.

From bridge at Salmon Falls to its source, including tributaries: Closed waters.

Washougal River, West (North) Fork (Clark/Skamania counties):

From mouth to the water intake at the department hatchery: Closed waters.

From intake at department hatchery to source: The first Saturday in June through March 15 season. Trout: Release all trout except up to 2 hatchery steelhead per day may be retained.

Watson Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Waghop Lake (Pierce County): Salmon: Landlocked salmon rules apply.

Wenaha River tributaries within Washington: The first Saturday in June through August 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Release all steelhead.

Wenatchee Lake (Chelan County): Selective gear rules. Trout except kokanee: Daily limit two, minimum length twelve inches. Release kokanee. Kokanee/sockeye under sixteen inches will be considered kokanee while those sixteen inches and over will be considered sockeye salmon.

Wenatchee River, including Lake Jolanda (Chelan County): December 1 through March 31 season, from mouth to Highway 2 Bridge at Leavenworth only. Whitefish gear rules apply.

Wentworth Lake (Clallam County): Unlawful to fish from a floating device equipped with an internal combustion engine.

West Evans Pond (Asotin County): Trout: No more than 2 trout over 13 inches in length may be retained.

West Twin River (Clallam County): First Saturday in June through October 31 season. Selective gear rules and release all fish.

Whatcom Creek (Whatcom County):

From mouth to stone bridge at Whatcom Falls Park: The first Saturday in June through last day in February season. Anti-snagging rule and night closure August 1 through December 31. Closed waters: Woburn Street Bridge upstream to the stone bridge. Trout: Minimum length fourteen inches. Salmon: Open only August 1 through December 31 from mouth to markers below Dupont Street. Daily limit 6 fish of which not more than 2 may be adult salmon. Anglers fishing lawfully, within 50 yards of the Bellingham Technical College Hatchery Collection Tube, and on the hatchery side of the creek, that hook and land chum salmon, may remove those chum salmon from the water and immediately place them unharmed into the Hatchery Collection Tube.

From stone bridge at Whatcom Falls Park upstream to Lake Whatcom: Last Saturday in April through October 31 season. Juveniles only. Anti-snagging rule and night closure August 1 through October 31. Trout: No minimum length.

Whatcom, Lake (Whatcom County): Last Saturday in April through October 31 season, except those waters between the Electric Avenue Bridge and the outlet dam are closed waters: Trout: Release cutthroat trout.

Whatcom, Lake, tributaries (Whatcom County): Closed waters.

Wheeler Creek (Klickitat County): Trout: Release all trout.

White Creek (Skagit County) (Sauk River tributary): First Saturday in June through October 31 season. All species: Selective gear rules and release all fish.

White River (Chelan County), from mouth upstream to White River Falls: Closed waters.

White (Stuck) River (Pierce County):

From mouth to R Street Bridge in Auburn: October 1 through last day in February season: October 1 through October 31 all species: Fly fishing only and release all fish. November 1 through last day in February. Selective gear rules. Trout: Minimum length fourteen inches. Anti-snagging rule and night closure October 1 through November 30.

From R Street Bridge to Highway 410 Bridge at Buckley: October 1 through October 31 season. Closed waters: Puget Power canal, including the screen bypass channel, above the screen at Dingle Basin. Anti-snagging rule and night closure. Trout: 14 inch minimum size.

From the Weyerhaeuser 6000 Road Bridge (Bridge Camp) to its source: July 1 through October 31 season. Anti-snagging rule and night closure October 1 through October 31. Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor July 1 through October 31. Trout: Minimum length fourteen inches. Whitefish: Additional November 1 through January 31 season. Whitefish gear rules apply.

Whitechuck River (Snohomish County): First Saturday in June through October 31 season. Trout: Legal to retain Dolly

Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

White Salmon River (Klickitat/Skamania counties):

From mouth to powerhouse: Bank fishing only downstream from the Highway 14 Bridge. August 1 through December 31: Anti-snagging rule. Year-round season, except game fish other than steelhead closed April 1 through July 31. Trout: Minimum length fourteen inches. Salmon and steelhead: Open April 1 through July 31, daily limit 2 salmon or 2 hatchery steelhead or one of each. Release wild Chinook. Salmon: Open August 1 through March 31. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho and wild Chinook.

From powerhouse to within four hundred feet of Northwestern Dam: November 16 to April 30 season, except salmon and steelhead, and trout closed April 1 through April 30. Trout: Minimum length fourteen inches. Salmon: Open November 16 through March 31. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho and wild Chinook. Salmon and steelhead: Open April 1 through June 15, daily limit two salmon or two hatchery steelhead or one of each. Release wild Chinook.

From gas pipeline crossing above Northwestern Lake to Gilmer Creek: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length twelve inches.

Wide Hollow Creek (Yakima County): Juveniles only.

Widgeon Lake (Grant County): April 1 through September 30 season.

Wildberry Lake (Mason County): Last Saturday in April through October 31 season.

Wildcat Lake (Kitsap County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Wilderness Lake (King County): Last Saturday in April through October 31 season. Salmon: Landlocked salmon rules apply.

Wilkeson Creek (Pierce County) (South Prairie Creek tributary) upstream of confluence with Gale Creek: First Saturday in June through October 31 season.

Willame Lake (Lewis County): Last Saturday in April through October 31 season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Daily limit two, minimum length fifteen inches.

Willapa River (Pacific County): Mouth to Highway 6 Bridge: The first Saturday in June through March 31 season. All game fish: Release all game fish except that up to two hatchery steelhead may be retained per day. All species: August 16 through November 30 night closure and single point barbless hooks required. August 16 through November 30 above the WDFW access at the mouth of Ward/Wilson Creek stationary gear restriction. Highway 6 Bridge to Fork Creek: The first Saturday in June through July 15 and Octo-

ber 16 through March 31 season. Night closure, single point barbless hooks, and stationary gear restriction October 16 through November 30. All game fish: Release all fish except that up to two hatchery steelhead may be retained. Salmon: Open only August 1 through January 31 from mouth to Highway 6 Bridge approximately 2 miles below mouth of Trap Creek and open October 16 through January 31 from Highway 6 Bridge to Fork Creek. Daily limit 6 fish, of which no more than 3 may be adult salmon. Release chum, wild coho, and wild Chinook.

Sturgeon: Open year-round from mouth to Highway 6 Bridge.

Upstream from Fork Creek: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. August 16 through October 31, anti-snagging rule and night closure. All species: Release all fish except up to two hatchery steelhead per day may be retained.

South Fork: The first Saturday in June through last day in February season. Selective gear rules and unlawful to fish from a floating device equipped with an internal combustion motor the first Saturday in June through October 31. Anti-snagging rule and night closure August 16 through November 30. All species: Release all fish except up to two hatchery steelhead may be retained.

Williams Creek (Pacific County): The first Saturday in June through last day in February season. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish except up to two hatchery steelhead per day may be retained.

Williams Lake (Spokane County): Last Saturday in April through September 30 season.

Williams Lake (Stevens County): December 1 through March 31 season. All species: Catch and release except up to five rainbow trout may be retained.

Wilson Creek (two branches within Ellensburg city limits) (Kittitas County): Juveniles only.

Winchester Wasteway (Grant County): Within Winchester Game Reserve: February 1 through September 30 season.

Wind River (Skamania County):

Mouth to four hundred feet below Shipherd Falls: July 1 through March 15 season, except salmon and steelhead. Trout: Minimum length fourteen inches. Night closure March 16 through June 30. May 1 through June 30: Anti-snagging rule from Burlington Northern Railroad Bridge upstream. August 1 through October 31: Anti-snagging rule. When anti-snagging rule is in effect, only fish hooked in the mouth may be retained. Salmon and steelhead: Open March 16 through June 30 daily limit 2 salmon or 2 hatchery steelhead or one of each. Release wild Chinook. Salmon: Open August 1 through October 31. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho and wild Chinook.

From four hundred feet below to one hundred feet above Shipherd Falls fish ladder: Closed waters.

From one hundred feet above Shipherd Falls to source, including all tributaries: Closed waters: From 400 feet

below to 100 feet above the Coffey Dam and from a boundary marker approximately 800 yards downstream from Carson National Fish Hatchery upstream, including all tributaries. May 1 through June 30: Anti-snagging rule and night closure. When anti-snagging rule is in effect, only fish hooked in the mouth may be retained. September 16 through November 30 season, except salmon. Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. All species: Release all fish. Salmon and additional steelhead season: Open May 1 through June 30. Daily limit 2 salmon or 2 hatchery steelhead or one of each.

Winston Creek (tributary to Cowlitz River) (Lewis County): Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length ten inches.

Wishkah River (Grays Harbor County), including all forks: Closed waters: From weir at Wishkah Rearing Ponds, downstream 200 feet. Trout: Minimum length fourteen inches. Mouth to mouth of the West Fork: The first Saturday in June through March 31 season. Single point barbless hooks required August 16 through November 30. Selective gear rules, unlawful to fish from floating device equipped with an internal combustion motor, and all species: Release all fish, except up to two hatchery steelhead may be retained per day, March 1 through March 31. Salmon: Open October 1 through December 31. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, Chinook, and wild coho.

From the mouth of the West Fork to two hundred feet below the weir at the Wishkah Rearing Ponds: The first Saturday in June through March 31 season. All species: March 1 through March 31, release all fish, except up to two hatchery steelhead may be retained per day, and selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Salmon: Open October 1 through December 31. Daily limit 6 fish, of which no more than 2 may be adult salmon. Release chum, Chinook, and wild coho.

Wolf Creek, mouth to mouth of south fork (Okanogan County): Closed waters.

Woodard Creek (Thurston County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum length 14 inches.

Wood Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Woodland Creek (Thurston County): First Saturday in June through October 31 season. Selective gear rules. Trout: Minimum length fourteen inches.

Wooten Lake (Mason County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two over 14 inches in length may be retained, except no size restriction for kokanee.

Wye Lake (Kitsap County): Last Saturday in April through October 31 season. Trout: Daily limit 5, no more than two

over 14 inches in length may be retained, except no size restriction for kokanee.

Wynoochee River (Grays Harbor County): Trout: Minimum length fourteen inches. Mouth to 7400 line bridge above mouth of Schafer Creek: The first Saturday in June through March 31 season. Single point barbless hooks required August 16 through November 30. All species: Bait prohibited September 16 through October 31.

7400 line bridge upstream: Additional December 1 through March 31 season. Selective gear rules. Fishing from a floating device prohibited. All species: Release all fish except up to two hatchery steelhead may be retained per day.

Wynoochee Reservoir (Grays Harbor County): The first Saturday in June through October 31 season. Trout: Daily limit two, minimum length twelve inches. Salmon: Landlocked salmon rules apply.

Yakima River (Yakima County): Release all steelhead in mainstem and tributaries. Channel catfish: No daily limit.

From mouth to 400 feet below Prosser Dam: March 1 through October 22 season. Closed waters: From the WDFW white markers 200 feet downstream of the USBR Chandler Powerhouse/Pumping Station spillway chute to the powerline crossing immediately upstream of the powerhouse September 1 through October 22. Chumming permitted. Trout: Release all trout. Salmon: Open only September 1 through October 22. Daily limit 6 fish of which not more than 2 may be adult salmon. All species: Anti-snagging rule and night closure September 1 through October 22.

From Prosser Dam to Highway 223 Bridge: May 1 through October 31 season. Trout: Release all trout.

From mouth to Highway 223 Bridge: Bass: Bass 12 to 17 inches in length may be retained. No daily limit for bass, but not more than 3 bass greater than 15 inches in length may be retained.

From Highway 223 Bridge to 400 feet below Sunnyside Dam: Trout: Minimum length twelve inches and maximum length twenty inches. Additional season December 1 through last day in February - Whitefish gear rules apply.

From Sunnyside Dam to thirty-five hundred feet below Roza Dam: Closed waters: From Yakima Avenue-Terrace Heights Bridge upstream 400 feet. All species: Selective gear rules. Unlawful to fish from a floating device equipped with an internal combustion motor. Trout: Minimum length twelve inches and maximum length twenty inches. Additional season December 1 through last day in February - Whitefish gear rules apply.

From thirty-five hundred feet below Roza Dam to Roza Dam December 1 through last day in February season. Whitefish gear rules apply.

From Roza Dam to four hundred feet below Easton Dam and from Lake Easton to the base of Keechelus Dam: Year-round season. Fishing from floating devices equipped with motors allowed only from the U.S. Bureau of Reclamation restricted area signs at Roza Dam upstream to the boat launch ramp on the Roza Access Area (approximately one-half mile). Selective gear rules except bait and one single point barbed hook three-sixteenths or smaller point to shank may be used December 1 through last day in February. Unlawful to fish from a floating device equipped with an internal com-

bustion motor December 1 through the last day of February.
Trout: From Roza Dam to 400 feet below Easton Dam:
Release all trout. Lake Easton to the base of Keechelus Dam.
Release all trout except eastern brook trout. Eastern brook
trout: No daily limit and no minimum size.

Yakima Sportsmen's Park Ponds (Yakima County): Juve-
niles only.

Yale Reservoir (Cowlitz County): Trout: Kokanee not
counted in daily trout limit. Kokanee daily limit sixteen.
Landlocked salmon rules.

Yellowhawk Creek (Walla Walla County): Closed waters.

Yellowjacket Creek (tributary to Cispus River) (Lewis
County): Selective gear rules. Unlawful to fish from a float-
ing device equipped with an internal combustion motor.
Trout: Minimum length twelve inches.

Yocum Lake (Pend Oreille County): Last Saturday in April
through October 31 season. Unlawful to use lead weights or
lead jigs that measure 1 1/2 inch or less along the longest
axis.

WSR 11-03-068

PERMANENT RULES

DEPARTMENT OF HEALTH

[Filed January 18, 2011, 9:24 a.m., effective February 18, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Chapter 246-221 WAC, Radiation protection
standards; chapter 246-231 WAC, Packaging and transporta-
tion of radioactive material; and chapter 246-240 WAC,
Radiation protection—Medical use of radioactive material.

The International Atomic Energy Agency has coordi-
nated international agreements that resulted in new transpor-
tation requirements for radioactive material. The Nuclear
Regulatory Commission (NRC) amended federal regulations
as a result of these agreements and made minor amendments
to medical use of radioactive material regulations. Under the
formal agreement between the governor of the state of Wash-
ington and the chairman of the NRC, the Washington state
radiation control program is required to remain compatible
with NRC regulations. These rules eliminate conflicts, dupli-
cations, and gaps between the NRC and Washington state's
radiation control programs.

Citation of Existing Rules Affected by this Order:
Amending WAC 246-221-290 Appendix A—Annual limits
on intake (ALI) and derived air concentrations (DAC) of
radionuclides for occupational exposure; effluent concentra-
tions; concentrations for release to sanitary sewerage, 246-
231-035 Deliberate misconduct, 246-231-200 Appendix A—
Determination of A1 and A2, 246-240-001 Purpose and
scope, 246-240-010 Definitions, 246-240-069 Training for
radiation safety officer, 246-240-072 Training for an autho-
rized medical physicist, 246-240-075 Training for an autho-
rized nuclear pharmacist, 246-240-078 Training for experi-
enced radiation safety officer, teletherapy or medical physi-
cist, authorized user, and nuclear pharmacist, 246-240-154
Training for uptake, dilution, and excretion studies, 246-240-

163 Training for imaging and localization studies, 246-240-
210 Training for use of unsealed radioactive material for
which a written directive is required, 246-240-213 Training
for the oral administration of sodium iodide I-131 requiring a
written directive in quantities less than or equal to 1.22 giga-
becquerels (33 millicuries), 246-240-216 Training for the
oral administration of sodium iodide I-131 requiring a written
directive in quantities greater than 1.22 gigabecquerels (33
millicuries), 246-240-219 Training for the parenteral admin-
istration of unsealed radioactive material requiring a written
directive, 246-240-278 Training for use of manual brachy-
therapy sources, 246-240-281 Training for ophthalmic use of
strontium-90, and 246-240-399 Training for use of remote
afterloader units, teletherapy units, and gamma stereotactic
radiosurgery units.

Statutory Authority for Adoption: RCW 70.98.050.

Adopted under notice filed as WSR 10-14-098 on July 6,
2010.

Number of Sections Adopted in Order to Comply with
Federal Statute: New 0, Amended 0, Repealed 0; Federal
Rules or Standards: New 0, Amended 18, Repealed 0; or
Recently Enacted State Statutes: New 0, Amended 0,
Repealed 0.

Number of Sections Adopted at Request of a Nongov-
ernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Ini-
tiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify,
Streamline, or Reform Agency Procedures: New 0,
Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule
Making: New 0, Amended 0, Repealed 0; Pilot Rule Mak-
ing: New 0, Amended 0, Repealed 0; or Other Alternative
Rule Making: New 0, Amended 18, Repealed 0.

Date Adopted: January 18, 2011.

Mary C. Selecky
Secretary

AMENDATORY SECTION (Amending WSR 09-06-003,
filed 2/18/09, effective 3/21/09)

**WAC 246-221-290 Appendix A—Annual limits on
intake (ALI) and derived air concentrations (DAC) of
radionuclides for occupational exposure; effluent concen-
trations; concentrations for release to sanitary sewerage.**
For each radionuclide, Table I 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 (micron) and for three classes (D,W,Y) of
radioactive material, which refer to their retention (approx-
imately days, weeks or years) in the pulmonary region of the
lung. This classification applies to a range of clearance half-
times for D if less than ten days, for W from ten to one hun-
dred days, and for Y greater than one hundred days. Table II
provides concentration limits for airborne and liquid effluents
released to the general environment. Table III provides con-
centration limits for discharges to sanitary sewerage.

Note: The values in Tables I, II, and III are presented in the com-
puter "E" notation. In this notation a value of 6E-02 repre-

sents 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 I "Occupational Values"

Note that the columns in Table I 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 given radionuclide by "Reference Man" which would result in either: A committed effective dose equivalent of 0.05 Sv (5 rem), stochastic ALI; or a committed dose equivalent of 0.5 Sv (50 rem) to an organ or tissue, nonstochastic 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 0.05 Sv (5 rem). 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 WAC 246-221-005. The nonstochastic ALIs were derived to avoid nonstochastic 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 portions 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 an extremity, elbows, arms below the elbows, feet and lower legs, knees, and legs below the knees, 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 nonstochastic 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 nonstochastic ALIs, will ensure that nonstochastic 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 nonstochastic ALI is limiting, use of that nonstochastic 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 0.5 Sv (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 equivalent 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, that is, $\sum (\text{intake (in } \mu\text{Ci) of each radionuclide}/ALI_{ns}) \leq 1.0$. 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 ≤ 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:

$$\text{DAC} = \text{ALI (in } \mu\text{Ci)}/(2000 \text{ hours per working year} \times 60 \text{ minutes/hour} \times 2 \times 10^4 \text{ ml per minute}) = [\text{ALI}/2.4 \times 10^9] \mu\text{Ci/ml,}$$

where 2×10^4 ml per minute 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. DACs 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 include contributions to exposure by the single radionuclide named and any in-growth of daughter radionuclides produced in the body by 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 values 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 irradiation. See WAC 246-221-015. When an individual is exposed to radioactive materials which fall under several of the translocation classifications of the same radionuclide, such as, Class D, Class W, or Class Y, 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 radionuclides. For this reason, values are given for Class D, W, and Y compounds, even for very short-lived radionuclides.

Table II "Effluent Concentrations"

The columns in Table II 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 WAC 246-221-070. The

concentration values given in Columns 1 and 2 of Table II 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 0.50 mSv (0.05 rem).

Consideration of nonstochastic limits has not been included in deriving the air and water effluent concentration limits because nonstochastic effects are presumed not to occur at or below the dose levels established for individual members of the public. For radionuclides, where the nonstochastic limit was governing in deriving the occupational DAC, the stochastic ALI was used in deriving the corresponding airborne effluent limit in Table II. For this reason, the DAC and airborne effluent limits are not always proportional as was the case in the previous Appendix A of this chapter.

The air concentration values listed in Table II, 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 , relating the inhalation ALI to the DAC, as explained above, and then divided by a factor of three hundred. The factor of three hundred includes the following components: A factor of fifty to relate the 0.05 Sv (5 rem) annual occupational dose limit to the 1 mSv (0.1 rem) limit for members of the public, a factor of three 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 two to adjust the occupational values, derived for adults, so that they are applicable to other age groups.

For those radionuclides for which submersion, that is external dose, is limiting, the occupational DAC in Table I, Column 3 was divided by two hundred nineteen. The factor of two hundred nineteen is composed of a factor of fifty, as

described above, and a factor of 4.38 relating occupational exposure for two thousand hours per year to full-time exposure (eight thousand seven hundred sixty hours per year). Note that an additional factor of two 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 fifty and two 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 releases to sewer, 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 as being present either from knowledge of the radionuclide composition of the source or from actual measurements.

Table III "Releases to Sewers"

The monthly average concentrations for release to sanitary sewerage are applicable to the provisions in WAC 246-221-190. 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 ten, 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 5 mSv (0.5 rem).

LIST OF ELEMENTS

Name	Symbol	Atomic Number	Name	Symbol	Atomic Number
Actinium	Ac	89	Molybdenum	Mo	42
Aluminum	Al	13	Neodymium	Nd	60
Americium	Am	95	Neptunium	Np	93
Antimony	Sb	51	Nickel	Ni	28
Argon	Ar	18	Nitrogen	N	7
Arsenic	As	33	Niobium	Nb	41
Astatine	At	85	Osmium	Os	76
Barium	Ba	56	Oxygen	O	8
Berkelium	Bk	97	Palladium	Pd	46
Beryllium	Be	4	Phosphorus	P	15
Bismuth	Bi	83	Platinum	Pt	78
Bromine	Br	35	Plutonium	Pu	94
Cadmium	Cd	48	Polonium	Po	84
Calcium	Ca	20	Potassium	K	19
Californium	Cf	98	Praseodymium	Pr	59

LIST OF ELEMENTS

Name	Symbol	Atomic Number	Name	Symbol	Atomic Number
Carbon	C	6	Promethium	Pm	61
Cerium	Ce	58	Protactinium	Pa	91
Cesium	Cs	55	Radium	Ra	88
Chlorine	Cl	17	Radon	Rn	86
Chromium	Cr	24	Rhenium	Re	75
Cobalt	Co	27	Rhodium	Rh	45
Copper	Cu	29	Rubidium	Rb	37
Curium	Cm	96	Ruthenium	Ru	44
Dysprosium	Dy	66	Samarium	Sm	62
Einsteinium	Es	99	Scandium	Sc	21
Erbium	Er	68	Selenium	Se	34
Europium	Eu	63	Silicon	Si	14
Fermium	Fm	100	Silver	Ag	47
Fluorine	F	9	Sodium	Na	11
Francium	Fr	87	Strontium	Sr	38
Gadolinium	Gd	64	Sulfur	S	16
Gallium	Ga	31	Tantalum	Ta	73
Germanium	Ge	32	Technetium	Tc	43
Gold	Au	79	Tellurium	Te	52
Hafnium	Hf	72	Terbium	Tb	65
Holmium	Ho	67	Thallium	Tl	81
Hydrogen	H	1	Thorium	Th	90
Indium	In	49	Thulium	Tm	69
Iodine	I	53	Tin	Sn	50
Iridium	Ir	77	Titanium	Ti	22
Iron	Fe	26	Tungsten	W	74
Krypton	Kr	36	Uranium	U	92
Lanthanum	La	57	Vanadium	V	23
Lead	Pb	82	Xenon	Xe	54
Lutetium	Lu	71	Ytterbium	Yb	70
Magnesium	Mg	12	Yttrium	Y	39
Manganese	Mn	25	Zinc	Zn	30
Mendelevium	Md	101	Zirconium	Zr	40
Mercury	Hg	80			

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air	Water	μCi/ml
			ALI μCi	ALI μCi	DAC μCi/ml	μCi/ml	μCi/ml	
1	Hydrogen-3	Water, DAC includes skin absorption	8E+4	8E+4	2E-5	1E-7	1E-3	1E-2

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
Gas (HT or T ₂) Submersion ¹ : Use above values as HT and T ₂ oxidize in air and in the body to HTO.								
4	Beryllium-7	W, all compounds except those given for Y	4E+4	2E+4	9E-6	3E-8	6E-4	6E-3
		Y, oxides, halides, and nitrates	-	2E+4	8E-6	3E-8	-	-
4	Beryllium-10	W, see ⁷ Be	1E+3	2E+2	6E-8	2E-10	-	-
		LLI wall (1E+3)	-	-	-	-	2E-5	2E-4
		Y, see ⁷ Be	-	1E+1	6E-9	2E-11	-	-
6	Carbon-11 ²	Monoxide	-	1E+6	5E-4	2E-6	-	-
		Dioxide	-	6E+5	3E-4	9E-7	-	-
		Compounds	4E+5	4E+5	2E-4	6E-7	6E-3	6E-2
6	Carbon-14	Monoxide	-	2E+6	7E-4	2E-6	-	-
		Dioxide	-	2E+5	9E-5	3E-7	-	-
		Compounds	2E+3	2E+3	1E-6	3E-9	3E-5	3E-4
7	Nitrogen-13 ²	Submersion ¹	-	-	4E-6	2E-8	-	-
8	Oxygen-15 ²	Submersion ¹	-	-	4E-6	2E-8	-	-
9	Fluorine-18 ²	D, fluorides of H, Li, Na, K, Rb, Cs, and Fr	5E+4	7E+4	3E-5	1E-7	-	-
		St wall (5E+4)	-	-	-	-	7E-4	7E-3
		W, fluorides of Be, Mg, Ca, Sr, Ba, Ra, Al, Ga, In, Tl, As, Sb, Bi, Fe, Ru, Os, Co, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, Sc, Y, Ti, Zr, V, Nb, Ta, Mn, Tc, and Re	-	9E+4	4E-5	1E-7	-	-
		Y, lanthanum fluoride	-	8E+4	3E-5	1E-7	-	-
11	Sodium-22	D, all compounds	4E+2	6E+2	3E-7	9E-10	6E-6	6E-5
11	Sodium-24	D, all compounds	4E+3	5E+3	2E-6	7E-9	5E-5	5E-4
12	Magnesium-28	D, all compounds except those given for W	7E+2	2E+3	7E-7	2E-9	9E-6	9E-5
		W, oxides, hydroxides, carbides, halides, and nitrates	-	1E+3	5E-7	2E-9	-	-
13	Aluminum-26	D, all compounds except those given for W	4E+2	6E+1	3E-8	9E-11	6E-6	6E-5
		W, oxides, hydroxides, carbides, halides, and nitrates	-	9E+1	4E-8	1E-10	-	-
14	Silicon-31	D, all compounds except those given for W and Y	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion ALI μCi	Inhalation ALI μCi DAC μCi/ml		Air μCi/ml	Water μCi/ml	μCi/ml
		W, oxides, hydroxides, carbides, and nitrates	-	3E+4	1E-5	5E-8	-	-
		Y, aluminosilicate glass	-	3E+4	1E-5	4E-8	-	-
14	Silicon-32	D, see ³¹ Si	2E+3	2E+2	1E-7	3E-10	-	-
		LLI wall (3E+3)	-	-	-	-	4E-5	4E-4
		W, see ³¹ Si	-	1E+2	5E-8	2E-10	-	-
		Y, see ³¹ Si	-	5E+0	2E-9	7E-12	-	-
15	Phosphorus-32	D, all compounds except phosphates given for W	6E+2	9E+2	4E-7	1E-9	9E-6	9E-5
		W, phosphates of Zn ²⁺ , S ³⁺ , Mg ²⁺ , Fe ³⁺ , Bi ³⁺ , and lanthanides	-	4E+2	2E-7	5E-10	-	-
15	Phosphorus-33	D, see ³² P	6E+3	8E+3	4E-6	1E-8	8E-5	8E-4
		W, see ³² P	-	3E+3	1E-6	4E-9	-	-
16	Sulfur-35	Vapor	-	1E+4	6E-6	2E-8	-	-
		D, sulfides and sulfates except those given for W	1E+4	2E+4	7E-6	2E-8	-	-
		LLI wall (8E+3)	-	-	-	-	1E-4	1E-3
		W, elemental sulfur, sulfides of Sr, Ba, Ge, Sn, Pb, As, Sb, Bi, Cu, Ag, Au, Zn, Cd, Hg, W, and Mo. Sulfates of Ca, Sr, Ba, Ra, As, Sb, and Bi	6E+3	-	-	-	-	-
			-	2E+3	9E-7	3E-9	-	-
17	Chlorine-36	D, chlorides of H, Li, Na, K, Rb, Cs, and Fr	2E+3	2E+3	1E-6	3E-9	2E-5	2E-4
		W, chlorides of lanthanides, Be, Mg, Ca, Sr, Ba, Ra, Al, Ga, In, Tl, Ge, Sn, Pb, As, Sb, Bi, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, Sc, Y, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W, Mn, Tc, and Re	-	2E+2	1E-7	3E-10	-	-
17	Chlorine-38 ²	D, see ³⁶ Cl	2E+4	4E+4	2E-5	6E-8	-	-
		St wall (3E+4)	-	-	-	-	3E-4	3E-3
		W, see ³⁶ Cl	-	5E+4	2E-5	6E-8	-	-
17	Chlorine-39 ²	D, see ³⁶ Cl	2E+4	5E+4	2E-5	7E-8	-	-
		St wall (4E+4)	-	-	-	-	5E-4	5E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
		W, see ³⁶ Cl	-	6E+4	2E-5	8E-8	-	-
18	Argon-37	Submersion ¹	-	-	1E+0	6E-3	-	-
18	Argon-39	Submersion ¹	-	-	2E-4	8E-7	-	-
18	Argon-41	Submersion ¹	-	-	3E-6	1E-8	-	-
19	Potassium-40	D, all compounds	3E+2	4E+2	2E-7	6E-10	4E-6	4E-5
19	Potassium-42	D, all compounds	5E+3	5E+3	2E-6	7E-9	6E-5	6E-4
19	Potassium-43	D, all compounds	6E+3	9E+3	4E-6	1E-8	9E-5	9E-4
19	Potassium-44 ²	D, all compounds	2E+4	7E+4	3E-5	9E-8	-	-
		St wall (4E+4)	-	-	-	-	5E-4	5E-3
19	Potassium-45 ²	D, all compounds	3E+4	1E+5	5E-5	2E-7	-	-
		St wall (5E+4)	-	-	-	-	7E-4	7E-3
20	Calcium-41	W, all compounds	3E+3	4E+3	2E-6	-	-	-
		Bone surf (4E+3)	-	Bone surf (4E+3)	-	5E-9	6E-5	6E-4
20	Calcium-45	W, all compounds	2E+3	8E+2	4E-7	1E-9	2E-5	2E-4
20	Calcium-47	W, all compounds	8E+2	9E+2	4E-7	1E-9	1E-5	1E-4
21	Scandium-43	Y, all compounds	7E+3	2E+4	9E-6	3E-8	1E-4	1E-3
21	Scandium-44m	Y, all compounds	5E+2	7E+2	3E-7	1E-9	7E-6	7E-5
21	Scandium-44	Y, all compounds	4E+3	1E+4	5E-6	2E-8	5E-5	5E-4
21	Scandium-46	Y, all compounds	9E+2	2E+2	1E-7	3E-10	1E-5	1E-4
21	Scandium-47	Y, all compounds	2E+3	3E+3	1E-6	4E-9	-	-
		LLI wall (3E+3)	-	-	-	-	4E-5	4E-4
21	Scandium-48	Y, all compounds	8E+2	1E+3	6E-7	2E-9	1E-5	1E-4
21	Scandium-49 ²	Y, all compounds	2E+4	5E+4	2E-5	8E-8	3E-4	3E-3
22	Titanium-44	D, all compounds except those given for W and Y	3E+2	1E+1	5E-9	2E-11	4E-6	4E-5

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
		W, oxides, hydroxides, carbides, halides, and nitrates	-	3E+1	1E-8	4E-11	-	-
		Y, SrTiO	-	6E+0	2E-9	8E-12	-	-
22	Titanium-45	D, see ⁴⁴ Ti	9E+3	3E+4	1E-5	3E-8	1E-4	1E-3
		W, see ⁴⁴ Ti	-	4E+4	1E-5	5E-8	-	-
		Y, see ⁴⁴ Ti	-	3E+4	1E-5	4E-8	-	-
23	Vanadium-472	D, all compounds except those given for W	3E+4	8E+4	3E-5	1E-7	-	-
			St wall (3E+4)	-	-	-	4E-4	4E-3
		W, oxides, hydroxides, carbides, and halides	-	1E+5	4E-5	1E-7	-	-
23	Vanadium-48	D, see ⁴⁷ V	6E+2	1E+3	5E-7	2E-9	9E-6	9E-5
		W, see ⁴⁷ V	-	6E+2	3E-7	9E-10	-	-
23	Vanadium-49	D, see ⁴⁷ V	7E+4	3E+4	1E-5	-	-	-
			LLI wall (9E+4)	Bone surf (3E+4)	-	5E-8	1E-3	1E-2
		W, see ⁴⁷ V	-	2E+4	8E-6	2E-8	-	-
24	Chromium-48	D, all compounds except those given for W and Y	6E+3	1E+4	5E-6	2E-8	8E-5	8E-4
		W, halides and nitrates	-	7E+3	3E-6	1E-8	-	-
		Y, oxides and hydroxides	-	7E+3	3E-6	1E-8	-	-
24	Chromium-49 ²	D, see ⁴⁸ Cr	3E+4	8E+4	4E-5	1E-7	4E-4	4E-3
		W, see ⁴⁸ Cr	-	1E+5	4E-5	1E-7	-	-
		Y, see ⁴⁸ Cr	-	9E+4	4E-5	1E-7	-	-
24	Chromium-51	D, see ⁴⁸ Cr	4E+4	5E+4	2E-5	6E-8	5E-4	5E-3
		W, see ⁴⁸ Cr	-	2E+4	1E-5	3E-8	-	-
		Y, see ⁴⁸ Cr	-	2E+4	8E-6	3E-8	-	-
25	Manganese-51 ²	D, all compounds except those given for W	2E+4	5E+4	2E-5	7E-8	3E-4	3E-3
		W, oxides, hydroxides, halides, and nitrates	-	6E+4	3E-5	8E-8	-	-
25	Manganese-52m ²	D, see ⁵¹ Mn	3E+4	9E+4	4E-5	1E-7	-	-
			St wall (4E+4)	-	-	-	5E-4	5E-3
		W, see ⁵¹ Mn	-	1E+5	4E-5	1E-7	-	-
25	Manganese-52	D, see ⁵¹ Mn	7E+2	1E+3	5E-7	2E-9	1E-5	1E-4
		W, see ⁵¹ Mn	-	9E+2	4E-7	1E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
25	Manganese-53	D, see ⁵¹ Mn	5E+4	1E+4	5E-6	-	7E-4	7E-3
		W, see ⁵¹ Mn	-	Bone surf (2E+4) 1E+4	- 5E-6	3E-8 2E-8	- -	- -
25	Manganese-54	D, see ⁵¹ Mn	2E+3	9E+2	4E-7	1E-9	3E-5	3E-4
		W, see ⁵¹ Mn	-	8E+2	3E-7	1E-9	-	-
25	Manganese-56	D, see ⁵¹ Mn	5E+3	2E+4	6E-6	2E-8	7E-5	7E-4
		W, see ⁵¹ Mn	-	2E+4	9E-6	3E-8	-	-
26	Iron-52	D, all compounds except those given for W	9E+2	3E+3	1E-6	4E-9	1E-5	1E-4
		W, oxides, hydroxides, and halides	-	2E+3	1E-6	3E-9	-	-
26	Iron-55	D, see ⁵² Fe	9E+3	2E+3	8E-7	3E-9	1E-4	1E-3
		W, see ⁵² Fe	-	4E+3	2E-6	6E-9	-	-
26	Iron-59	D, see ⁵² Fe	8E+2	3E+2	1E-7	5E-10	1E-5	1E-4
		W, see ⁵² Fe	-	5E+2	2E-7	7E-10	-	-
26	Iron-60	D, see ⁵² Fe	3E+1	6E+0	3E-9	9E-12	4E-7	4E-6
		W, see ⁵² Fe	-	2E+1	8E-9	3E-11	-	-
27	Cobalt-55	W, all compounds except those given for Y	1E+3	3E+3	1E-6	4E-9	2E-5	2E-4
		Y, oxides, hydroxides, halides, and nitrates	-	3E+3	1E-6	4E-9	-	-
27	Cobalt-56	W, see ⁵⁵ Co	5E+2	3E+2	1E-7	4E-10	6E-6	6E-5
		Y, see ⁵⁵ Co	4E+2	2E+2	8E-8	3E-10	-	-
27	Cobalt-57	W, see ⁵⁵ Co	8E+3	3E+3	1E-6	4E-9	6E-5	6E-4
		Y, see ⁵⁵ Co	4E+3	7E+2	3E-7	9E-10	-	-
27	Cobalt-58m	W, see ⁵⁵ Co	6E+4	9E+4	4E-5	1E-7	8E-4	8E-3
		Y, see ⁵⁵ Co	-	6E+4	3E-5	9E-8	-	-
27	Cobalt-58	W, see ⁵⁵ Co	2E+3	1E+3	5E-7	2E-9	2E-5	2E-4
		Y, see ⁵⁵ Co	1E+3	7E+2	3E-7	1E-9	-	-
27	Cobalt-60m ²	W, see ⁵⁵ Co	1E+6	4E+6	2E-3	6E-6	-	-
		St wall (1E+6)	-	-	-	-	2E-2	2E-1
27	Cobalt-60	W, see ⁵⁵ Co	5E+2	2E+2	7E-8	2E-10	3E-6	3E-5
		Y, see ⁵⁵ Co	2E+2	3E+1	1E-8	5E-11	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air $\mu\text{Ci/ml}$	Water $\mu\text{Ci/ml}$	$\mu\text{Ci/ml}$
				ALI μCi	ALI μCi			
27	Cobalt-61 ²	W, see ⁵⁵ Co	2E+4	6E+4	3E-5	9E-8	3E-4	3E-3
		Y, see ⁵⁵ Co	2E+4	6E+4	2E-5	8E-8	-	-
27	Cobalt-62m ²	W, see ⁵⁵ Co	4E+4	2E+5	7E-5	2E-7	-	-
		Y, see ⁵⁵ Co	St wall (5E+4)	-	-	-	7E-4	7E-3
28	Nickel-56	D, all compounds except those given for W	1E+3	2E+3	8E-7	3E-9	2E-5	2E-4
		W, oxides, hydroxides, and carbides	-	1E+3	5E-7	2E-9	-	-
		Vapor	-	1E+3	5E-7	2E-9	-	-
28	Nickel-57	D, see ⁵⁶ Ni	2E+3	5E+3	2E-6	7E-9	2E-5	2E-4
		W, see ⁵⁶ Ni	-	3E+3	1E-6	4E-9	-	-
		Vapor	-	6E+3	3E-6	9E-9	-	-
28	Nickel-59	D, see ⁵⁶ Ni	2E+4	4E+3	2E-6	5E-9	3E-4	3E-3
		W, see ⁵⁶ Ni	-	7E+3	3E-6	1E-8	-	-
		Vapor	-	2E+3	8E-7	3E-9	-	-
28	Nickel-63	D, see ⁵⁶ Ni	9E+3	2E+3	7E-7	2E-9	1E-4	1E-3
		W, see ⁵⁶ Ni	-	3E+3	1E-6	4E-9	-	-
		Vapor	-	8E+2	3E-7	1E-9	-	-
28	Nickel-65	D, see ⁵⁶ Ni	8E+3	2E+4	1E-5	3E-8	1E-4	1E-3
		W, see ⁵⁶ Ni	-	3E+4	1E-5	4E-8	-	-
		Vapor	-	2E+4	7E-6	2E-8	-	-
28	Nickel-66	D, see ⁵⁶ Ni	4E+2	2E+3	7E-7	2E-9	-	-
		LLI wall (5E+2)	-	-	-	6E-6	6E-5	
		W, see ⁵⁶ Ni	-	6E+2	3E-7	9E-10	-	-
		Vapor	-	3E+3	1E-6	4E-9	-	-
29	Copper-60 ²	D, all compounds except those given for W and Y	3E+4	9E+4	4E-5	1E-7	-	-
		St wall (3E+4)	-	-	-	4E-4	4E-3	
		W, sulfides, halides, and nitrates	-	1E+5	5E-5	2E-7	-	-
29	Copper-61	Y, oxides and hydroxides	-	1E+5	4E-5	1E-7	-	-
		D, see ⁶⁰ Cu	1E+4	3E+4	1E-5	4E-8	2E-4	2E-3
		W, see ⁶⁰ Cu	-	4E+4	2E-5	6E-8	-	-
		Y, see ⁶⁰ Cu	-	4E+4	1E-5	5E-8	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
29	Copper-64	D, see ⁶⁰ Cu	1E+4	3E+4	1E-5	4E-8	2E-4	2E-3
		W, see ⁶⁰ Cu	-	2E+4	1E-5	3E-8	-	-
		Y, see ⁶⁰ Cu	-	2E+4	9E-6	3E-8	-	-
29	Copper-67	D, see ⁶⁰ Cu	5E+3	8E+3	3E-6	1E-8	6E-5	6E-4
		W, see ⁶⁰ Cu	-	5E+3	2E-6	7E-9	-	-
		Y, see ⁶⁰ Cu	-	5E+3	2E-6	6E-9	-	-
30	Zinc-62	Y, all compounds	1E+3	3E+3	1E-6	4E-9	2E-5	2E-4
30	Zinc-63 ²	Y, all compounds	2E+4	7E+4	3E-5	9E-8	-	-
		St wall (3E+4)	-	-	-	-	3E-4	3E-3
30	Zinc-65	Y, all compounds	4E+2	3E+2	1E-7	4E-10	5E-6	5E-5
30	Zinc-69m	Y, all compounds	4E+3	7E+3	3E-6	1E-8	6E-5	6E-4
30	Zinc-69 ²	Y, all compounds	6E+4	1E+5	6E-5	2E-7	8E-4	8E-3
30	Zinc-71m	Y, all compounds	6E+3	2E+4	7E-6	2E-8	8E-5	8E-4
30	Zinc-72	Y, all compounds	1E+3	1E+3	5E-7	2E-9	1E-5	1E-4
31	Gallium-65 ²	D, all compounds except those given for W	5E+4	2E+5	7E-5	2E-7	-	-
		St wall (6E+4)	-	-	-	-	9E-4	9E-3
		W, oxides, hydroxides, carbides, halides, and nitrates	-	2E+5	8E-5	3E-7	-	-
31	Gallium-66	D, see ⁶⁵ Ga	1E+3	4E+3	1E-6	5E-9	1E-5	1E-4
		W, see ⁶⁵ Ga	-	3E+3	1E-6	4E-9	-	-
31	Gallium-67	D, see ⁶⁵ Ga	7E+3	1E+4	6E-6	2E-8	1E-4	1E-3
		W, see ⁶⁵ Ga	-	1E+4	4E-6	1E-8	-	-
31	Gallium-68 ²	D, see ⁶⁵ Ga	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see ⁶⁵ Ga	-	5E+4	2E-5	7E-8	-	-
31	Gallium-70 ²	D, see ⁶⁵ Ga	5E+4	2E+5	7E-5	2E-7	-	-
		St wall (7E+4)	-	-	-	-	1E-3	1E-2
		W, see ⁶⁵ Ga	-	2E+5	8E-5	3E-7	-	-
31	Gallium-72	D, see ⁶⁵ Ga	1E+3	4E+3	1E-6	5E-9	2E-5	2E-4
		W, see ⁶⁵ Ga	-	3E+3	1E-6	4E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air $\mu\text{Ci/ml}$	Water $\mu\text{Ci/ml}$	$\mu\text{Ci/ml}$
				ALI μCi	ALI μCi			
31	Gallium-73	D, see ⁶⁵ Ga W, see ⁶⁵ Ga	5E+3 -	2E+4 2E+4	6E-6 6E-6	2E-8 2E-8	7E-5 -	7E-4 -
32	Germanium-66	D, all compounds except those given for W W, oxides, sulfides, and halides	2E+4 -	3E+4 2E+4	1E-5 8E-6	4E-8 3E-8	3E-4 -	3E-3 -
32	Germanium-67 ²	D, see ⁶⁶ Ge St wall (4E+4) W, see ⁶⁶ Ge	3E+4 - -	9E+4 - 1E+5	4E-5 - 4E-5	1E-7 - 1E-7	- 6E-4 -	- 6E-3 -
32	Germanium-68	D, see ⁶⁶ Ge W, see ⁶⁶ Ge	5E+3 -	4E+3 1E+2	2E-6 4E-8	5E-9 1E-10	6E-5 -	6E-4 -
32	Germanium-69	D, see ⁶⁶ Ge W, see ⁶⁶ Ge	1E+4 -	2E+4 8E+3	6E-6 3E-6	2E-8 1E-8	2E-4 -	2E-3 -
32	Germanium-71	D, see ⁶⁶ Ge W, see ⁶⁶ Ge	5E+5 -	4E+5 4E+4	2E-4 2E-5	6E-7 6E-8	7E-3 -	7E-2 -
32	Germanium-75 ²	D, see ⁶⁶ Ge St wall (7E+4) W, see ⁶⁶ Ge	4E+4 - -	8E+4 - 8E+4	3E-5 - 4E-5	1E-7 - 1E-7	- 9E-4 -	- 9E-3 -
32	Germanium-77	D, see ⁶⁶ Ge W, see ⁶⁶ Ge	9E+3 -	1E+4 6E+3	4E-6 2E-6	1E-8 8E-9	1E-4 -	1E-3 -
32	Germanium-78 ²	D, see ⁶⁶ Ge St wall (2E+4) W, see ⁶⁶ Ge	2E+4 - -	2E+4 - 2E+4	9E-6 - 9E-6	3E-8 - 3E-8	- 3E-4 -	- 3E-3 -
33	Arsenic-69 ²	W, all compounds St wall (4E+4)	3E+4 - -	1E+5 - -	5E-5 - -	2E-7 - -	- 6E-4 -	- 6E-3 -
33	Arsenic-70 ²	W, all compounds	1E+4	5E+4	2E-5	7E-8	2E-4	2E-3
33	Arsenic-71	W, all compounds	4E+3	5E+3	2E-6	6E-9	5E-5	5E-4
33	Arsenic-72	W, all compounds	9E+2	1E+3	6E-7	2E-9	1E-5	1E-4
33	Arsenic-73	W, all compounds	8E+3	2E+3	7E-7	2E-9	1E-4	1E-3
33	Arsenic-74	W, all compounds	1E+3	8E+2	3E-7	1E-9	2E-5	2E-4
33	Arsenic-76	W, all compounds	1E+3	1E+3	6E-7	2E-9	1E-5	1E-4

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
33	Arsenic-77	W, all compounds	4E+3	5E+3	2E-6	7E-9	-	-
			LLI wall (5E+3)	-	-	-	6E-5	6E-4
33	Arsenic-78 ²	W, all compounds	8E+3	2E+4	9E-6	3E-8	1E-4	1E-3
34	Selenium-70 ²	D, all compounds except those given for W	2E+4	4E+4	2E-5	5E-8	1E-4	1E-3
		W, oxides, hydroxides, carbides, and elemental Se	1E+4	4E+4	2E-5	6E-8	-	-
34	Selenium-73m ²	D, see ⁷⁰ Se	6E+4	2E+5	6E-5	2E-7	4E-4	4E-3
		W, see ⁷⁰ Se	3E+4	1E+5	6E-5	2E-7	-	-
34	Selenium-73	D, see ⁷⁰ Se	3E+3	1E+4	5E-6	2E-8	4E-5	4E-4
		W, see ⁷⁰ Se	-	2E+4	7E-6	2E-8	-	-
34	Selenium-75	D, see ⁷⁰ Se	5E+2	7E+2	3E-7	1E-9	7E-6	7E-5
		W, see ⁷⁰ Se	-	6E+2	3E-7	8E-10	-	-
34	Selenium-79	D, see ⁷⁰ Se	6E+2	8E+2	3E-7	1E-9	8E-6	8E-5
		W, see ⁷⁰ Se	-	6E+2	2E-7	8E-10	-	-
34	Selenium-81m ²	D, see ⁷⁰ Se	4E+4	7E+4	3E-5	9E-8	3E-4	3E-3
		W, see ⁷⁰ Se	2E+4	7E+4	3E-5	1E-7	-	-
34	Selenium-81 ²	D, see ⁷⁰ Se	6E+4	2E+5	9E-5	3E-7	-	-
		St wall (8E+4)	-	-	-	-	1E-3	1E-2
		W, see ⁷⁰ Se	-	2E+5	1E-4	3E-7	-	-
34	Selenium-83 ²	D, see ⁷⁰ Se	4E+4	1E+5	5E-5	2E-7	4E-4	4E-3
		W, see ⁷⁰ Se	3E+4	1E+5	5E-5	2E-7	-	-
35	Bromine-74m ²	D, bromides of H, Li, Na, K, Rb, Cs, and Fr	1E+4	4E+4	2E-5	5E-8	-	-
		St wall (2E+4)	-	-	-	-	3E-4	3E-3
		W, bromides of lantha- nides, Be, Mg, Ca, Sr, Ba, Ra, Al, Ga, In, Tl, Ge, Sn, Pb, As, Sb, Bi, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, Sc, Y, Ti, Zr, Hf, V, Nb, Ta, Mn, Tc, and Re	-	4E+4	2E-5	6E-8	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air $\mu\text{Ci/ml}$	Water $\mu\text{Ci/ml}$	$\mu\text{Ci/ml}$
				ALI μCi	ALI μCi			
35	Bromine-74 ²	D, see ^{74m} Br	2E+4	7E+4	3E-5	1E-7	-	-
		St wall (4E+4)	-	-	-	5E-45E-3	-	-
		W, see ^{74m} Br	-	8E+4	4E-5	1E-7	-	-
35	Bromine-75 ²	D, see ^{74m} Br	3E+4	5E+4	2E-5	7E-8	-	-
		St wall (4E+4)	-	-	-	5E-4	5E-3	-
		W, see ^{74m} Br	-	5E+4	2E-5	7E-8	-	-
35	Bromine-76	D, see ^{74m} Br	4E+3	5E+3	2E-6	7E-9	5E-5	5E-4
		W, see ^{74m} Br	-	4E+3	2E-6	6E-9	-	-
35	Bromine-77	D, see ^{74m} Br	2E+4	2E+4	1E-5	3E-8	2E-4	2E-3
		W, see ^{74m} Br	-	2E+4	8E-6	3E-8	-	-
35	Bromine-80m	D, see ^{74m} Br	2E+4	2E+4	7E-6	2E-8	3E-4	3E-3
		W, see ^{74m} Br	-	1E+4	6E-6	2E-8	-	-
35	Bromine-80 ²	D, see ^{74m} Br	5E+4	2E+5	8E-5	3E-7	-	-
		St wall (9E+4)	-	-	-	1E-3	1E-2	-
		W, see ^{74m} Br	-	2E+5	9E-5	3E-7	-	-
35	Bromine-82	D, see ^{74m} Br	3E+3	4E+3	2E-6	6E-9	4E-5	4E-4
		W, see ^{74m} Br	-	4E+3	2E-6	5E-9	-	-
35	Bromine-83	D, see ^{74m} Br	5E+4	6E+4	3E-5	9E-8	-	-
		St wall (7E+4)	-	-	-	9E-4	9E-3	-
		W, see ^{74m} Br	-	6E+4	3E-5	9E-8	-	-
35	Bromine-84 ²	D, see ^{74m} Br	2E+4	6E+4	2E-5	8E-8	-	-
		St wall (3E+4)	-	-	-	4E-4	4E-3	-
		W, see ^{74m} Br	-	6E+4	3E-5	9E-8	-	-
36	Krypton-74 ²	Submersion ¹	-	-	3E-6	1E-8	-	-
36	Krypton-76	Submersion ¹	-	-	9E-6	4E-8	-	-
36	Krypton-77 ²	Submersion ¹	-	-	4E-6	2E-8	-	-
36	Krypton-79	Submersion ¹	-	-	2E-5	7E-8	-	-
36	Krypton-81	Submersion ¹	-	-	7E-4	3E-6	-	-
36	Krypton-83m ²	Submersion ¹	-	-	1E-2	5E-5	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
36	Krypton-85m	Submersion ¹	-	-	2E-5	1E-7	-	-
36	Krypton-85	Submersion ¹	-	-	1E-4	7E-7	-	-
36	Krypton-87 ²	Submersion ¹	-	-	5E-6	2E-8	-	-
36	Krypton-88	Submersion ¹	-	-	2E-6	9E-9	-	-
37	Rubidium-79 ²	D, all compounds	4E+4 St wall (6E+4)	1E+5	5E-5	2E-7	- 8E-4	- 8E-3
37	Rubidium-81m ²	D, all compounds	2E+5 St wall (3E+5)	3E+5	1E-4	5E-7	- 4E-3	- 4E-2
37	Rubidium-81	D, all compounds	4E+4	5E+4	2E-5	7E-8	5E-4	5E-3
37	Rubidium-82m	D, all compounds	1E+4	2E+4	7E-6	2E-8	2E-4	2E-3
37	Rubidium-83	D, all compounds	6E+2	1E+3	4E-7	1E-9	9E-6	9E-5
37	Rubidium-84	D, all compounds	5E+2	8E+2	3E-7	1E-9	7E-6	7E-5
37	Rubidium-86	D, all compounds	5E+2	8E+2	3E-7	1E-9	7E-6	7E-5
37	Rubidium-87	D, all compounds	1E+3	2E+3	6E-7	2E-9	1E-5	1E-4
37	Rubidium-88 ²	D, all compounds	2E+4 St wall (3E+4)	6E+4	3E-5	9E-8	- 4E-4	- 4E-3
37	Rubidium-89 ²	D, all compounds	4E+4 St wall (6E+4)	1E+5	6E-5	2E-7	- 9E-4	- 9E-3
38	Strontium-80 ²	D, all soluble compounds except SrTiO	4E+3	1E+4	5E-6	2E-8	6E-5	6E-4
		Y, all insoluble com- pounds and SrTiO	-	1E+4	5E-6	2E-8	-	-
38	Strontium-81 ²	D, see ⁸⁰ Sr	3E+4	8E+4	3E-5	1E-7	3E-4	3E-3
		Y, see ⁸⁰ Sr	2E+4	8E+4	3E-5	1E-7	-	-
38	Strontium-82	D, see ⁸⁰ Sr	3E+2	4E+2	2E-7	6E-10	-	-
		LLI wall (2E+2)	-	-	-	-	3E-6	3E-5
		Y, see ⁸⁰ Sr	2E+2	9E+1	4E-8	1E-10	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
38	Strontium-83	D, see ⁸⁰ Sr	3E+3	7E+3	3E-6	1E-8	3E-5	3E-4
		Y, see ⁸⁰ Sr	2E+3	4E+3	1E-6	5E-9	-	-
38	Strontium-85m ²	D, see ⁸⁰ Sr	2E+5	6E+5	3E-4	9E-7	3E-3	3E-2
		Y, see ⁸⁰ Sr	-	8E+5	4E-4	1E-6	-	-
38	Strontium-85	D, see ⁸⁰ Sr	3E+3	3E+3	1E-6	4E-9	4E-5	4E-4
		Y, see ⁸⁰ Sr	-	2E+3	6E-7	2E-9	-	-
38	Strontium-87m	D, see ⁸⁰ Sr	5E+4	1E+5	5E-5	2E-7	6E-4	6E-3
		Y, see ⁸⁰ Sr	4E+4	2E+5	6E-5	2E-7	-	-
38	Strontium-89	D, see ⁸⁰ Sr	6E+2	8E+2	4E-7	1E-9	-	-
		LLI wall (6E+2)	-	-	-	-	8E-6	8E-5
38	Strontium-90	Y, see ⁸⁰ Sr	5E+2	1E+2	6E-8	2E-10	-	-
		D, see ⁸⁰ Sr	3E+1	2E+1	8E-9	-	-	-
38	Strontium-91	Bone surf (4E+1)	-	Bone surf (2E+1)	-	3E-11	5E-7	5E-6
		Y, see ⁸⁰ Sr	-	4E+0	2E-9	6E-12	-	-
38	Strontium-91	D, see ⁸⁰ Sr	2E+3	6E+3	2E-6	8E-9	2E-5	2E-4
		Y, see ⁸⁰ Sr	-	4E+3	1E-6	5E-9	-	-
38	Strontium-92	D, see ⁸⁰ Sr	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4
		Y, see ⁸⁰ Sr	-	7E+3	3E-6	9E-9	-	-
39	Yttrium-86m ²	W, all compounds except those given for Y	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3
		Y, oxides and hydroxides	-	5E+4	2E-5	8E-8	-	-
39	Yttrium-86	W, see ^{86m} Y	1E+3	3E+3	1E-6	5E-9	2E-5	2E-4
		Y, see ^{86m} Y	-	3E+3	1E-6	5E-9	-	-
39	Yttrium-87	W, see ^{86m} Y	2E+3	3E+3	1E-6	5E-9	3E-5	3E-4
		Y, see ^{86m} Y	-	3E+3	1E-6	5E-9	-	-
39	Yttrium-88	W, see ^{86m} Y	1E+3	3E+2	1E-7	3E-10	1E-5	1E-4
		Y, see ^{86m} Y	-	2E+2	1E-7	3E-10	-	-
39	Yttrium-90m	W, see ^{86m} Y	8E+3	1E+4	5E-6	2E-8	1E-4	1E-3
		Y, see ^{86m} Y	-	1E+4	5E-6	2E-8	-	-
39	Yttrium-90	W, see ^{86m} Y	4E+2	7E+2	3E-7	9E-10	-	-
		LLI wall (5E+2)	-	-	-	-	7E-6	7E-5

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
		Y, see ^{86m} Y	-	6E+2	3E-7	9E-10	-	-
39	Yttrium-91m ²	W, see ^{86m} Y	1E+5	2E+5	1E-4	3E-7	2E-3	2E-2
		Y, see ^{86m} Y	-	2E+5	7E-5	2E-7	-	-
39	Yttrium-91	W, see ^{86m} Y	5E+2	2E+2	7E-8	2E-10	-	-
		LLI wall (6E+2)	-	-	-	-	8E-6	8E-5
		Y, see ^{86m} Y	-	1E+2	5E-8	2E-10	-	-
39	Yttrium-92	W, see ^{86m} Y	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4
		Y, see ^{86m} Y	-	8E+3	3E-6	1E-8	-	-
39	Yttrium-93	W, see ^{86m} Y	1E+3	3E+3	1E-6	4E-9	2E-5	2E-4
		Y, see ^{86m} Y	-	2E+3	1E-6	3E-9	-	-
39	Yttrium-94 ²	W, see ^{86m} Y	2E+4	8E+4	3E-5	1E-7	-	-
		St wall (3E+4)	-	-	-	-	4E-4	4E-3
		Y, see ^{86m} Y	-	8E+4	3E-5	1E-7	-	-
39	Yttrium-95 ²	W, see ^{86m} Y	4E+4	2E+5	6E-5	2E-7	-	-
		St wall (5E+4)	-	-	-	-	7E-4	7E-3
		Y, see ^{86m} Y	-	1E+5	6E-5	2E-7	-	-
40	Zirconium-86	D, all compounds except those given for W and Y	1E+3	4E+3	2E-6	6E-9	2E-5	2E-4
		W, oxides, hydroxides, halides, and nitrates	-	3E+3	1E-6	4E-9	-	-
		Y, carbide	-	2E+3	1E-6	3E-9	-	-
40	Zirconium-88	D, see ⁸⁶ Zr	4E+3	2E+2	9E-8	3E-10	5E-5	5E-4
		W, see ⁸⁶ Zr	-	5E+2	2E-7	7E-10	-	-
		Y, see ⁸⁶ Zr	-	3E+2	1E-7	4E-10	-	-
40	Zirconium-89	D, see ⁸⁶ Zr	2E+3	4E+3	1E-6	5E-9	2E-5	2E-4
		W, see ⁸⁶ Zr	-	2E+3	1E-6	3E-9	-	-
		Y, see ⁸⁶ Zr	-	2E+3	1E-6	3E-9	-	-
40	Zirconium-93	D, see ⁸⁶ Zr	1E+3	6E+0	3E-9	-	-	-
		Bone surf (3E+3)	-	Bone surf (2E+1)	-	2E-11	4E-5	4E-4
		W, see ⁸⁶ Zr	-	2E+1	1E-8	-	-	-
		Bone surf (6E+1)	-	Bone surf (6E+1)	-	9E-11	-	-
		Y, see ⁸⁶ Zr	-	6E+1	2E-8	-	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration μCi/ml
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	
				ALI μCi	ALI μCi			
			-	Bone surf (7E+1)	-	9E-11	-	-
40	Zirconium-95	D, see ⁸⁶ Zr	1E+3	1E+2	5E-8	-	2E-5	2E-4
			-	Bone surf (3E+2)	-	4E-10	-	-
		W, see ⁸⁶ Zr	-	4E+2	2E-7	5E-10	-	-
		Y, see ⁸⁶ Zr	-	3E+2	1E-7	4E-10	-	-
40	Zirconium-97	D, see ⁸⁶ Zr	6E+2	2E+3	8E-7	3E-9	9E-6	9E-5
		W, see ⁸⁶ Zr	-	1E+3	6E-7	2E-9	-	-
		Y, see ⁸⁶ Zr	-	1E+3	5E-7	2E-9	-	-
41	Niobium-88 ²	W, all compounds except those given for Y	5E+4	2E+5	9E-5	3E-7	-	-
			St wall (7E+4)	-	-	-	1E-3	1E-2
		Y, oxides and hydroxides	-	2E+5	9E-5	3E-7	-	-
41	Niobium-89 ² (66 min)	W, see ⁸⁸ Nb	1E+4	4E+4	2E-5	6E-8	1E-4	1E-3
		Y, see ⁸⁸ Nb	-	4E+4	2E-5	5E-8	-	-
41	Niobium-89 (122 min)	W, see ⁸⁸ Nb	5E+3	2E+4	8E-6	3E-8	7E-5	7E-4
		Y, see ⁸⁸ Nb	-	2E+4	6E-6	2E-8	-	-
41	Niobium-90	W, see ⁸⁸ Nb	1E+3	3E+3	1E-6	4E-9	1E-5	1E-4
		Y, see ⁸⁸ Nb	-	2E+3	1E-6	3E-9	-	-
41	Niobium-93m	W, see ⁸⁸ Nb	9E+3	2E+3	8E-7	3E-9	-	-
			LLI wall (1E+4)	-	-	-	2E-4	2E-3
		Y, see ⁸⁸ Nb	-	2E+2	7E-8	2E-10	-	-
41	Niobium-94	W, see ⁸⁸ Nb	9E+2	2E+2	8E-8	3E-10	1E-5	1E-4
		Y, see ⁸⁸ Nb	-	2E+1	6E-9	2E-11	-	-
41	Niobium-95m	W, see ⁸⁸ Nb	2E+3	3E+3	1E-6	4E-9	-	-
			LLI wall (2E+3)	-	-	-	3E-5	3E-4
		Y, see ⁸⁸ Nb	-	2E+3	9E-7	3E-9	-	-
41	Niobium-95	W, see ⁸⁸ Nb	2E+3	1E+3	5E-7	2E-9	3E-5	3E-4
		Y, see ⁸⁸ Nb	-	1E+3	5E-7	2E-9	-	-
41	Niobium-96	W, see ⁸⁸ Nb	1E+3	3E+3	1E-6	4E-9	2E-5	2E-4
		Y, see ⁸⁸ Nb	-	2E+3	1E-6	3E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
41	Niobium-97 ²	W, see ⁸⁸ Nb	2E+4	8E+4	3E-5	1E-7	3E-4	3E-3
		Y, see ⁸⁸ Nb	-	7E+4	3E-5	1E-7	-	-
41	Niobium-98 ²	W, see ⁸⁸ Nb	1E+4	5E+4	2E-5	8E-8	2E-4	2E-3
		Y, see ⁸⁸ Nb	-	5E+4	2E-5	7E-8	-	-
42	Molybdenum-90	D, all compounds except those given for Y	4E+3	7E+3	3E-6	1E-8	3E-5	3E-4
		Y, oxides, hydroxides, and MoS	2E+3	5E+3	2E-6	6E-9	-	-
42	Molybdenum-93m	D, see ⁹⁰ Mo	9E+3	2E+4	7E-6	2E-8	6E-5	6E-4
		Y, see ⁹⁰ Mo	4E+3	1E+4	6E-6	2E-8	-	-
42	Molybdenum-93	D, see ⁹⁰ Mo	4E+3	5E+3	2E-6	8E-9	5E-5	5E-4
		Y, see ⁹⁰ Mo	2E+4	2E+2	8E-8	2E-10	-	-
42	Molybdenum-99	D, see ⁹⁰ Mo	2E+3	3E+3	1E-6	4E-9	-	-
		LLI wall (1E+3)	-	-	-	2E-5	2E-4	
		Y, see ⁹⁰ Mo	1E+3	1E+3	6E-7	2E-9	-	-
42	Molybdenum-101 ²	D, see ⁹⁰ Mo	4E+4	1E+5	6E-5	2E-7	-	-
		St wall (5E+4)	-	-	-	7E-4	7E-3	
		Y, see ⁹⁰ Mo	-	1E+5	6E-5	2E-7	-	-
43	Technetium-93m ²	D, all compounds except those given for W	7E+4	2E+5	6E-5	2E-7	1E-3	1E-2
		W, oxides, hydroxides, halides, and nitrates	-	3E+5	1E-4	4E-7	-	-
43	Technetium-93	D, see ^{93m} Tc	3E+4	7E+4	3E-5	1E-7	4E-4	4E-3
		W, see ^{93m} Tc	-	1E+5	4E-5	1E-7	-	-
43	Technetium-94m ²	D, see ^{93m} Tc	2E+4	4E+4	2E-5	6E-8	3E-4	3E-3
		W, see ^{93m} Tc	-	6E+4	2E-5	8E-8	-	-
43	Technetium-94	D, see ^{93m} Tc	9E+3	2E+4	8E-6	3E-8	1E-4	1E-3
		W, see ^{93m} Tc	-	2E+4	1E-5	3E-8	-	-
43	Technetium-95m	D, see ^{93m} Tc	4E+3	5E+3	2E-6	8E-9	5E-5	5E-4
		W, see ^{93m} Tc	-	2E+3	8E-7	3E-9	-	-
43	Technetium-95	D, see ^{93m} Tc	1E+4	2E+4	9E-6	3E-8	1E-4	1E-3
		W, see ^{93m} Tc	-	2E+4	8E-6	3E-8	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
43	Technetium-96m ²	D, see ^{93m} Tc	2E+5	3E+5	1E-4	4E-7	2E-3	2E-2
		W, see ^{93m} Tc	-	2E+5	1E-4	3E-7	-	-
43	Technetium-96	D, see ^{93m} Tc	2E+3	3E+3	1E-6	5E-9	3E-5	3E-4
		W, see ^{93m} Tc	-	2E+3	9E-7	3E-9	-	-
43	Technetium-97m	D, see ^{93m} Tc	5E+3	7E+3	3E-6	-	6E-5	6E-4
			-	St wall (7E+3)	-	1E-8	-	-
		W, see ^{93m} Tc	-	1E+3	5E-7	2E-9	-	-
43	Technetium-97	D, see ^{93m} Tc	4E+4	5E+4	2E-5	7E-8	5E-4	5E-3
		W, see ^{93m} Tc	-	6E+3	2E-6	8E-9	-	-
43	Technetium-98	D, see ^{93m} Tc	1E+3	2E+3	7E-7	2E-9	1E-5	1E-4
		W, see ^{93m} Tc	-	3E+2	1E-7	4E-10	-	-
43	Technetium-99m	D, see ^{93m} Tc	8E+4	2E+5	6E-5	2E-7	1E-3	1E-2
		W, see ^{93m} Tc	-	2E+5	1E-4	3E-7	-	-
43	Technetium-99	D, see ^{93m} Tc	4E+3	5E+3	2E-6	-	6E-5	6E-4
			-	St wall (6E+3)	-	8E-9	-	-
		W, see ^{93m} Tc	-	7E+2	3E-7	9E-10	-	-
43	Technetium-101 ²	D, see ^{93m} Tc	9E+4	3E+5	1E-4	5E-7	-	-
			-	St wall (1E+5)	-	-	2E-3	2E-2
		W, see ^{93m} Tc	-	4E+5	2E-4	5E-7	-	-
43	Technetium-104 ²	D, see ^{93m} Tc	2E+4	7E+4	3E-5	1E-7	-	-
			-	St wall (3E+4)	-	-	4E-4	4E-3
		W, see ^{93m} Tc	-	9E+4	4E-5	1E-7	-	-
44	Ruthenium-94 ²	D, all compounds except those given for W and Y	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, halides	-	6E+4	3E-5	9E-8	-	-
		Y, oxides and hydroxides	-	6E+4	2E-5	8E-8	-	-
44	Ruthenium-97	D, see ⁹⁴ Ru	8E+3	2E+4	8E-6	3E-8	1E-4	1E-3
		W, see ⁹⁴ Ru	-	1E+4	5E-6	2E-8	-	-
		Y, see ⁹⁴ Ru	-	1E+4	5E-6	2E-8	-	-
44	Ruthenium-103	D, see ⁹⁴ Ru	2E+3	2E+3	7E-7	2E-9	3E-5	3E-4
		W, see ⁹⁴ Ru	-	1E+3	4E-7	1E-9	-	-
		Y, see ⁹⁴ Ru	-	6E+2	3E-7	9E-10	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
44	Ruthenium-105	D, see ⁹⁴ Ru	5E+3	1E+4	6E-6	2E-8	7E-5	7E-4
		W, see ⁹⁴ Ru	-	1E+4	6E-6	2E-8	-	-
		Y, see ⁹⁴ Ru	-	1E+4	5E-6	2E-8	-	-
44	Ruthenium-106	D, see ⁹⁴ Ru	2E+2	9E+1	4E-8	1E-10	-	-
		LLI wall (2E+2)	-	-	-	3E-6	3E-5	
		W, see ⁹⁴ Ru	-	5E+1	2E-8	8E-11	-	-
		Y, see ⁹⁴ Ru	-	1E+1	5E-9	2E-11	-	-
45	Rhodium-99m	D, all compounds except those given for W and Y	2E+4	6E+4	2E-5	8E-8	2E-4	2E-3
		W, halides	-	8E+4	3E-5	1E-7	-	-
		Y, oxides and hydroxides	-	7E+4	3E-5	9E-8	-	-
45	Rhodium-99	D, see ^{99m} Rh	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4
		W, see ^{99m} Rh	-	2E+3	9E-7	3E-9	-	-
		Y, see ^{99m} Rh	-	2E+3	8E-7	3E-9	-	-
45	Rhodium-100	D, see ^{99m} Rh	2E+3	5E+3	2E-6	7E-9	2E-5	2E-4
		W, see ^{99m} Rh	-	4E+3	2E-6	6E-9	-	-
		Y, see ^{99m} Rh	-	4E+3	2E-6	5E-9	-	-
45	Rhodium-101m	D, see ^{99m} Rh	6E+3	1E+4	5E-6	2E-8	8E-5	8E-4
		W, see ^{99m} Rh	-	8E+3	4E-6	1E-8	-	-
		Y, see ^{99m} Rh	-	8E+3	3E-6	1E-8	-	-
45	Rhodium-101	D, see ^{99m} Rh	2E+3	5E+2	2E-7	7E-10	3E-5	3E-4
		W, see ^{99m} Rh	-	8E+2	3E-7	1E-9	-	-
		Y, see ^{99m} Rh	-	2E+2	6E-8	2E-10	-	-
45	Rhodium-102m	D, see ^{99m} Rh	1E+3	5E+2	2E-7	7E-10	-	-
		LLI wall (1E+3)	-	-	-	2E-5	2E-4	
		W, see ^{99m} Rh	-	4E+2	2E-7	5E-10	-	-
		Y, see ^{99m} Rh	-	1E+2	5E-8	2E-10	-	-
45	Rhodium-102	D, see ^{99m} Rh	6E+2	9E+1	4E-8	1E-10	8E-6	8E-5
		W, see ^{99m} Rh	-	2E+2	7E-8	2E-10	-	-
		Y, see ^{99m} Rh	-	6E+1	2E-8	8E-11	-	-
45	Rhodium-103m ²	D, see ^{99m} Rh	4E+5	1E+6	5E-4	2E-6	6E-3	6E-2
		W, see ^{99m} Rh	-	1E+6	5E-4	2E-6	-	-
		Y, see ^{99m} Rh	-	1E+6	5E-4	2E-6	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion ALI μCi	Inhalation ALI μCi	DAC μCi/ml	Air μCi/ml	Water μCi/ml	μCi/ml
45	Rhodium-105	D, see ^{99m} Rh	4E+3	1E+4	5E-6	2E-8	-	-
			LLI wall (4E+3)	-	-	-	5E-5	5E-4
		W, see ^{99m} Rh	-	6E+3	3E-6	9E-9	-	-
		Y, see ^{99m} Rh	-	6E+3	2E-6	8E-9	-	-
45	Rhodium-106m	D, see ^{99m} Rh	8E+3	3E+4	1E-5	4E-8	1E-4	1E-3
		W, see ^{99m} Rh	-	4E+4	2E-5	5E-8	-	-
		Y, see ^{99m} Rh	-	4E+4	1E-5	5E-8	-	-
45	Rhodium-107 ²	D, see ^{99m} Rh	7E+4	2E+5	1E-4	3E-7	-	-
			St wall (9E+4)	-	-	-	1E-3	1E-2
		W, see ^{99m} Rh	-	3E+5	1E-4	4E-7	-	-
		Y, see ^{99m} Rh	-	3E+5	1E-4	3E-7	-	-
46	Palladium-100	D, all compounds except those given for W and Y	1E+3	1E+3	6E-7	2E-9	2E-5	2E-4
		W, nitrates	-	1E+3	5E-7	2E-9	-	-
		Y, oxides and hydroxides	-	1E+3	6E-7	2E-9	-	-
46	Palladium-101	D, see ¹⁰⁰ Pd	1E+4	3E+4	1E-5	5E-8	2E-4	2E-3
		W, see ¹⁰⁰ Pd	-	3E+4	1E-5	5E-8	-	-
		Y, see ¹⁰⁰ Pd	-	3E+4	1E-5	4E-8	-	-
46	Palladium-103	D, see ¹⁰⁰ Pd	6E+3	6E+3	3E-6	9E-9	-	-
			LLI wall (7E+3)	-	-	-	1E-4	1E-3
		W, see ¹⁰⁰ Pd	-	4E+3	2E-6	6E-9	-	-
		Y, see ¹⁰⁰ Pd	-	4E+3	1E-6	5E-9	-	-
46	Palladium-107	D, see ¹⁰⁰ Pd	3E+4	2E+4	9E-6	-	-	-
			LLI wall (4E+4)	Kidneys (2E+4)	-	3E-8	5E-4	5E-3
		W, see ¹⁰⁰ Pd	-	7E+3	3E-6	1E-8	-	-
		Y, see ¹⁰⁰ Pd	-	4E+2	2E-7	6E-10	-	-
46	Palladium-109	D, see ¹⁰⁰ Pd	2E+3	6E+3	3E-6	9E-9	3E-5	3E-4
		W, see ¹⁰⁰ Pd	-	5E+3	2E-6	8E-9	-	-
		Y, see ¹⁰⁰ Pd	-	5E+3	2E-6	6E-9	-	-
47	Silver-102 ²	D, all compounds except those given for W and Y	5E+4	2E+5	8E-5	2E-7	-	-
			St wall (6E+4)	-	-	-	9E-4	9E-3
		W, nitrates and sulfides	-	2E+5	9E-5	3E-7	-	-
		Y, oxides and hydroxides	-	2E+5	8E-5	3E-7	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
47	Silver-103 ²	D, see ¹⁰² Ag	4E+4	1E+5	4E-5	1E-7	5E-4	5E-3
		W, see ¹⁰² Ag	-	1E+5	5E-5	2E-7	-	-
		Y, see ¹⁰² Ag	-	1E+5	5E-5	2E-7	-	-
47	Silver-104m ²	D, see ¹⁰² Ag	3E+4	9E+4	4E-5	1E-7	4E-4	4E-3
		W, see ¹⁰² Ag	-	1E+5	5E-5	2E-7	-	-
		Y, see ¹⁰² Ag	-	1E+5	5E-5	2E-7	-	-
47	Silver-104 ²	D, see ¹⁰² Ag	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3
		W, see ¹⁰² Ag	-	1E+5	6E-5	2E-7	-	-
		Y, see ¹⁰² Ag	-	1E+5	6E-5	2E-7	-	-
47	Silver-105	D, see ¹⁰² Ag	3E+3	1E+3	4E-7	1E-9	4E-5	4E-4
		W, see ¹⁰² Ag	-	2E+3	7E-7	2E-9	-	-
		Y, see ¹⁰² Ag	-	2E+3	7E-7	2E-9	-	-
47	Silver-106m	D, see ¹⁰² Ag	8E+2	7E+2	3E-7	1E-9	1E-5	1E-4
		W, see ¹⁰² Ag	-	9E+2	4E-7	1E-9	-	-
		Y, see ¹⁰² Ag	-	9E+2	4E-7	1E-9	-	-
47	Silver-106 ²	D, see ¹⁰² Ag	6E+4	2E+5	8E-5	3E-7	-	-
		St. wall (6E+4)	-	-	-	-	9E-4	9E-3
		W, see ¹⁰² Ag	-	2E+5	9E-5	3E-7	-	-
47	Silver-108m	D, see ¹⁰² Ag	6E+2	2E+2	8E-8	3E-10	9E-6	9E-5
		W, see ¹⁰² Ag	-	3E+2	1E-7	4E-10	-	-
		Y, see ¹⁰² Ag	-	2E+1	1E-8	3E-11	-	-
47	Silver-110m	D, see ¹⁰² Ag	5E+2	1E+2	5E-8	2E-10	6E-6	6E-5
		W, see ¹⁰² Ag	-	2E+2	8E-8	3E-10	-	-
		Y, see ¹⁰² Ag	-	9E+1	4E-8	1E-10	-	-
47	Silver-111	D, see ¹⁰² Ag	9E+2	2E+3	6E-7	-	-	-
		LLI wall (1E+3)	-	Liver (2E+3)	-	2E-9	2E-5	2E-4
		W, see ¹⁰² Ag	-	9E+2	4E-7	1E-9	-	-
47	Silver-112	D, see ¹⁰² Ag	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
		W, see ¹⁰² Ag	-	1E+4	4E-6	1E-8	-	-
		Y, see ¹⁰² Ag	-	9E+3	4E-6	1E-8	-	-
47	Silver-115 ²	D, see ¹⁰² Ag	3E+4	9E+4	4E-5	1E-7	-	-
		St wall (3E+4)	-	-	-	-	4E-4	4E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
		W, see ¹⁰² Ag	-	9E+4	4E-5	1E-7	-	-
		Y, see ¹⁰² Ag	-	8E+4	3E-5	1E-7	-	-
48	Cadmium-104 ²	D, all compounds except those given for W and Y	2E+4	7E+4	3E-5	9E-8	3E-4	3E-3
		W, sulfides, halides, and nitrates	-	1E+5	5E-5	2E-7	-	-
		Y, oxides and hydroxides	-	1E+5	5E-5	2E-7	-	-
48	Cadmium-107	D, see ¹⁰⁴ Cd	2E+4	5E+4	2E-5	8E-8	3E-4	3E-3
		W, see ¹⁰⁴ Cd	-	6E+4	2E-5	8E-8	-	-
		Y, see ¹⁰⁴ Cd	-	5E+4	2E-5	7E-8	-	-
48	Cadmium-109	D, see ¹⁰⁴ Cd	3E+2	4E+1	1E-8	-	-	-
		Kidneys (4E+2)	-	Kidneys (5E+1)	-	7E-11	6E-6	6E-5
		W, see ¹⁰⁴ Cd	-	1E+2	5E-8	-	-	-
		Kidneys (1E+2)	-	-	2E-10	-	-	-
		Y, see ¹⁰⁴ Cd	-	1E+2	5E-8	2E-10	-	-
48	Cadmium-113m	D, see ¹⁰⁴ Cd	2E+1	2E+0	1E-9	-	-	-
		Kidneys (4E+1)	-	Kidneys (4E+0)	-	5E-12	5E-7	5E-6
		W, see ¹⁰⁴ Cd	-	8E+0	4E-9	-	-	-
		Kidneys (1E+1)	-	-	2E-11	-	-	-
		Y, see ¹⁰⁴ Cd	-	1E+1	5E-9	2E-11	-	-
48	Cadmium-113	D, see ¹⁰⁴ Cd	2E+1	2E+0	9E-10	-	-	-
		Kidneys (3E+1)	-	Kidneys (3E+0)	-	5E-12	4E-7	4E-6
		W, see ¹⁰⁴ Cd	-	8E+0	3E-9	-	-	-
		Kidneys (1E+1)	-	-	2E-11	-	-	-
		Y, see ¹⁰⁴ Cd	-	1E+1	6E-9	2E-11	-	-
48	Cadmium-115m	D, see ¹⁰⁴ Cd	3E+2	5E+1	2E-8	-	4E-6	4E-5
		Kidneys (8E+1)	-	-	1E-10	-	-	-
		W, see ¹⁰⁴ Cd	-	1E+2	5E-8	2E-10	-	-
		Y, see ¹⁰⁴ Cd	-	1E+2	6E-8	2E-10	-	-
48	Cadmium-115	D, see ¹⁰⁴ Cd	9E+2	1E+3	6E-7	2E-9	-	-
		LLI wall (1E+3)	-	-	-	-	1E-5	1E-4
		W, see ¹⁰⁴ Cd	-	1E+3	5E-7	2E-9	-	-
		Y, see ¹⁰⁴ Cd	-	1E+3	6E-7	2E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
48	Cadmium-117m	D, see ¹⁰⁴ Cd	5E+3	1E+4	5E-6	2E-8	6E-5	6E-4
		W, see ¹⁰⁴ Cd	-	2E+4	7E-6	2E-8	-	-
		Y, see ¹⁰⁴ Cd	-	1E+4	6E-6	2E-8	-	-
48	Cadmium-117	D, see ¹⁰⁴ Cd	5E+3	1E+4	5E-6	2E-8	6E-5	6E-4
		W, see ¹⁰⁴ Cd	-	2E+4	7E-6	2E-8	-	-
		Y, see ¹⁰⁴ Cd	-	1E+4	6E-6	2E-8	-	-
49	Indium-109	D, all compounds except those given for W	2E+4	4E+4	2E-5	6E-8	3E-4	3E-3
		W, oxides, hydroxides, halides, and nitrates	-	6E+4	3E-5	9E-8	-	-
49	Indium-110 ² (69.1 min)	D, see ¹⁰⁹ In	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see ¹⁰⁹ In	-	6E+4	2E-5	8E-8	-	-
49	Indium-110 (4.9 h)	D, see ¹⁰⁹ In	5E+3	2E+4	7E-6	2E-8	7E-5	7E-4
		W, see ¹⁰⁹ In	-	2E+4	8E-6	3E-8	-	-
49	Indium-111	D, see ¹⁰⁹ In	4E+3	6E+3	3E-6	9E-9	6E-5	6E-4
		W, see ¹⁰⁹ In	-	6E+3	3E-6	9E-9	-	-
49	Indium-112 ²	D, see ¹⁰⁹ In	2E+5	6E+5	3E-4	9E-7	2E-3	2E-2
		W, see ¹⁰⁹ In	-	7E+5	3E-4	1E-6	-	-
49	Indium-113m ²	D, see ¹⁰⁹ In	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3
		W, see ¹⁰⁹ In	-	2E+5	8E-5	3E-7	-	-
49	Indium-114m	D, see ¹⁰⁹ In	3E+2	6E+1	3E-8	9E-11	-	-
		W, see ¹⁰⁹ In	LLI wall (4E+2)	-	-	-	5E-6	5E-5
49	Indium-115m	D, see ¹⁰⁹ In	1E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see ¹⁰⁹ In	-	5E+4	2E-5	7E-8	-	-
49	Indium-115	D, see ¹⁰⁹ In	4E+1	1E+0	6E-10	2E-12	5E-7	5E-6
		W, see ¹⁰⁹ In	-	5E+0	2E-9	8E-12	-	-
49	Indium-116m ²	D, see ¹⁰⁹ In	2E+4	8E+4	3E-5	1E-7	3E-4	3E-3
		W, see ¹⁰⁹ In	-	1E+5	5E-5	2E-7	-	-
49	Indium-117m ²	D, see ¹⁰⁹ In	1E+4	3E+4	1E-5	5E-8	2E-4	2E-3
		W, see ¹⁰⁹ In	-	4E+4	2E-5	6E-8	-	-
49	Indium-117 ²	D, see ¹⁰⁹ In	6E+4	2E+5	7E-5	2E-7	8E-4	8E-3
		W, see ¹⁰⁹ In	-	2E+5	9E-5	3E-7	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air $\mu\text{Ci/ml}$	Water $\mu\text{Ci/ml}$	$\mu\text{Ci/ml}$
		ALI μCi	ALI μCi	DAC $\mu\text{Ci/ml}$				
49	Indium-119m ²	D, see ¹⁰⁹ In	4E+4	1E+5	5E-5	2E-7	-	-
		St wall (5E+4)	-	-	-	-	7E-4	7E-3
		W, see ¹⁰⁹ In	-	1E+5	6E-5	2E-7	-	-
50	Tin-110	D, all compounds except those given for W	4E+3	1E+4	5E-6	2E-8	5E-5	5E-4
		W, sulfides, oxides, hydroxides, halides, nitrates, and stannic phosphate	-	1E+4	5E-6	2E-8	-	-
50	Tin-111 ²	D, see ¹¹⁰ Sn	7E+4	2E+5	9E-5	3E-7	1E-3	1E-2
		W, see ¹¹⁰ Sn	-	3E+5	1E-4	4E-7	-	-
50	Tin-113	D, see ¹¹⁰ Sn	2E+3	1E+3	5E-7	2E-9	-	-
		LLI wall (2E+3)	-	-	-	-	3E-5	3E-4
		W, see ¹¹⁰ Sn	-	5E+2	2E-7	8E-10	-	-
50	Tin-117m	D, see ¹¹⁰ Sn	2E+3	1E+3	5E-7	-	-	-
		LLI wall (2E+3)	-	Bone surf (2E+3)	-	3E-9	3E-5	3E-4
		W, see ¹¹⁰ Sn	-	1E+3	6E-7	2E-9	-	-
50	Tin-119m	D, see ¹¹⁰ Sn	3E+3	2E+3	1E-6	3E-9	-	-
		LLI wall (4E+3)	-	-	-	-	6E-5	6E-4
		W, see ¹¹⁰ Sn	-	1E+3	4E-7	1E-9	-	-
50	Tin-121m	D, see ¹¹⁰ Sn	3E+3	9E+2	4E-7	1E-9	-	-
		LLI wall (4E+3)	-	-	-	-	5E-5	5E-4
		W, see ¹¹⁰ Sn	-	5E+2	2E-7	8E-10	-	-
50	Tin-121	D, see ¹¹⁰ Sn	6E+3	2E+4	6E-6	2E-8	-	-
		LLI wall (6E+3)	-	-	-	-	8E-5	8E-4
		W, see ¹¹⁰ Sn	-	1E+4	5E-6	2E-8	-	-
50	Tin-123m ²	D, see ¹¹⁰ Sn	5E+4	1E+5	5E-5	2E-7	7E-4	7E-3
		W, see ¹¹⁰ Sn	-	1E+5	6E-5	2E-7	-	-
50	Tin-123	D, see ¹¹⁰ Sn	5E+2	6E+2	3E-7	9E-10	-	-
		LLI wall (6E+2)	-	-	-	-	9E-6	9E-5
		W, see ¹¹⁰ Sn	-	2E+2	7E-8	2E-10	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
50	Tin-125	D, see ¹¹⁰ Sn	4E+2	9E+2	4E-7	1E-9	-	-
		LLI wall (5E+2)	-	-	-	6E-6	6E-5	
		W, see ¹¹⁰ Sn	-	4E+2	1E-7	5E-10	-	-
50	Tin-126	D, see ¹¹⁰ Sn	3E+2	6E+1	2E-8	8E-11	4E-6	4E-5
		W, see ¹¹⁰ Sn	-	7E+1	3E-8	9E-11	-	-
50	Tin-127	D, see ¹¹⁰ Sn	7E+3	2E+4	8E-6	3E-8	9E-5	9E-4
		W, see ¹¹⁰ Sn	-	2E+4	8E-6	3E-8	-	-
50	Tin-128 ²	D, see ¹¹⁰ Sn	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3
		W, see ¹¹⁰ Sn	-	4E+4	1E-5	5E-8	-	-
51	Antimony-115 ²	D, all compounds except those given for W	8E+4	2E+5	1E-4	3E-7	1E-3	1E-2
		W, oxides, hydroxides, halides, sulfides, sulfates, and nitrates	-	3E+5	1E-4	4E-7	-	-
51	Antimony-116m ²	D, see ¹¹⁵ Sb	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3
		W, see ¹¹⁵ Sb	-	1E+5	6E-5	2E-7	-	-
51	Antimony-116 ²	D, see ¹¹⁵ Sb	7E+4	3E+5	1E-4	4E-7	-	-
		St wall (9E+4)	-	-	-	1E-3	1E-2	
		W, see ¹¹⁵ Sb	-	3E+5	1E-4	5E-7	-	-
51	Antimony-117	D, see ¹¹⁵ Sb	7E+4	2E+5	9E-5	3E-7	9E-4	9E-3
		W, see ¹¹⁵ Sb	-	3E+5	1E-4	4E-7	-	-
51	Antimony-118m	D, see ¹¹⁵ Sb	6E+3	2E+4	8E-6	3E-8	7E-5	7E-4
		W, see ¹¹⁵ Sb	5E+3	2E+4	9E-6	3E-8	-	-
51	Antimony-119	D, see ¹¹⁵ Sb	2E+4	5E+4	2E-5	6E-8	2E-4	2E-3
		W, see ¹¹⁵ Sb	2E+4	3E+4	1E-5	4E-8	-	-
51	Antimony-120 ² (16 min)	D, see ¹¹⁵ Sb	1E+5	4E+5	2E-4	6E-7	-	-
		St wall (2E+5)	-	-	-	2E-3	2E-2	
		W, see ¹¹⁵ Sb	-	5E+5	2E-4	7E-7	-	-
51	Antimony-120 (5.76 d)	D, see ¹¹⁵ Sb	1E+3	2E+3	9E-7	3E-9	1E-5	1E-4
		W, see ¹¹⁵ Sb	9E+2	1E+3	5E-7	2E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
51	Antimony-122	D, see ¹¹⁵ Sb	8E+2	2E+3	1E-6	3E-9	-	-
			LLI wall (8E+2)	-	-	-	1E-5	1E-4
		W, see ¹¹⁵ Sb	7E+2	1E+3	4E-7	2E-9	-	-
51	Antimony-124m ²	D, see ¹¹⁵ Sb	3E+5	8E+5	4E-4	1E-6	3E-3	3E-2
		W, see ¹¹⁵ Sb	2E+5	6E+5	2E-4	8E-7	-	-
51	Antimony-124	D, see ¹¹⁵ Sb	6E+2	9E+2	4E-7	1E-9	7E-6	7E-5
		W, see ¹¹⁵ Sb	5E+2	2E+2	1E-7	3E-10	-	-
51	Antimony-125	D, see ¹¹⁵ Sb	2E+3	2E+3	1E-6	3E-9	3E-5	3E-4
		W, see ¹¹⁵ Sb	-	5E+2	2E-7	7E-10	-	-
51	Antimony-126m ²	D, see ¹¹⁵ Sb	5E+4	2E+5	8E-5	3E-7	-	-
			St wall (7E+4)	-	-	-	9E-4	9E-3
		W, see ¹¹⁵ Sb	-	2E+5	8E-5	3E-7	-	-
51	Antimony-126	D, see ¹¹⁵ Sb	6E+2	1E+3	5E-7	2E-9	7E-6	7E-5
		W, see ¹¹⁵ Sb	5E+2	5E+2	2E-7	7E-10	-	-
51	Antimony-127	D, see ¹¹⁵ Sb	8E+2	2E+3	9E-7	3E-9	-	-
			LLI wall (8E+2)	-	-	-	1E-5	1E-4
		W, see ¹¹⁵ Sb	7E+2	9E+2	4E-7	1E-9	-	-
51	Antimony-128 ² (10.4 min)	D, see ¹¹⁵ Sb	8E+4	4E+5	2E-4	5E-7	-	-
			St wall (1E+5)	-	-	-	1E-3	1E-2
		W, see ¹¹⁵ Sb	-	4E+5	2E-4	6E-7	-	-
51	Antimony-128 (9.01 h)	D, see ¹¹⁵ Sb	1E+3	4E+3	2E-6	6E-9	2E-5	2E-4
		W, see ¹¹⁵ Sb	-	3E+3	1E-6	5E-9	-	-
51	Antimony-129	D, see ¹¹⁵ Sb	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4
		W, see ¹¹⁵ Sb	-	9E+3	4E-6	1E-8	-	-
51	Antimony-130 ²	D, see ¹¹⁵ Sb	2E+4	6E+4	3E-5	9E-8	3E-4	3E-3
		W, see ¹¹⁵ Sb	-	8E+4	3E-5	1E-7	-	-
51	Antimony-131 ²	D, see ¹¹⁵ Sb	1E+4	2E+4	1E-5	-	-	-
			Thyroid (2E+4)	Thyroid (4E+4)	-	6E-8	2E-4	2E-3
		W, see ¹¹⁵ Sb	-	2E+4	1E-5	-	-	-
			-	Thyroid (4E+4)	-	6E-8	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion ALI μCi	Inhalation ALI μCi DAC μCi/ml		Air μCi/ml	Water μCi/ml	μCi/ml
52	Tellurium-116	D, all compounds except those given for W	8E+3	2E+4	9E-6	3E-8	1E-4	1E-3
		W, oxides, hydroxides, and nitrates	-	3E+4	1E-5	4E-8	-	-
52	Tellurium-121m	D, see ¹¹⁶ Te	5E+2 Bone surf (7E+2)	2E+2 Bone surf (4E+2)	8E-8 -	- 5E-10	- 1E-5	- 1E-4
		W, see ¹¹⁶ Te	-	4E+2	2E-7	6E-10	-	-
52	Tellurium-121	D, see ¹¹⁶ Te	3E+3	4E+3	2E-6	6E-9	4E-5	4E-4
		W, see ¹¹⁶ Te	-	3E+3	1E-6	4E-9	-	-
52	Tellurium-123m	D, see ¹¹⁶ Te	6E+2 Bone surf (1E+3)	2E+2 Bone surf (5E+2)	9E-8 -	- 8E-10	- 1E-5	- 1E-4
		W, see ¹¹⁶ Te	-	5E+2	2E-7	8E-10	-	-
52	Tellurium-123	D, see ¹¹⁶ Te	5E+2 Bone surf (1E+3)	2E+2 Bone surf (5E+2)	8E-8 -	- 7E-10	- 2E-5	- 2E-4
		W, see ¹¹⁶ Te	-	4E+2	2E-7	-	-	-
			-	Bone surf (1E+3)	-	2E-9	-	-
52	Tellurium-125m	D, see ¹¹⁶ Te	1E+3 Bone surf (1E+3)	4E+2 Bone surf (1E+3)	2E-7 -	- 1E-9	- 2E-5	- 2E-4
		W, see ¹¹⁶ Te	-	7E+2	3E-7	1E-9	-	-
52	Tellurium-127m	D, see ¹¹⁶ Te	6E+2	3E+2	1E-7	-	9E-6	9E-5
		W, see ¹¹⁶ Te	-	Bone surf (4E+2)	-	6E-10	-	-
52	Tellurium-127	D, see ¹¹⁶ Te	7E+3	2E+4	9E-6	3E-8	1E-4	1E-3
		W, see ¹¹⁶ Te	-	2E+4	7E-6	2E-8	-	-
52	Tellurium-129m	D, see ¹¹⁶ Te	5E+2	6E+2	3E-7	9E-10	7E-6	7E-5
		W, see ¹¹⁶ Te	-	2E+2	1E-7	3E-10	-	-
52	Tellurium-129 ²	D, see ¹¹⁶ Te	3E+4	6E+4	3E-5	9E-8	4E-4	4E-3
		W, see ¹¹⁶ Te	-	7E+4	3E-5	1E-7	-	-
52	Tellurium-131m	D, see ¹¹⁶ Te	3E+2 Thyroid (6E+2)	4E+2 Thyroid (1E+3)	2E-7 -	- 2E-9	- 8E-6	- 8E-5
		W, see ¹¹⁶ Te	-	4E+2	2E-7	-	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
			-	Thyroid (9E+2)	-	1E-9	-	-
52	Tellurium-131 ²	D, see ¹¹⁶ Te	3E+3	5E+3	2E-6	-	-	-
			Thyroid (6E+3)	Thyroid (1E+4)	-	2E-8	8E-5	8E-4
		W, see ¹¹⁶ Te	-	5E+3	2E-6	-	-	-
			-	Thyroid (1E+4)	-	2E-8	-	-
52	Tellurium-132	D, see ¹¹⁶ Te	2E+2	2E+2	9E-8	-	-	-
			Thyroid (7E+2)	Thyroid (8E+2)	-	1E-9	9E-6	9E-5
		W, see ¹¹⁶ Te	-	2E+2	9E-8	-	-	-
			-	Thyroid (6E+2)	-	9E-10	-	-
52	Tellurium-133m ²	D, see ¹¹⁶ Te	3E+3	5E+3	2E-6	-	-	-
			Thyroid (6E+3)	Thyroid (1E+4)	-	2E-8	9E-5	9E-4
		W, see ¹¹⁶ Te	-	5E+3	2E-6	-	-	-
			-	Thyroid (1E+4)	-	2E-8	-	-
52	Tellurium-133 ²	D, see ¹¹⁶ Te	1E+4	2E+4	9E-6	-	-	-
			Thyroid (3E+4)	Thyroid (6E+4)	-	8E-8	4E-4	4E-3
		W, see ¹¹⁶ Te	-	2E+4	9E-6	-	-	-
			-	Thyroid (6E+4)	-	8E-8	-	-
52	Tellurium-134 ²	D, see ¹¹⁶ Te	2E+4	2E+4	1E-5	-	-	-
			Thyroid (2E+4)	Thyroid (5E+4)	-	7E-8	3E-4	3E-3
		W, see ¹¹⁶ Te	-	2E+4	1E-5	-	-	-
			-	Thyroid (5E+4)	-	7E-8	-	-
53	Iodine-120m ²	D, all compounds	1E+4	2E+4	9E-6	3E-8	-	-
			Thyroid (1E+4)	-	-	-	2E-4	2E-3
53	Iodine-120 ²	D, all compounds	4E+3	9E+3	4E-6	-	-	-
			Thyroid (8E+3)	Thyroid (1E+4)	-	2E-8	1E-4	1E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration μCi/ml
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	
				ALI μCi	ALI μCi			
53	Iodine-121	D, all compounds	1E+4	2E+4	8E-6	-	-	-
			Thyroid (3E+4)	Thyroid (5E+4)	-	7E-8	4E-4	4E-3
53	Iodine-123	D, all compounds	3E+3	6E+3	3E-6	-	-	-
			Thyroid (1E+4)	Thyroid (2E+4)	-	2E-8	1E-4	1E-3
53	Iodine-124	D, all compounds	5E+1	8E+1	3E-8	-	-	-
			Thyroid (2E+2)	Thyroid (3E+2)	-	4E-10	2E-6	2E-5
53	Iodine-125	D, all compounds	4E+1	6E+1	3E-8	-	-	-
			Thyroid (1E+2)	Thyroid (2E+2)	-	3E-10	2E-6	2E-5
53	Iodine-126	D, all compounds	2E+1	4E+1	1E-8	-	-	-
			Thyroid (7E+1)	Thyroid (1E+2)	-	2E-10	1E-6	1E-5
53	Iodine-128 ²	D, all compounds	4E+4	1E+5	5E-5	2E-7	-	-
			St wall (6E+4)	-	-	-	8E-4	8E-3
53	Iodine-129	D, all compounds	5E+0	9E+0	4E-9	-	-	-
			Thyroid (2E+1)	Thyroid (3E+1)	-	4E-11	2E-7	2E-6
53	Iodine-130	D, all compounds	4E+2	7E+2	3E-7	-	-	-
			Thyroid (1E+3)	Thyroid (2E+3)	-	3E-9	2E-5	2E-4
53	Iodine-131	D, all compounds	3E+1	5E+1	2E-8	-	-	-
			Thyroid (9E+1)	Thyroid (2E+2)	-	2E-10	1E-6	1E-5
53	Iodine-132m ²	D, all compounds	4E+3	8E+3	4E-6	-	-	-
			Thyroid (1E+4)	Thyroid (2E+4)	-	3E-8	1E-4	1E-3
53	Iodine-132	D, all compounds	4E+3	8E+3	3E-6	-	-	-
			Thyroid (9E+3)	Thyroid (1E+4)	-	2E-8	1E-4	1E-3
53	Iodine-133	D, all compounds	1E+2	3E+2	1E-7	-	-	-
			Thyroid (5E+2)	Thyroid (9E+2)	-	1E-9	7E-6	7E-5

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration μCi/ml
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	
				ALI μCi	ALI μCi			
53	Iodine-134 ²	D, all compounds	2E+4	5E+4	2E-5	6E-8	-	-
			Thyroid (3E+4)	-	-	-	4E-4	4E-3
53	Iodine-135	D, all compounds	8E+2	2E+3	7E-7	-	-	-
			Thyroid (3E+3)	Thyroid (4E+3)	-	6E-9	3E-5	3E-4
54	Xenon-120 ²	Submersion ¹	-	-	1E-5	4E-8	-	-
54	Xenon-121 ²	Submersion ¹	-	-	2E-6	1E-8	-	-
54	Xenon-122	Submersion ¹	-	-	7E-5	3E-7	-	-
54	Xenon-123	Submersion ¹	-	-	6E-6	3E-8	-	-
54	Xenon-125	Submersion ¹	-	-	2E-5	7E-8	-	-
54	Xenon-127	Submersion ¹	-	-	1E-5	6E-8	-	-
54	Xenon-129m	Submersion ¹	-	-	2E-4	9E-7	-	-
54	Xenon-131m	Submersion ¹	-	-	4E-4	2E-6	-	-
54	Xenon-133m	Submersion ¹	-	-	1E-4	6E-7	-	-
54	Xenon-133	Submersion ¹	-	-	1E-4	5E-7	-	-
54	Xenon-135m ²	Submersion ¹	-	-	9E-6	4E-8	-	-
54	Xenon-135	Submersion ¹	-	-	1E-5	7E-8	-	-
54	Xenon-138 ²	Submersion ¹	-	-	4E-6	2E-8	-	-
55	Cesium-125 ²	D, all compounds	5E+4	1E+5	6E-5	2E-7	-	-
			St wall (9E+4)	-	-	-	1E-3	1E-2
55	Cesium-127	D, all compounds	6E+4	9E+4	4E-5	1E-7	9E-4	9E-3
55	Cesium-129	D, all compounds	2E+4	3E+4	1E-5	5E-8	3E-4	3E-3
55	Cesium-130 ²	D, all compounds	6E+4	2E+5	8E-5	3E-7	-	-
			St wall (1E+5)	-	-	-	1E-3	1E-2
55	Cesium-131	D, all compounds	2E+4	3E+4	1E-5	4E-8	3E-4	3E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
55	Cesium-132	D, all compounds	3E+3	4E+3	2E-6	6E-9	4E-5	4E-4
55	Cesium-134m	D, all compounds	1E+5	1E+5	6E-5	2E-7	-	-
			St wall (1E+5)	-	-	-	2E-3	2E-2
55	Cesium-134	D, all compounds	7E+1	1E+2	4E-8	2E-10	9E-7	9E-6
55	Cesium-135m ²	D, all compounds	1E+5	2E+5	8E-5	3E-7	1E-3	1E-2
55	Cesium-135	D, all compounds	7E+2	1E+3	5E-7	2E-9	1E-5	1E-4
55	Cesium-136	D, all compounds	4E+2	7E+2	3E-7	9E-10	6E-6	6E-5
55	Cesium-137	D, all compounds	1E+2	2E+2	6E-8	2E-10	1E-6	1E-5
55	Cesium-138 ²	D, all compounds	2E+4	6E+4	2E-5	8E-8	-	-
			St wall (3E+4)	-	-	-	4E-4	4E-3
56	Barium-126 ²	D, all compounds	6E+3	2E+4	6E-6	2E-8	8E-5	8E-4
56	Barium-128	D, all compounds	5E+2	2E+3	7E-7	2E-9	7E-6	7E-5
56	Barium-131m ²	D, all compounds	4E+5	1E+6	6E-4	2E-6	-	-
			St wall (5E+5)	-	-	-	7E-3	7E-2
56	Barium-131	D, all compounds	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
56	Barium-133m	D, all compounds	2E+3	9E+3	4E-6	1E-8	-	-
			LLI wall (3E+3)	-	-	-	4E-5	4E-4
56	Barium-133	D, all compounds	2E+3	7E+2	3E-7	9E-10	2E-5	2E-4
56	Barium-135m	D, all compounds	3E+3	1E+4	5E-6	2E-8	4E-5	4E-4
56	Barium-139 ²	D, all compounds	1E+4	3E+4	1E-5	4E-8	2E-4	2E-3
56	Barium-140	D, all compounds	5E+2	1E+3	6E-7	2E-9	-	-
			LLI wall (6E+2)	-	-	-	8E-6	8E-5
56	Barium-141 ²	D, all compounds	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3
56	Barium-142 ²	D, all compounds	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
57	Lanthanum-131 ²	D, all compounds except those given for W	5E+4	1E+5	5E-5	2E-7	6E-4	6E-3
		W, oxides and hydroxides	-	2E+5	7E-5	2E-7	-	-
57	Lanthanum-132	D, see ¹³¹ La	3E+3	1E+4	4E-6	1E-8	4E-5	4E-4
		W, see ¹³¹ La	-	1E+4	5E-6	2E-8	-	-
57	Lanthanum-135	D, see ¹³¹ La	4E+4	1E+5	4E-5	1E-7	5E-4	5E-3
		W, see ¹³¹ La	-	9E+4	4E-5	1E-7	-	-
57	Lanthanum-137	D, see ¹³¹ La	1E+4	6E+1	3E-8	-	2E-4	2E-3
		W, see ¹³¹ La	-	Liver (7E+1)	-	1E-10	-	-
			-	3E+2	1E-7	-	-	-
			-	Liver (3E+2)	-	4E-10	-	-
57	Lanthanum-138	D, see ¹³¹ La	9E+2	4E+0	1E-9	5E-12	1E-5	1E-4
		W, see ¹³¹ La	-	1E+1	6E-9	2E-11	-	-
57	Lanthanum-140	D, see ¹³¹ La	6E+2	1E+3	6E-7	2E-9	9E-6	9E-5
		W, see ¹³¹ La	-	1E+3	5E-7	2E-9	-	-
57	Lanthanum-141	D, see ¹³¹ La	4E+3	9E+3	4E-6	1E-8	5E-5	5E-4
		W, see ¹³¹ La	-	1E+4	5E-6	2E-8	-	-
57	Lanthanum-142 ²	D, see ¹³¹ La	8E+3	2E+4	9E-6	3E-8	1E-4	1E-3
		W, see ¹³¹ La	-	3E+4	1E-5	5E-8	-	-
57	Lanthanum-143 ²	D, see ¹³¹ La	4E+4	1E+5	4E-5	1E-7	-	-
		W, see ¹³¹ La	St wall (4E+4)	-	-	-	5E-4	5E-3
			-	9E+4	4E-5	1E-7	-	-
58	Cerium-134	W, all compounds except those given for Y	5E+2	7E+2	3E-7	1E-9	-	-
		Y, oxides, hydroxides, and fluorides	LLI wall (6E+2)	-	-	-	8E-6	8E-5
			-	7E+2	3E-7	9E-10	-	-
58	Cerium-135	W, see ¹³⁴ Ce	2E+3	4E+3	2E-6	5E-9	2E-5	2E-4
		Y, see ¹³⁴ Ce	-	4E+3	1E-6	5E-9	-	-
58	Cerium-137m	W, see ¹³⁴ Ce	2E+3	4E+3	2E-6	6E-9	-	-
		Y, see ¹³⁴ Ce	LLI wall (2E+3)	-	-	-	3E-5	3E-4
			-	4E+3	2E-6	5E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
58	Cerium-137	W, see ¹³⁴ Ce	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3
		Y, see ¹³⁴ Ce	-	1E+5	5E-5	2E-7	-	-
58	Cerium-139	W, see ¹³⁴ Ce	5E+3	8E+2	3E-7	1E-9	7E-5	7E-4
		Y, see ¹³⁴ Ce	-	7E+2	3E-7	9E-10	-	-
58	Cerium-141	W, see ¹³⁴ Ce	2E+3	7E+2	3E-7	1E-9	-	-
		LLI wall (2E+3)	-	-	-	-	3E-5	3E-4
58	Cerium-143	W, see ¹³⁴ Ce	1E+3	2E+3	8E-7	3E-9	-	-
		LLI wall (1E+3)	-	-	-	-	2E-5	2E-4
58	Cerium-144	W, see ¹³⁴ Ce	2E+2	3E+1	1E-8	4E-11	-	-
		LLI wall (3E+2)	-	-	-	-	3E-6	3E-5
59	Praseodymium-136 ²	Y, see ¹³⁴ Ce	-	6E+2	2E-7	8E-10	-	-
		W, all compounds except those given for Y	5E+4	2E+5	1E-4	3E-7	-	-
59	Praseodymium-137 ²	St wall (7E+4)	-	-	-	-	1E-3	1E-2
		Y, oxides, hydroxides, carbides, and fluorides	-	2E+5	9E-5	3E-7	-	-
59	Praseodymium-138m	W, see ¹³⁶ Pr	4E+4	2E+5	6E-5	2E-7	5E-4	5E-3
		Y, see ¹³⁶ Pr	-	1E+5	6E-5	2E-7	-	-
59	Praseodymium-139	W, see ¹³⁶ Pr	1E+4	5E+4	2E-5	8E-8	1E-4	1E-3
		Y, see ¹³⁶ Pr	-	4E+4	2E-5	6E-8	-	-
59	Praseodymium-142m ²	W, see ¹³⁶ Pr	4E+4	1E+5	5E-5	2E-7	6E-4	6E-3
		Y, see ¹³⁶ Pr	-	1E+5	5E-5	2E-7	-	-
59	Praseodymium-142	W, see ¹³⁶ Pr	8E+4	2E+5	7E-5	2E-7	1E-3	1E-2
		Y, see ¹³⁶ Pr	-	1E+5	6E-5	2E-7	-	-
59	Praseodymium-143	W, see ¹³⁶ Pr	1E+3	2E+3	9E-7	3E-9	1E-5	1E-4
		Y, see ¹³⁶ Pr	-	2E+3	8E-7	3E-9	-	-
59	Praseodymium-143	W, see ¹³⁶ Pr	9E+2	8E+2	3E-7	1E-9	-	-
		LLI wall (1E+3)	-	-	-	-	2E-5	2E-4
		Y, see ¹³⁶ Pr	-	7E+2	3E-7	9E-10	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
59	Praseodymium-144 ²	W, see ¹³⁶ Pr	3E+4	1E+5	5E-5	2E-7	-	-
		St wall (4E+4)	-	-	-	-	6E-4	6E-3
		Y, see ¹³⁶ Pr	-	1E+5	5E-5	2E-7	-	-
59	Praseodymium-145	W, see ¹³⁶ Pr	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4
		Y, see ¹³⁶ Pr	-	8E+3	3E-6	1E-8	-	-
59	Praseodymium-147 ²	W, see ¹³⁶ Pr	5E+4	2E+5	8E-5	3E-7	-	-
		St wall (8E+4)	-	-	-	-	1E-3	1E-2
		Y, see ¹³⁶ Pr	-	2E+5	8E-5	3E-7	-	-
60	Neodymium-136 ²	W, all compounds except those given for Y	1E+4	6E+4	2E-5	8E-8	2E-4	2E-3
		Y, oxides, hydroxides, carbides, and fluorides	-	5E+4	2E-5	8E-8	-	-
60	Neodymium-138	W, see ¹³⁶ Nd	2E+3	6E+3	3E-6	9E-9	3E-5	3E-4
		Y, see ¹³⁶ Nd	-	5E+3	2E-6	7E-9	-	-
60	Neodymium-139m	W, see ¹³⁶ Nd	5E+3	2E+4	7E-6	2E-8	7E-5	7E-4
		Y, see ¹³⁶ Nd	-	1E+4	6E-6	2E-8	-	-
60	Neodymium-139 ²	W, see ¹³⁶ Nd	9E+4	3E+5	1E-4	5E-7	1E-3	1E-2
		Y, see ¹³⁶ Nd	-	3E+5	1E-4	4E-7	-	-
60	Neodymium-141	W, see ¹³⁶ Nd	2E+5	7E+5	3E-4	1E-6	2E-3	2E-2
		Y, see ¹³⁶ Nd	-	6E+5	3E-4	9E-7	-	-
60	Neodymium-147	W, see ¹³⁶ Nd	1E+3	9E+2	4E-7	1E-9	-	-
		LLI wall (1E+3)	-	-	-	-	2E-5	2E-4
		Y, see ¹³⁶ Nd	-	8E+2	4E-7	1E-9	-	-
60	Neodymium-149 ²	W, see ¹³⁶ Nd	1E+4	3E+4	1E-5	4E-8	1E-4	1E-3
		Y, see ¹³⁶ Nd	-	2E+4	1E-5	3E-8	-	-
60	Neodymium-151 ²	W, see ¹³⁶ Nd	7E+4	2E+5	8E-5	3E-7	9E-4	9E-3
		Y, see ¹³⁶ Nd	-	2E+5	8E-5	3E-7	-	-
61	Promethium-141 ²	W, all compounds except those given for Y	5E+4	2E+5	8E-5	3E-7	-	-
		St wall (6E+4)	-	-	-	-	8E-4	8E-3
		Y, oxides, hydroxides, carbides, and fluorides	-	2E+5	7E-5	2E-7	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
61	Promethium-143	W, see ¹⁴¹ Pm	5E+3	6E+2	2E-7	8E-10	7E-5	7E-4
		Y, see ¹⁴¹ Pm	-	7E+2	3E-7	1E-9	-	-
61	Promethium-144	W, see ¹⁴¹ Pm	1E+3	1E+2	5E-8	2E-10	2E-5	2E-4
		Y, see ¹⁴¹ Pm	-	1E+2	5E-8	2E-10	-	-
61	Promethium-145	W, see ¹⁴¹ Pm	1E+4	2E+2	7E-8	-	1E-4	1E-3
		Y, see ¹⁴¹ Pm	-	Bone surf (2E+2)	-	3E-10	-	-
61	Promethium-146	W, see ¹⁴¹ Pm	2E+3	5E+1	2E-8	7E-11	2E-5	2E-4
		Y, see ¹⁴¹ Pm	-	4E+1	2E-8	6E-11	-	-
61	Promethium-147	W, see ¹⁴¹ Pm	4E+3	1E+2	5E-8	-	-	-
		Y, see ¹⁴¹ Pm	LLI wall (5E+3)	Bone surf (2E+2)	-	3E-10	7E-5	7E-4
61	Promethium-148m	W, see ¹⁴¹ Pm	7E+2	3E+2	1E-7	4E-10	1E-5	1E-4
		Y, see ¹⁴¹ Pm	-	3E+2	1E-7	5E-10	-	-
61	Promethium-148	W, see ¹⁴¹ Pm	4E+2	5E+2	2E-7	8E-10	-	-
		Y, see ¹⁴¹ Pm	LLI wall (5E+2)	-	-	-	7E-6	7E-5
61	Promethium-149	W, see ¹⁴¹ Pm	1E+3	2E+3	8E-7	3E-9	-	-
		Y, see ¹⁴¹ Pm	LLI wall (1E+3)	-	-	-	2E-5	2E-4
61	Promethium-150	W, see ¹⁴¹ Pm	5E+3	2E+4	8E-6	3E-8	7E-5	7E-4
		Y, see ¹⁴¹ Pm	-	2E+4	7E-6	2E-8	-	-
61	Promethium-151	W, see ¹⁴¹ Pm	2E+3	4E+3	1E-6	5E-9	2E-5	2E-4
		Y, see ¹⁴¹ Pm	-	3E+3	1E-6	4E-9	-	-
62	Samarium-141m ²	W, all compounds	3E+4	1E+5	4E-5	1E-7	4E-4	4E-3
62	Samarium-141 ²	W, all compounds	5E+4	2E+5	8E-5	2E-7	-	-
		St wall (6E+4)	-	-	-	-	8E-4	8E-3
62	Samarium-142 ²	W, all compounds	8E+3	3E+4	1E-5	4E-8	1E-4	1E-3
62	Samarium-145	W, all compounds	6E+3	5E+2	2E-7	7E-10	8E-5	8E-4

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concen- tration
			Oral Ingestion	Inhalation		Air $\mu\text{Ci/ml}$	Water $\mu\text{Ci/ml}$	$\mu\text{Ci/ml}$
				ALI μCi	ALI μCi			
62	Samarium-146	W, all compounds	1E+1 Bone surf (3E+1)	4E-2 Bone surf (6E-2)	1E-11 -	- 9E-14	- 3E-7	- 3E-6
62	Samarium-147	W, all compounds	2E+1 Bone surf (3E+1)	4E-2 Bone surf (7E-2)	2E-11 -	- 1E-13	- 4E-7	- 4E-6
62	Samarium-151	W, all compounds	1E+4 LLI wall (1E+4)	1E+2 Bone surf (2E+2)	4E-8 -	- 2E-10	- 2E-4	- 2E-3
62	Samarium-153	W, all compounds	2E+3 LLI wall (2E+3)	3E+3 -	1E-6 -	4E-9 -	- 3E-5	- 3E-4
62	Samarium-155 ²	W, all compounds	6E+4 St wall (8E+4)	2E+5 -	9E-5 -	3E-7 -	- 1E-3	- 1E-2
62	Samarium-156	W, all compounds	5E+3	9E+3	4E-6	1E-8	7E-5	7E-4
63	Europium-145	W, all compounds	2E+3	2E+3	8E-7	3E-9	2E-5	2E-4
63	Europium-146	W, all compounds	1E+3	1E+3	5E-7	2E-9	1E-5	1E-4
63	Europium-147	W, all compounds	3E+3	2E+3	7E-7	2E-9	4E-5	4E-4
63	Europium-148	W, all compounds	1E+3	4E+2	1E-7	5E-10	1E-5	1E-4
63	Europium-149	W, all compounds	1E+4	3E+3	1E-6	4E-9	2E-4	2E-3
63	Europium-150 (12.62h)	W, all compounds	3E+3	8E+3	4E-6	1E-8	4E-5	4E-4
63	Europium-150 (34.2 y)	W, all compounds	8E+2	2E+1	8E-9	3E-11	1E-5	1E-4
63	Europium-152m	W, all compounds	3E+3	6E+3	3E-6	9E-9	4E-5	4E-4
63	Europium-152	W, all compounds	8E+2	2E+1	1E-8	3E-11	1E-5	1E-4
63	Europium-154	W, all compounds	5E+2	2E+1	8E-9	3E-11	7E-6	7E-5
63	Europium-155	W, all compounds	4E+3 -	9E+1 Bone surf (1E+2)	4E-8 -	- 2E-10	5E-5 -	5E-4 -
63	Europium-156	W, all compounds	6E+2	5E+2	2E-7	6E-10	8E-6	8E-5

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
63	Europium-157	W, all compounds	2E+3	5E+3	2E-6	7E-9	3E-5	3E-4
63	Europium-158 ²	W, all compounds	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3
64	Gadolinium-145 ²	D, all compounds except those given for W	5E+4	2E+5	6E-5	2E-7	-	-
		St wall (5E+4)	-	-	-	-	6E-4	6E-3
64	Gadolinium-146	W, oxides, hydroxides, and fluorides	-	2E+5	7E-5	2E-7	-	-
		D, see ¹⁴⁵ Gd	1E+3	1E+2	5E-8	2E-10	2E-5	2E-4
64	Gadolinium-147	W, see ¹⁴⁵ Gd	-	3E+2	1E-7	4E-10	-	-
		D, see ¹⁴⁵ Gd	2E+3	4E+3	2E-6	6E-9	3E-5	3E-4
64	Gadolinium-148	W, see ¹⁴⁵ Gd	-	4E+3	1E-6	5E-9	-	-
		D, see ¹⁴⁵ Gd	1E+1	8E+3	3E-12	-	-	-
64	Gadolinium-149	Bone surf (2E+1)	-	Bone surf (2E+2)	-	2E-14	3E-7	3E-6
		W, see ¹⁴⁵ Gd	-	3E-2	1E-11	-	-	-
64	Gadolinium-151	Bone surf (6E-2)	-	Bone surf (6E-2)	-	8E-14	-	-
		D, see ¹⁴⁵ Gd	3E+3	2E+3	9E-7	3E-9	4E-5	4E-4
64	Gadolinium-152	W, see ¹⁴⁵ Gd	-	2E+3	1E-6	3E-9	-	-
		D, see ¹⁴⁵ Gd	6E+3	4E+2	2E-7	-	9E-5	9E-4
64	Gadolinium-153	Bone surf (6E+2)	-	Bone surf (6E+2)	-	9E-10	-	-
		W, see ¹⁴⁵ Gd	-	1E+3	5E-7	2E-9	-	-
64	Gadolinium-159	Bone surf (3E+1)	2E+1	Bone surf (2E-2)	-	3E-14	4E-7	4E-6
		W, see ¹⁴⁵ Gd	-	4E-2	2E-11	-	-	-
64	Terbium-147 ²	Bone surf (8E-2)	-	Bone surf (8E-2)	-	1E-13	-	-
		D, see ¹⁴⁵ Gd	5E+3	1E+2	6E-8	-	6E-5	6E-4
64	Terbium-147 ²	W, see ¹⁴⁵ Gd	-	Bone surf (2E+2)	-	3E-10	-	-
		D, see ¹⁴⁵ Gd	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
64	Terbium-147 ²	W, see ¹⁴⁵ Gd	-	6E+2	2E-7	8E-10	-	-
		D, see ¹⁴⁵ Gd	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
65	Terbium-147 ²	W, all compounds	9E+3	3E+4	1E-5	5E-8	1E-4	1E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air $\mu\text{Ci/ml}$	Water $\mu\text{Ci/ml}$	$\mu\text{Ci/ml}$
				ALI μCi	ALI μCi			
65	Terbium-149	W, all compounds	5E+3	7E+2	3E-7	1E-9	7E-5	7E-4
65	Terbium-150	W, all compounds	5E+3	2E+4	9E-6	3E-8	7E-5	7E-4
65	Terbium-151	W, all compounds	4E+3	9E+3	4E-6	1E-8	5E-5	5E-4
65	Terbium-153	W, all compounds	5E+3	7E+3	3E-6	1E-8	7E-5	7E-4
65	Terbium-154	W, all compounds	2E+3	4E+3	2E-6	6E-9	2E-5	2E-4
65	Terbium-155	W, all compounds	6E+3	8E+3	3E-6	1E-8	8E-5	8E-4
65	Terbium-156m (5.0 h)	W, all compounds	2E+4	3E+4	1E-5	4E-8	2E-4	2E-3
65	Terbium-156m (24.4 h)	W, all compounds	7E+3	8E+3	3E-6	1E-8	1E-4	1E-3
65	Terbium-156	W, all compounds	1E+3	1E+3	6E-7	2E-9	1E-5	1E-4
65	Terbium-157	W, all compounds	5E+4 LLI wall (5E+4)	3E+2 Bone surf (6E+2)	1E-7 -	- 8E-10	- 7E-4	- 7E-3
65	Terbium-158	W, all compounds	1E+3	2E+1	8E-9	3E-11	2E-5	2E-4
65	Terbium-160	W, all compounds	8E+2	2E+2	9E-8	3E-10	1E-5	1E-4
65	Terbium-161	W, all compounds	2E+3 LLI wall (2E+3)	2E+3 -	7E-7 -	2E-9 -	- 3E-5	- 3E-4
66	Dysprosium-155	W, all compounds	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3
66	Dysprosium-157	W, all compounds	2E+4	6E+4	3E-5	9E-8	3E-4	3E-3
66	Dysprosium-159	W, all compounds	1E+4	2E+3	1E-6	3E-9	2E-4	2E-3
66	Dysprosium-165	W, all compounds	1E+4	5E+4	2E-5	6E-8	2E-4	2E-3
66	Dysprosium-166	W, all compounds	6E+2 LLI wall (8E+2)	7E+2 -	3E-7 -	1E-9 -	- 1E-5	- 1E-4
67	Holmium-155 ²	W, all compounds	4E+4	2E+5	6E-5	2E-7	6E-4	6E-3
67	Holmium-157 ²	W, all compounds	3E+5	1E+6	6E-4	2E-6	4E-3	4E-2
67	Holmium-159 ²	W, all compounds	2E+5	1E+6	4E-4	1E-6	3E-3	3E-2

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration μCi/ml
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	
				ALI μCi	ALI μCi			
67	Holmium-161	W, all compounds	1E+5	4E+5	2E-4	6E-7	1E-3	1E-2
67	Holmium-162m ²	W, all compounds	5E+4	3E+5	1E-4	4E-7	7E-4	7E-3
67	Holmium-162 ²	W, all compounds	5E+5	2E+6	1E-3	3E-6	-	-
			St wall (8E+5)	-	-	-	1E-2	1E-1
67	Holmium-164m ²	W, all compounds	1E+5	3E+5	1E-4	4E-7	1E-3	1E-2
67	Holmium-164 ²	W, all compounds	2E+5	6E+5	3E-4	9E-7	-	-
			St wall (2E+5)	-	-	-	3E-3	3E-2
67	Holmium-166m	W, all compounds	6E+2	7E+0	3E-9	9E-12	9E-6	9E-5
67	Holmium-166	W, all compounds	9E+2	2E+3	7E-7	2E-9	-	-
			LLI wall (9E+2)	-	-	-	1E-5	1E-4
67	Holmium-167	W, all compounds	2E+4	6E+4	2E-5	8E-8	2E-4	2E-3
68	Erbium-161	W, all compounds	2E+4	6E+4	3E-5	9E-8	2E-4	2E-3
68	Erbium-165	W, all compounds	6E+4	2E+5	8E-5	3E-7	9E-4	9E-3
68	Erbium-169	W, all compounds	3E+3	3E+3	1E-6	4E-9	-	-
			LLI wall (4E+3)	-	-	-	5E-5	5E-4
68	Erbium-171	W, all compounds	4E+3	1E+4	4E-6	1E-8	5E-5	5E-4
68	Erbium-172	W, all compounds	1E+3	1E+3	6E-7	2E-9	-	-
			LLI wall (E+3)	-	-	-	2E-5	2E-4
69	Thulium-162 ²	W, all compounds	7E+4	3E+5	1E-4	4E-7	-	-
			St wall (7E+4)	-	-	-	1E-3	1E-2
69	Thulium-166	W, all compounds	4E+3	1E+4	6E-6	2E-8	6E-5	6E-4
69	Thulium-167	W, all compounds	2E+3	2E+3	8E-7	3E-9	-	-
			LLI wall (2E+3)	-	-	-	3E-5	3E-4
69	Thulium-170	W, all compounds	8E+2	2E+2	9E-8	3E-10	-	-
			LLI wall (1E+3)	-	-	-	1E-5	1E-4

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air $\mu\text{Ci/ml}$	Water $\mu\text{Ci/ml}$	$\mu\text{Ci/ml}$
				ALI μCi	ALI μCi			
69	Thulium-171	W, all compounds	1E+4	3E+2	1E-7	-	-	-
			LLI wall (1E+4)	Bone surf (6E+2)	-	8E-10	2E-4	2E-3
69	Thulium-172	W, all compounds	7E+2	1E+3	5E-7	2E-9	-	-
			LLI wall (8E+2)	-	-	-	1E-5	1E-4
69	Thulium-173	W, all compounds	4E+3	1E+4	5E-6	2E-8	6E-5	6E-4
69	Thulium-175 ²	W, all compounds	7E+4	3E+5	1E-4	4E-7	-	-
			St wall (9E+4)	-	-	-	1E-3	1E-2
70	Ytterbium-162 ²	W, all compounds except those given for Y Y, oxides, hydroxides, and fluorides	7E+4	3E+5	1E-4	4E-7	1E-3	1E-2
			-	3E+5	1E-4	4E-7	-	-
70	Ytterbium-166	W, see ¹⁶² Yb	1E+3	2E+3	8E-7	3E-9	2E-5	2E-4
		Y, see ¹⁶² Yb	-	2E+3	8E-7	3E-9	-	-
70	Ytterbium-167 ²	W, see ¹⁶² Yb	3E+5	8E+5	3E-4	1E-6	4E-3	4E-2
		Y, see ¹⁶² Yb	-	7E+5	3E-4	1E-6	-	-
70	Ytterbium-169	W, see ¹⁶² Yb	2E+3	8E+2	4E-7	1E-9	2E-5	2E-4
		Y, see ¹⁶² Yb	-	7E+2	3E-7	1E-9	-	-
70	Ytterbium-175	W, see ¹⁶² Yb	3E+3	4E+3	1E-6	5E-9	-	-
		LLI wall (3E+3)	-	-	-	-	4E-5	4E-4
		Y, see ¹⁶² Yb	-	3E+3	1E-6	5E-9	-	-
70	Ytterbium-177 ²	W, see ¹⁶² Yb	2E+4	5E+4	2E-5	7E-8	2E-4	2E-3
		Y, see ¹⁶² Yb	-	5E+4	2E-5	6E-8	-	-
70	Ytterbium-178 ²	W, see ¹⁶² Yb	1E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		Y, see ¹⁶² Yb	-	4E+4	2E-5	5E-8	-	-
71	Lutetium-169	W, all compounds except those given for Y Y, oxides, hydroxides, and fluorides	3E+3	4E+3	2E-6	6E-9	3E-5	3E-4
		-	4E+3	2E-6	6E-9	-	-	
71	Lutetium-170	W, see ¹⁶⁹ Lu	1E+3	2E+3	9E-7	3E-9	2E-5	2E-4
		Y, see ¹⁶⁹ Lu	-	2E+3	8E-7	3E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
71	Lutetium-171	W, see ¹⁶⁹ Lu	2E+3	2E+3	8E-7	3E-9	3E-5	3E-4
		Y, see ¹⁶⁹ Lu	-	2E+3	8E-7	3E-9	-	-
71	Lutetium-172	W, see ¹⁶⁹ Lu	1E+3	1E+3	5E-7	2E-9	1E-5	1E-4
		Y, see ¹⁶⁹ Lu	-	1E+3	5E-7	2E-9	-	-
71	Lutetium-173	W, see ¹⁶⁹ Lu	5E+3	3E+2	1E-7	-	7E-5	7E-4
		Y, see ¹⁶⁹ Lu	-	Bone surf (5E+2)	-	6E-10	-	-
71	Lutetium-174m	W, see ¹⁶⁹ Lu	2E+3	2E+2	1E-7	-	-	-
		Y, see ¹⁶⁹ Lu	-	Bone surf (3E+3)	-	5E-10	4E-5	4E-4
71	Lutetium-174	W, see ¹⁶⁹ Lu	5E+3	1E+2	5E-8	-	7E-5	7E-4
		Y, see ¹⁶⁹ Lu	-	Bone surf (2E+2)	-	3E-10	-	-
71	Lutetium-176m	W, see ¹⁶⁹ Lu	8E+3	3E+4	1E-5	3E-8	1E-4	1E-3
		Y, see ¹⁶⁹ Lu	-	2E+4	9E-6	3E-8	-	-
71	Lutetium-176	W, see ¹⁶⁹ Lu	7E+2	5E+0	2E-9	-	1E-5	1E-4
		Y, see ¹⁶⁹ Lu	-	Bone surf (1E+1)	-	2E-11	-	-
71	Lutetium-177m	W, see ¹⁶⁹ Lu	7E+2	1E+2	5E-8	-	1E-5	1E-4
		Y, see ¹⁶⁹ Lu	-	8E+0	3E-9	1E-11	-	-
71	Lutetium-177	W, see ¹⁶⁹ Lu	2E+3	2E+3	9E-7	3E-9	-	-
		Y, see ¹⁶⁹ Lu	-	LLI wall (3E+3)	-	-	4E-5	4E-4
71	Lutetium-178m ²	W, see ¹⁶⁹ Lu	5E+4	2E+5	8E-5	3E-7	-	-
		Y, see ¹⁶⁹ Lu	-	St. wall (6E+4)	-	-	8E-4	8E-3
71	Lutetium-178 ²	W, see ¹⁶⁹ Lu	4E+4	1E+5	5E-5	2E-7	-	-
		Y, see ¹⁶⁹ Lu	-	St wall (4E+4)	-	-	6E-4	6E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
71	Lutetium-179	W, see ¹⁶⁹ Lu	6E+3	2E+4	8E-6	3E-8	9E-5	9E-4
		Y, see ¹⁶⁹ Lu	-	2E+4	6E-6	3E-8	-	-
72	Hafnium-170	D, all compounds except those given for W	3E+3	6E+3	2E-6	8E-9	4E-5	4E-4
		W, oxides, hydroxides, carbides, and nitrates	-	5E+3	2E-6	6E-9	-	-
72	Hafnium-172	D, see ¹⁷⁰ Hf	1E+3	9E+0	4E-9	-	2E-5	2E-4
		W, see ¹⁷⁰ Hf	-	Bone surf (2E+1)	-	3E-11	-	-
			-	4E+1	2E-8	-	-	-
			-	Bone surf (6E+1)	-	8E-11	-	-
72	Hafnium-173	D, see ¹⁷⁰ Hf	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4
		W, see ¹⁷⁰ Hf	-	1E+4	5E-6	2E-8	-	-
72	Hafnium-175	D, see ¹⁷⁰ Hf	3E+3	9E+2	4E-7	-	4E-5	4E-4
		W, see ¹⁷⁰ Hf	-	Bone surf (1E+3)	-	1E-9	-	-
			-	1E+3	5E-7	2E-9	-	-
72	Hafnium-177m ²	D, see ¹⁷⁰ Hf	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3
		W, see ¹⁷⁰ Hf	-	9E+4	4E-5	1E-7	-	-
72	Hafnium-178m	D, see ¹⁷⁰ Hf	3E+2	1E+0	5E-10	-	3E-6	3E-5
		W, see ¹⁷⁰ Hf	-	Bone surf (2E+0)	-	3E-12	-	-
			-	5E+0	2E-9	-	-	-
			-	Bone surf (9E+0)	-	1E-11	-	-
72	Hafnium-179m	D, see ¹⁷⁰ Hf	1E+3	3E+2	1E-7	-	1E-5	1E-4
		W, see ¹⁷⁰ Hf	-	Bone surf (6E+2)	-	8E-10	-	-
			-	6E+2	3E-7	8E-10	-	-
72	Hafnium-180m	D, see ¹⁷⁰ Hf	7E+3	2E+4	9E-6	3E-8	1E-4	1E-3
		W, see ¹⁷⁰ Hf	-	3E+4	1E-5	4E-8	-	-
72	Hafnium-181	D, see ¹⁷⁰ Hf	1E+3	2E+2	7E-8	-	2E-5	2E-4
		W, see ¹⁷⁰ Hf	-	Bone surf (4E+2)	-	6E-10	-	-
			-	4E+2	2E-7	6E-10	-	-
72	Hafnium-182m ²	D, see ¹⁷⁰ Hf	4E+4	9E+4	4E-5	1E-7	5E-4	5E-3
		W, see ¹⁷⁰ Hf	-	1E+5	6E-5	2E-7	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
72	Hafnium-182	D, see ¹⁷⁰ Hf	2E+2	8E-1	3E-10	-	-	-
			Bone surf (4E+2)	Bone surf (2E+0)	-	2E-12	5E-6	5E-5
		W, see ¹⁷⁰ Hf	-	3E+0	1E-9	-	-	-
			-	Bone surf (7E+0)	-	1E-11	-	-
72	Hafnium-183 ²	D, see ¹⁷⁰ Hf	2E+4	5E+4	2E-5	6E-8	3E-4	3E-3
		W, see ¹⁷⁰ Hf	-	6E+4	2E-5	8E-8	-	-
72	Hafnium-184	D, see ¹⁷⁰ Hf	2E+3	8E+3	3E-6	1E-8	3E-5	3E-4
		W, see ¹⁷⁰ Hf	-	6E+3	3E-6	9E-9	-	-
73	Tantalum-172 ²	W, all compounds except those given for Y	4E+4	1E+5	5E-5	2E-7	5E-4	5E-3
		Y, elemental Ta, oxides, hydroxides, halides, carbides, nitrates, and nitrides	-	1E+5	4E-5	1E-7	-	-
73	Tantalum-173	W, see ¹⁷² Ta	7E+3	2E+4	8E-6	3E-8	9E-5	9E-4
		Y, see ¹⁷² Ta	-	2E+4	7E-6	2E-8	-	-
73	Tantalum-174 ²	W, see ¹⁷² Ta	3E+4	1E+5	4E-5	1E-7	4E-4	4E-3
		Y, see ¹⁷² Ta	-	9E+4	4E-5	1E-7	-	-
73	Tantalum-175	W, see ¹⁷² Ta	6E+3	2E+4	7E-6	2E-8	8E-5	8E-4
		Y, see ¹⁷² Ta	-	1E+4	6E-6	2E-8	-	-
73	Tantalum-176	W, see ¹⁷² Ta	4E+3	1E+4	5E-6	2E-8	5E-5	5E-4
		Y, see ¹⁷² Ta	-	1E+4	5E-6	2E-8	-	-
73	Tantalum-177	W, see ¹⁷² Ta	1E+4	2E+4	8E-6	3E-8	2E-4	2E-3
		Y, see ¹⁷² Ta	-	2E+4	7E-6	2E-8	-	-
73	Tantalum-178	W, see ¹⁷² Ta	2E+4	9E+4	4E-5	1E-7	2E-4	2E-3
		Y, see ¹⁷² Ta	-	7E+4	3E-5	1E-7	-	-
73	Tantalum-179	W, see ¹⁷² Ta	2E+4	5E+3	2E-6	8E-9	3E-4	3E-3
		Y, see ¹⁷² Ta	-	9E+2	4E-7	1E-9	-	-
73	Tantalum-180m	W, see ¹⁷² Ta	2E+4	7E+4	3E-5	9E-8	3E-4	3E-3
		Y, see ¹⁷² Ta	-	6E+4	2E-5	8E-8	-	-
73	Tantalum-180	W, see ¹⁷² Ta	1E+3	4E+2	2E-7	6E-10	2E-5	2E-4
		Y, see ¹⁷² Ta	-	2E+1	1E-8	3E-11	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration μCi/ml
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	
				ALI μCi	ALI μCi			
73	Tantalum-182m ²	W, see ¹⁷² Ta	2E+5	5E+5	2E-4	8E-7	-	-
			St wall (2E+5)	-	-	-	3E-3	3E-2
		Y, see ¹⁷² Ta	-	4E+5	2E-4	6E-7	-	-
73	Tantalum-182	W, see ¹⁷² Ta	8E+2	3E+2	1E-7	5E-10	1E-5	1E-4
		Y, see ¹⁷² Ta	-	1E+2	6E-8	2E-10	-	-
73	Tantalum-183	W, see ¹⁷² Ta	9E+2	1E+3	5E-7	2E-9	-	-
			LLI wall (1E+3)	-	-	-	2E-5	2E-4
		Y, see ¹⁷² Ta	-	1E+3	4E-7	1E-9	-	-
73	Tantalum-184	W, see ¹⁷² Ta	2E+3	5E+3	2E-6	8E-9	3E-5	3E-4
		Y, see ¹⁷² Ta	-	5E+3	2E-6	7E-9	-	-
73	Tantalum-185 ²	W, see ¹⁷² Ta	3E+4	7E+4	3E-5	1E-7	4E-4	4E-3
		Y, see ¹⁷² Ta	-	6E+4	3E-5	9E-8	-	-
73	Tantalum-186 ²	W, see ¹⁷² Ta	5E+4	2E+5	1E-4	3E-7	-	-
			St wall (7E+4)	-	-	-	1E-3	1E-2
		Y, see ¹⁷² Ta	-	2E+5	9E-5	3E-7	-	-
74	Tungsten-176	D, all compounds	1E+4	5E+4	2E-5	7E-8	1E-4	1E-3
74	Tungsten-177	D, all compounds	2E+4	9E+4	4E-5	1E-7	3E-4	3E-3
74	Tungsten-178	D, all compounds	5E+3	2E+4	8E-6	3E-8	7E-5	7E-4
74	Tungsten-179 ²	D, all compounds	5E+5	2E+6	7E-4	2E-6	7E-3	7E-2
74	Tungsten-181	D, all compounds	2E+4	3E+4	1E-5	5E-8	2E-4	2E-3
74	Tungsten-185	D, all compounds	2E+3	7E+3	3E-6	9E-9	-	-
			LLI wall (3E+3)	-	-	-	4E-5	4E-4
74	Tungsten-187	D, all compounds	2E+3	9E+3	4E-6	1E-8	3E-5	3E-4
74	Tungsten-188	D, all compounds	4E+2	1E+3	5E-7	2E-9	-	-
			LLI wall (5E+2)	-	-	-	7E-6	7E-5
75	Rhenium-177 ²	D, all compounds except those given for W	9E+4	3E+5	1E-4	4E-7	-	-
			St wall (1E+5)	-	-	-	2E-3	2E-2

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
		W, oxides, hydroxides, and nitrates	-	4E+5	1E-4	5E-7	-	-
75	Rhenium-178 ²	D, see ¹⁷⁷ Re	7E+4	3E+5	1E-4	4E-7	-	-
		St wall (1E+5)	-	-	-	-	1E-3	1E-2
		W, see ¹⁷⁷ Re	-	3E+5	1E-4	4E-7	-	-
75	Rhenium-181	D, see ¹⁷⁷ Re	5E+3	9E+3	4E-6	1E-8	7E-5	7E-4
		W, see ¹⁷⁷ Re	-	9E+3	4E-6	1E-8	-	-
75	Rhenium-182 (12.7 h)	D, see ¹⁷⁷ Re	7E+3	1E+4	5E-6	2E-8	9E-5	9E-4
		W, see ¹⁷⁷ Re	-	2E+4	6E-6	2E-8	-	-
75	Rhenium-182 (64.0 h)	D, see ¹⁷⁷ Re	1E+3	2E+3	1E-6	3E-9	2E-5	2E-4
		W, see ¹⁷⁷ Re	-	2E+3	9E-7	3E-9	-	-
75	Rhenium-184m	D, see ¹⁷⁷ Re	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4
		W, see ¹⁷⁷ Re	-	4E+2	2E-7	6E-10	-	-
75	Rhenium-184	D, see ¹⁷⁷ Re	2E+3	4E+3	1E-6	5E-9	3E-5	3E-4
		W, see ¹⁷⁷ Re	-	1E+3	6E-7	2E-9	-	-
75	Rhenium-186m	D, see ¹⁷⁷ Re	1E+3	2E+3	7E-7	-	-	-
		St wall (2E+3)	-	St wall (2E+3)	-	3E-9	2E-5	2E-4
		W, see ¹⁷⁷ Re	-	2E+2	6E-8	2E-10	-	-
75	Rhenium-186	D, see ¹⁷⁷ Re	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4
		W, see ¹⁷⁷ Re	-	2E+3	7E-7	2E-9	-	-
75	Rhenium-187	D, see ¹⁷⁷ Re	6E+5	8E+5	4E-4	-	8E-3	8E-2
		St wall (9E+5)	-	St wall (9E+5)	-	1E-6	-	-
		W, see ¹⁷⁷ Re	-	1E+5	4E-5	1E-7	-	-
75	Rhenium-188m ²	D, see ¹⁷⁷ Re	8E+4	1E+5	6E-5	2E-7	1E-3	1E-2
		W, see ¹⁷⁷ Re	-	1E+5	6E-5	2E-7	-	-
75	Rhenium-188	D, see ¹⁷⁷ Re	2E+3	3E+3	1E-6	4E-9	2E-5	2E-4
		W, see ¹⁷⁷ Re	-	3E+3	1E-6	4E-9	-	-
75	Rhenium-189	D, see ¹⁷⁷ Re	3E+3	5E+3	2E-6	7E-9	4E-5	4E-4
		W, see ¹⁷⁷ Re	-	4E+3	2E-6	6E-9	-	-
76	Osmium-180 ²	D, all compounds except those given for W and Y	1E+5	4E+5	2E-4	5E-7	1E-3	1E-2
		W, halides and nitrates	-	5E+5	2E-4	7E-7	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
		Y, oxides and hydroxides	-	5E+5	2E-4	6E-7	-	-
76	Osmium-181 ²	D, see ¹⁸⁰ Os	1E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see ¹⁸⁰ Os	-	5E+4	2E-5	6E-8	-	-
		Y, see ¹⁸⁰ Os	-	4E+4	2E-5	6E-8	-	-
76	Osmium-182	D, see ¹⁸⁰ Os	2E+3	6E+3	2E-6	8E-9	3E-5	3E-4
		W, see ¹⁸⁰ Os	-	4E+3	2E-6	6E-9	-	-
		Y, see ¹⁸⁰ Os	-	4E+3	2E-6	6E-9	-	-
76	Osmium-185	D, see ¹⁸⁰ Os	2E+3	5E+2	2E-7	7E-10	3E-5	3E-4
		W, see ¹⁸⁰ Os	-	8E+2	3E-7	1E-9	-	-
		Y, see ¹⁸⁰ Os	-	8E+2	3E-7	1E-9	-	-
76	Osmium-189m	D, see ¹⁸⁰ Os	8E+4	2E+5	1E-4	3E-7	1E-3	1E-2
		W, see ¹⁸⁰ Os	-	2E+5	9E-5	3E-7	-	-
		Y, see ¹⁸⁰ Os	-	2E+5	7E-5	2E-7	-	-
76	Osmium-191m	D, see ¹⁸⁰ Os	1E+4	3E+4	1E-5	4E-8	2E-4	2E-3
		W, see ¹⁸⁰ Os	-	2E+4	8E-6	3E-8	-	-
		Y, see ¹⁸⁰ Os	-	2E+4	7E-6	2E-8	-	-
76	Osmium-191	D, see ¹⁸⁰ Os	2E+3	2E+3	9E-7	3E-9	-	-
		LLI wall (3E+3)	-	-	-	-	3E-5	3E-4
		W, see ¹⁸⁰ Os	-	2E+3	7E-7	2E-9	-	-
76	Osmium-193	D, see ¹⁸⁰ Os	2E+3	5E+3	2E-6	6E-9	-	-
		LLI wall (2E+3)	-	-	-	-	2E-5	2E-4
		W, see ¹⁸⁰ Os	-	3E+3	1E-6	4E-9	-	-
76	Osmium-194	D, see ¹⁸⁰ Os	4E+2	4E+1	2E-8	6E-11	-	-
		LLI wall (6E+2)	-	-	-	-	8E-6	8E-5
		W, see ¹⁸⁰ Os	-	6E+1	2E-8	8E-11	-	-
77	Iridium-182 ²	Y, oxides and hydroxides	-	1E+5	5E-5	2E-7	-	-
		D, all compounds except those given for W and Y	4E+4	1E+5	6E-5	2E-7	-	-
		St wall (4E+4)	-	-	-	-	6E-4	6E-3
		W, halides, nitrates, and metallic iridium	-	2E+5	6E-5	2E-7	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
77	Iridium-184	D, see ¹⁸² Ir	8E+3	2E+4	1E-5	3E-8	1E-4	1E-3
		W, see ¹⁸² Ir	-	3E+4	1E-5	5E-8	-	-
		Y, see ¹⁸² Ir	-	3E+4	1E-5	4E-8	-	-
77	Iridium-185	D, see ¹⁸² Ir	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4
		W, see ¹⁸² Ir	-	1E+4	5E-6	2E-8	-	-
		Y, see ¹⁸² Ir	-	1E+4	4E-6	1E-8	-	-
77	Iridium-186	D, see ¹⁸² Ir	2E+3	8E+3	3E-6	1E-8	3E-5	3E-4
		W, see ¹⁸² Ir	-	6E+3	3E-6	9E-9	-	-
		Y, see ¹⁸² Ir	-	6E+3	2E-6	8E-9	-	-
77	Iridium-187	D, see ¹⁸² Ir	1E+4	3E+4	1E-5	5E-8	1E-4	1E-3
		W, see ¹⁸² Ir	-	3E+4	1E-5	4E-8	-	-
		Y, see ¹⁸² Ir	-	3E+4	1E-5	4E-8	-	-
77	Iridium-188	D, see ¹⁸² Ir	2E+3	5E+3	2E-6	6E-9	3E-5	3E-4
		W, see ¹⁸² Ir	-	4E+3	1E-6	5E-9	-	-
		Y, see ¹⁸² Ir	-	3E+3	1E-6	5E-9	-	-
77	Iridium-189	D, see ¹⁸² Ir	5E+3	5E+3	2E-6	7E-9	-	-
		LLI wall (5E+3)	-	-	-	-	7E-5	7E-4
		W, see ¹⁸² Ir	-	4E+3	2E-6	5E-9	-	-
77	Iridium-190m ²	Y, see ¹⁸² Ir	-	4E+3	1E-6	5E-9	-	-
		D, see ¹⁸² Ir	2E+5	2E+5	8E-5	3E-7	2E-3	2E-2
		W, see ¹⁸² Ir	-	2E+5	9E-5	3E-7	-	-
77	Iridium-190	Y, see ¹⁸² Ir	-	2E+5	8E-5	3E-7	-	-
		D, see ¹⁸² Ir	1E+3	9E+2	4E-7	1E-9	1E-5	1E-4
		W, see ¹⁸² Ir	-	1E+3	4E-7	1E-9	-	-
77	Iridium-192m	Y, see ¹⁸² Ir	-	9E+2	4E-7	1E-9	-	-
		D, see ¹⁸² Ir	3E+3	9E+1	4E-8	1E-10	4E-5	4E-4
		W, see ¹⁸² Ir	-	2E+2	9E-8	3E-10	-	-
77	Iridium-192	Y, see ¹⁸² Ir	-	2E+1	6E-9	2E-11	-	-
		D, see ¹⁸² Ir	9E+2	3E+2	1E-7	4E-10	1E-5	1E-4
		W, see ¹⁸² Ir	-	4E+2	2E-7	6E-10	-	-
77	Iridium-194m	Y, see ¹⁸² Ir	-	2E+2	9E-8	3E-10	-	-
		D, see ¹⁸² Ir	6E+2	9E+1	4E-8	1E-10	9E-6	9E-5
		W, see ¹⁸² Ir	-	2E+2	7E-8	2E-10	-	-
77	Iridium-194m	Y, see ¹⁸² Ir	-	1E+2	4E-8	1E-10	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air $\mu\text{Ci}/\text{ml}$	Water $\mu\text{Ci}/\text{ml}$	$\mu\text{Ci}/\text{ml}$
				ALI μCi	ALI μCi			
77	Iridium-194	D, see ^{182}Ir	1E+3	3E+3	1E-6	4E-9	1E-5	1E-4
		W, see ^{182}Ir	-	2E+3	9E-7	3E-9	-	-
		Y, see ^{182}Ir	-	2E+3	8E-7	3E-9	-	-
77	Iridium-195m	D, see ^{182}Ir	8E+3	2E+4	1E-5	3E-8	1E-4	1E-3
		W, see ^{182}Ir	-	3E+4	1E-5	4E-8	-	-
		Y, see ^{182}Ir	-	2E+4	9E-6	3E-8	-	-
77	Iridium-195	D, see ^{182}Ir	1E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see ^{182}Ir	-	5E+4	2E-5	7E-8	-	-
		Y, see ^{182}Ir	-	4E+4	2E-5	6E-8	-	-
78	Platinum-186	D, all compounds	1E+4	4E+4	2E-5	5E-8	2E-4	2E-3
78	Platinum-188	D, all compounds	2E+3	2E+3	7E-7	2E-9	2E-5	2E-4
78	Platinum-189	D, all compounds	1E+4	3E+4	1E-5	4E-8	1E-4	1E-3
78	Platinum-191	D, all compounds	4E+3	8E+3	4E-6	1E-8	5E-5	5E-4
78	Platinum-193m	D, all compounds	3E+3	6E+3	3E-6	8E-9	-	-
78	Platinum-193	D, all compounds	LLI wall (3E+4)	-	-	-	4E-5	4E-4
		D, all compounds	4E+4	2E+4	1E-5	3E-8	-	-
78	Platinum-195m	D, all compounds	LLI wall (5E+4)	-	-	-	6E-4	6E-3
		D, all compounds	2E+3	4E+3	2E-6	6E-9	-	-
78	Platinum-197m ²	D, all compounds	LLI wall (2E+3)	-	-	-	3E-5	3E-4
		D, all compounds	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
78	Platinum-197	D, all compounds	3E+3	1E+4	4E-6	1E-8	4E-5	4E-4
78	Platinum-199 ²	D, all compounds	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3
78	Platinum-200	D, all compounds	1E+3	3E+3	1E-6	5E-9	2E-5	2E-4
79	Gold-193	D, all compounds except those given for W and Y	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3
		W, halides and nitrates	-	2E+4	9E-6	3E-8	-	-
		Y, oxides and hydroxides	-	2E+4	8E-6	3E-8	-	-
79	Gold-194	D, see ^{193}Au	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
		W, see ^{193}Au	-	5E+3	2E-6	8E-9	-	-
		Y, see ^{193}Au	-	5E+3	2E-6	7E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
79	Gold-195	D, see ¹⁹³ Au	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4
		W, see ¹⁹³ Au	-	1E+3	6E-7	2E-9	-	-
		Y, see ¹⁹³ Au	-	4E+2	2E-7	6E-10	-	-
79	Gold-198m	D, see ¹⁹³ Au	1E+3	3E+3	1E-6	4E-9	1E-5	1E-4
		W, see ¹⁹³ Au	-	1E+3	5E-7	2E-9	-	-
		Y, see ¹⁹³ Au	-	1E+3	5E-7	2E-9	-	-
79	Gold-198	D, see ¹⁹³ Au	1E+3	4E+3	2E-6	5E-9	2E-5	2E-4
		W, see ¹⁹³ Au	-	2E+3	8E-7	3E-9	-	-
		Y, see ¹⁹³ Au	-	2E+3	7E-7	2E-9	-	-
79	Gold-199	D, see ¹⁹³ Au	3E+3	9E+3	4E-6	1E-8	-	-
		LLI wall (3E+3)	-	-	-	-	4E-5	4E-4
		W, see ¹⁹³ Au	-	4E+3	2E-6	6E-9	-	-
79	Gold-200m	D, see ¹⁹³ Au	1E+3	4E+3	1E-6	5E-9	2E-5	2E-4
		W, see ¹⁹³ Au	-	3E+3	1E-6	4E-9	-	-
		Y, see ¹⁹³ Au	-	2E+4	1E-6	3E-9	-	-
79	Gold-200 ²	D, see ¹⁹³ Au	3E+4	6E+4	3E-5	9E-8	4E-4	4E-3
		W, see ¹⁹³ Au	-	8E+4	3E-5	1E-7	-	-
		Y, see ¹⁹³ Au	-	7E+4	3E-5	1E-7	-	-
79	Gold-201 ²	D, see ¹⁹³ Au	7E+4	2E+5	9E-5	3E-7	-	-
		St wall (9E+4)	-	-	-	-	1E-3	1E-2
		W, see ¹⁹³ Au	-	2E+5	1E-4	3E-7	-	-
80	Mercury-193m	Vapor	-	8E+3	4E-6	1E-8	-	-
		Organic D	4E+3	1E+4	5E-6	2E-8	6E-5	6E-4
		D, sulfates	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4
80	Mercury-193	W, oxides, hydroxides, halides, nitrates, and sulfides	-	8E+3	3E-6	1E-8	-	-
		Vapor	-	3E+4	1E-5	4E-8	-	-
		Organic D	2E+4	6E+4	3E-5	9E-8	3E-4	3E-3
80	Mercury-194	D, see ^{193m} Hg	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see ^{193m} Hg	-	4E+4	2E-5	6E-8	-	-
		Vapor	-	3E+1	1E-8	4E-11	-	-
80	Mercury-194	Organic D	2E+1	3E+1	1E-8	4E-11	2E-7	2E-6
		D, see ^{193m} Hg	8E+2	4E+1	2E-8	6E-11	1E-5	1E-4

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
		W, see ^{193m} Hg	-	1E+2	5E-8	2E-10	-	-
80	Mercury-195m	Vapor	-	4E+3	2E-6	6E-9	-	-
		Organic D	3E+3	6E+3	3E-6	8E-9	4E-5	4E-4
		D, see ^{193m} Hg	2E+3	5E+3	2E-6	7E-9	3E-5	3E-4
		W, see ^{193m} Hg	-	4E+3	2E-6	5E-9	-	-
80	Mercury-195	Vapor	-	3E+4	1E-5	4E-8	-	-
		Organic D	2E+4	5E+4	2E-5	6E-8	2E-4	2E-3
		D, see ^{193m} Hg	1E+4	4E+4	1E-5	5E-8	2E-4	2E-3
		W, see ^{193m} Hg	-	3E+4	1E-5	5E-8	-	-
80	Mercury-197m	Vapor	-	5E+3	2E-6	7E-9	-	-
		Organic D	4E+3	9E+3	4E-6	1E-8	5E-5	5E-4
		D, see ^{193m} Hg	3E+3	7E+3	3E-6	1E-8	4E-5	4E-4
		W, see ^{193m} Hg	-	5E+3	2E-6	7E-9	-	-
80	Mercury-197	Vapor	-	8E+3	4E-6	1E-8	-	-
		Organic D	7E+3	1E+4	6E-6	2E-8	9E-5	9E-4
		D, see ^{193m} Hg	6E+3	1E+4	5E-6	2E-8	8E-5	8E-4
		W, see ^{193m} Hg	-	9E+3	4E-6	1E-8	-	-
80	Mercury-199m ²	Vapor	-	8E+4	3E-5	1E-7	-	-
		Organic D	6E+4	2E+5	7E-5	2E-7	-	-
		St wall (1E+5)	-	-	-	-	1E-3	1E-2
		D, see ^{193m} Hg	6E+4	1E+5	6E-5	2E-7	8E-4	8E-3
		W, see ^{193m} Hg	-	2E+5	7E-5	2E-7	-	-
80	Mercury-203	Vapor	-	8E+2	4E-7	1E-9	-	-
		Organic D	5E+2	8E+2	3E-7	1E-9	7E-6	7E-5
		D, see ^{193m} Hg	2E+3	1E+3	5E-7	2E-9	3E-5	3E-4
		W, see ^{193m} Hg	-	1E+3	5E-7	2E-9	-	-
81	Thallium-194m ²	D, all compounds	5E+4	2E+5	6E-5	2E-7	-	-
		St wall (7E+4)	-	-	-	-	1E-3	1E-2
81	Thallium-194 ²	D, all compounds	3E+5	6E+5	2E-4	8E-7	-	-
		St wall (3E+5)	-	-	-	-	4E-3	4E-2
81	Thallium-195 ²	D, all compounds	6E+4	1E+5	5E-5	2E-7	9E-4	9E-3
81	Thallium-197	D, all compounds	7E+4	1E+5	5E-5	2E-7	1E-3	1E-2
81	Thallium-198m ²	D, all compounds	3E+4	5E+4	2E-5	8E-8	4E-4	4E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
81	Thallium-198	D, all compounds	2E+4	3E+4	1E-5	5E-8	3E-4	3E-3
81	Thallium-199	D, all compounds	6E+4	8E+4	4E-5	1E-7	9E-4	9E-3
81	Thallium-200	D, all compounds	8E+3	1E+4	5E-6	2E-8	1E-4	1E-3
81	Thallium-201	D, all compounds	2E+4	2E+4	9E-6	3E-8	2E-4	2E-3
81	Thallium-202	D, all compounds	4E+3	5E+3	2E-6	7E-9	5E-5	5E-4
81	Thallium-204	D, all compounds	2E+3	2E+3	9E-7	3E-9	2E-5	2E-4
82	Lead-195m ²	D, all compounds	6E+4	2E+5	8E-5	3E-7	8E-4	8E-3
82	Lead-198	D, all compounds	3E+4	6E+4	3E-5	9E-8	4E-4	4E-3
82	Lead-199 ²	D, all compounds	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3
82	Lead-200	D, all compounds	3E+3	6E+3	3E-6	9E-9	4E-5	4E-4
82	Lead-201	D, all compounds	7E+3	2E+4	8E-6	3E-8	1E-4	1E-3
82	Lead-202m	D, all compounds	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3
82	Lead-202	D, all compounds	1E+2	5E+1	2E-8	7E-11	2E-6	2E-5
82	Lead-203	D, all compounds	5E+3	9E+3	4E-6	1E-8	7E-5	7E-4
82	Lead-205	D, all compounds	4E+3	1E+3	6E-7	2E-9	5E-5	5E-4
82	Lead-209	D, all compounds	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3
82	Lead-210	D, all compounds	6E-1 Bone surf (1E+0)	2E-1 Bone surf (4E-1)	1E-10 -	- 6E-13	- 1E-8	- 1E-7
82	Lead-211 ²	D, all compounds	1E+4	6E+2	3E-7	9E-10	2E-4	2E-3
82	Lead-212	D, all compounds	8E+1 Bone surf (1E+2)	3E+1 -	1E-8 -	5E-11 -	- 2E-6	- 2E-5
82	Lead-214 ²	D, all compounds	9E+3	8E+2	3E-7	1E-9	1E-4	1E-3
83	Bismuth-200 ²	D, nitrates W, all other compounds	3E+4 -	8E+4 1E+5	4E-5 4E-5	1E-7 1E-7	4E-4 -	4E-3 -

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
83	Bismuth-201 ²	D, see ²⁰⁰ Bi	1E+4	3E+4	1E-5	4E-8	2E-4	2E-3
		W, see ²⁰⁰ Bi	-	4E+4	2E-5	5E-8	-	-
83	Bismuth-202 ²	D, see ²⁰⁰ Bi	1E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see ²⁰⁰ Bi	-	8E+4	3E-5	1E-7	-	-
83	Bismuth-203	D, see ²⁰⁰ Bi	2E+3	7E+3	3E-6	9E-9	3E-5	3E-4
		W, see ²⁰⁰ Bi	-	6E+3	3E-6	9E-9	-	-
83	Bismuth-205	D, see ²⁰⁰ Bi	1E+3	3E+3	1E-6	3E-9	2E-5	2E-4
		W, see ²⁰⁰ Bi	-	1E+3	5E-7	2E-9	-	-
83	Bismuth-206	D, see ²⁰⁰ Bi	6E+2	1E+3	6E-7	2E-9	9E-6	9E-5
		W, see ²⁰⁰ Bi	-	9E+2	4E-7	1E-9	-	-
83	Bismuth-207	D, see ²⁰⁰ Bi	1E+3	2E+3	7E-7	2E-9	1E-5	1E-4
		W, see ²⁰⁰ Bi	-	4E+2	1E-7	5E-10	-	-
83	Bismuth-210m	D, see ²⁰⁰ Bi	4E+1	5E+0	2E-9	-	-	-
		Kidneys (6E+1)	-	Kidneys (6E+0)	-	9E-12	8E-7	8E-6
83	Bismuth-210	W, see ²⁰⁰ Bi	-	7E-1	3E-10	9E-13	-	-
		D, see ²⁰⁰ Bi	8E+2	2E+2	1E-7	-	1E-5	1E-4
83	Bismuth-212 ²	D, see ²⁰⁰ Bi	5E+3	2E+2	1E-7	3E-10	7E-5	7E-4
		W, see ²⁰⁰ Bi	-	3E+2	1E-7	4E-10	-	-
83	Bismuth-213 ²	D, see ²⁰⁰ Bi	7E+3	3E+2	1E-7	4E-10	1E-4	1E-3
		W, see ²⁰⁰ Bi	-	4E+2	1E-7	5E-10	-	-
83	Bismuth-214 ²	D, see ²⁰⁰ Bi	2E+4	8E+2	3E-7	1E-9	-	-
		W, see ²⁰⁰ Bi	-	9E-2	4E-7	1E-9	-	-
84	Polonium-203 ²	St wall (2E+4)	-	-	-	-	3E-4	3E-3
		D, all compounds except those given for W	3E+4	6E+4	3E-5	9E-8	3E-4	3E-3
84	Polonium-205 ²	W, oxides, hydroxides, and nitrates	-	9E+4	4E-5	1E-7	-	-
		D, see ²⁰³ Po	2E+4	4E+4	2E-5	5E-8	3E-4	3E-3
		W, see ²⁰³ Po	-	7E+4	3E-5	1E-7	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
84	Polonium-207	D, see ²⁰³ Po	8E+3	3E+4	1E-5	3E-8	1E-4	1E-3
		W, see ²⁰³ Po	-	3E+4	1E-5	4E-8	-	-
84	Polonium-210	D, see ²⁰³ Po	3E+0	6E-1	3E-10	9E-13	4E-8	4E-7
		W, see ²⁰³ Po	-	6E-1	3E-10	9E-13	-	-
85	Astatine-207 ²	D, halides	6E+3	3E+3	1E-6	4E-9	8E-5	8E-4
		W	-	2E+3	9E-7	3E-9	-	-
85	Astatine-211	D, halides	1E+2	8E+1	3E-8	1E-10	2E-6	2E-5
		W	-	5E+1	2E-8	8E-11	-	-
86	Radon-220	With daughters removed	-	2E+4	7E-6	2E-8	-	-
		With daughters present	-	2E+1 (or 12 work- ing level months)	9E-9	3E-11 (or 1.0 working level)	-	-
86	Radon-222	With daughters removed	-	1E+4	4E-6	1E-8	-	-
		With daughters present	-	1E+2 (or 4 work- ing level months)	3E-8	1E-10 (or 0.33 working level)	-	-
87	Francium-222 ²	D, all compounds	2E+3	5E+2	2E-7	6E-10	3E-5	3E-4
87	Francium-223 ²	D, all compounds	6E+2	8E+2	3E-7	1E-9	8E-6	8E-5
88	Radium-223	W, all compounds	5E+0	7E-1	3E-10	9E-13	-	-
		Bone surf (9E+0)	-	-	-	-	1E-7	1E-6
88	Radium-224	W, all compounds	8E+0	2E+0	7E-10	2E-12	-	-
		Bone surf (2E+1)	-	-	-	-	2E-7	2E-6
88	Radium-225	W, all compounds	8E+0	7E-1	3E-10	9E-13	-	-
		Bone surf (2E+1)	-	-	-	-	2E-7	2E-6
88	Radium-226	W, all compounds	2E+0	6E-1	3E-10	9E-13	-	-
		Bone surf (5E+0)	-	-	-	-	6E-8	6E-7
88	Radium-227 ²	W, all compounds	2E+4	1E+4	6E-6	-	-	-
		Bone surf (2E+4)	-	Bone surf (2E+4)	-	3E-8	3E-4	3E-3

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration μCi/ml
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	
				ALI μCi	ALI μCi			
88	Radium-228	W, all compounds	2E+0	1E+0	5E-10	2E-12	-	-
			Bone surf (4E+0)	-	-	-	6E-8	6E-7
89	Actinium-224	D, all compounds except those given for W and Y	2E+3	3E+1	1E-8	-	-	-
			LLI wall (2E+3)	Bone surf (4E+1)	-	5E-11	3E-5	3E-4
		W, halides and nitrates	-	5E+1	2E-8	7E-11	-	-
		Y, oxides and hydroxides	-	5E+1	2E-8	6E-11	-	-
89	Actinium-225	D, see ²²⁴ Ac	5E+1	3E-1	1E-10	-	-	-
			LLI wall (5E+1)	Bone surf (5E-1)	-	7E-13	7E-7	7E-6
		W, see ²²⁴ Ac	-	6E-1	3E-10	9E-13	-	-
		Y, see ²²⁴ Ac	-	6E-1	3E-10	9E-13	-	-
89	Actinium-226	D, see ²²⁴ Ac	1E+2	3E+0	1E-9	-	-	-
			LLI wall (1E+2)	Bone surf (4E+0)	-	5E-12	2E-6	2E-5
		W, see ²²⁴ Ac	-	5E+0	2E-9	7E-12	-	-
		Y, see ²²⁴ Ac	-	5E+0	2E-9	6E-12	-	-
89	Actinium-227	D, see ²²⁴ Ac	2E-1	4E-4	2E-13	-	-	-
			Bone surf (4E-1)	Bone surf (8E-4)	-	1E-15	5E-9	5E-8
		W, see ²²⁴ Ac	-	2E-3	7E-13	-	-	-
			-	Bone surf (3E-3)	-	4E-15	-	-
		Y, see ²²⁴ Ac	-	4E-3	2E-12	6E-15	-	-
89	Actinium-228	D, see ²²⁴ Ac	2E+3	9E+0	4E-9	-	3E-5	3E-4
			-	Bone surf (2E+1)	-	2E-11	-	-
		W, see ²²⁴ Ac	-	4E+1	2E-8	-	-	-
			-	Bone surf (6E+1)	-	8E-11	-	-
		Y, see ²²⁴ Ac	-	4E+1	2E-8	6E-11	-	-
90	Thorium-226 ²	W, all compounds except those given for Y	5E+3	2E+2	6E-8	2E-10	-	-
			St wall (5E+3)	-	-	-	7E-5	7E-4
		Y, oxides and hydroxides	-	1E+2	6E-8	2E-10	-	-
90	Thorium-227	W, see ²²⁶ Th	1E+2	3E-1	1E-10	5E-13	2E-6	2E-5
		Y, see ²²⁶ Th	-	3E-1	1E-10	5E-13	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
			ALI μCi	ALI μCi	DAC μCi/ml			
90	Thorium-228	W, see ²²⁶ Th	6E+0	1E-2	4E-12	-	-	-
			Bone surf (1E+1)	Bone surf (2E-2)	-	3E-14	2E-7	2E-6
		Y, see ²²⁶ Th	-	2E-2	7E-12	2E-14	-	-
90	Thorium-229	W, see ²²⁶ Th	6E-1	9E-4	4E-13	-	-	-
			Bone surf (1E+0)	Bone surf (2E-3)	-	3E-15	2E-8	2E-7
		Y, see ²²⁶ Th	-	2E-3	1E-12	-	-	-
			-	Bone surf (3E-3)	-	4E-15	-	-
90	Thorium-230	W, see ²²⁶ Th	4E+0	6E-3	3E-12	-	-	-
			Bone surf (9E+0)	Bone surf (2E-2)	-	2E-14	1E-7	1E-6
		Y, see ²²⁶ Th	-	2E-2	6E-12	-	-	-
			-	Bone surf (2E-2)	-	3E-14	-	-
90	Thorium-231	W, see ²²⁶ Th	4E+3	6E+3	3E-6	9E-9	5E-5	5E-4
		Y, see ²²⁶ Th	-	6E+3	3E-6	9E-9	-	-
90	Thorium-232	W, see ²²⁶ Th	7E-1	1E-3	5E-13	-	-	-
			Bone surf (2E+0)	Bone surf (3E-3)	-	4E-15	3E-8	3E-7
		Y, see ²²⁶ Th	-	3E-3	1E-12	-	-	-
			-	Bone surf (4E-3)	-	6E-15	-	-
90	Thorium-234	W, see ²²⁶ Th	3E+2	2E+2	8E-8	3E-10	-	-
			LLI wall (4E+2)	-	-	-	5E-6	5E-5
		Y, see ²²⁶ Th	-	2E+2	6E-8	2E-10	-	-
91	Protactinium-227 ²	W, all compounds except those given for Y	4E+3	1E+2	5E-8	2E-10	5E-5	5E-4
		Y, oxides and hydroxides	-	1E+2	4E-8	1E-10	-	-
91	Protactinium-228	W, see ²²⁷ Pa	1E+3	1E+1	5E-9	-	2E-5	2E-4
			-	Bone surf (2E+1)	-	3E-11	-	-
		Y, see ²²⁷ Pa	-	1E+1	5E-9	2E-11	-	-
91	Protactinium-230	W, see ²²⁷ Pa	6E+2	5E+0	2E-9	7E-12	-	-
			Bone surf (9E+2)	-	-	-	1E-5	1E-4
		Y, see ²²⁷ Pa	-	4E+0	1E-9	5E-12	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration μCi/ml
			Oral Ingestion ALI μCi	Inhalation ALI μCi DAC μCi/ml		Air μCi/ml	Water μCi/ml	
91	Protactinium-231	W, see ²²⁷ Pa	2E-1	2E-3	6E-13	-	-	-
			Bone surf (5E-1)	Bone surf (4E-3)	-	6E-15	6E-9	6E-8
		Y, see ²²⁷ Pa	-	4E-3	2E-12	-	-	-
			-	Bone surf (6E-3)	-	8E-15	-	-
91	Protactinium-232	W, see ²²⁷ Pa	1E+3	2E+1	9E-9	-	2E-5	2E-4
			-	Bone surf (6E+1)	-	8E-11	-	-
		Y, see ²²⁷ Pa	-	6E+1	2E-8	-	-	-
			-	Bone surf (7E+1)	-	1E-10	-	-
91	Protactinium-233	W, see ²²⁷ Pa	1E+3	7E+2	3E-7	1E-9	-	-
			LLI wall (2E+3)	-	-	-	2E-5	2E-4
		Y, see ²²⁷ Pa	-	6E+2	2E-7	8E-10	-	-
91	Protactinium-234	W, see ²²⁷ Pa	2E+3	8E+3	3E-6	1E-8	3E-5	3E-4
		Y, see ²²⁷ Pa	-	7E+3	3E-6	9E-9	-	-
92	Uranium-230	D, UF ₆ , UO ₂ F ₂ , UO ₂ (NO ₃) ₂	4E+0	4E-1	2E-10	-	-	-
			Bone surf (6E+0)	Bone surf (6E-1)	-	8E-13	8E-8	8E-7
		W, UO ₃ , UF ₄ , UCl ₄	-	4E-1	1E-10	5E-13	-	-
		Y, UO ₂ , U ₃ O ₈	-	3E-1	1E-10	4E-13	-	-
92	Uranium-231	D, see ²³⁰ U	5E+3	8E+3	3E-6	1E-8	-	-
			LLI wall (4E+3)	-	-	-	6E-5	6E-4
		W, see ²³⁰ U	-	6E+3	2E-6	8E-9	-	-
		Y, see ²³⁰ U	-	5E+3	2E-6	6E-9	-	-
92	Uranium-232	D, see ²³⁰ U	2E+0	2E-1	9E-11	-	-	-
			Bone surf (4E+0)	Bone surf (4E-1)	-	6E-13	6E-8	6E-7
		W, see ²³⁰ U	-	4E-1	2E-10	5E-13	-	-
		Y, see ²³⁰ U	-	8E-3	3E-12	1E-14	-	-
92	Uranium-233	D, see ²³⁰ U	1E+1	1E+0	5E-10	-	-	-
			Bone surf (2E+1)	Bone surf (2E+0)	-	3E-12	3E-7	3E-6
		W, see ²³⁰ U	-	7E-1	3E-10	1E-12	-	-
		Y, see ²³⁰ U	-	4E-2	2E-11	5E-14	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
92	Uranium-234 ³	D, see ²³⁰ U	1E+1	1E+0	5E-10	-	-	-
			Bone surf (2E+1)	Bone surf (2E+0)	-	3E-12	3E-7	3E-6
		W, see ²³⁰ U	-	7E-1	3E-10	1E-12	-	-
		Y, see ²³⁰ U	-	4E-2	2E-11	5E-14	-	-
92	Uranium-235 ³	D, see ²³⁰ U	1E+1	1E+0	6E-10	-	-	-
			Bone surf (2E+1)	Bone surf (2E+0)	-	3E-12	3E-7	3E-6
		W, see ²³⁰ U	-	8E-1	3E-10	1E-12	-	-
		Y, see ²³⁰ U	-	4E-2	2E-11	6E-14	-	-
92	Uranium-236	D, see ²³⁰ U	1E+1	1E+0	5E-10	-	-	-
			Bone surf (2E+1)	Bone surf (2E+0)	-	3E-12	3E-7	3E-6
		W, see ²³⁰ U	-	8E-1	3E-10	1E-12	-	-
		Y, see ²³⁰ U	-	4E-2	2E-11	6E-14	-	-
92	Uranium-237	D, see ²³⁰ U	2E+3	3E+3	1E-6	4E-9	-	-
			LLI wall (2E+3)	-	-	-	3E-5	3E-4
		W, see ²³⁰ U	-	2E+3	7E-7	2E-9	-	-
		Y, see ²³⁰ U	-	2E+3	6E-7	2E-9	-	-
92	Uranium-238 ³	D, see ²³⁰ U	1E+1	1E+0	6E-10	-	-	-
			Bone surf (2E+1)	Bone surf (2E+0)	-	3E-12	3E-7	3E-6
		W, see ²³⁰ U	-	8E-1	3E-10	1E-12	-	-
		Y, see ²³⁰ U	-	4E-2	2E-11	6E-14	-	-
92	Uranium-239 ²	D, see ²³⁰ U	7E+4	2E+5	8E-5	3E-7	9E-4	9E-3
		W, see ²³⁰ U	-	2E+5	7E-5	2E-7	-	-
		Y, see ²³⁰ U	-	2E+5	6E-5	2E-7	-	-
92	Uranium-240	D, see ²³⁰ U	1E+3	4E+3	2E-6	5E-9	2E-5	2E-4
		W, see ²³⁰ U	-	3E+3	1E-6	4E-9	-	-
		Y, see ²³⁰ U	-	2E+3	1E-6	3E-9	-	-
92	Uranium-natural ³	D, see ²³⁰ U	1E+1	1E+0	5E-10	-	-	-
			Bone surf (2E+1)	Bone surf (2E+0)	-	3E-12	3E-7	3E-6
		W, see ²³⁰ U	-	8E-1	3E-10	9E-13	-	-
		Y, see ²³⁰ U	-	5E-2	2E-11	9E-14	-	-
93	Neptunium-232 ²	W, all compounds	1E+5	2E+3	7E-7	-	2E-3	2E-2
			-	Bone surf (5E+2)	-	6E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion ALI μCi	Inhalation ALI μCi DAC μCi/ml		Air μCi/ml	Water μCi/ml	μCi/ml
93	Neptunium-233 ²	W, all compounds	8E+5	3E+6	1E-3	4E-6	1E-2	1E-1
93	Neptunium-234	W, all compounds	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4
93	Neptunium-235	W, all compounds	2E+4 LLI wall (2E+4)	8E+2 Bone surf (1E+3)	3E-7 -	- 2E-9	- 3E-4	- 3E-3
93	Neptunium-236 (1.15E+5 y)	W, all compounds	3E+0 Bone surf (6E+0)	2E-2 Bone surf (5E-2)	9E-12 -	- 8E-14	- 9E-8	- 9E-7
93	Neptunium-236 (22.5 h)	W, all compounds	3E+3 Bone surf (4E+3)	3E+1 Bone surf (7E+1)	1E-8 -	- 1E-10	- 5E-5	- 5E-4
93	Neptunium-237	W, all compounds	5E-1 Bone surf (1E+0)	4E-3 Bone surf (1E-2)	2E-12 -	- 1E-14	- 2E-8	- 2E-7
93	Neptunium-238	W, all compounds	1E+3 -	6E+1 Bone surf (2E+2)	3E-8 -	- 2E-10	2E-5 -	2E-4 -
93	Neptunium-239	W, all compounds	2E+3 LLI wall (2E+3)	2E+3 -	9E-7 -	3E-9 -	- 2E-5	- 2E-4
93	Neptunium-240 ²	W, all compounds	2E+4	8E+4	3E-5	1E-7	3E-4	3E-3
94	Plutonium-234	W, all compounds except PuO ₂ Y, PuO ₂	8E+3 -	2E+2 2E+2	9E-8 8E-8	3E-10 3E-10	1E-4 -	1E-3 -
94	Plutonium-235 ²	W, see ²³⁴ Pu Y, see ²³⁴ Pu	9E+5 -	3E+6 3E+6	1E-3 1E-3	4E-6 3E-6	1E-2 -	1E-1 -
94	Plutonium-236	W, see ²³⁴ Pu Y, see ²³⁴ Pu	2E+0 Bone surf (4E+0) -	2E-2 Bone surf (4E-2) 4E-2	8E-12 - 2E-11	- 5E-14 6E-14	- 6E-8 -	- 6E-7 -
94	Plutonium-237	W, see ²³⁴ Pu Y, see ²³⁴ Pu	1E+4 -	3E+3 3E+3	1E-6 1E-6	5E-9 4E-9	2E-4 -	2E-3 -
94	Plutonium-238	W, see ²³⁴ Pu Y, see ²³⁴ Pu	9E-1 Bone surf (2E+0) -	7E-3 Bone surf (1E-2) 2E-2	3E-12 - 8E-12	- 2E-14 2E-14	- 2E-8 -	- 2E-7 -

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion ALI μCi	Inhalation ALI μCi DAC μCi/ml		Air μCi/ml	Water μCi/ml	μCi/ml
94	Plutonium-239	W, see ²³⁴ Pu	8E-1	6E-3	3E-12	-	-	-
		Y, see ²³⁴ Pu	Bone surf (1E+0)	Bone surf (1E-2)	-	2E-14	2E-8	2E-7
94	Plutonium-240	W, see ²³⁴ Pu	8E-1	6E-3	3E-12	-	-	-
		Y, see ²³⁴ Pu	-	2E-2	7E-12	-	-	-
94	Plutonium-241	W, see ²³⁴ Pu	4E+1	3E-1	1E-10	-	-	-
		Y, see ²³⁴ Pu	Bone surf (7E+1)	Bone surf (6E-1)	-	8E-13	1E-6	1E-5
94	Plutonium-242	W, see ²³⁴ Pu	8E-1	7E-3	3E-12	-	-	-
		Y, see ²³⁴ Pu	-	2E-2	7E-12	-	-	-
94	Plutonium-243	W, see ²³⁴ Pu	2E+4	4E+4	2E-5	5E-8	2E-4	2E-3
		Y, see ²³⁴ Pu	-	4E+4	2E-5	5E-8	-	-
94	Plutonium-244	W, see ²³⁴ Pu	8E-1	7E-3	3E-12	-	-	-
		Y, see ²³⁴ Pu	Bone surf (2E+0)	Bone surf (1E-2)	-	2E-14	2E-8	2E-7
94	Plutonium-245	W, see ²³⁴ Pu	2E+3	5E+3	2E-6	6E-9	3E-5	3E-4
		Y, see ²³⁴ Pu	-	4E+3	2E-6	6E-9	-	-
94	Plutonium-246	W, see ²³⁴ Pu	4E+2	3E+2	1E-7	4E-10	-	-
		Y, see ²³⁴ Pu	LLI wall (4E+2)	-	-	-	6E-6	6E-5
95	Americium-237 ²	W, all compounds	8E+4	3E+5	1E-4	4E-7	1E-3	1E-2

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration μCi/ml
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	
				ALI μCi	ALI μCi			
95	Americium-238 ²	W, all compounds	4E+4	3E+3	1E-6	-	5E-4	5E-3
			-	Bone surf (6E+3)	-	9E-9	-	-
95	Americium-239	W, all compounds	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4
95	Americium-240	W, all compounds	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4
95	Americium-241	W, all compounds	8E-1	6E-3	3E-12	-	-	-
			Bone surf (1E+0)	Bone surf (1E-2)	-	2E-14	2E-8	2E-7
95	Americium-242m	W, all compounds	8E-1	6E-3	3E-12	-	-	-
			Bone surf (1E+0)	Bone surf (1E-2)	-	2E-14	2E-8	2E-7
95	Americium-242	W, all compounds	4E+3	8E+1	4E-8	-	5E-5	5E-4
			-	Bone surf (9E+1)	-	1E-10	-	-
95	Americium-243	W, all compounds	8E-1	6E-3	3E-12	-	-	-
			Bone surf (1E+0)	Bone surf (1E-2)	-	2E-14	2E-8	2E-7
95	Americium-244m ²	W, all compounds	6E+4	4E+3	2E-6	-	-	-
			St wall (8E+4)	Bone surf (7E+3)	-	1E-8	1E-3	1E-2
95	Americium-244	W, all compounds	3E+3	2E+2	8E-8	-	4E-5	4E-4
			-	Bone surf (3E+2)	-	4E-10	-	-
95	Americium-245	W, all compounds	3E+4	8E+4	3E-5	1E-7	4E-4	4E-3
95	Americium-246m ²	W, all compounds	5E+4	2E+5	8E-5	3E-7	-	-
			St wall (6E+4)	-	-	-	8E-4	8E-3
95	Americium-246 ²	W, all compounds	3E+4	1E+5	4E-5	1E-7	4E-4	4E-3
96	Curium-238	W, all compounds	2E+4	1E+3	5E-7	2E-9	2E-4	2E-3
96	Curium-240	W, all compounds	6E+1	6E-1	2E-10	-	-	-
			Bone surf (8E+1)	Bone surf (6E-1)	-	9E-13	1E-6	1E-5
96	Curium-241	W, all compounds	1E+3	3E+1	1E-8	-	2E-5	2E-4
			-	Bone surf (4E+1)	-	5E-11	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
96	Curium-242	W, all compounds	3E+1 Bone surf (5E+1)	3E-1 Bone surf (3E-1)	1E-10 - -	- 4E-13 -	- 7E-7 -	- 7E-6 -
96	Curium-243	W, all compounds	1E+0 Bone surf (2E+0)	9E-3 Bone surf (2E-2)	4E-12 - -	- 2E-14 -	- 3E-8 -	- 3E-7 -
96	Curium-244	W, all compounds	1E+0 Bone surf (3E+0)	1E-2 Bone surf (2E-2)	5E-12 - -	- 3E-14 -	- 3E-8 -	- 3E-7 -
96	Curium-245	W, all compounds	7E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 - -	- 2E-14 -	- 2E-8 -	- 2E-7 -
96	Curium-246	W, all compounds	7E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 - -	- 2E-14 -	- 2E-8 -	- 2E-7 -
96	Curium-247	W, all compounds	8E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 - -	- 2E-14 -	- 2E-8 -	- 2E-7 -
96	Curium-248	W, all compounds	2E-1 Bone surf (4E-1)	2E-3 Bone surf (3E-3)	7E-13 - -	- 4E-15 -	- 5E-9 -	- 5E-8 -
96	Curium-249 ²	W, all compounds	5E+4 -	2E+4 Bone surf (3E+4)	7E-6 - -	- 4E-8 -	7E-4 - -	7E-3 - -
96	Curium-250	W, all compounds	4E-2 Bone surf (6E-2)	3E-4 Bone surf (5E-4)	1E-13 - -	- 8E-16 -	- 9E-10 -	- 9E-9 -
97	Berkelium-245	W, all compounds	2E+3	1E+3	5E-7	2E-9	3E-5	3E-4
97	Berkelium-246	W, all compounds	3E+3	3E+3	1E-6	4E-9	4E-5	4E-4
97	Berkelium-247	W, all compounds	5E-1 Bone surf (1E+0)	4E-3 Bone surf (9E-3)	2E-12 - -	- 1E-14 -	- 2E-8 -	- 2E-7 -
97	Berkelium-249	W, all compounds	2E+2 Bone surf (5E+2)	2E+0 Bone surf (4E+0)	7E-10 - -	- 5E-12 -	- 6E-6 -	- 6E-5 -

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion ALI μCi	Inhalation ALI μCi DAC μCi/ml		Air μCi/ml	Water μCi/ml	μCi/ml
97	Berkelium-250	W, all compounds	9E+3	3E+2	1E-7	-	1E-4	1E-3
			-	Bone surf (7E+2)	-	1E-9	-	-
98	Californium-244 ²	W, all compounds except those given for Y	3E+4	6E+2	2E-7	8E-10	-	-
			St wall (3E+4)	-	-	-	4E-4	4E-3
		Y, oxides and hydroxides	-	6E+2	2E-7	8E-10	-	-
98	Californium-246	W, see ²⁴⁴ Cf	4E+2	9E+0	4E-9	1E-11	5E-6	5E-5
		Y, see ²⁴⁴ Cf	-	9E+0	4E-9	1E-11	-	-
98	Californium-248	W, see ²⁴⁴ Cf	8E+0	6E-2	3E-11	-	-	-
			Bone surf (2E+1)	Bone surf (1E-1)	-	2E-13	2E-7	2E-6
		Y, see ²⁴⁴ Cf	-	1E-1	4E-11	1E-13	-	-
98	Californium-249	W, see ²⁴⁴ Cf	5E-1	4E-3	2E-12	-	-	-
			Bone surf (1E+0)	Bone surf (9E-3)	-	1E-14	2E-8	2E-7
		Y, see ²⁴⁴ Cf	-	1E-2	4E-12	-	-	-
			-	Bone surf (1E-2)	-	2E-14	-	-
98	Californium-250	W, see ²⁴⁴ Cf	1E+0	9E-3	4E-12	-	-	-
			Bone surf (2E+0)	Bone surf (2E-2)	-	3E-14	3E-8	3E-7
		Y, see ²⁴⁴ Cf	-	3E-2	1E-11	4E-14	-	-
98	Californium-251	W, see ²⁴⁴ Cf	5E-1	4E-3	2E-12	-	-	-
			Bone surf (1E+0)	Bone surf (9E-3)	-	1E-14	2E-8	2E-7
		Y, see ²⁴⁴ Cf	-	1E-2	4E-12	-	-	-
			-	Bone surf (1E-2)	-	2E-14	-	-
98	Californium-252	W, see ²⁴⁴ Cf	2E+0	2E-2	8E-12	-	-	-
			Bone surf (5E+0)	Bone surf (4E-2)	-	5E-14	7E-8	7E-7
		Y, see ²⁴⁴ Cf	-	3E-2	1E-11	5E-14	-	-
98	Californium-253	W, see ²⁴⁴ Cf	2E+2	2E+0	8E-10	3E-12	-	-
			Bone surf (4E+2)	-	-	-	5E-6	5E-5
		Y, see ²⁴⁴ Cf	-	2E+0	7E-10	2E-12	-	-
98	Californium-254	W, see ²⁴⁴ Cf	2E+0	2E-2	9E-12	3E-14	3E-8	3E-7
		Y, see ²⁴⁴ Cf	-	2E-2	7E-12	2E-14	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air μCi/ml	Water μCi/ml	μCi/ml
				ALI μCi	ALI μCi			
99	Einsteinium-250	W, all compounds	4E+4	5E+2	2E-7	-	6E-4	6E-3
			-	Bone surf (1E+3)	-	2E-9	-	-
99	Einsteinium-251	W, all compounds	7E+3	9E+2	4E-7	-	1E-4	1E-3
			-	Bone surf (1E+3)	-	2E-9	-	-
99	Einsteinium-253	W, all compounds	2E+2	1E+0	6E-10	2E-12	2E-6	2E-5
99	Einsteinium-254m	W, all compounds	3E+2	1E+1	4E-9	1E-11	-	-
			LLI wall (3E+2)	-	-	-	4E-6	4E-5
99	Einsteinium-254	W, all compounds	8E+0	7E-2	3E-11	-	-	-
			Bone surf (2E+1)	Bone surf (1E-1)	-	2E-13	2E-7	2E-6
100	Fermium-252	W, all compounds	5E+2	1E+1	5E-9	2E-11	6E-6	6E-5
100	Fermium-253	W, all compounds	1E+3	1E+1	4E-9	1E-11	1E-5	1E-4
100	Fermium-254	W, all compounds	3E+3	9E+1	4E-8	1E-10	4E-5	4E-4
100	Fermium-255	W, all compounds	5E+2	2E+1	9E-9	3E-11	7E-6	7E-5
100	Fermium-257	W, all compounds	2E+1	2E-1	7E-11	-	-	-
			Bone surf (4E+1)	Bone surf (2E-1)	-	3E-13	5E-7	5E-6
101	Mendelevium-257	W, all compounds	7E+3	8E+1	4E-8	-	1E-4	1E-3
			-	Bone surf (9E+1)	-	1E-10	-	-
101	Mendelevium-258	W, all compounds	3E+1	2E-1	1E-10	-	-	-
			Bone surf (5E+1)	Bone surf (3E-1)	-	5E-13	6E-7	6E-6
-	Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life less than 2 hours	Submersion ¹	-	2E+2	1E-7	1E-9	-	-

Atomic No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentration		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration
			Oral Ingestion	Inhalation		Air	Water	$\mu\text{Ci/ml}$
			ALI μCi	ALI μCi	DAC $\mu\text{Ci/ml}$	Air $\mu\text{Ci/ml}$	Water $\mu\text{Ci/ml}$	$\mu\text{Ci/ml}$
-	Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life ((less)) greater than 2 hours	...	-	2E-1	1E-10	1E-12	1E-8	1E-7
-	Any single radionuclide not listed above that decays by alpha emission or spontaneous fission, or any mixture for which either the identity or the concentration of any radionuclide in the mixture is not known	...	-	4E-4	2E-13	1E-15	2E-9	2E-8

FOOTNOTES:

¹"Submersion" means that values given are for submersion in a hemispherical semi-infinite cloud of airborne material.

²These radionuclides have radiological half-lives of less than 2 hours. The total effective dose equivalent received during operations with these radionuclides might include a significant contribution from external exposure. The DAC values for all radionuclides, other than those designated Class "Submersion," are based upon the committed effective dose equivalent due to the intake of the radionuclide into the body and do NOT include potentially significant contributions to dose equivalent from external exposures. The licensee may substitute 1E-7 $\mu\text{Ci/ml}$ for the listed DAC to account for the submersion dose prospectively, but should use individual monitoring devices or other radiation measuring instruments that measure external exposure to demonstrate compliance with the limits. (See WAC 246-221-015(5).)

³For soluble mixtures of U-238, U-234, and U-235 in air, chemical toxicity may be the limiting factor (see WAC 246-221-010(5)). If the percent by weight (enrichment) of U-235 is not greater than 5, the concentration value for a 40-hour workweek is 0.2 milligrams uranium per cubic meter of air average. For any enrichment, the product of the average concentration and time of exposure during a 40-hour workweek shall not exceed 8E-3 (SA) $\mu\text{Ci-hr/ml}$, where SA is the specific activity of the uranium inhaled. The specific activity for natural uranium is 6.77E-7 curies per gram U. The specific activity for other mixtures of U-238, U-235, and U-234, if not known, shall be:

$$SA = 3.6E-7 \text{ curies/gram U, U-depleted}$$

$$SA = [0.4 + 0.38 (\text{enrichment}) + 0.0034 (\text{enrichment})^2] E-6, \text{ enrichment} \geq 0.72$$

where enrichment is the percentage by weight of U-235, expressed as percent.

NOTE:

1. 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 shall be the most restrictive DAC of any radionuclide in the mixture.
2. If the identity of each radionuclide in the mixture is not known, but it is known that certain radionuclides specified in this appendix are not present in the mixture, the inhalation ALI, DAC, and effluent and sewage concentrations for the mixture are the lowest values specified in this appendix for any radionuclide that is not known to be absent from the mixture; or

If it is known that Ac-227-D and Cm-250-W are not present	-	7E-4	3E-13	-	-	-
If, in addition, it is known that Ac-227-W,Y, Th-229-W,Y, Th-230-W, Th-232-W,Y, Pa-231-W,Y, Np-237-W, Pu-239-W, Pu-240-W, Pu-242-W, Am-241-W, Am-242m-W, Am-243-W, Cm-245-W, Cm-246-W, Cm-247-W, Cm-248-W, Bk-247-W, Cf-249-W, and Cf-251-W are not present	-	7E-3	3E-12	-	-	-
If, in addition, it is known that Sm-146-W, Sm-147-W, Gd-148-D,W, Gd-152-D,W, Th-228-W,Y, Th-230-Y, U-232-Y, U-233-Y, U-234-Y, U-235-Y, U-236-Y, U-238-Y, Np-236-W, Pu-236-W,Y, Pu-238-W,Y, Pu-239-Y, Pu-240-Y, Pu-242-Y, Pu-244-W,Y, Cm-243-W, Cm-244-W, Cf-248-W, Cf-249-Y, Cf-250-W,Y, Cf-251-Y, Cf-252-W,Y, and Cf-254-W,Y are not present	-	7E-2	3E-11	-	-	-

If, in addition, it is known that Pb-210-D, Bi-210m-W, Po-210-D,W, Ra-223-W, Ra-225-W, Ra-226-W, Ac-225-D,W,Y, Th-227-W,Y, U-230-D,W,Y, U-232-D,W, Pu-241-W, Cm-240-W, Cm-242-W, Cf-248-Y, Es-254-W, Fm-257-W, and Md-258-W are not present

- 7E-1 3E-10 - -

If, in addition, it is known that Si-32-Y, Ti-44-Y, Fe-60-D, Sr-90-Y, Zr-93-D, Cd-113m-D, Cd-113-D, In-115-D,W, La-138-D, Lu-176-W, Hf-178m-D,W, Hf-182-D,W, Bi-210m-D, Ra-224-W, Ra-228-W, Ac-226-D,W,Y, Pa-230-W,Y, U-233-D,W, U-234-D,W, U-235-D,W, U-236-D,W, U-238-D,W, Pu-241-Y, Bk-249-W, Cf-253-W,Y, and Es-253-W are not present

- 7E+0 3E-9 - -

If it is known that Ac-227-D,W,Y, Th-229-W,Y, Th-232-W,Y, Pa-231-W,Y, Cm-248-W, and Cm-250-W are not present

- - - 1E-14 - -

If, in addition, it is known that Sm-146-W, Gd-148-D,W, Gd-152-D, Th-228-W,Y, Th-230-W,Y, U-232-Y, U-233-Y, U-234-Y, U-235-Y, U-236-Y, U-238-Y, U-Nat-Y, Np-236-W, Np-237-W, Pu-236-W,Y, Pu-238-W,Y, Pu-239-W,Y, Pu-240-W,Y, Pu-242-W,Y, Pu-244-W,Y, Am-241-W, Am-242m-W, Am-243-W, Cm-243-W, Cm-244-W, Cm-245-W, Cm-246-W, Cm-247-W, Bk-247-W, Cf-249-W,Y, Cf-250-W,Y, Cf-251-W,Y, Cf-252-W,Y, and Cf-254-W,Y are not present

- - - 1E-13 - -

If, in addition, it is known that Sm-147-W, Gd-152-W, Pb-210-D, Bi-210m-W, Po-210-D,W, Ra-223-W, Ra-225-W, Ra-226-W, Ac-225-D,W,Y, Th-227-W,Y, U-230-D,W,Y, U-232-D,W, U-Nat-W, Pu-241-W, Cm-240-W, Cm-242-W, Cf-248-W,Y, Es-254-W, Fm-257-W, and Md-258-W are not present

- - - - 1E-12 -

If, in addition, it is known that Fe-60, Sr-90, Cd-113m, Cd-113, In-115, I-129, Cs-134, Sm-145, Sm-147, Gd-148, Gd-152, Hg-194 (organic), Bi-210m, Ra-223, Ra-224, Ra-225, Ac-225, Th-228, Th-230, U-233, U-234, U-235, U-236, U-238, U-Nat, Cm-242, Cf-248, Es-254, Fm-257, and Md-258 are not present

- - - - 1E-6 1E-5

- 3. If a mixture of radionuclides consists of uranium and its daughters in ore dust (10 µm AMAD particle distribution assumed) prior to chemical separation of the uranium from the ore, the following values may be used for the DAC of the mixture: 6E-11 µCi of gross alpha activity from uranium-238, uranium-234, thorium-230, and radium-226 per milliliter of air; 3E-11 µCi of natural uranium per milliliter of air; or 45 micrograms of natural uranium per cubic meter of air.
4. If the identity and concentration of each radionuclide in a mixture are known, the limiting values should be derived as follows: Determine, for each radionuclide in the mixture, the ratio between the concentration present in the mixture and the concentration otherwise established in this section for the specific radionuclide when not in a mixture. The sum of such ratios for all of the radionuclides in the mixture may not exceed "1" (i.e., "unity"). Example: If radionuclides "A," "B," and "C" are present in concentrations CA, CB, and CC, and if the applicable DACs are DACA, DACB, and DACC, respectively, then the concentrations shall be limited so that the following relationship exists:

CA/DACA + CB/DACB + CC/DACC <= 1

Reviser's note: The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

AMENDATORY SECTION (Amending WSR 08-09-093, filed 4/18/08, effective 5/19/08)

WAC 246-231-035 Deliberate misconduct. (1) For the purpose of this chapter, deliberate misconduct by a person means an intentional act or omission that the person knows:

- (a) Would constitute a violation of a requirement, procedure, instruction, contract, purchase order, or policy; or
(b) Causes or would cause, if not detected, ((cause)) a violation of any rule, regulation, or order; or any term, condition, or limitation of any license or certificate issued by the department.
(2) This section applies to any:
(a) Licensee;
(b) Certificate holder;
(c) Quality assurance program approval holder;
(d) Applicant for a license, certificate, or quality assurance program approval;

- (e) Contractor (including a supplier or consultant) or subcontractor, to any person identified in (d) of this subsection; or
(f) Employee of any person identified in (a) through (e) of this subsection.
(3) A person subject to this section who knowingly provides any components, materials, or other goods or services that relate to any activities subject to these regulations may not:
(a) Engage in deliberate misconduct; or
(b) Deliberately submit to the department or to a person subject to this section information that the person knows to be incomplete or inaccurate in some respect that matters to the department.
(4) A person who violates subsection (3)(a) or (b) of this section may be subject to enforcement action in accordance with the procedures in 10 CFR 2 Subpart B.

AMENDATORY SECTION (Amending WSR 08-09-093, filed 4/18/08, effective 5/19/08)

WAC 246-231-200 Appendix A—Determination of A1 and A2. (1) Values of A1 and A2 for individual radionuclides, which are the basis for many activity limits elsewhere in these regulations, are given in this section, Table A-1. The curie (Ci) values specified are obtained by converting from the Terabecquerel (TBq) value. The Terabecquerel values are the regulatory standard. The curie values are for information only and are not intended to be the regulatory standard. Where values of A1 or A2 are unlimited, it is for radiation control purposes only. For nuclear criticality safety, some materials are subject to controls placed on fissile material.

(2)(a) For individual radionuclides whose identities are known, but which are not listed in this section, Table A-1, the A1 and A2 values contained in this section, Table A-3 may be used. Otherwise, the licensee shall obtain prior USNRC approval of the A1 and A2 values for radionuclides not listed in this section, Table A-1, before shipping the material.

(b) For individual radionuclides whose identities are known, but which are not listed in this section, Table A-2, the exempt material activity concentration and exempt consignment activity values contained in this section, Table A-3 may be used. Otherwise, the licensee shall obtain prior USNRC approval of the exempt material activity concentration and exempt consignment activity values for radionuclides not listed in this section, Table A-2, before shipping the material.

(c) The licensee shall submit requests for prior approval, described under (a) and (b) of this subsection, to the USNRC in accordance with 10 CFR 71.1.

(3) In the calculations of A1 and A2 for a radionuclide not in this section, Table A-1, a single radioactive decay chain, in which radionuclides are present in their naturally occurring proportions, and in which no daughter radionuclide has a half-life either longer than ten days, or longer than that of the parent radionuclide, shall be considered as a single radionuclide, and the activity to be taken into account, and the A1 or A2 value to be applied shall be those corresponding to the parent radionuclide of that chain. In the case of radioactive decay chains in which any daughter radionuclide has a half-life either longer than ten days, or greater than that of the parent radionuclide, the parent and those daughter radionuclides shall be considered as mixtures of different radionuclides.

(4) For mixtures of radionuclides whose identities and respective activities are known, the following conditions apply:

(a) For special form radioactive material, the maximum quantity transported in a Type A package:

$$\sum_I \frac{B(i)}{A1(i)} \quad \text{less than or equal to } 1$$

Where B(i) is the activity of radionuclide I, and A1(i) is the A1 value for radionuclide I.

(b) For normal form radioactive material, the maximum quantity transported in a Type A package:

$$\sum_I \frac{B(i)}{A2(i)} \quad \text{less than or equal to } 1$$

Where B(i) is the activity of radionuclide I and A2(i) is the A2 value for radionuclide I.

(c) Alternatively, the A1 value for mixtures of special form material may be determined as follows:

$$A1 \text{ for mixture} = \frac{1}{\sum_I \frac{f(i)}{A1(i)}}$$

Where f(i) is the fraction of activity for radionuclide I in the mixture and A1(i) is the appropriate A1 value for radionuclide I.

(d) Alternatively, the A2 value for mixtures of normal form material may be determined as follows:

$$A2 \text{ for mixture} = \frac{1}{\sum_I \frac{f(i)}{A2(i)}}$$

Where f(i) is the fraction of activity for radionuclide I in the mixture and A2(i) is the appropriate A2 value for radionuclide I.

(e) The exempt activity concentration for mixtures of nuclides may be determined as follows:

$$\text{Exempt activity concentration for mixture} = \frac{1}{\sum_I \frac{f(i)}{[A](i)}}$$

Where f(i) is the fraction of activity concentration of radionuclide I in the mixture, and A is the activity concentration of material containing radionuclide I.

(f) The activity limit for an exempt consignment for mixtures of radionuclides may be determined as follows:

Exempt consignment activity limit for mixture = $\frac{1}{\sum_i \frac{f(i)}{A(i)}}$

Where f(i) is the fraction of activity of radionuclide I in the mixture, and A is the activity limit for exempt consignments for radionuclide I.

(5) When the identity of each radionuclide is known, but the individual activities of some of the radionuclides are not known, the radionuclides may be grouped and the lowest A1 or A2 value, as appropriate, for the radionuclides in each group may be used in applying the formulas in subsection (4) of this section. Groups may be based on the total alpha activity and the total beta/gamma activity when these are known, using the lowest A1 or A2 values for the alpha emitters and beta/gamma emitters.

Table A-1.—A1 and A2 Values for Radionuclides

Symbol of radionuclide	Element and atomic number	A1 (TBq)	A1 (Ci) ^b	A2 (TBq)	A2 (Ci) ^b	Specific activity	
						(TBq/g)	(Ci/g)
Ac-225 (a)	Actinium (89)	8.0X10 ⁻¹	2.2X10 ¹	6.0X10 ⁻³	1.6X10 ⁻¹	2.1X10 ³	5.8X10 ⁴
Ac-227 (a)		9.0X10 ⁻¹	2.4X10 ¹	9.0X10 ⁻⁵	2.4X10 ⁻³	2.7	7.2X10 ¹
Ac-228		6.0X10 ⁻¹	1.6X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	8.4X10 ⁴	2.2X10 ⁶
Ag-105	Silver (47)	2.0	5.4X10 ¹	2.0	5.4X10 ¹	1.1X10 ³	3.0X10 ⁴
Ag-108m (a)		7.0X10 ⁻¹	1.9X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	9.7X10 ⁻¹	2.6X10 ¹
Ag-110m (a)		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	1.8X10 ²	4.7X10 ³
Ag-111		2.0	5.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	5.8X10 ³	1.6X10 ⁵
Al-26	Aluminum (13)	1.0X10 ⁻¹	2.7	1.0X10 ⁻¹	2.7	7.0X10 ⁻⁴	1.9X10 ⁻²
Am-241	Americium (95)	1.0X10 ¹	2.7X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	1.3X10 ⁻¹	3.4
Am-242m (a)		1.0X10 ¹	2.7X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	3.6X10 ⁻¹	1.0X10 ¹
Am-243 (a)		5.0	1.4X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	7.4X10 ⁻³	2.0X10 ⁻¹
Ar-37	Argon (18)	4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	3.7X10 ³	9.9X10 ⁴
Ar-39		4.0X10 ¹	1.1X10 ³	2.0X10 ¹	5.4X10 ²	1.3	3.4X10 ¹
Ar-41		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	1.5X10 ⁶	4.2X10 ⁷
As-72	Arsenic (33)	3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	6.2X10 ⁴	1.7X10 ⁶
As-73		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	8.2X10 ²	2.2X10 ⁴
As-74		1.0	2.7X10 ¹	9.0X10 ⁻¹	2.4X10 ¹	3.7X10 ³	9.9X10 ⁴
As-76		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	5.8X10 ⁴	1.6X10 ⁶
As-77		2.0X10 ¹	5.4X10 ²	7.0X10 ⁻¹	1.9X10 ¹	3.9X10 ⁴	1.0X10 ⁶
At-211 (a)	Astatine (85)	2.0X10 ¹	5.4X10 ²	5.0X10 ⁻¹	1.4X10 ¹	7.6X10 ⁴	2.1X10 ⁶
Au-193	Gold (79)	7.0	1.9X10 ²	2.0	5.4X10 ¹	3.4X10 ⁴	9.2X10 ⁵
Au-194		1.0	2.7X10 ¹	1.0	2.7X10 ¹	1.5X10 ⁴	4.1X10 ⁵
Au-195		1.0X10 ¹	2.7X10 ²	6.0	1.6X10 ²	1.4X10 ²	3.7X10 ³
Au-198		1.0	2.7X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	9.0X10 ³	2.4X10 ⁵
Au-199		1.0X10 ¹	2.7X10 ²	6.0X10 ⁻¹	1.6X10 ¹	7.7X10 ³	2.1X10 ⁵
Ba-131 (a)	Barium (56)	2.0	5.4X10 ¹	2.0	5.4X10 ¹	3.1X10 ³	8.4X10 ⁴
Ba-133		3.0	8.1X10 ¹	3.0	8.1X10 ¹	9.4	2.6X10 ²
Ba-133m		2.0X10 ¹	5.4X10 ²	6.0X10 ⁻¹	1.6X10 ¹	2.2X10 ⁴	6.1X10 ⁵
Ba-140 (a)		5.0X10 ⁻¹	1.4X10 ¹	3.0X10 ⁻¹	8.1	2.7X10 ³	7.3X10 ⁴
Be-7	Beryllium (4)	2.0X10 ¹	5.4X10 ²	2.0X10 ¹	5.4X10 ²	1.3X10 ⁴	3.5X10 ⁵
Be-10		4.0X10 ¹	1.1X10 ³	6.0X10 ⁻¹	1.6X10 ¹	8.3X10 ⁻⁴	2.2X10 ⁻²
Bi-205	Bismuth (83)	7.0X10 ⁻¹	1.9X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	1.5X10 ³	4.2X10 ⁴
Bi-206		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	3.8X10 ³	1.0X10 ⁵
Bi-207		7.0X10 ⁻¹	1.9X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	1.9	5.2X10 ¹
Bi-210		1.0	2.7X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	4.6X10 ³	1.2X10 ⁵
Bi-210m (a)		6.0X10 ⁻¹	1.6X10 ¹	2.0X10 ⁻²	5.4X10 ⁻¹	2.1X10 ⁻⁵	5.7X10 ⁻⁴
Bi-212 (a)		7.0X10 ⁻¹	1.9X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	5.4X10 ⁵	1.5X10 ⁷
Bk-247	Berkelium (97)	8.0	2.2X10 ²	8.0X10 ⁻⁴	2.2X10 ⁻²	3.8X10 ⁻²	1.0
Bk-249 (a)		4.0X10 ¹	1.1X10 ³	3.0X10 ⁻¹	8.1	6.1X10 ¹	1.6X10 ³
Br-76	Bromine (35)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	9.4X10 ⁴	2.5X10 ⁶
Br-77		3.0	8.1X10 ¹	3.0	8.1X10 ¹	2.6X10 ⁴	7.1X10 ⁵

Symbol of radionuclide	Element and atomic number	A1 (TBq)	A1 (Ci) ^b	A2 (TBq)	A2 (Ci) ^b	Specific activity	
						(TBq/g)	(Ci/g)
Br-82		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁴	1.1X10 ⁶
C-11	Carbon (6)	1.0	2.7X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	3.1X10 ⁷	8.4X10 ⁸
C-14		4.0X10 ¹	1.1X10 ³	3.0	8.1X10 ¹	1.6X10 ⁻¹	4.5
Ca-41	Calcium (20)	Unlimited	Unlimited	Unlimited	Unlimited	3.1X10 ⁻³	8.5X10 ⁻²
Ca-45		4.0X10 ¹	1.1X10 ³	1.0	2.7X10 ¹	6.6X10 ²	1.8X10 ⁴
Ca-47 (a)		3.0	8.1X10 ¹	3.0X10 ⁻¹	8.1	2.3X10 ⁴	6.1X10 ⁵
Cd-109	Cadmium (48)	3.0X10 ¹	8.1X10 ²	2.0	5.4X10 ¹	9.6X10 ¹	2.6X10 ³
Cd-113m		4.0X10 ¹	1.1X10 ³	5.0X10 ⁻¹	1.4X10 ¹	8.3	2.2X10 ²
Cd-115 (a)		3.0	8.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	1.9X10 ⁴	5.1X10 ⁵
Cd-115m		5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	9.4X10 ²	2.5X10 ⁴
Ce-139	Cerium (58)	7.0	1.9X10 ²	2.0	5.4X10 ¹	2.5X10 ²	6.8X10 ³
Ce-141		2.0X10 ¹	5.4X10 ²	6.0X10 ⁻¹	1.6X10 ¹	1.1X10 ³	2.8X10 ⁴
Ce-143		9.0X10 ⁻¹	2.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	2.5X10 ⁴	6.6X10 ⁵
Ce-144 (a)		2.0X10 ⁻¹	5.4	2.0X10 ⁻¹	5.4	1.2X10 ²	3.2X10 ³
Cf-248	Californium (98)	4.0X10 ¹	1.1X10 ³	6.0X10 ⁻³	1.6X10 ⁻¹	5.8X10 ¹	1.6X10 ³
Cf-249		3.0	8.1X10 ¹	8.0X10 ⁻⁴	2.2X10 ⁻²	1.5X10 ⁻¹	4.1
Cf-250		2.0X10 ¹	5.4X10 ²	2.0X10 ⁻³	5.4X10 ⁻²	4.0	1.1X10 ²
Cf-251		7.0	1.9X10 ²	7.0X10 ⁻⁴	1.9X10 ⁻²	5.9X10 ⁻²	1.6
Cf-252 (h)		5.0X10 ⁻²	1.4	3.0X10 ⁻³	8.1X10 ⁻²	2.0X10 ¹	5.4X10 ²
Cf-253 (a)		4.0X10 ¹	1.1X10 ³	4.0X10 ⁻²	1.1	1.1X10 ³	2.9X10 ⁴
Cf-254		1.0X10 ⁻³	2.7X10 ⁻²	1.0X10 ⁻³	2.7X10 ⁻²	3.1X10 ²	8.5X10 ³
Cl-36	Chlorine (17)	1.0X10 ¹	2.7X10 ²	6.0X10 ⁻¹	1.6X10 ¹	1.2X10 ⁻³	3.3X10 ⁻²
Cl-38		2.0X10 ⁻¹	5.4	2.0X10 ⁻¹	5.4	4.9X10 ⁶	1.3X10 ⁸
Cm-240	Curium (96)	4.0X10 ¹	1.1X10 ³	2.0X10 ⁻²	5.4X10 ⁻¹	7.5X10 ²	2.0X10 ⁴
Cm-241		2.0	5.4X10 ¹	1.0	2.7X10 ¹	6.1X10 ²	1.7X10 ⁴
Cm-242		4.0X10 ¹	1.1X10 ³	1.0X10 ⁻²	2.7X10 ⁻¹	1.2X10 ²	3.3X10 ³
Cm-243		9.0	2.4X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	1.9X10 ⁻³	5.2X10 ¹
Cm-244		2.0X10 ¹	5.4X10 ²	2.0X10 ⁻³	5.4X10 ⁻²	3.0	8.1X10 ¹
Cm-245		9.0	2.4X10 ²	9.0X10 ⁻⁴	2.4X10 ⁻²	6.4X10 ⁻³	1.7X10 ⁻¹
Cm-246		9.0	2.4X10 ²	9.0X10 ⁻⁴	2.4X10 ⁻²	1.1X10 ⁻²	3.1X10 ⁻¹
Cm-247 (a)		3.0	8.1X10 ¹	1.0X10 ⁻³	2.7X10 ⁻²	3.4X10 ⁻⁶	9.3X10 ⁻⁵
Cm-248		2.0X10 ⁻²	5.4X10 ⁻¹	3.0X10 ⁻⁴	8.1X10 ⁻³	1.6X10 ⁻⁴	4.2X10 ⁻³
Co-55	Cobalt (27)	5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	1.1X10 ⁵	3.1X10 ⁶
Co-56		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	1.1X10 ³	3.0X10 ⁴
Co-57		1.0X10 ¹	2.7X10 ²	1.0X10 ¹	2.7X10 ²	3.1X10 ²	8.4X10 ³
Co-58		1.0	2.7X10 ¹	1.0	2.7X10 ¹	1.2X10 ³	3.2X10 ⁴
Co-58m		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	2.2X10 ⁵	5.9X10 ⁶
Co-60		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	4.2X10 ¹	1.1X10 ³
Cr-51	Chromium (24)	3.0X10 ¹	8.1X10 ²	3.0X10 ¹	8.1X10 ²	3.4X10 ³	9.2X10 ⁴
Cs-129	Cesium (55)	4.0	1.1X10 ²	4.0	1.1X10 ²	2.8X10 ⁴	7.6X10 ⁵
Cs-131		3.0X10 ¹	8.1X10 ²	3.0X10 ¹	8.1X10 ²	3.8X10 ³	1.0X10 ⁵
Cs-132		1.0	2.7X10 ¹	1.0	2.7X10 ¹	5.7X10 ³	1.5X10 ⁵
Cs-134		7.0X10 ⁻¹	1.9X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	4.8X10 ¹	1.3X10 ³
Cs-134m		4.0X10 ¹	1.1X10 ³	6.0X10 ⁻¹	1.6X10 ¹	3.0X10 ⁵	8.0X10 ⁶
Cs-135		4.0X10 ¹	1.1X10 ³	1.0	2.7X10 ¹	4.3X10 ⁻⁵	1.2X10 ⁻³
Cs-136		5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	2.7X10 ³	7.3X10 ⁴
Cs-137 (a)		2.0	5.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	3.2	8.7X10 ¹
Cu-64	Copper (29)	6.0	1.6X10 ²	1.0	2.7X10 ¹	1.4X10 ⁵	3.9X10 ⁶
Cu-67		1.0X10 ¹	2.7X10 ²	7.0X10 ⁻¹	1.9X10 ¹	2.8X10 ⁴	7.6X10 ⁵
Dy-159	Dysprosium (66)	2.0X10 ¹	5.4X10 ²	2.0X10 ¹	5.4X10 ²	2.1X10 ²	5.7X10 ³
Dy-165		9.0X10 ⁻¹	2.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	3.0X10 ⁵	8.2X10 ⁶
Dy-166 (a)		9.0X10 ⁻¹	2.4X10 ¹	3.0X10 ⁻¹	8.1	8.6X10 ³	2.3X10 ⁵

Symbol of radionuclide	Element and atomic number	A1 (TBq)	A1 (Ci) ^b	A2 (TBq)	A2 (Ci) ^b	Specific activity	
						(TBq/g)	(Ci/g)
Er-169	Erbium (68)	4.0X10 ¹	1.1X10 ³	1.0	2.7X10 ¹	3.1X10 ³	8.3X10 ⁴
Er-171		8.0X10 ⁻¹	2.2X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	9.0X10 ⁴	2.4X10 ⁶
Eu-147	Europium (63)	2.0	5.4X10 ¹	2.0	5.4X10 ¹	1.4X10 ³	3.7X10 ⁴
Eu-148		5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	6.0X10 ²	1.6X10 ⁴
Eu-149		2.0X10 ¹	5.4X10 ²	2.0X10 ¹	5.4X10 ²	3.5X10 ²	9.4X10 ³
Eu-150 (short lived)		2.0	5.4X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	6.1X10 ⁴	1.6X10 ⁶
Eu-150 (long lived)		7.0X10 ⁻¹	1.9X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	6.1X10 ⁴	1.6X10 ⁶
Eu-152		1.0	2.7X10 ¹	1.0	2.7X10 ¹	6.5	1.8X10 ²
Eu-152m		8.0X10 ⁻¹	2.2X10 ¹	8.0X10 ⁻¹	2.2X10 ¹	8.2X10 ⁴	2.2X10 ⁶
Eu-154		9.0X10 ⁻¹	2.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	9.8	2.6X10 ²
Eu-155		2.0X10 ¹	5.4X10 ²	3.0	8.1X10 ¹	1.8X10 ¹	4.9X10 ²
Eu-156		7.0X10 ⁻¹	1.9X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	2.0X10 ³	5.5X10 ⁴
F-18	Fluorine (9)	1.0	2.7X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	3.5X10 ⁶	9.5X10 ⁷
Fe-52 (a)	Iron (26)	3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	2.7X10 ⁵	7.3X10 ⁶
Fe-55		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	8.8X10 ¹	2.4X10 ³
Fe-59		9.0X10 ⁻¹	2.4X10 ¹	9.0X10 ⁻¹	2.4X10 ¹	1.8X10 ³	5.0X10 ⁴
Fe-60 (a)		4.0X10 ¹	1.1X10 ³	2.0X10 ⁻¹	5.4	7.4X10 ⁻⁴	2.0X10 ⁻²
Ga-67	Gallium (31)	7.0	1.9X10 ²	3.0	8.1X10 ¹	2.2X10 ⁴	6.0X10 ⁵
Ga-68		5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	1.5X10 ⁶	4.1X10 ⁷
Ga-72		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	1.1X10 ⁵	3.1X10 ⁶
Gd-146 (a)	Gadolinium (64)	5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	6.9X10 ²	1.9X10 ⁴
Gd-148		2.0X10 ¹	5.4X10 ²	2.0X10 ⁻³	5.4X10 ⁻²	1.2	3.2X10 ¹
Gd-153		1.0X10 ¹	2.7X10 ²	9.0	2.4X10 ²	1.3X10 ²	3.5X10 ³
Gd-159		3.0	8.1X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	3.9X10 ⁴	1.1X10 ⁶
Ge-68 (a)	Germanium (32)	5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	2.6X10 ²	7.1X10 ³
Ge-71		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	5.8X10 ³	1.6X10 ⁵
Ge-77		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	1.3X10 ⁵	3.6X10 ⁶
Hf-172 (a)	Hafnium (72)	6.0X10 ⁻¹	1.6X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	4.1X10 ¹	1.1X10 ³
Hf-175		3.0	8.1X10 ¹	3.0	8.1X10 ¹	3.9X10 ²	1.1X10 ⁴
Hf-181		2.0	5.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	6.3X10 ²	1.7X10 ⁴
Hf-182		Unlimited	Unlimited	Unlimited	Unlimited	8.1X10 ⁻⁶	2.2X10 ⁻⁴
Hg-194 (a)	Mercury (80)	1.0	2.7X10 ¹	1.0	2.7X10 ¹	1.3X10 ⁻¹	3.5
Hg-195m (a)		3.0	8.1X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	1.5X10 ⁴	4.0X10 ⁵
Hg-197		2.0X10 ¹	5.4X10 ²	1.0X10 ¹	2.7X10 ²	9.2X10 ³	2.5X10 ⁵
Hg-197m		1.0X10 ¹	2.7X10 ²	4.0X10 ⁻¹	1.1X10 ¹	2.5X10 ⁴	6.7X10 ⁵
Hg-203		5.0	1.4X10 ²	1.0	2.7X10 ¹	5.1X10 ²	1.4X10 ⁴
Ho-166	Holmium (67)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	2.6X10 ⁴	7.0X10 ⁵
Ho-166m		6.0X10 ⁻¹	1.6X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	6.6X10 ⁻²	1.8
I-123	Iodine (53)	6.0	1.6X10 ²	3.0	8.1X10 ¹	7.1X10 ⁴	1.9X10 ⁶
I-124		1.0	2.7X10 ¹	1.0	2.7X10 ¹	9.3X10 ³	2.5X10 ⁵
I-125		2.0X10 ¹	5.4X10 ²	3.0	8.1X10 ¹	6.4X10 ²	1.7X10 ⁴
I-126		2.0	5.4X10 ¹	1.0	2.7X10 ¹	2.9X10 ³	8.0X10 ⁴
I-129		Unlimited	Unlimited	Unlimited	Unlimited	6.5X10 ⁻⁶	1.8X10 ⁻⁴
I-131		3.0	8.1X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	4.6X10 ³	1.2X10 ⁵
I-132		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	3.8X10 ⁵	1.0X10 ⁷
I-133		7.0X10 ⁻¹	1.9X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	4.2X10 ⁴	1.1X10 ⁶
I-134		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	9.9X10 ⁵	2.7X10 ⁷
I-135 (a)		6.0X10 ⁻¹	1.6X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.3X10 ⁵	3.5X10 ⁶
In-111	Indium (49)	3.0	8.1X10 ¹	3.0	8.1X10 ¹	1.5X10 ⁴	4.2X10 ⁵
In-113m		4.0	1.1X10 ²	2.0	5.4X10 ¹	6.2X10 ⁵	1.7X10 ⁷
In-114m (a)		1.0X10 ¹	2.7X10 ²	5.0X10 ⁻¹	1.4X10 ¹	8.6X10 ²	2.3X10 ⁴

Symbol of radionuclide	Element and atomic number	A1 (TBq)	A1 (Ci) ^b	A2 (TBq)	A2 (Ci) ^b	Specific activity	
						(TBq/g)	(Ci/g)
In-115m		7.0	1.9X10 ²	1.0	2.7X10 ¹	2.2X10 ⁵	6.1X10 ⁶
Ir-189 (a)	Iridium (77)	1.0X10 ¹	2.7X10 ²	1.0X10 ¹	2.7X10 ²	1.9X10 ³	5.2X10 ⁴
Ir-190		7.0X10 ⁻¹	1.9X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	2.3X10 ³	6.2X10 ⁴
Ir-192 (c)		1.0	2.7X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	3.4X10 ²	9.2X10 ³
Ir-194		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	3.1X10 ⁴	8.4X10 ⁵
K-40	Potassium (19)	9.0X10 ⁻¹	2.4X10 ¹	9.0X10 ⁻¹	2.4X10 ¹	2.4X10 ⁻⁷	6.4X10 ⁻⁶
K-42		2.0X10 ⁻¹	5.4	2.0X10 ⁻¹	5.4	2.2X10 ⁵	6.0X10 ⁶
K-43		7.0X10 ⁻¹	1.9X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.2X10 ⁵	3.3X10 ⁶
Kr-81	Krypton (36)	4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	7.8X10 ⁻⁴	2.1X10 ⁻²
Kr-85		1.0X10 ¹	2.7X10 ²	1.0X10 ¹	2.7X10 ²	1.5X10 ¹	3.9X10 ²
Kr-85m		8.0	2.2X10 ²	3.0	8.1X10 ¹	3.0X10 ⁵	8.2X10 ⁶
Kr-87		2.0X10 ⁻¹	5.4	2.0X10 ⁻¹	5.4	1.0X10 ⁶	2.8X10 ⁷
La-137	Lanthanum (57)	3.0X10 ¹	8.1X10 ²	6.0	1.6X10 ²	1.6X10 ⁻³	4.4X10 ⁻²
La-140		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	2.1X10 ⁴	5.6X10 ⁵
Lu-172	Lutetium (71)	6.0X10 ⁻¹	1.6X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	4.2X10 ³	1.1X10 ⁵
Lu-173		8.0	2.2X10 ²	8.0	2.2X10 ²	5.6X10 ¹	1.5X10 ³
Lu-174		9.0	2.4X10 ²	9.0	2.4X10 ²	2.3X10 ¹	6.2X10 ²
Lu-174m		2.0X10 ¹	5.4X10 ²	1.0X10 ¹	2.7X10 ²	2.0X10 ²	5.3X10 ³
Lu-177		3.0X10 ¹	8.1X10 ²	7.0X10 ⁻¹	1.9X10 ¹	4.1X10 ³	1.1X10 ⁵
Mg-28 (a)	Magnesium (12)	3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	2.0X10 ⁵	5.4X10 ⁶
Mn-52	Manganese (25)	3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	1.6X10 ⁴	4.4X10 ⁵
Mn-53		Unlimited	Unlimited	Unlimited	Unlimited	6.8X10 ⁻⁵	1.8X10 ⁻³
Mn-54		1.0	2.7X10 ¹	1.0	2.7X10 ¹	2.9X10 ²	7.7X10 ³
Mn-56		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	8.0X10 ⁵	2.2X10 ⁷
Mo-93	Molybdenum (42)	4.0X10 ¹	1.1X10 ³	2.0X10 ¹	5.4X10 ²	4.1X10 ⁻²	1.1
Mo-99 (a) (i)		1.0	2.7X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.8X10 ⁴	4.8X10 ⁵
N-13	Nitrogen (7)	9.0X10 ⁻¹	2.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	5.4X10 ⁷	1.5X10 ⁹
Na-22	Sodium (11)	5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	2.3X10 ²	6.3X10 ³
Na-24		2.0X10 ⁻¹	5.4	2.0X10 ⁻¹	5.4	3.2X10 ⁵	8.7X10 ⁶
Nb-93m	Niobium (41)	4.0X10 ¹	1.1X10 ³	3.0X10 ¹	8.1X10 ²	8.8	2.4X10 ²
Nb-94		7.0X10 ⁻¹	1.9X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	6.9X10 ⁻³	1.9X10 ⁻¹
Nb-95		1.0	2.7X10 ¹	1.0	2.7X10 ¹	1.5X10 ³	3.9X10 ⁴
Nb-97		9.0X10 ⁻¹	2.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	9.9X10 ⁵	2.7X10 ⁷
Nd-147	Neodymium (60)	6.0	1.6X10 ²	6.0X10 ⁻¹	1.6X10 ¹	3.0X10 ³	8.1X10 ⁴
Nd-149		6.0X10 ⁻¹	1.6X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	4.5X10 ⁵	1.2X10 ⁷
Ni-59	Nickel (28)	Unlimited	Unlimited	Unlimited	Unlimited	3.0X10 ⁻³	8.0X10 ⁻²
Ni-63		4.0X10 ¹	1.1X10 ³	3.0X10 ¹	8.1X10 ²	2.1	5.7X10 ¹
Ni-65		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	7.1X10 ⁵	1.9X10 ⁷
Np-235	Neptunium (93)	4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	5.2X10 ¹	1.4X10 ³
Np-236 (short-lived)		2.0X10 ¹	5.4X10 ²	2.0	5.4X10 ¹	4.7X10 ⁻⁴	1.3X10 ⁻²
Np-236 (long-lived)		9.0X10 ⁰	2.4X10 ²	2.0X10 ⁻²	5.4X10 ⁻¹	4.7X10 ⁻⁴	1.3X10 ⁻²
Np-237		2.0X10 ¹	5.4X10 ²	2.0X10 ⁻³	5.4X10 ⁻²	2.6X10 ⁻⁵	7.1X10 ⁻⁴
Np-239		7.0	1.9X10 ²	4.0X10 ⁻¹	1.1X10 ¹	8.6X10 ³	2.3X10 ⁵
Os-185	Osmium (76)	1.0	2.7X10 ¹	1.0	2.7X10 ¹	2.8X10 ²	7.5X10 ³
Os-191		1.0X10 ¹	2.7X10 ²	2.0	5.4X10 ¹	1.6X10 ³	4.4X10 ⁴
Os-191m		4.0X10 ¹	1.1X10 ³	3.0X10 ¹	8.1X10 ²	4.6X10 ⁴	1.3X10 ⁶
Os-193		2.0	5.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	6.2X10 ⁴	5.3X10 ⁵
Os-194 (a)		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	1.1X10 ¹	3.1X10 ²
P-32	Phosphorus (15)	5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	1.1X10 ⁴	2.9X10 ⁵
P-33		4.0X10 ¹	1.1X10 ³	1.0	2.7X10 ¹	5.8X10 ³	1.6X10 ⁵
Pa-230 (a)	Protactinium (91)	2.0	5.4X10 ¹	7.0X10 ⁻²	1.9	1.2X10 ³	3.3X10 ⁴

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						(TBq/g)	(Ci/g)
Pa-231		4.0	1.1X10 ²	4.0X10 ⁻⁴	1.1X10 ⁻²	1.7X10 ⁻³	4.7X10 ⁻²
Pa-233		5.0	1.4X10 ²	7.0X10 ⁻¹	1.9X10 ¹	7.7X10 ²	2.1X10 ⁴
Pb-201	Lead (82)	1.0	2.7X10 ¹	1.0	2.7X10 ¹	6.2X10 ⁴	1.7X10 ⁶
Pb-202		4.0X10 ¹	1.1X10 ³	2.0X10 ¹	5.4X10 ²	1.2X10 ⁻⁴	3.4X10 ⁻³
Pb-203		4.0	1.1X10 ²	3.0	8.1X10 ¹	1.1X10 ⁴	3.0X10 ⁵
Pb-205		Unlimited	Unlimited	Unlimited	Unlimited	4.5X10 ⁻⁶	1.2X10 ⁻⁴
Pb-210 (a)		1.0	2.7X10 ¹	5.0X10 ⁻²	1.4	2.8	7.6X10 ¹
Pb-212 (a)		7.0X10 ⁻¹	1.9X10 ¹	2.0X10 ⁻¹	5.4	5.1X10 ⁴	1.4X10 ⁶
Pd-103 (a)	Palladium (46)	4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	2.8X10 ³	7.5X10 ⁴
Pd-107		Unlimited	Unlimited	Unlimited	Unlimited	1.9X10 ⁻⁵	5.1X10 ⁻⁴
Pd-109		2.0	5.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	7.9X10 ⁴	2.1X10 ⁶
Pm-143	Promethium (61)	3.0	8.1X10 ¹	3.0	8.1X10 ¹	1.3X10 ²	3.4X10 ³
Pm-144		7.0X10 ⁻¹	1.9X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	9.2X10 ¹	2.5X10 ³
Pm-145		3.0X10 ¹	8.1X10 ²	1.0X10 ¹	2.7X10 ²	5.2	1.4X10 ²
Pm-147		4.0X10 ¹	1.1X10 ³	2.0	5.4X10 ¹	3.4X10 ¹	9.3X10 ²
Pm-148m (a)		8.0X10 ⁻¹	2.2X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	7.9X10 ²	2.1X10 ⁴
Pm-149		2.0	5.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.5X10 ⁴	4.0X10 ⁵
Pm-151		2.0	5.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	2.7X10 ⁴	7.3X10 ⁵
Po-210	Polonium (84)	4.0X10 ¹	1.1X10 ³	2.0X10 ⁻²	5.4X10 ⁻¹	1.7X10 ²	4.5X10 ³
Pr-142	Praseodymium (59)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	4.3X10 ⁴	1.2X10 ⁶
Pr-143		3.0	8.1X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	2.5X10 ³	6.7X10 ⁴
Pt-188 (a)	Platinum (78)	1.0	2.7X10 ¹	8.0X10 ⁻¹	2.2X10 ¹	2.5X10 ³	6.8X10 ⁴
Pt-191		4.0	1.1X10 ²	3.0	8.1X10 ¹	8.7X10 ³	2.4X10 ⁵
Pt-193		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	1.4	3.7X10 ¹
Pt-193m		4.0X10 ¹	1.1X10 ³	5.0X10 ⁻¹	1.4X10 ¹	5.8X10 ³	1.6X10 ⁵
Pt-195m		1.0X10 ¹	2.7X10 ²	5.0X10 ⁻¹	1.4X10 ¹	6.2X10 ³	1.7X10 ⁵
Pt-197		2.0X10 ¹	5.4X10 ²	6.0X10 ⁻¹	1.6X10 ¹	3.2X10 ⁴	8.7X10 ⁵
Pt-197m		1.0X10 ¹	2.7X10 ²	6.0X10 ⁻¹	1.6X10 ¹	3.7X10 ⁵	1.0X10 ⁷
Pu-236	Plutonium (94)	3.0X10 ¹	8.1X10 ²	3.0X10 ⁻³	8.1X10 ⁻²	2.0X10 ¹	5.3X10 ²
Pu-237		2.0X10 ¹	5.4X10 ²	2.0X10 ¹	5.4X10 ²	4.5X10 ²	1.2X10 ⁴
Pu-238		1.0X10 ¹	2.7X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	6.3X10 ⁻¹	1.7X10 ¹
Pu-239		1.0X10 ¹	2.7X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	2.3X10 ⁻³	6.2X10 ⁻²
Pu-240		1.0X10 ¹	2.7X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	8.4X10 ⁻³	2.3X10 ⁻¹
Pu-241 (a)		4.0X10 ¹	1.1X10 ³	6.0X10 ⁻²	1.6	3.8	1.0X10 ²
Pu-242		1.0X10 ¹	2.7X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	1.5X10 ⁻⁴	3.9X10 ⁻³
Pu-244 (a)		4.0X10 ⁻¹	1.1X10 ¹	1.0X10 ⁻³	2.7X10 ⁻²	6.7X10 ⁻⁷	1.8X10 ⁻⁵
Ra-223 (a)	Radium (88)	4.0X10 ⁻¹	1.1X10 ¹	7.0X10 ⁻³	1.9X10 ⁻¹	1.9X10 ³	5.1X10 ⁴
Ra-224 (a)		4.0X10 ⁻¹	1.1X10 ¹	2.0X10 ⁻²	5.4X10 ⁻¹	5.9X10 ³	1.6X10 ⁵
Ra-225 (a)		2.0X10 ⁻¹	5.4	4.0X10 ⁻³	1.1X10 ⁻¹	1.5X10 ³	3.9X10 ⁴
Ra-226 (a)		2.0X10 ⁻¹	5.4	3.0X10 ⁻³	8.1X10 ⁻²	3.7X10 ⁻²	1.0
Ra-228 (a)		6.0X10 ⁻¹	1.6X10 ¹	2.0X10 ⁻²	5.4X10 ⁻¹	1.0X10 ¹	2.7X10 ²
Rb-81	Rubidium (37)	2.0	5.4X10 ¹	8.0X10 ⁻¹	2.2X10 ¹	3.1X10 ⁵	8.4X10 ⁶
Rb-83 (a)		2.0	5.4X10 ¹	2.0	5.4X10 ¹	6.8X10 ²	1.8X10 ⁴
Rb-84		1.0	2.7X10 ¹	1.0	2.7X10 ¹	1.8X10 ³	4.7X10 ⁴
Rb-86		5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	3.0X10 ³	8.1X10 ⁴
Rb-87		Unlimited	Unlimited	Unlimited	Unlimited	3.2X10 ⁻⁹	8.6X10 ⁻⁸
Rb (nat)		Unlimited	Unlimited	Unlimited	Unlimited	6.7X10 ⁶	1.8X10 ⁸
Re-184	Rhenium (75)	1.0	2.7X10 ¹	1.0	2.7X10 ¹	6.9X10 ²	1.9X10 ⁴
Re-184m		3.0	8.1X10 ¹	1.0	2.7X10 ¹	1.6X10 ²	4.3X10 ³
Re-186		2.0	5.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	6.9X10 ³	1.9X10 ⁵
Re-187		Unlimited	Unlimited	Unlimited	Unlimited	1.4X10 ⁻⁹	3.8X10 ⁻⁸
Re-188		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	3.6X10 ⁴	9.8X10 ⁵

Symbol of radionuclide	Element and atomic number	A1 (TBq)	A1 (Ci) ^b	A2 (TBq)	A2 (Ci) ^b	Specific activity	
						(TBq/g)	(Ci/g)
Re-189 (a)		3.0	8.1X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	2.5X10 ⁴	6.8X10 ⁵
Re (nat)		Unlimited	Unlimited	Unlimited	Unlimited	0.0	2.4X10 ⁻⁸
Rh-99	Rhodium (45)	2.0	5.4X10 ¹	2.0	5.4X10 ¹	3.0X10 ³	8.2X10 ⁴
Rh-101		4.0	1.1X10 ²	3.0	8.1X10 ¹	4.1X10 ¹	1.1X10 ³
Rh-102		5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	4.5X10 ¹	1.2X10 ³
Rh-102m		2.0	5.4X10 ¹	2.0	5.4X10 ¹	2.3X10 ²	6.2X10 ³
Rh-103m		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	1.2X10 ⁶	3.3X10 ⁷
Rh-105		1.0X10 ¹	2.7X10 ²	8.0X10 ⁻¹	2.2X10 ¹	3.1X10 ⁴	8.4X10 ⁵
Rn-222 (a)	Radon (86)	3.0X10 ⁻¹	8.1	4.0X10 ⁻³	1.1X10 ⁻¹	5.7X10 ³	1.5X10 ⁵
Ru-97	Ruthenium (44)	5.0	1.4X10 ²	5.0	1.4X10 ²	1.7X10 ⁴	4.6X10 ⁵
Ru-103 (a)		2.0	5.4X10 ¹	2.0	5.4X10 ¹	1.2X10 ³	3.2X10 ⁴
Ru-105		1.0	2.7X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	2.5X10 ⁵	6.7X10 ⁶
Ru-106 (a)		2.0X10 ⁻¹	5.4	2.0X10 ⁻¹	5.4	1.2X10 ²	3.3X10 ³
S-35	Sulphur (16)	4.0X10 ¹	1.1X10 ³	3.0	8.1X10 ¹	1.6X10 ³	4.3X10 ⁴
Sb-122	Antimony (51)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	1.5X10 ⁴	4.0X10 ⁵
Sb-124		6.0X10 ⁻¹	1.6X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	6.5X10 ²	1.7X10 ⁴
Sb-125		2.0	5.4X10 ¹	1.0	2.7X10 ¹	3.9X10 ¹	1.0X10 ³
Sb-126		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	3.1X10 ³	8.4X10 ⁴
Sc-44	Scandium (21)	5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	6.7X10 ⁵	1.8X10 ⁷
Sc-46		5.0X10 ⁻¹	1.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	1.3X10 ³	3.4X10 ⁴
Sc-47		1.0X10 ¹	2.7X10 ²	7.0X10 ⁻¹	1.9X10 ¹	3.1X10 ⁴	8.3X10 ⁵
Sc-48		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	5.5X10 ⁴	1.5X10 ⁶
Se-75	Selenium (34)	3.0	8.1X10 ¹	3.0	8.1X10 ¹	5.4X10 ²	1.5X10 ⁴
Se-79		4.0X10 ¹	1.1X10 ³	2.0	5.4X10 ¹	2.6X10 ⁻³	7.0X10 ⁻²
Si-31	Silicon (14)	6.0X10 ⁻¹	1.6X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.4X10 ⁶	3.9X10 ⁷
Si-32		4.0X10 ¹	1.1X10 ³	5.0X10 ⁻¹	1.4X10 ¹	3.9	1.1X10 ²
Sm-145	Samarium (62)	1.0X10 ¹	2.7X10 ²	1.0X10 ¹	2.7X10 ²	9.8X10 ¹	2.6X10 ³
Sm-147		Unlimited	Unlimited	Unlimited	Unlimited	8.5X10 ⁻¹	2.3X10 ⁻⁸
Sm-151		4.0X10 ¹	1.1X10 ³	1.0X10 ¹	2.7X10 ²	9.7X10 ⁻¹	2.6X10 ¹
Sm-153		9.0	2.4X10 ²	6.0X10 ⁻¹	1.6X10 ¹	1.6X10 ⁴	4.4X10 ⁵
Sn-113 (a)	Tin (50)	4.0	1.1X10 ²	2.0	5.4X10 ¹	3.7X10 ²	1.0X10 ⁴
Sn-117m		7.0	1.9X10 ²	4.0X10 ⁻¹	1.1X10 ¹	3.0X10 ³	8.2X10 ⁴
Sn-119m		4.0X10 ¹	1.1X10 ³	3.0X10 ¹	8.1X10 ²	1.4X10 ²	3.7X10 ³
Sn-121m (a)		4.0X10 ¹	1.1X10 ³	9.0X10 ⁻¹	2.4X10 ¹	2.0	5.4X10 ¹
Sn-123		8.0X10 ⁻¹	2.2X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	3.0X10 ²	8.2X10 ³
Sn-125		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ³	1.1X10 ⁵
Sn-126 (a)		6.0X10 ⁻¹	1.6X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	1.0X10 ⁻³	2.8X10 ⁻²
Sr-82 (a)	Strontium (38)	2.0X10 ⁻¹	5.4	2.0X10 ⁻¹	5.4	2.3X10 ³	6.2X10 ⁴
Sr-85		2.0	5.4X10 ¹	2.0	5.4X10 ¹	8.8X10 ²	2.4X10 ⁴
Sr-85m		5.0	1.4X10 ²	5.0	1.4X10 ²	1.2X10 ⁶	3.3X10 ⁷
Sr-87m		3.0	8.1X10 ¹	3.0	8.1X10 ¹	4.8X10 ⁵	1.3X10 ⁷
Sr-89		6.0X10 ⁻¹	1.6X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.1X10 ³	2.9X10 ⁴
Sr-90 (a)		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	5.1	1.4X10 ²
Sr-91 (a)		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	1.3X10 ⁵	3.6X10 ⁶
Sr-92 (a)		1.0	2.7X10 ¹	3.0X10 ⁻¹	8.1	4.7X10 ⁵	1.3X10 ⁷
T(H-3)	Tritium (1)	4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	3.6X10 ²	9.7X10 ³
Ta-178 (long-lived)	Tantalum (73)	1.0	2.7X10 ¹	8.0X10 ⁻¹	2.2X10 ¹	4.2X10 ⁶	1.1X10 ⁸
Ta-179		3.0X10 ¹	8.1X10 ²	3.0X10 ¹	8.1X10 ²	4.1X10 ¹	1.1X10 ³
Ta-182		9.0X10 ⁻¹	2.4X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	2.3X10 ²	6.2X10 ³
Tb-157	Terbium (65)	4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	5.6X10 ⁻¹	1.5X10 ¹
Tb-158		1.0	2.7X10 ¹	1.0	2.7X10 ¹	5.6X10 ⁻¹	1.5X10 ¹

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						(TBq/g)	(Ci/g)
Tb-160		1.0	2.7X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	4.2X10 ²	1.1X10 ⁴
Tc-95m (a)	Technetium (43)	2.0	5.4X10 ¹	2.0	5.4X10 ¹	8.3X10 ²	2.2X10 ⁴
Tc-96		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	1.2X10 ⁴	3.2X10 ⁵
Tc-96m (a)		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	1.4X10 ⁶	3.8X10 ⁷
Tc-97		Unlimited	Unlimited	Unlimited	Unlimited	5.2X10 ⁻⁵	1.4X10 ⁻³
Tc-97m		4.0X10 ¹	1.1X10 ³	1.0	2.7X10 ¹	5.6X10 ²	1.5X10 ⁴
Tc-98		8.0X10 ⁻¹	2.2X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	3.2X10 ⁻⁵	8.7X10 ⁻⁴
Tc-99		4.0X10 ¹	1.1X10 ³	9.0X10 ⁻¹	2.4X10 ¹	6.3X10 ⁻⁴	1.7X10 ⁻²
Tc-99m		1.0X10 ¹	2.7X10 ²	4.0	1.1X10 ²	1.9X10 ⁵	5.3X10 ⁶
Te-121	Tellurium (52)	2.0	5.4X10 ¹	2.0	5.4X10 ¹	2.4X10 ³	6.4X10 ⁴
Te-121m		5.0	1.4X10 ²	3.0	8.1X10 ¹	2.6X10 ²	7.0X10 ³
Te-123m		8.0	2.2X10 ²	1.0	2.7X10 ¹	3.3X10 ²	8.9X10 ³
Te-125m		2.0X10 ¹	5.4X10 ²	9.0X10 ⁻¹	2.4X10 ¹	6.7X10 ²	1.8X10 ⁴
Te-127		2.0X10 ¹	5.4X10 ²	7.0X10 ⁻¹	1.9X10 ¹	9.8X10 ⁴	2.6X10 ⁶
Te-127m (a)		2.0X10 ¹	5.4X10 ²	5.0X10 ⁻¹	1.4X10 ¹	3.5X10 ²	9.4X10 ³
Te-129		7.0X10 ⁻¹	1.9X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	7.7X10 ⁵	2.1X10 ⁷
Te-129m (a)		8.0X10 ⁻¹	2.2X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	1.1X10 ³	3.0X10 ⁴
Te-131m (a)		7.0X10 ⁻¹	1.9X10 ¹	5.0X10 ⁻¹	1.4X10 ¹	3.0X10 ⁴	8.0X10 ⁵
Te-132 (a)		5.0X10 ⁻¹	1.4X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	3.1X10 ⁴	3.0X10 ⁵
Th-227	Thorium (90)	1.0X10 ¹	2.7X10 ²	5.0X10 ⁻³	1.4X10 ⁻¹	1.1X10 ³	3.1X10 ⁴
Th-228 (a)		5.0X10 ⁻¹	1.4X10 ¹	1.0X10 ⁻³	2.7X10 ⁻²	3.0X10 ¹	8.2X10 ²
Th-229		5.0	1.4X10 ²	5.0X10 ⁻⁴	1.4X10 ⁻²	7.9X10 ⁻³	2.1X10 ⁻¹
Th-230		1.0X10 ¹	2.7X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	7.6X10 ⁻⁴	2.1X10 ⁻²
Th-231		4.0X10 ¹	1.1X10 ³	2.0X10 ⁻²	5.4X10 ⁻¹	2.0X10 ⁴	5.3X10 ⁵
Th-232		Unlimited	Unlimited	Unlimited	Unlimited	4.0X10 ⁻⁹	1.1X10 ⁻⁷
Th-234 (a)		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	8.6X10 ²	2.3X10 ⁴
Th(nat)		Unlimited	Unlimited	Unlimited	Unlimited	8.1X10 ⁻⁹	2.2X10 ⁻⁷
Ti-44 (a)	Titanium (22)	5.0X10 ⁻¹	1.4X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	6.4	1.7X10 ²
Tl-200	Thallium (81)	9.0X10 ⁻¹	2.4X10 ¹	9.0X10 ⁻¹	2.4X10 ¹	2.2X10 ⁴	6.0X10 ⁵
Tl-201		1.0X10 ¹	2.7X10 ²	4.0	1.1X10 ²	7.9X10 ³	2.1X10 ⁵
Tl-202		2.0	5.4X10 ¹	2.0	5.4X10 ¹	2.0X10 ³	5.3X10 ⁴
Tl-204		1.0X10 ¹	2.7X10 ²	7.0X10 ⁻¹	1.9X10 ¹	1.7X10 ¹	4.6X10 ²
Tm-167	Thulium (69)	7.0	1.9X10 ²	8.0X10 ⁻¹	2.2X10 ¹	3.1X10 ³	8.5X10 ⁴
Tm-170		3.0	8.1X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	2.2X10 ²	6.0X10 ³
Tm-171		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³
U-230 (fast lung absorption) (a)(d)	Uranium (92)	4.0X10 ¹	1.1X10 ³	1.0X10 ⁻¹	2.7	1.0X10 ³	2.7X10 ⁴
U-230 (medium lung absorption) (a)(e)		4.0X10 ¹	1.1X10 ³	4.0X10 ⁻³	1.1X10 ⁻¹	1.0X10 ³	2.7X10 ⁴
U-230 (slow lung absorption) (a)(f)		3.0X10 ¹	8.1X10 ²	3.0X10 ⁻³	8.1X10 ⁻²	1.0X10 ³	2.7X10 ⁴
U-232 (fast lung absorption) (d)		4.0X10 ¹	1.1X10 ³	1.0X10 ⁻²	2.7X10 ⁻¹	8.3X10 ⁻¹	2.2X10 ¹
U-232 (medium lung absorption) (e)		4.0X10 ¹	1.1X10 ³	7.0X10 ⁻³	1.9X10 ⁻¹	8.3X10 ⁻¹	2.2X10 ¹
U-232 (slow lung absorption) (f)		1.0X10 ¹	2.7X10 ²	1.0X10 ⁻³	2.7X10 ⁻²	8.3X10 ⁻¹	2.2X10 ¹
U-233 (fast lung absorption) (d)		4.0X10 ¹	1.1X10 ³	9.0X10 ⁻²	2.4	3.6X10 ⁻⁴	9.7X10 ⁻³
U-233 (medium lung absorption) (e)		4.0X10 ¹	1.1X10 ³	2.0X10 ⁻²	5.4X10 ⁻¹	3.6X10 ⁻⁴	9.7X10 ⁻³

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						(TBq/g)	(Ci/g)
U-233 (slow lung absorption) (f)		4.0X10 ¹	1.1X10 ³	6.0X10 ⁻³	1.6X10 ⁻¹	3.6X10 ⁻⁴	9.7X10 ⁻³
U-234 (fast lung absorption) (d)		4.0X10 ¹	1.1X10 ³	9.0X10 ⁻²	2.4	2.3X10 ⁻⁴	6.2X10 ⁻³
U-234 (medium lung absorption) (e)		4.0X10 ¹	1.1X10 ³	2.0X10 ⁻²	5.4X10 ⁻¹	2.3X10 ⁻⁴	6.2X10 ⁻³
U-234 (slow lung absorption) (f)		4.0X10 ¹	1.1X10 ³	6.0X10 ⁻³	1.6X10 ⁻¹	2.3X10 ⁻⁴	6.2X10 ⁻³
U-235 (all lung absorption types) (a), (d), (e), (f)		Unlimited	Unlimited	Unlimited	Unlimited	8.0X10 ⁻⁸	2.2X10 ⁻⁶
U-236 (fast lung absorption) (d)		Unlimited	Unlimited	Unlimited	Unlimited	2.4X10 ⁻⁶	6.5X10 ⁻⁵
U-236 (medium lung absorption) (e)		4.0X10 ¹	1.1X10 ³	2.0X10 ⁻²	5.4X10 ⁻¹	2.4X10 ⁻⁶	6.5X10 ⁻⁵
U-236 (slow lung absorption) (f)		4.0X10 ¹	1.1X10 ³	6.0X10 ⁻³	1.6X10 ⁻¹	2.4X10 ⁻⁶	6.5X10 ⁻⁵
U-238 (all lung absorption types) (d), (e), (f)		Unlimited	Unlimited	Unlimited	Unlimited	1.2X10 ⁻⁸	3.4X10 ⁻⁷
U (nat)		Unlimited	Unlimited	Unlimited	Unlimited	2.6X10 ⁻⁸	7.1X10 ⁻⁷
U (enriched to 20% or less) (g)		Unlimited	Unlimited	Unlimited	Unlimited	See Table A-4	See Table A-4
U (dep)		Unlimited	Unlimited	Unlimited	Unlimited	See Table A-4	See Table A-3
V-48	Vanadium (23)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	6.3X10 ³	1.7X10 ⁵
V-49		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	3.0X10 ²	8.1X10 ³
W-178 (a)	Tungsten (74)	9.0	2.4X10 ²	5.0	1.4X10 ²	1.3X10 ³	3.4X10 ⁴
W-181		3.0X10 ¹	8.1X10 ²	3.0X10 ¹	8.1X10 ²	2.2X10 ²	6.0X10 ³
W-185		4.0X10 ¹	1.1X10 ³	8.0X10 ⁻¹	2.2X10 ¹	3.5X10 ²	9.4X10 ³
W-187		2.0	5.4X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	2.6X10 ⁴	7.0X10 ⁵
W-188 (a)		4.0X10 ⁻¹	1.1X10 ¹	3.0X10 ⁻¹	8.1	3.7X10 ²	1.0X10 ⁴
Xe-122 (a)	Xenon (54)	4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	4.8X10 ⁴	1.3X10 ⁶
Xe-123		2.0	5.4X10 ¹	7.0X10 ⁻¹	1.9X10 ¹	4.4X10 ⁵	1.2X10 ⁷
Xe-127		4.0	1.1X10 ²	2.0	5.4X10 ¹	1.0X10 ³	2.8X10 ⁴
Xe-131m		4.0X10 ¹	1.1X10 ³	4.0X10 ¹	1.1X10 ³	3.1X10 ³	8.4X10 ⁴
Xe-133		2.0X10 ¹	5.4X10 ²	1.0X10 ¹	2.7X10 ²	6.9X10 ³	1.9X10 ⁵
Xe-135		3.0	8.1X10 ¹	2.0	5.4X10 ¹	9.5X10 ⁴	2.6X10 ⁶
Y-87 (a)	Yttrium (39)	1.0	2.7X10 ¹	1.0	2.7X10 ¹	1.7X10 ⁴	4.5X10 ⁵
Y-88		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	5.2X10 ²	1.4X10 ⁴
Y-90		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	2.0X10 ⁴	5.4X10 ⁵
Y-91		6.0X10 ⁻¹	1.6X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	9.1X10 ²	2.5X10 ⁴
Y-91m		2.0	5.4X10 ¹	2.0	5.4X10 ¹	1.5X10 ⁶	4.2X10 ⁷
Y-92		2.0X10 ⁻¹	5.4	2.0X10 ⁻¹	5.4	3.6X10 ⁵	9.6X10 ⁶
Y-93		3.0X10 ⁻¹	8.1	3.0X10 ⁻¹	8.1	1.2X10 ⁵	3.3X10 ⁶
Yb-169	Ytterbium (70)	4.0	1.1X10 ²	1.0	2.7X10 ¹	8.9X10 ²	2.4X10 ⁴
Yb-175		3.0X10 ¹	8.1X10 ²	9.0X10 ⁻¹	2.4X10 ¹	6.6X10 ³	1.8X10 ⁵
Zn-65	Zinc (30)	2.0	5.4X10 ¹	2.0	5.4X10 ¹	3.0X10 ²	8.2X10 ³
Zn-69		3.0	8.1X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.8X10 ⁶	4.9X10 ⁷
Zn-69m (a)		3.0	8.1X10 ¹	6.0X10 ⁻¹	1.6X10 ¹	1.2X10 ⁵	3.3X10 ⁶
Zr-88	Zirconium (40)	3.0	8.1X10 ¹	3.0	8.1X10 ¹	6.6X10 ²	1.8X10 ⁴
Zr-93		Unlimited	Unlimited	Unlimited	Unlimited	9.3X10 ⁻⁵	2.5X10 ⁻³
Zr-95 (a)		2.0	5.4X10 ¹	8.0X10 ⁻¹	2.2X10 ¹	7.9X10 ²	2.1X10 ⁴
Zr-97 (a)		4.0X10 ⁻¹	1.1X10 ¹	4.0X10 ⁻¹	1.1X10 ¹	7.1X10 ⁴	1.9X10 ⁶

- (a) A_1 and/or A_2 values include contributions from daughter nuclides with half-lives less than ten days.
- (b) (Reserved.)
- (c) The quantity may be determined from a measurement of the rate of decay or a measurement of the radiation level at a prescribed distance from the source.
- (d) These values apply only to compounds of uranium that take the chemical form of UF_6 , UO_2F_2 and $UO_2(NO_3)_2$ in both normal and accident conditions of transport.
- (e) These values apply only to compounds of uranium that take the chemical form of UO_3 , UF_4 , UCl_4 and hexavalent compounds in both normal and accident conditions of transport.
- (f) These values apply to all compounds of uranium other than those specified in notes (d) and (e) of this table.
- (g) These values apply to unirradiated uranium only.
- (h) $A_1 = 0.1$ TBq (2.7 Ci) and $A_2 = 0.001$ TBq (0.027 Ci) for Cf-252 for domestic use.
- (i) $A_2 = 0.74$ TBq (20 Ci) for Mo-99 for domestic use.

Table A-2.—Exempt Material Activity Concentrations and Exempt Consignment Activity Limits for Radionuclides

Symbol of radionuclide	Element and atomic number	Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limit for exempt consignment (Bq)	Activity limit for exempt consignment (Ci)
Ac-225	Actinium (89)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Ac-227	-	1.0X10 ⁻¹	2.7X10 ⁻¹²	1.0X10 ³	2.7X10 ⁻⁸
Ac-228	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Ag-105	Silver (47)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ag-108m (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Ag-110m	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Ag-111	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Al-26	Aluminum (13)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Am-241	Americium (95)	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Am-242m (b)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Am-243 (b)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Ar-37	Argon (18)	1.0X10 ⁶	2.7X10 ⁻⁵	1.0X10 ⁸	2.7X10 ⁻³
Ar-39	-	1.0X10 ⁷	2.7X10 ⁻⁴	1.0X10 ⁴	2.7X10 ⁻⁷
Ar-41	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁹	2.7X10 ⁻²
As-72	Arsenic (33)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
As-73	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
As-74	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
As-76	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
As-77	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
At-211	Astatine (85)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Au-193	Gold (79)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Au-194	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Au-195	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Au-198	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Au-199	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ba-131	Barium (56)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ba-133	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ba-133m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ba-140 (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Be-7	Beryllium (4)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Be-10	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁶	2.7X10 ⁻⁵
Bi-205	Bismuth (83)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Bi-206	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Bi-207	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Bi-210	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Bi-210m	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Bi-212 (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Bk-247	Berkelium (97)	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Bk-249	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Br-76	Bromine (35)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Br-77	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Br-82	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵

Symbol of radionuclide	Element and atomic number	Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limit for exempt consignment (Bq)	Activity limit for exempt consignment (Ci)
C-11	Carbon (6)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
C-14	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Ca-41	Calcium (20)	1.0X10 ⁵	2.7X10 ⁻⁶	1.0X10 ⁷	2.7X10 ⁻⁴
Ca-45	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Ca-47	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Cd-109	Cadmium (48)	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁶	2.7X10 ⁻⁵
Cd-113m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Cd-115	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Cd-115m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Ce-139	Cerium (58)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ce-141	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Ce-143	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ce-144 (b)	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Cf-248	Californium (98)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Cf-249	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Cf-250	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Cf-251	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Cf-252	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Cf-253	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Cf-254	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Cl-36	Chlorine (17)	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁶	2.7X10 ⁻⁵
Cl-38	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Cm-240	Curium (96)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Cm-241	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Cm-242	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Cm-243	-	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Cm-244	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Cm-245	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Cm-246	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Cm-247	-	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Cm-248	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Co-55	Cobalt (27)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Co-56	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Co-57	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Co-58	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Co-58m	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Co-60	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Cr-51	Chromium (24)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Cs-129	Cesium (55)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Cs-131	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Cs-132	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Cs-134	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Cs-134m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁵	2.7X10 ⁻⁶
Cs-135	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Cs-136	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Cs-137 (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Cu-64	Copper (29)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Cu-67	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Dy-159	Dysprosium (66)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Dy-165	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Dy-166	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵

Symbol of radionuclide	Element and atomic number	Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limit for exempt consignment (Bq)	Activity limit for exempt consignment (Ci)
Er-169	Erbium (68)	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Er-171	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Eu-147	Europium (63)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Eu-148	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Eu-149	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Eu-150 (short lived)	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Eu-150 (long lived)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Eu-152	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Eu-152m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Eu-154	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Eu-155	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Eu-156	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
F-18	Fluorine (9)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Fe-52	Iron (26)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Fe-55	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁶	2.7X10 ⁻⁵
Fe-59	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Fe-60	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Ga-67	Gallium (31)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ga-68	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Ga-72	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Gd-146	Gadolinium (64)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Gd-148	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Gd-153	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Gd-159	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Ge-68	Germanium (32)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Ge-71	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁸	2.7X10 ⁻³
Ge-77	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Hf-172	Hafnium (72)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Hf-175	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Hf-181	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Hf-182	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Hg-194	Mercury (80)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Hg-195m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Hg-197	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Hg-197m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Hg-203	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Ho-166	Holmium (67)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁵	2.7X10 ⁻⁶
Ho-166m	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
I-123	Iodine (53)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
I-124	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
I-125	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
I-126	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
I-129	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
I-131	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
I-132	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
I-133	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
I-134	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
I-135	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
In-111	Indium (49)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
In-113m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
In-114m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵

Symbol of radionuclide	Element and atomic number	Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limit for exempt consignment (Bq)	Activity limit for exempt consignment (Ci)
In-115m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ir-189	Iridium (77)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Ir-190	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Ir-192	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Ir-194	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
K-40	Potassium (19)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
K-42	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
K-43	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Kr-81	Krypton (36)	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Kr-85	-	1.0X10 ⁵	2.7X10 ⁻⁶	1.0X10 ⁴	2.7X10 ⁻⁷
Kr-85m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ¹⁰	2.7X10 ⁻¹
Kr-87	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁹	2.7X10 ⁻²
La-137	Lanthanum (57)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
La-140	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Lu-172	Lutetium (71)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Lu-173	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Lu-174	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Lu-174m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Lu-177	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Mg-28	Magnesium (12)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Mn-52	Manganese (25)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Mn-53	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁹	2.7X10 ⁻²
Mn-54	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Mn-56	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Mo-93	Molybdenum (42)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁸	2.7X10 ⁻³
Mo-99	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
N-13	Nitrogen (7)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁹	2.7X10 ⁻²
Na-22	Sodium (11)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Na-24	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Nb-93m	Niobium (41)	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Nb-94	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Nb-95	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Nb-97	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Nd-147	Neodymium (60)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Nd-149	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ni-59	Nickel (28)	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁸	2.7X10 ⁻³
Ni-63	-	1.0X10 ⁵	2.7X10 ⁻⁶	1.0X10 ⁸	2.7X10 ⁻³
Ni-65	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Np-235	Neptunium (93)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Np-236 (short-lived)	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Np-236 (long-lived)	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Np-237 (b)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Np-239	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Os-185	Osmium (76)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Os-191	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Os-191m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Os-193	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Os-194	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
P-32	Phosphorus (15)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁵	2.7X10 ⁻⁶
P-33	-	1.0X10 ⁵	2.7X10 ⁻⁶	1.0X10 ⁸	2.7X10 ⁻³
Pa-230	Protactinium (91)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵

Symbol of radionuclide	Element and atomic number	Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limit for exempt consignment (Bq)	Activity limit for exempt consignment (Ci)
Pa-231	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Pa-233	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Pb-201	Lead (82)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Pb-202	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Pb-203	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Pb-205	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Pb-210 (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Pb-212 (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Pd-103	Palladium (46)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁸	2.7X10 ⁻³
Pd-107	-	1.0X10 ⁵	2.7X10 ⁻⁶	1.0X10 ⁸	2.7X10 ⁻³
Pd-109	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Pm-143	Promethium (61)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Pm-144	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Pm-145	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Pm-147	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Pm-148m	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Pm-149	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Pm-151	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Po-210	Polonium (84)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Pr-142	Praseodymium (59)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Pr-143	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁶	2.7X10 ⁻⁵
Pt-188	Platinum (78)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Pt-191	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Pt-193	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Pt-193m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Pt-195m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Pt-197	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Pt-197m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Pu-236	Plutonium (94)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Pu-237	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Pu-238	-	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Pu-239	-	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Pu-240	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Pu-241	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Pu-242	-	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Pu-244	-	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Ra-223 (b)	Radium (88)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Ra-224 (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Ra-225	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Ra-226 (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Ra-228 (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Rb-81	Rubidium (37)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Rb-83	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Rb-84	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Rb-86	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Rb-87	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Rb (nat)	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Re-184	Rhenium (75)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Re-184m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Re-186	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Re-187	-	1.0X10 ⁶	2.7X10 ⁻⁵	1.0X10 ⁹	2.7X10 ⁻²

Symbol of radionuclide	Element and atomic number	Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limit for exempt consignment (Bq)	Activity limit for exempt consignment (Ci)
Re-188	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Re-189	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Re (nat)	-	1.0X10 ⁶	2.7X10 ⁻⁵	1.0X10 ⁹	2.7X10 ⁻²
Rh-99	Rhodium (45)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Rh-101	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Rh-102	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Rh-102m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Rh-103m	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁸	2.7X10 ⁻³
Rh-105	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Rn-222 (b)	Radon (86)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁸	2.7X10 ⁻³
Ru-97	Ruthenium (44)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Ru-103	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Ru-105	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Ru-106 (b)	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
S-35	Sulphur (16)	1.0X10 ⁵	2.7X10 ⁻⁶	1.0X10 ⁸	2.7X10 ⁻³
Sb-122	Antimony (51)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁴	2.7X10 ⁻⁷
Sb-124	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Sb-125	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Sb-126	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Sc-44	Scandium (21)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Sc-46	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Sc-47	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Sc-48	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Se-75	Selenium (34)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Se-79	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Si-31	Silicon (14)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Si-32	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Sm-145	Samarium (62)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Sm-147	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Sm-151	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁸	2.7X10 ⁻³
Sm-153	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Sn-113	Tin (50)	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Sn-117m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Sn-119m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Sn-121m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Sn-123	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Sn-125	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Sn-126	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Sr-82	Strontium (38)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Sr-85	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Sr-85m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Sr-87m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Sr-89	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Sr-90 (b)	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁴	2.7X10 ⁻⁷
Sr-91	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Sr-92	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
T(H-3)	Tritium (1)	1.0X10 ⁶	2.7X10 ⁻⁵	1.0X10 ⁹	2.7X10 ⁻²
Ta-178 (long-lived)	Tantalum (73)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Ta-179	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Ta-182	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Tb-157	Terbium (65)	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴

Symbol of radionuclide	Element and atomic number	Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limit for exempt consignment (Bq)	Activity limit for exempt consignment (Ci)
Tb-158	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Tb-160	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Tc-95m	Technetium (43)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Tc-96	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Tc-96m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Tc-97	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁸	2.7X10 ⁻³
Tc-97m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Tc-98	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Tc-99	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
Tc-99m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Te-121	Tellurium (52)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Te-121m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Te-123m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Te-125m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Te-127	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Te-127m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Te-129	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Te-129m	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Te-131m	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Te-132	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Th-227	Thorium (90)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Th-228 (b)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Th-229 (b)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Th-230	-	1.0	2.7X10 ⁻¹¹	1.0X10 ⁴	2.7X10 ⁻⁷
Th-231	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Th-232	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
Th-234 (b)	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁵	2.7X10 ⁻⁶
Th (nat) (b)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
Ti-44	Titanium (22)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
Tl-200	Thallium (81)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Tl-201	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Tl-202	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Tl-204	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁴	2.7X10 ⁻⁷
Tm-167	Thulium (69)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Tm-170	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Tm-171	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁸	2.7X10 ⁻³
U-230 (fast lung absorption) (b), (d)	Uranium (92)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
U-230 (medium lung absorption) (e)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
U-230 (slow lung absorption) (f)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
U-232 (fast lung absorption) (b), (d)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
U-232 (medium lung absorption) (e)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
U-232 (slow lung absorption) (f)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
U-233 (fast lung absorption) (d)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
U-233 (medium lung absorption) (e)	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
U-233 (slow lung absorption) (f)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
U-234 (fast lung absorption) (d)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷

Symbol of radionuclide	Element and atomic number	Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limit for exempt consignment (Bq)	Activity limit for exempt consignment (Ci)
U-234 (medium lung absorption) (e)	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
U-234 (slow lung absorption) (f)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
U-235 (all lung absorption types) (b), (d), (e), (f)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
U-236 (fast lung absorption) (d)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
U-236 (medium lung absorption) (e)	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
U-236 (slow lung absorption) (f)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
U-238 (all lung absorption types) (b), (d), (e), (f)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁴	2.7X10 ⁻⁷
U (nat) (b)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
U (enriched to 20% or less) (g)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
U (dep)	-	1.0	2.7X10 ⁻¹¹	1.0X10 ³	2.7X10 ⁻⁸
V-48	Vanadium (23)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶
V-49	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
W-178	Tungsten (74)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
W-181	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
W-185	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁷	2.7X10 ⁻⁴
W-187	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
W-188	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Xe-122	Xenon (54)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁹	2.7X10 ⁻²
Xe-123	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁹	2.7X10 ⁻²
Xe-127	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁵	2.7X10 ⁻⁶
Xe-131m	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁴	2.7X10 ⁻⁷
Xe-133	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁴	2.7X10 ⁻⁷
Xe-135	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ¹⁰	2.7X10 ⁻¹
Y-87	Yttrium (39)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Y-88	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Y-90	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁵	2.7X10 ⁻⁶
Y-91	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁶	2.7X10 ⁻⁵
Y-91m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Y-92	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Y-93	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁵	2.7X10 ⁻⁶
Yb-169	Ytterbium (70)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁷	2.7X10 ⁻⁴
Yb-175	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Zn-65	Zinc (30)	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Zn-69	-	1.0X10 ⁴	2.7X10 ⁻⁷	1.0X10 ⁶	2.7X10 ⁻⁵
Zn-69m	-	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Zr-88	Zirconium (40)	1.0X10 ²	2.7X10 ⁻⁹	1.0X10 ⁶	2.7X10 ⁻⁵
Zr-93 (b)	-	1.0X10 ³	2.7X10 ⁻⁸	1.0X10 ⁷	2.7X10 ⁻⁴
Zr-95	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁶	2.7X10 ⁻⁵
Zr-97 (b)	-	1.0X10 ¹	2.7X10 ⁻¹⁰	1.0X10 ⁵	2.7X10 ⁻⁶

(a) (Reserved)

(b) Parent nuclides and their progeny included in secular equilibrium are listed in the following:

Sr-90 Y-90
 Zr-93 Nb-93m
 Zr-97 Nb-97
 Ru-106 Rh-106
 Cs-137 Ba-137m
 Ce-134 La-134
 Ce-144 Pr-144
 Ba-140 La-140

Bi-212	Tl-208 (0.36), Po-212 (0.64)
Pb-210	Bi-210, Po-210
Pb-212	Bi-212, Tl-208 (0.36), Po-212 (0.64)
Rn-220	Po-216
Rn-222	Po-218, Pb-214, Bi-214, Po-214
Ra-223	Rn-219, Po-215, Pb-211, Bi-211, Tl-207
Ra-224	Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Ra-226	Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210
Ra-228	Ac-228
Th-226	Ra-222, Rn-218, Po-214
Th-228	Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Th-229	Ra-225, Ac-225, Fr-221, At-217, Bi-213, Po-213, Pb-209
Th-nat	Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Th-234	Pa-234m
U-230	Th-226, Ra-222, Rn-218, Po-214
U-232	Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
U-235	Th-231
U-238	Th-234, Pa-234m
U-nat	Th-234, Pa-234m, U-234, Th-230, Ra-226, Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210
U-240	Np-240m
Np-237	Pa-233
Am-242m	Am-242
Am-243	Np-239

- (c) (Reserved)
- (d) These values apply only to compounds of uranium that take the chemical form of UF₆, UO₂F₂ and UO₂(NO₃)₂ in both normal and accident conditions of transport.
- (e) These values apply only to compounds of uranium that take the chemical form of UO₃, UF₄, UCl₄ and hexavalent compounds in both normal and accident conditions of transport.
- (f) These values apply to all compounds of uranium other than those specified in notes (d) and (e) of this table.
- (g) These values apply to unirradiated uranium only.

Table A-3. General Values for A1 and A2

Contents	A ₁		A ₂		Activity concentration for exempt material (Bq/g)	Activity concentration for exempt material (Ci/g)	Activity limits for exempt consignments (Bq)	Activity limits for exempt consignments (Ci)
	(TBq)	(Ci)	(TBq)	(Ci)				
Only beta or gamma emitting radionuclides are known to be present	1 x 10 ⁻¹	2.7 x 10 ⁰	2 x 10 ⁻²	5.4 x 10 ⁻¹	1 x 10 ¹	2.7 x 10 ⁻¹⁰	1 x 10 ⁴	2.7 x 10 ⁻⁷
Only alpha emitting radionuclides are known to be present	2 x 10 ⁻¹	5.4 x 10 ⁰	9 x 10 ⁻⁵	2.4 x 10 ⁻³	1 x 10 ⁻¹	2.7 x 10 ⁻¹²	1 x 10 ³	2.7 x 10 ⁻⁸
No relevant data are available	1 x 10 ⁻³	2.7 x 10 ⁻²	9 x 10 ⁻⁵	2.4 x 10 ⁻³	1 x 10 ⁻¹	2.7 x 10 ⁻¹²	1 x 10 ³	2.7 x 10 ⁻⁸

Table A-4. Activity-Mass Relationships for Uranium

Uranium Enrichment ¹ wt % U-235 present	Specific Activity	
	TBq/g	Ci/g
0.45	1.8 x 10 ⁻⁸	5.0 x 10 ⁻⁷
0.72	2.6 x 10 ⁻⁸	7.1 x 10 ⁻⁷
1	2.8 x 10 ⁻⁸	7.6 x 10 ⁻⁷
1.5	3.7 x 10 ⁻⁸	1.0 x 10 ⁻⁶
5	1.0 x 10 ⁻⁷	2.7 x 10 ⁻⁶
10	1.8 x 10 ⁻⁷	4.8 x 10 ⁻⁶
20	3.7 x 10 ⁻⁷	1.0 x 10 ⁻⁵

Table A-4. Activity-Mass Relationships for Uranium

Uranium Enrichment ¹ wt % U-235 present	Specific Activity	
	TBq/g	Ci/g
35	7.4 x 10 ⁻⁷	2.0 x 10 ⁻⁵
50	9.3 x 10 ⁻⁷	2.5 x 10 ⁻⁵
90	2.2 x 10 ⁻⁶	5.8 x 10 ⁻⁵
93	2.6 x 10 ⁻⁶	7.0 x 10 ⁻⁵
95	3.4 x 10 ⁻⁶	9.1 x 10 ⁻⁵

¹ The figures for uranium include representative values for the activity of the uranium-234 that is concentrated during the enrichment process.

AMENDATORY SECTION (Amending WSR 06-05-019, filed 2/6/06, effective 3/9/06)

WAC 246-240-001 Purpose and scope. This chapter contains the requirements and provisions for the medical use of radioactive material and for issuance of specific licenses authorizing the medical use of this material. These requirements and provisions provide for the radiation safety of workers, the general public, patients, and human research subjects. The requirements and provisions of chapters 246-220, 246-221, 246-222, 246-232, 246-235, and 246-254 WAC, apply to applicants and licensees subject to this chapter unless specifically exempted. ~~((When a requirement in this chapter differs from the requirement in an existing license condition, the requirement in this chapter shall govern.))~~

AMENDATORY SECTION (Amending WSR 09-06-003, filed 2/18/09, effective 3/21/09)

WAC 246-240-010 Definitions. Address of use means the building or buildings that are identified on the license and where radioactive material may be received, prepared, used, or stored.

(1) Area of use means a portion of an address of use that has been set aside for the purpose of receiving, preparing, using, or storing radioactive material.

(2) Authorized medical physicist means an individual who:

~~((+)) (a)~~ Meets the requirements in WAC 246-240-072 and 246-240-081; or

~~((+)) (b)~~ Is identified as an authorized medical physicist or teletherapy physicist on:

~~((+)) (i)~~ A specific medical use license issued by the department, the U.S. Nuclear Regulatory Commission or an agreement state;

~~((+)) (ii)~~ A medical use permit issued by a U.S. NRC master material licensee;

~~((+)) (iii)~~ A permit issued by a U.S. NRC or agreement state broad scope medical use licensee; or

~~((+)) (iv)~~ A permit issued by a U.S. NRC master material license broad scope medical use permittee.

(3) Authorized nuclear pharmacist means a pharmacist who:

~~((+)) (a)~~ Meets the requirements in WAC 246-240-075 and 246-240-081; or

~~((+)) (b)~~ Is identified as an authorized nuclear pharmacist on:

~~((+)) (i)~~ A specific license issued by the department, the U.S. NRC or an agreement state, that authorizes medical use or the practice of nuclear pharmacy;

~~((+)) (ii)~~ A permit issued by a U.S. NRC master material licensee that authorizes medical use or the practice of nuclear pharmacy;

~~((+)) (iii)~~ A permit issued by a U.S. NRC or agreement state broad scope medical use licensee that authorizes medical use or the practice of nuclear pharmacy; or

~~((+)) (iv)~~ A permit issued by a U.S. NRC master material license broad scope medical use permittee that authorizes medical use or the practice of nuclear pharmacy; or

~~((+)) (c)~~ Is identified as an authorized nuclear pharmacist by a commercial nuclear pharmacy that has been authorized to identify authorized nuclear pharmacists; or

~~((+)) (d)~~ Is designated as an authorized nuclear pharmacist in accordance with WAC 246-235-100(2).

(4) Authorized user means a physician, dentist, or podiatrist who:

~~((+)) (a)~~ Meets the requirements in WAC 246-240-081 and 246-240-154, 246-240-163, 246-240-210, 246-240-213, 246-240-216, 246-240-278, 246-240-301, or 246-240-399; or

~~((+)) (b)~~ Is identified as an authorized user on:

~~((+)) (i)~~ A department, U.S. NRC, or agreement state license that authorizes the medical use of radioactive material; or

~~((+)) (ii)~~ A permit issued by a U.S. NRC master material licensee that is authorized to permit the medical use of radioactive material; or

~~((+)) (iii)~~ A permit issued by a department, U.S. NRC, or agreement state specific licensee of broad scope that is authorized to permit the medical use of radioactive material; or

~~((+)) (iv)~~ A permit issued by a U.S. NRC master material license broad scope permittee that is authorized to permit the medical use of radioactive material.

(5) Brachytherapy means a method of radiation therapy in which sources are used to deliver a radiation dose at a distance of up to a few centimeters by surface, intracavitary, intraluminal, or interstitial application.

(6) Brachytherapy source means a radioactive source or a manufacturer-assembled source train or a combination of these sources that is designed to deliver a therapeutic dose within a distance of a few centimeters.

(7) Client's address means the area of use or a temporary job site for the purpose of providing mobile medical service in accordance with WAC 246-240-125.

(8) Cyclotron means a particle accelerator in which the charged particles travel in an outward spiral or circular path. A cyclotron accelerates charged particles at energies usually in excess of 10 megaelectron volts and is commonly used for production of short half-life radionuclides for medical use.

(9) Dedicated check source means a radioactive source that is used to assure the constant operation of a radiation detection or measurement device over several months or years.

(10) Dentist means an individual licensed by a state or territory of the United States, the District of Columbia, or the Commonwealth of Puerto Rico to practice dentistry.

(11) High dose-rate remote afterloader, as used in this chapter, means a brachytherapy device that remotely delivers a dose rate in excess of 12 gray (1200 rads) per hour at the point or surface where the dose is prescribed.

(12) Low dose-rate remote afterloader, as used in this chapter, means a brachytherapy device that remotely delivers a dose rate of less than or equal to 2 gray (200 rads) per hour at the point or surface where the dose is prescribed.

(13) Management means the chief executive officer or other individual having the authority to manage, direct, or administer the licensee's activities, or that person's delegate or delegates.

(14) **Manual brachytherapy**, as used in this chapter, means a type of brachytherapy in which the brachytherapy sources (e.g., seeds, ribbons) are manually placed topically on or inserted either into the body cavities that are in close proximity to a treatment site or directly into the tissue volume.

(15) **Medical event** means an event that meets the criteria in WAC 246-240-651.

(16) **Medical institution** means an organization in which more than one medical discipline is practiced.

(17) **Medical use** means the intentional internal or external administration of radioactive material or the radiation from radioactive material to patients or human research subjects under the supervision of an authorized user.

(18) **Medium dose-rate remote afterloader**, as used in this chapter, means a brachytherapy device that remotely delivers a dose rate of greater than 2 gray (200 rads), but less than or equal to 12 grays (1200 rads) per hour at the point or surface where the dose is prescribed.

(19) **Mobile medical service** means the transportation of radioactive material to and its medical use at the client's address.

(20) **Output** means the exposure rate, dose rate, or a quantity related in a known manner to these rates from a brachytherapy source or a teletherapy, remote afterloader, or gamma stereotactic radiosurgery unit for a specified set of exposure conditions.

(21) **Patient intervention** means actions by the patient or human research subject, whether intentional or unintentional, such as dislodging or removing treatment devices or prematurely terminating the administration.

(22) **Podiatrist** means an individual licensed by a state or territory of the United States, the District of Columbia, or the Commonwealth of Puerto Rico to practice podiatry.

(23) **Positron emission tomography (PET) radionuclide production facility** means a facility operating an accelerator for the purpose of producing PET radionuclides.

(24) **Preceptor** means an individual who provides, directs, or verifies training and experience required for an individual to become an authorized user, an authorized medical physicist, an authorized nuclear pharmacist, or a radiation safety officer.

(25) **Prescribed dosage** means the specified activity or range of activity of unsealed radioactive material as documented:

((+)) (a) In a written directive; or

((2)) (b) In accordance with the directions of the authorized user for procedures performed under WAC 246-240-151 and 246-240-157.

(26) **Prescribed dose** means:

((+)) (a) For gamma stereotactic radiosurgery, the total dose as documented in the written directive;

((2)) (b) For teletherapy, the total dose and dose per fraction as documented in the written directive;

((3)) (c) For manual brachytherapy, either the total source strength and exposure time or the total dose, as documented in the written directive; or

((4)) (d) For remote brachytherapy afterloaders, the total dose and dose per fraction as documented in the written directive.

(27) **Pulsed dose-rate remote afterloader**, as used in this chapter, means a special type of remote afterloading brachytherapy device that uses a single source capable of delivering dose rates in the "high dose-rate" range, but:

((+)) (a) Is approximately one-tenth of the activity of typical high dose-rate remote afterloader sources; and

((2)) (b) Is used to simulate the radiobiology of a low dose-rate treatment by inserting the source for a given fraction of each hour.

(28) **Radiation safety officer** means an individual who:

((+)) (a) Meets the requirements in WAC 246-240-069 and 246-240-081; or

((2)) (b) Is identified as a radiation safety officer on a specific medical use license issued by the department prior to October 5, 2005, the U.S. NRC or an agreement state; or

((3)) (c) A medical use permit issued by a commission master material licensee.

(29) **Sealed source and device registry** means the national registry that contains all the registration certificates, generated by both the U.S. NRC and the agreement states, that summarize the radiation safety information for the sealed sources and devices and describe the licensing and use conditions approved for the product.

(30) **Stereotactic radiosurgery** means the use of external radiation in conjunction with a stereotactic guidance device to very precisely deliver a therapeutic dose to a tissue volume.

(31) **Structured educational program** means an educational program designed to impart particular knowledge and practical education through interrelated studies and supervised training.

(32) **Teletherapy**, as used in this chapter, means a method of radiation therapy in which collimated gamma rays are delivered at a distance from the patient or human research subject.

(33) **Temporary job site** means a location where mobile medical services are conducted other than those location(s) of use authorized on the license.

(34) **Therapeutic dosage** means a dosage of unsealed radioactive material that is intended to deliver a radiation dose to a patient or human research subject for palliative or curative treatment.

(35) **Therapeutic dose** means a radiation dose delivered from a source containing radioactive material to a patient or human research subject for palliative or curative treatment.

(36) **Treatment site** means the anatomical description of the tissue intended to receive a radiation dose, as described in a written directive.

(37) **Type of use** means use of radioactive material under WAC 246-240-151, 246-240-157, 246-240-201, 246-240-251, 246-240-301, 246-240-351, or 246-240-501.

(38) **Unit dosage** means a dosage prepared for medical use for administration as a single dosage to a patient or human research subject without any further manipulation of the dosage after it is initially prepared.

(39) **Written directive** means an authorized user's written order for the administration of radioactive material or radiation from radioactive material to a specific patient or human research subject, as specified in WAC 246-240-060.

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-069 Training for radiation safety officer. Except as provided in WAC 246-240-078, the licensee shall require an individual fulfilling the responsibilities of the radiation safety officer under WAC 246-240-051 to be an individual who:

(1) Is certified by a specialty board whose certification process has been recognized by the department, the U.S. NRC, or an agreement state, and who meets the requirements of subsections (4) and (5) of this section. (Specialty boards whose certification process has been recognized by the department, the U.S. Nuclear Regulatory Commission or an agreement state will be posted on the NRC's web page, at <http://www.nrc.gov>.) To be recognized, a specialty board shall require all candidates for certification to:

(a) Hold a bachelor's or graduate degree from an accredited college or university in physical science or engineering or biological science with a minimum of twenty college credits in physical science;

(b) Have five or more years of professional experience in health physics (graduate training may be substituted for no more than two years of the required experience) including at least three years in applied health physics; and

(c) Pass an examination administered by diplomates of the specialty board, which evaluates knowledge and competence in radiation physics and instrumentation, radiation protection, mathematics pertaining to the use and measurement of radioactivity, radiation biology, and radiation dosimetry; or

(i) Hold a master's or doctor's degree in physics, medical physics, other physical science, engineering, or applied mathematics from an accredited college or university;

(ii) Have two years of full-time practical training and/or supervised experience in medical physics:

(A) Under the supervision of a medical physicist who is certified in medical physics by a specialty board recognized by the commission or an agreement state; or

(B) In clinical nuclear medicine facilities providing diagnostic and/or therapeutic services under the direction of physicians who meet the requirements for authorized users in WAC 246-240-078, 246-240-163 or 246-240-210; and

(iii) Pass an examination, administered by diplomates of the specialty board, that assesses knowledge and competence in clinical diagnostic radiological or nuclear medicine physics and in radiation safety; or

(d) Obtain written certification under oath signed by a preceptor radiation safety officer that the individual has achieved a level of radiation safety knowledge sufficient to function independently as a radiation safety officer for a medical use licensee; or

(2)(a) Has completed a structured educational program consisting of both:

(i) Two hundred hours of classroom and laboratory training in the following areas:

(A) Radiation physics and instrumentation;

(B) Radiation protection;

(C) Mathematics pertaining to the use and measurement of radioactivity;

(D) Radiation biology; and

(E) Radiation dosimetry; and

(ii) One year of full-time radiation safety experience under the supervision of the individual identified as the radiation safety officer on a department or agreement state license or license issued by the U.S. NRC that authorizes similar type(s) of use(s) of radioactive material involving the following:

(A) Shipping, receiving, and performing related radiation surveys;

(B) Using and performing checks for proper operation of instruments used to determine the activity of dosages, survey meters, and instruments used to measure radionuclides;

(C) Securing and controlling radioactive material;

(D) Using administrative controls to avoid mistakes in the administration of radioactive material;

(E) Using procedures to prevent or minimize radioactive contamination and using proper decontamination procedures;

(F) Using emergency procedures to control radioactive material; and

(G) Disposing of radioactive material; or

(b) Is a medical physicist who has been certified by a specialty board whose certification process has been recognized by the department, the U.S. NRC, or an agreement state under WAC 246-240-072 and has experience in radiation safety for similar types of use of radioactive material for which the licensee is seeking the approval of the individual as radiation safety officer and who meets the requirements in subsections (4) and (5) of this section; or

(3) Is an authorized user, authorized medical physicist, or authorized nuclear pharmacist identified on the licensee's license or a medical physicist who has been certified by a specialty board whose certification process has been recognized by the department, the U.S. Nuclear Regulatory Commission or an agreement state under WAC 246-240-072 and has experience with the radiation safety aspects of similar types of use of radioactive material for which the individual has radiation safety officer responsibilities; and

(4) Has obtained written certification under oath, signed by a preceptor radiation safety officer, that the individual has satisfactorily completed the requirements in subsection (5) of this section, and in subsection (1)(a) and (b), or (c)(i) and (ii) of this section, or subsection (2)(a) or (b) of this section, or subsection (3) of this section and has achieved a level of radiation safety knowledge sufficient to function independently as a radiation safety officer for a medical use licensee; and

(5) Has training in the radiation safety, regulatory issues, and emergency procedures for the types of use for which a licensee seeks approval. This training requirement may be satisfied by completing training that is supervised by an authorized medical physicist, authorized user, authorized nuclear pharmacist, or radiation safety officer, as appropriate, who is authorized for the type(s) of use for which the licensee is seeking approval.

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-072 Training for an authorized medical physicist. Except as provided in WAC 246-240-078, the

licensee shall require the authorized medical physicist to be an individual who:

(1) Is certified by a specialty board whose certification process has been recognized by the department, the U.S. Nuclear Regulatory Commission or an agreement state and who meets the requirements in subsections (2)(b) and (3) of this section. (Specialty boards whose certification process has been recognized by the commission or an agreement state will be posted on the NRC's web page at <http://www.nrc.gov>.) To be recognized, a specialty board shall require all candidates for certification to:

(a) Hold a master's or doctor's degree in physics, medical physics, other physical science, engineering, or applied mathematics from an accredited college or university;

(b) Have two years of full-time practical training and/or supervised experience in medical physics:

(i) Under the supervision of a medical physicist who is certified in medical physics by a specialty board recognized by the commission or an agreement state; or

(ii) In clinical radiation facilities providing high energy, external beam therapy (photons and electrons with energies greater than or equal to one million electron volts) and brachytherapy services under the direction of physicians who meet the requirements for authorized users in WAC 246-240-078, 246-240-278 or 246-240-399;

(c) Pass an examination, administered by diplomates of the specialty board, which assesses knowledge and competence in clinical radiation therapy, radiation safety, calibration, quality assurance, and treatment planning for external beam therapy, brachytherapy, and stereotactic radiosurgery; or

(2)(a) Holds a master's or doctor's degree in physics, medical physics, other physical science, engineering, or applied mathematics from an accredited college or university; and has completed one year of full-time training in medical physics and an additional year of full-time work experience under the supervision of an individual who meets the requirements for an authorized medical physicist for the type(s) of use modalities for which the individual is seeking authorization. This training and work experience must be conducted in clinical radiation facilities that provide high energy, external beam therapy and brachytherapy services and must include:

(i) Performing sealed source leak tests and inventories;

(ii) Performing decay corrections;

(iii) Performing full calibration and periodic spot checks of external beam treatment units, stereotactic radiosurgery units, and remote afterloading units as applicable; and

(iv) Conducting radiation surveys around external beam treatment units, stereotactic radiosurgery units, and remote afterloading units as applicable; and

(b) Has obtained written certification under oath that the individual has satisfactorily completed the requirements in subsections (1)(a) and (b) and (3), or (2)(a) and (3) of this section, and has achieved a level of competency sufficient to function independently as an authorized medical physicist for each type of therapeutic medical unit for which the individual is requesting authorized medical physicist status. The written certification under oath must be signed by a preceptor authorized medical physicist who meets the requirements in WAC

246-240-072, 246-240-078, or equivalent U.S. NRC or agreement state requirements for an authorized medical physicist for each type of therapeutic medical unit for which the individual is requesting authorized medical physicist status; and

(3) Has training for the type(s) of use in the modalities for which authorization is sought that includes hands-on device operation, safety procedures, clinical use, and the operation of a treatment planning system. This training requirement may be satisfied by satisfactorily completing either a training program provided by the vendor or by training supervised by an authorized medical physicist authorized for the type(s) of use for which the individual is seeking authorization.

AMENDATORY SECTION (Amending WSR 06-05-019, filed 2/6/06, effective 3/9/06)

WAC 246-240-075 Training for an authorized nuclear pharmacist. Except as provided in WAC 246-240-078, the licensee shall require the authorized nuclear pharmacist to be a pharmacist who:

(1) Is certified by a specialty board whose certification process has been recognized by the department, the U.S. Nuclear Regulatory Commission or an agreement state and who meets the requirements in subsection (2)(b) of this section. (Specialty boards whose certification process has been recognized by the commission or an agreement state will be posted on the NRC's web page at <http://www.nrc.gov>.) To be recognized, a specialty board shall require all candidates for certification to:

(a) Have graduated from a pharmacy program accredited by the American Council On Pharmaceutical Education (ACPE) or have passed the Foreign Pharmacy Graduate Examination Committee (FPGEC) examination;

(b) Hold a current, active license to practice pharmacy;

(c) Provide evidence of having acquired at least four thousand hours of training/experience in nuclear pharmacy practice. Academic training may be substituted for no more than two thousand hours of the required training and experience; and

(d) Pass an examination in nuclear pharmacy administered by diplomates of the specialty board, which assesses knowledge and competency in procurement, compounding, quality assurance, dispensing, distribution, health and safety, radiation safety, provision of information and consultation, monitoring patient outcomes, research and development; or

(2)(a) Has completed two hundred hours in a structured educational program consisting of both:

(i) Didactic training in the following areas:

(A) Radiation physics and instrumentation;

(B) Radiation protection;

(C) Mathematics pertaining to the use and measurement of radioactivity;

(D) Chemistry of radioactive material for medical use;

and

(E) Radiation biology; and

(ii) Supervised practical experience in a nuclear pharmacy involving:

(A) Shipping, receiving, and performing related radiation surveys;

(B) Using and performing checks for proper operation of instruments used to determine the activity of dosages, survey meters, and, if appropriate, instruments used to measure alpha- or beta-emitting radionuclides;

(C) Calculating, assaying, and safely preparing dosages for patients or human research subjects;

(D) Using administrative controls to avoid medical events in the administration of radioactive material; and

(E) Using procedures to prevent or minimize radioactive contamination and using proper decontamination procedures; and

(b) Has obtained written certification under oath, signed by a preceptor authorized nuclear pharmacist, that the individual has satisfactorily completed the requirements in subsections (1)(a), (b), and (c) or (2)(a) of this section and has achieved a level of competency sufficient to function independently as an authorized nuclear pharmacist.

AMENDATORY SECTION (Amending WSR 06-05-019, filed 2/6/06, effective 3/9/06)

WAC 246-240-078 Training for experienced radiation safety officer, teletherapy or medical physicist, authorized user, and nuclear pharmacist. (1) An individual identified as a radiation safety officer, a teletherapy or medical physicist, or a nuclear pharmacist on a department, U.S. NRC, or agreement state license, or a permit issued by an agreement state or U.S. NRC broad scope licensee or master material license permit, or by a master material license permittee of broad scope before October 24, 2006, need not comply with the training requirements of WAC 246-240-278, 246-240-072, or 246-240-075, respectively.

(2) Physicians, dentists, or podiatrists identified as authorized users for the medical use of radioactive material on a license issued by the department or agreement state, or U.S. NRC broad scope license, or license issued before October 24, 2006, who perform only those medical uses for which they were authorized on that date need not comply with the training requirements of WAC 246-240-151 and 246-240-399.

(3) Individuals who need not comply with training requirements as described in this section may serve as preceptors for, and supervisors of, applicants seeking authorization on state of Washington radioactive materials licenses for the same uses for which these individuals are authorized.

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-154 Training for uptake, dilution, and excretion studies. Except as provided in WAC 246-240-078, the licensee shall require an authorized user of unsealed radioactive material for the uses authorized under WAC 246-240-151 to be a physician who:

(1) Is certified by a medical specialty board whose certification process has been recognized by the department, the U.S. Nuclear Regulatory Commission or an agreement state and who meets the requirements of subsection (3)(b) of this section. (Specialty boards whose certification process has

been recognized by the department, the U.S. NRC or an agreement state will be posted on the NRC's web page at <http://www.nrc.gov>.) To be recognized, a specialty board shall require all candidates for certification to:

(a) Meet the requirements in subsection (3)(a) of this section; and

(b) Pass an examination, administered by diplomates of the specialty board, which assesses knowledge and competence in radiation safety, radionuclide handling, and quality control; or

(2) Is an authorized user under WAC 246-240-163 or 246-240-210 or equivalent agreement state or U.S. NRC requirements; or subsection (3)(a) of this section; or

(3)(a) Has completed sixty hours of training and experience, including a minimum of eight hours of classroom and laboratory training, in basic radionuclide handling techniques applicable to the medical use of unsealed radioactive material for uptake, dilution, and excretion studies. The training and experience must include:

(i) Classroom and laboratory training in the following areas:

(A) Radiation physics and instrumentation;

(B) Radiation protection;

(C) Mathematics pertaining to the use and measurement of radioactivity;

(D) Chemistry of radioactive material for medical use; and

(E) Radiation biology; and

(ii) Work experience, under the supervision of an authorized user who meets the requirements in WAC 246-240-078, 246-240-154, 246-240-163, or 246-240-210 or equivalent U.S. NRC or agreement state requirements, involving:

(A) Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys;

(B) Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters;

(C) Calculating, measuring, and safely preparing patient or human research subject dosages;

(D) Using administrative controls to prevent a medical event involving the use of unsealed radioactive material;

(E) Using procedures to contain spilled radioactive material safely and using proper decontamination procedures; and

(F) Administering dosages of radioactive drugs to patients or human research subjects; and

(b) Has obtained written certification under oath, signed by a preceptor authorized user who meets the requirements in WAC 246-240-078, 246-240-154, 246-240-163, or 246-240-210, or equivalent agreement state or U.S. NRC requirements, that the individual has satisfactorily completed the requirements in (a) of this subsection and has achieved a level of competency sufficient to function independently as an authorized user for the medical uses authorized under WAC 246-240-151.

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-163 Training for imaging and localization studies. Except as provided in WAC 246-240-078, the licensee shall require an authorized user of unsealed radioactive material for the uses authorized under WAC 246-240-157 to be a physician who:

(1) Is certified by a medical specialty board whose certification process has been recognized by the department, the U.S. Nuclear Regulatory Commission or an agreement state and who meets the requirements in subsection (3)(b) of this section. (Specialty boards whose certification process has been recognized by the commission or an agreement state will be posted on the U.S. NRC's web page at <http://www.nrc.gov>.) To be recognized, a specialty board shall require all candidates for certification to:

(a) Satisfy the requirements in subsection (3)(a) of this section; and

(b) Pass an examination, administered by diplomates of the specialty board, which assesses knowledge and competence in radiation safety, radionuclide handling, and quality control; or

(2) Is an authorized user under WAC 246-240-210 and meets the requirements in WAC 246-240-163 (3)(a)(ii)(G) and 246-240-210 or equivalent agreement state or U.S. NRC requirements; or

(3)(a) Has completed seven hundred hours of training and experience, including a minimum of eighty hours of classroom and laboratory training, in basic radionuclide handling techniques applicable to the medical use of unsealed radioactive material for imaging and localization studies. The training and experience must include, at a minimum:

(i) Classroom and laboratory training in the following areas:

(A) Radiation physics and instrumentation;

(B) Radiation protection;

(C) Mathematics pertaining to the use and measurement of radioactivity;

(D) Chemistry of radioactive material for medical use;

(E) Radiation biology; and

(ii) Work experience, under the supervision of an authorized user, who meets the requirements in WAC 246-240-078, 246-240-163, or 246-240-210 and 246-240-163 (3)(a)(ii)(G), or equivalent agreement state or U.S. NRC requirements, involving:

(A) Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys;

(B) Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters;

(C) Calculating, measuring, and safely preparing patient or human research subject dosages;

(D) Using administrative controls to prevent a medical event involving the use of unsealed radioactive material;

(E) Using procedures to safely contain spilled radioactive material and using proper decontamination procedures;

(F) Administering dosages of radioactive drugs to patients or human research subjects; and

(G) Eluting generator systems appropriate for preparation of radioactive drugs for imaging and localization studies,

measuring and testing the eluate for radionuclidic purity, and processing the eluate with reagent kits to prepare labeled radioactive drugs; and

(b) Has obtained written certification under oath, signed by a preceptor authorized user who meets the requirements in WAC 246-240-078, 246-240-163, or 246-240-210 and 246-240-163 (3)(a)(ii)(G) or equivalent agreement state or U.S. NRC requirements, that the individual has satisfactorily completed the requirements in (a) of this subsection and has achieved a level of competency sufficient to function independently as an authorized user for the medical uses authorized under WAC 246-240-151 and 246-240-157.

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-210 Training for use of unsealed radioactive material for which a written directive is required. Except as provided in WAC 246-240-078, the licensee shall require an authorized user of unsealed radioactive material for the uses authorized under WAC 246-240-201 to be a physician who:

(1) Is certified by a medical specialty board whose certification process has been recognized by the department, the U.S. Nuclear Regulatory Commission or an agreement state. (Specialty boards whose certification process has been recognized by the commission or an agreement state will be posted on the NRC's web page at <http://www.nrc.gov>.) To be recognized, a specialty board shall require all candidates for certification to:

(a) Successfully complete a residency training in a radiation therapy or nuclear medicine training program or a program in a related medical specialty that includes seven hundred hours of training and experience as described in subsection (2) of this section. Eligible training programs must be approved by the Residency Review Committee of the Accreditation Council for Graduate Medical Education or Royal College of Physicians and Surgeons of Canada or the Committee on Postgraduate Training of the American Osteopathic Association;

(b) Pass an examination, administered by diplomates of the specialty board, which tests knowledge and competence in radiation safety, radionuclide handling, quality assurance, and clinical use of unsealed by-product material; and

(c) Obtain written certification under oath that the individual has achieved a level of competency sufficient to function independently as an authorized user for the medical uses authorized under WAC 246-240-201. The written certification under oath must be signed by a preceptor authorized user who meets the requirements in WAC 246-240-078, 246-240-210, or equivalent U.S. NRC or agreement state requirements. The preceptor authorized user, who meets the requirements in WAC 246-240-078 or 246-240-210 must have experience in administering dosages in the same dosage category or categories (i.e., this section) as the individual requesting authorized user status; or

(2) Has completed seven hundred hours of training and experience, including a minimum of two hundred hours of classroom and laboratory training, in basic radionuclide handling techniques applicable to the medical use of unsealed

radioactive material requiring a written directive. The training and experience must include:

(a) Classroom and laboratory training in the following areas:

- (i) Radiation physics and instrumentation;
- (ii) Radiation protection;
- (iii) Mathematics pertaining to the use and measurement of radioactivity;
- (iv) Chemistry of radioactive material for medical use; and
- (v) Radiation biology; and

(b) Work experience, under the supervision of an authorized user who meets the requirements in subsection (1) or (2) of this section, or equivalent U.S. NRC or agreement state requirements. A supervising authorized user, who meets the requirements in this subsection, must also have experience in administering dosages in the same dosage category or categories (i.e., this section) as the individual requesting authorized user status. The work experience must involve:

- (i) Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys;
- (ii) Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters;
- (iii) Calculating, measuring, and safely preparing patient or human research subject dosages;
- (iv) Using administrative controls to prevent a medical event involving the use of unsealed radioactive material;
- (v) Using procedures to contain spilled radioactive material safely and using proper decontamination procedures;
- (vi) Eluting generator systems, measuring and testing the eluate for radionuclidic purity, and processing the eluate with reagent kits to prepare labeled radioactive drugs; and
- (vii) Administering dosages of radioactive drugs to patients or human research subjects involving a minimum of three cases in each of the following categories for which the individual is requesting authorized user status:

(A) Oral administration of less than or equal to 1.22 gigabecquerels (33 millicuries) of sodium iodide I-131 for which a written directive is required;

(B) Oral administration of greater than 1.22 gigabecquerels (33 millicuries) of sodium iodide I-131. Experience with at least three cases in this also satisfies the requirement in (b)(vii)(A) of this subsection;

(C) Parenteral administration of any beta emitter, or a photon-emitting radionuclide with a photon energy less than 150 keV for which a written directive is required; and/or

(D) Parenteral administration of any other radionuclide for which a written directive is required; and

(E) Has obtained written certification under oath that the individual has satisfactorily completed the requirements in subsection (1)(a) and ~~((b))~~ (2)(b)(vii) of this section, WAC 246-240-078, and has achieved a level of competency sufficient to function independently as an authorized user for the medical uses authorized under WAC 246-240-201. The written certification under oath must be signed by a preceptor authorized user who meets the requirements in this section, or equivalent U.S. NRC or agreement state requirements. The preceptor authorized user, who meets the requirements in this subsection (2), must also have experience in administering

dosages in the same dosage category or categories (i.e., this section) as the individual requesting authorized user status.

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-213 Training for the oral administration of sodium iodide I-131 requiring a written directive in quantities less than or equal to 1.22 gigabecquerels (33 millicuries). Except as provided in WAC 246-240-078, the licensee shall require an authorized user for the oral administration of sodium iodide I-131 requiring a written directive in quantities less than or equal to 1.22 gigabecquerels (33 millicuries), to be a physician who:

(1) Is certified by a medical specialty board whose certification process includes all of the requirements in subsection (3) of this section and whose certification has been recognized by the department, the U.S. Nuclear Regulatory Commission or an agreement state. (Specialty boards whose certification process has been recognized by the commission or an agreement state will be posted on the NRC's web page at <http://www.nrc.gov>); or

(2) Is an authorized user under WAC 246-240-210 for uses listed in WAC 246-240-210 (2)(b)(vii)(A) and (B), 246-240-216, or equivalent agreement state or U.S. NRC requirements; or

(3)(a) Has successfully completed eighty hours of classroom and laboratory training, applicable to the medical use of sodium iodide I-131 for procedures requiring a written directive. The training must include:

- (i) Radiation physics and instrumentation;
- (ii) Radiation protection;
- (iii) Mathematics pertaining to the use and measurement of radioactivity;
- (iv) Chemistry of radioactive material for medical use; and
- (v) Radiation biology; and

(b) Has work experience, under the supervision of an authorized user who meets the requirements in WAC 246-240-078, 246-240-210, 246-240-213, 246-240-216, or equivalent agreement state or U.S. NRC requirements. A supervising authorized user who meets the requirements in WAC 246-240-210(2), must also have experience in administering dosages as specified in WAC 246-240-210 (2)(b)(vii)(A) or (B). The work experience must involve:

- (i) Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys;
- (ii) Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters;
- (iii) Calculating, measuring, and safely preparing patient or human research subject dosages;
- (iv) Using administrative controls to prevent a medical event involving the use of radioactive material;
- (v) Using procedures to contain spilled radioactive material safely and using proper decontamination procedures; and
- (vi) Administering dosages to patients or human research subjects, that includes at least three cases involving the oral administration of less than or equal to 1.22 gigabecquerels (33 millicuries) of sodium iodide I-131; and

(c) Has obtained written certification under oath that the individual has satisfactorily completed the requirements in (a) and (b) of this subsection and has achieved a level of competency sufficient to function independently as an authorized user for medical uses authorized under WAC 246-240-201. The written certification under oath must be signed by a preceptor authorized user who meets the requirements in WAC 246-240-078, 246-240-210, 246-240-213, 246-240-216, or equivalent agreement state or U.S. NRC requirements. A preceptor authorized user, who meets the requirement in WAC 246-240-210(2), must also have experience in administering dosages as specified in WAC 246-240-210 (2)(b)(vii)(A) or (B).

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-216 Training for the oral administration of sodium iodide I-131 requiring a written directive in quantities greater than 1.22 gigabecquerels (33 millicuries). Except as provided in WAC 246-240-078, the licensee shall require an authorized user for the oral administration of sodium iodide I-131 requiring a written directive in quantities greater than 1.22 gigabecquerels (33 millicuries), to be a physician who:

(1) Is certified by a medical specialty board whose certification process includes all of the requirements in subsection (3) of this section and whose certification has been recognized by the department, the U.S. NRC or an agreement state. (Specialty boards whose certification process has been recognized by the commission or an agreement state will be posted on the NRC's web page at <http://www.nrc.gov>); or

(2) Is an authorized user under WAC 246-240-210 for uses listed in WAC 246-240-210 (2)(b)(vii)(B), or equivalent agreement state or U.S. NRC requirements; or

(3)(a) Has successfully completed eighty hours of classroom and laboratory training, applicable to the medical use of sodium iodide I-131 for procedures requiring a written directive. The training must include:

- (i) Radiation physics and instrumentation;
- (ii) Radiation protection;
- (iii) Mathematics pertaining to the use and measurement of radioactivity;
- (iv) Chemistry of radioactive material for medical use; and
- (v) Radiation biology; and

(b) Has work experience, under the supervision of an authorized user who meets the requirements in WAC 246-240-078, 246-240-210, 246-240-216, or equivalent agreement state or U.S. NRC requirements. A supervising authorized user, who meets the requirements in WAC 246-240-210(2), must also have experience in administering dosages as specified in WAC 246-240-210 (2)(b)(vii)(B).

The work experience must involve:

- (i) Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys;
- (ii) Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters;

(ii) Calculating, measuring, and safely preparing patient or human research subject dosages;

(iv) Using administrative controls to prevent a medical event involving the use of radioactive material;

(v) Using procedures to contain spilled radioactive material safely and using proper decontamination procedures; and

(vi) Administering dosages to patients or human research subjects, that includes at least three cases involving the oral administration of greater than 1.22 gigabecquerels (33 millicuries) of sodium iodide I-131; and

(c) Has obtained written certification under oath that the individual has satisfactorily completed the requirements in (a) and (b) of this subsection and has achieved a level of competency sufficient to function independently as an authorized user for medical uses authorized under WAC 246-240-201. The written certification under oath must be signed by a preceptor authorized user who meets the requirements in WAC 246-240-078, 246-240-210, 246-240-216, or equivalent agreement state or U.S. NRC requirements. A preceptor authorized user, who meets the requirements in WAC 246-240-210(2), must have experience in administering dosages as specified in WAC 246-240-210 (2)(b)(vii)(B).

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-219 Training for the parenteral administration of unsealed radioactive material requiring a written directive. Except as provided in WAC 246-240-078, the licensee shall require an authorized user for the parenteral administration requiring a written directive, to be a physician who:

(1) Is an authorized user under WAC 246-240-210 for uses listed in WAC 246-240-210 (2)(b)(vii)(C) or (D), or equivalent agreement state or U.S. NRC requirements; or

(2) Is an authorized user under WAC 246-240-278 or 246-240-399, or equivalent agreement state or U.S. NRC requirements and who meets the requirements in subsection (4) of this section; or

(3) Is certified by a medical specialty board whose certification process has been recognized by the U.S. NRC or an agreement state under WAC 246-240-278 or 246-240-399, and who meets the requirements in subsection (4) of this section.

(4)(a) Has successfully completed eighty hours of classroom and laboratory training, applicable to parenteral administrations, for which a written directive is required, of any beta emitter or any photon-emitting radionuclide with a photon energy less than 150 keV, and/or parenteral administration of any other radionuclide for which a written directive is required. The training must include:

- (i) Radiation physics and instrumentation;
- (ii) Radiation protection;
- (iii) Mathematics pertaining to the use and measurement of radioactivity;
- (iv) Chemistry of radioactive material for medical use; and
- (v) Radiation biology; and

(b) Has work experience, under the supervision of an authorized user who meets the requirements in WAC 246-

240-078, 246-240-210, 246-240-219, or equivalent agreement state or U.S. NRC requirements, in the parenteral administration, for which a written directive is required, of any beta emitter or any photon-emitting radionuclide with a photon energy less than 150 keV, and/or parenteral administration of any other radionuclide for which a written directive is required. A supervising authorized user who meets the requirements in WAC 246-240-210 must have experience in administering dosages as specified in WAC 246-240-210 (2)(b)(vii)(C) and/or (D). The work experience must involve:

(i) Ordering, receiving, and unpacking radioactive materials safely, and performing the related radiation surveys;

(ii) Performing quality control procedures on instruments used to determine the activity of dosages, and performing checks for proper operation of survey meters;

(iii) Calculating, measuring, and safely preparing patient or human research subject dosages;

(iv) Using administrative controls to prevent a medical event involving the use of unsealed radioactive material;

(v) Using procedures to contain spilled radioactive material safely, and using proper decontamination procedures; and

(vi) Administering dosages to patients or human research subjects, that include at least three cases involving the parenteral administration, for which a written directive is required, of any beta emitter, or any photon-emitting radionuclide with a photon energy less than 150 keV and/or at least three cases involving the parenteral administration of any other radionuclide, for which a written directive is required; and

(5) Has obtained written certification under oath that the individual has satisfactorily completed the requirements in subsection (2) or (3) of this section, and has achieved a level of competency sufficient to function independently as an authorized user for the parenteral administration of unsealed radioactive material requiring a written directive. The written certification under oath must be signed by a preceptor authorized user who meets the requirements in WAC 246-240-078, 246-240-210, 246-240-219, or equivalent agreement state or U.S. NRC requirements. A preceptor authorized user, who meets the requirements in WAC 246-240-210, must have experience in administering dosages as specified in WAC 246-240-210 (2)(b)(vii)(C) and/or (D).

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-278 Training for use of manual brachytherapy sources. Except as provided in WAC 246-240-078, the licensee shall require an authorized user of a manual brachytherapy source for the uses authorized under WAC 246-240-251 to be a physician who:

(1) Is certified by a medical specialty board whose certification process has been recognized by the department, the U.S. NRC, or an agreement state. (Specialty boards whose certification process has been recognized by the commission or an agreement state will be posted on the NRC's web page at <http://www.nrc.gov>.) To be recognized, a specialty board shall require all candidates for certification to:

(a) Successfully complete a minimum of three years of residency training in a radiation oncology program approved by the Residency Review Committee of the Accreditation Council for Graduate Medical Education or Royal College of Physicians and Surgeons of Canada or the Committee on Postgraduate Training of the American Osteopathic Association;

(b) Pass an examination, administered by diplomates of the specialty board, which tests knowledge and competence in radiation safety, radionuclide handling, treatment planning, quality assurance, and clinical use of high and low dose-rate brachytherapy; and

(c) Obtain written certification under oath, signed by a preceptor authorized user who meets the requirements in WAC 246-240-278 or equivalent U.S. NRC or agreement state requirements, that the individual has achieved a level of competency sufficient to function independently as an authorized user of manual brachytherapy sources for the medical uses authorized in WAC 246-240-251; or

(2)(a) Has completed a structured educational program in basic radionuclide handling techniques applicable to the use of manual brachytherapy sources that includes:

(i) Two hundred hours of classroom and laboratory training in the following areas:

(A) Radiation physics and instrumentation;

(B) Radiation protection;

(C) Mathematics pertaining to the use and measurement of radioactivity; and

(D) Radiation biology; and

(ii) Five hundred hours of work experience, under the supervision of an authorized user who meets the requirements in WAC 246-240-078, 246-240-278 or equivalent agreement state or U.S. NRC requirements at a medical institution, involving:

(A) Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys;

(B) Checking survey meters for proper operation;

(C) Preparing, implanting, and removing brachytherapy sources;

(D) Maintaining running inventories of material on hand;

(E) Using administrative controls to prevent a medical event involving the use of radioactive material;

(F) Using emergency procedures to control radioactive material; and

(b) Has completed three years of supervised clinical experience in radiation oncology, under an authorized user who meets the requirements in WAC 246-240-078, 246-240-278 or equivalent U.S. NRC or agreement state requirements, as part of a formal training program approved by the Residency Review Committee for Radiation Oncology of the Accreditation Council for Graduate Medical Education or the Royal College of Physicians and Surgeons of Canada or the Committee on Postdoctoral Training of the American Osteopathic Association. This experience may be obtained concurrently with the supervised work experience required by (a)(ii) of this subsection; and

(c) Has obtained written certification under oath, signed by a preceptor authorized user who meets the requirements in WAC 246-240-078, 246-240-278 or equivalent agreement

state or U.S. NRC requirements, that the individual has satisfactorily completed the requirements in subsection (1)(a) of this section, or (a) and (b) of this subsection and has achieved a level of competency sufficient to function independently as an authorized user of manual brachytherapy sources for the medical uses authorized under WAC 246-240-251.

AMENDATORY SECTION (Amending WSR 06-05-019, filed 2/6/06, effective 3/9/06)

WAC 246-240-281 Training for ophthalmic use of strontium-90. Except as provided in WAC 246-240-078, the licensee shall require the authorized user of strontium-90 for ophthalmic radiotherapy to be a physician who:

(1) Is an authorized user under WAC 246-240-278 or equivalent agreement state or U.S. NRC requirements; or

(2)(a) Has completed twenty-four hours of classroom and laboratory training applicable to the medical use of strontium-90 for ophthalmic radiotherapy. The training must include:

(i) Radiation physics and instrumentation;
(ii) Radiation protection;
(iii) Mathematics pertaining to the use and measurement of radioactivity; and

(iv) Radiation biology; and

(b) Supervised clinical training in ophthalmic radiotherapy under the supervision of an authorized user at a medical institution that includes the use of strontium-90 for the ophthalmic treatment of five individuals.

This supervised clinical training must involve:

(i) Examination of each individual to be treated;
(ii) Calculation of the dose to be administered;
(iii) Administration of the dose; and
(iv) Follow up and review of each individual's case history; and

(c) Has obtained written certification under oath, signed by a preceptor authorized user who meets the requirements in WAC 246-240-078, 246-240-278, 246-240-281, or equivalent agreement state or U.S. NRC requirements, that the individual has satisfactorily completed the requirements in subsections (1) and (2) of this section and has achieved a level of competency sufficient to function independently as an authorized user of strontium-90 for ophthalmic use.

AMENDATORY SECTION (Amending WSR 07-14-131, filed 7/3/07, effective 8/3/07)

WAC 246-240-399 Training for use of remote afterloader units, teletherapy units, and gamma stereotactic radiosurgery units. Except as provided in WAC 246-240-078, the licensee shall require an authorized user of a sealed source for a use authorized under WAC 246-240-351 to be a physician who:

(1) Is certified by a medical specialty board whose certification process has been recognized by the department, the U.S. NRC, or an agreement state. (Specialty boards whose certification process has been recognized by the NRC or an agreement state will be posted on the NRC's web page at <http://www.nrc.gov>.) To be recognized, a specialty board shall require all candidates for certification to:

(a) Successfully complete a minimum of three years of residency training in a radiation therapy program approved by the Residency Review Committee of the Accreditation Council for Graduate Medical Education or Royal College of Physicians and Surgeons of Canada or the Committee on Postgraduate Training of the American Osteopathic Association; and

(b) Pass an examination, administered by diplomates of the specialty board, which tests knowledge and competence in radiation safety, radionuclide handling, treatment planning, quality assurance, and clinical use of stereotactic radiosurgery, high and low dose-rate brachytherapy, and external beam therapy; or

(2)(a) Has completed a structured educational program in basic radionuclide techniques applicable to the use of a sealed source in a therapeutic medical unit that includes:

(i) Two hundred hours of classroom and laboratory training in the following areas:

(A) Radiation physics and instrumentation;
(B) Radiation protection;
(C) Mathematics pertaining to the use and measurement of radioactivity; and

(D) Radiation biology; and
(ii) Five hundred hours of work experience, under the supervision of an authorized user who meets the requirements in WAC 246-240-078, 246-240-399 or equivalent agreement state or U.S. NRC requirements at a medical institution, involving:

(A) Reviewing full calibration measurements and periodic spot-checks;
(B) Preparing treatment plans and calculating treatment doses and times;

(C) Using administrative controls to prevent a medical event involving the use of radioactive material;

(D) Implementing emergency procedures to be followed in the event of the abnormal operation of the medical unit or console;

(E) Checking and using survey meters; and
(F) Selecting the proper dose and how it is to be administered; and

(b) Has completed three years of supervised clinical experience in radiation therapy, under an authorized user who meets the requirements in WAC 246-240-078, 246-240-399 or equivalent U.S. NRC or agreement state requirements, as part of a formal training program approved by the Residency Review Committee for Radiation Oncology of the Accreditation Council for Graduate Medical Education or Royal College of Physicians and Surgeons of Canada or the Committee on Postdoctoral Training of the American Osteopathic Association. This experience may be obtained concurrently with the supervised work experience required by (a)(ii) of this subsection; and

(c) Has obtained written certification under oath that the individual has satisfactorily completed the requirements in subsection (1)(a) of this section, or (a) and (b), and (d) of this subsection and has achieved a level of competency sufficient to function independently as an authorized user of each type of therapeutic medical unit for which the individual is requesting authorized user status. The written certification under oath must be signed by a preceptor authorized user who

meets the requirements in WAC 246-240-078, 246-240-399 or equivalent U.S. NRC or agreement state requirements for an authorized user for each type of therapeutic medical unit for which the individual is requesting authorized user status; and

(d) Has received training in device operation, safety procedures, and clinical use for the type(s) of use for which authorization is sought. This training requirement may be satisfied by satisfactory completion of a training program provided by the vendor for new users or by receiving training supervised by an authorized user or authorized medical physicist, as appropriate, who is authorized for the type(s) of use for which the individual is seeking authorization.

(2) All fees must be paid prior to the department's approval.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 246-273-990 Fees.

WSR 11-03-069

PERMANENT RULES

DEPARTMENT OF HEALTH

[Filed January 18, 2011, 9:30 a.m., effective February 18, 2011]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Move the on-site sewage system additive fees (WAC 246-273-990) into the consolidated fees chapter 246-272 WAC, Wastewater and reclaimed water use fees.

Citation of Existing Rules Affected by this Order:
Repealing WAC 246-273-990.

Statutory Authority for Adoption: RCW 43.70.110 and 43.20B.020.

Adopted under notice filed as WSR 10-20-136 on October 5, 2010.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 1, Amended 0, Repealed 1.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 1, Amended 0, Repealed 1.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 1, Amended 0, Repealed 1.

Date Adopted: January 18, 2011.

Mary C. Selecky
Secretary

NEW SECTION

WAC 246-272-6000 On-site sewage system additive fees. (1) The applicant shall pay to the department, with the application, a three hundred fifty dollar fee. This fee includes two hundred dollars for developing criteria and review procedures, plus one hundred fifty dollars for up to two hours of product-specific review. Additional review time will be billed at seventy-five dollars per hour.