

Washington Health Law Manual — Third Edition
Washington State Society of Healthcare Attorneys (WSSHA)

Chapter 19:

Hospital Environmental, Hazardous, and Radiation Waste Regulations

Author: Amy Eiden

Organization: King County Prosecuting Attorney's Office, Civil Division

Author: Tanya Karwaki

Organization: University of Washington

Author: Camille Martin

Organization: Washington State Department of Ecology

Author: Darrin Parrollaz

Organization: Kleen Environmental Technologies, Inc.

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Biographies

Amy Eiden, Author

Amy is a Senior Deputy Prosecuting Attorney in the Civil Division of the King County Prosecuting Attorney's Office. She provides representation to the Seattle-King County Department of Public Health. Ms. Eiden is a graduate of the University of Washington School of Law.

Tanya Karwaki, Author

Tanya is currently an LLM candidate in Health Law at the University of Washington. Her experience includes clinical risk management and health care policy. She earned her MA in Zoology from the University of California, Davis, and her JD from the University of Washington.

Camille Martin, Author

Camille Martin is a Toxics Reduction Specialist with the Washington State Department of Ecology and has held this position for over fifteen years. Prior to this position, she worked as a chemist and environmental scientist. Ms. Martin holds a B.S. in environmental science and a M.S. in civil engineering with a focus in groundwater and surface water hydraulics.

Darrin Parrollaz, Author

Mr. Parrollaz is a Senior Project Manager at Kleen Environmental Technologies who designs and implements physical/chemical profiles for designating hazardous wastes. Mr. Parrollaz specializes in developing comprehensive lab-packing and waste tracking programs for universities, medical laboratories, hospital pharmacies, and various research institutes. Mr. Parrollaz has a B.S. in Fisheries and Wildlife from Lake Superior State University in Michigan and a B.S. in Chemistry from the University of Washington. Mr. Parrollaz has 17 years of industry experience. Prior to founding Kleen Environmental, Mr. Parrollaz obtained five years of industry experience in the capacity of 'Director of Environmental Services' and 'Manager of Corporate Health and Safety Policies.' His professional Certificates Include: OSHA/WISHA 40/80 hour HAZWOPER; OSHA Permit-Required Confined Space Entrant, Attendant and Authorizing Supervisor; Registered Site Assessor (WA, OR, ID); WA Board of Pharmacy Licensed; and DOT/IATA Packaging Specialist.

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19.1 Chapter Summary

This chapter addresses hospitals' management of waste. Specifically, this chapter summarizes state regulations governing management of dangerous waste, also known as hazardous waste, and universal waste. Additionally, this chapter describes the regulatory framework for management of biomedical waste and radioactive waste.

19.2 Dangerous Waste Management

19.2.1 Overview

The Dangerous Waste Regulations, chapter 173-303 WAC, implement chapter 70.105 RCW, the Hazardous Waste Management Act. Additionally, they implement, in part, chapters 70.105A, 70.105D, and 15.54 RCW and Subtitle C of Public Law 94-580, the Resource Conservation and Recovery Act (RCRA).¹ The Washington Department of Ecology (DOE), through chapter 173-303 WAC, regulates the same wastes that the EPA regulates (known as RCRA wastes) plus some additional wastes (known as state-only wastes).

Additional reference: DOE Discussion Paper "State and Federal Rule Differences – Highlights," Publication No. 96-401, Revised August 2006.

DOE categorizes chapter 173-303 WAC as follows:²

- Introductory Regulations: WAC 173-303-010 to -060
- Dangerous Waste Designations: WAC 173-303-070 to -110
- General Recycling Designations: WAC 173-303-120
- Prohibitions and Restrictions: WAC 173-303-121 to -141
- Spills and Division Dilution: WAC 173-303-145 to -150
- Containers: WAC 173-303-160 to -161
- Generator Requirements: WAC 173-303-170 to -230
- Transporter Requirements: WAC 173-303-240 to -270
- General Treatment, Storage, and Disposal Facility (TSDF) Standards: WAC 173-303-280 to -395
- Interim Status TSDF Standards: WAC 173-303-400
- Specific Recycling Requirements: WAC 173-303-430 to -525
- "Special Waste" TSDF Standards: WAC 173-303-550 to -560
- Universal Waste: WAC 173-303-573 to -575
- Military Munitions: WAC 173-303-578
- Final Status TSDF Requirements: WAC 173-303-600 to -695
- Extremely Hazardous Waste TSDF Requirements at Hanford: WAC 173-303-700
- Permits: WAC 173-303-800 to -840
- Appeal of Decision: WAC 173-303-845
- Public Involvement: WAC 173-303-900 to -910
- Violations and Special Powers: WAC 173-303-950 to -960
- Appendices: WAC 173-303-9901 to -9907

This section of the chapter describes, at a high level, selected provisions of chapter 173-303 WAC.

¹ WAC 173-303-010.

² DOE, "Dangerous Waste Regulations WAC 173-303," available at http://www.ecy.wa.gov/programs/hwtr/reg_comp_guide/173-303.htm (last visited September 29, 2010).

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Additional reference: DOE, “Best Management Practices for Hospital Waste,” Publication No. 05-04-013, October 2005.

19.2.2 Designating Dangerous Waste

A “generator” means “any person, by site, whose act or process produces dangerous waste or whose act first causes a dangerous waste to become subject to regulation.”³ A generator is responsible for designating waste as dangerous waste and must maintain waste designation records for at least five years from the date the waste was last transferred for on-site or off-site treatment, storage, or disposal.⁴ WAC 173-303-070 describes the procedures for determining whether waste is dangerous waste. Certain waste streams are excluded from the designation process. *See* WAC 173-303-071. Some of these exclusions are described in subsection 19.2.5 of this chapter.

The following types of waste are dangerous waste and are required to be designated unless an exclusion applies:

- Certain discarded chemical products, as defined in WAC 173-303-081.
- Waste that is listed, or is a residue from the management of waste listed, on the dangerous waste sources list in WAC 173-303-9904, as defined in WAC 173-303-082.
- Solid waste that exhibits characteristics of ignitability, corrosivity, reactivity, or toxicity, as defined in WAC 173-303-090(5) to (8).
- Toxic dangerous wastes and persistent dangerous wastes, as defined in WAC 173-303-100.

Chapter 173-303 WAC includes a system for designating wastes by four-digit waste codes. The codes differentiate between RCRA waste and state-only waste. *See* “Dangerous Waste Numbers or Waste Code Index,” available at <http://www.ecy.wa.gov/programs/hwtr/demodebris/pages2/dwcodes.html> (last visited September 29, 2010). Certain dangerous waste sources also qualify as “acute hazardous waste” or “extremely hazardous waste.” *See* WAC 173-303-040. Such waste may be subject to separate requirements.

Additional reference: Ecology Fact Sheet, “Designating Dangerous Waste,” Publication No. 96-436, Revised October 2004.

19.2.3 Counting Dangerous Waste

Generally, dangerous waste that is stored, treated, recycled or manifested for disposal is required to be counted. Counting is required in order to determine whether generator status is small, medium, or large, and is further described in subsection 19.2.4 of this chapter. Counting also is necessary for reporting, *see* WAC 173-303-220, and to determine if a pollution prevention plan is necessary, *see* chapter 173-307 WAC. For some wastes and under some conditions, however, counting is not required. For example, the conditional exclusions in WAC 173-303-071 exempt certain wastes from counting requirements.

Additional reference: Department of Ecology, “Counting Dangerous Waste Under the Dangerous Waste Regulations,” Publication No. 98-414, Revised September 2003.

19.2.4 Generator Status

A hospital is a “small quantity generator” if the quantity of dangerous waste generated is less than 220 pounds per month and never exceeds 2200 lbs of waste accumulated on-site. A small quantity generator hospital cannot generate and accumulate more than 2.2 pounds of extremely hazardous waste per month.⁵ WAC 173-303-070(8) provides that a small quantity generator is subject only to the following requirements of chapter 173-303 WAC:

- Designates waste in accordance with WAC 173-303-070; and

³ WAC 173-303-040.

⁴ WAC 173-303-170(1) and -210(3).

⁵ WAC 173-303-070(8).

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- Manages waste in a way that does not pose a threat to human health or the environment; and
- Either treats or disposes of its dangerous waste in an on-site facility or ensures delivery to an off-site facility, either of which meets the requirements of WAC 173-303-070(8)(b)(iii); and
- Submits an annual report in accordance with WAC 173-303-220 if it has obtained an EPA/state identification number.

A hospital is a “medium quantity generator” if the quantity of dangerous waste generated is greater than 220 pounds but less than 2200 pounds per month and is less than 2200 pounds accumulated on-site. A medium quantity generator hospital cannot generate and accumulate more than 2.2 pounds of extremely hazardous waste per month.⁶ Medium-quantity generators are responsible for the handling requirements described in WAC 173-303-170, -201 and -202.

A hospital is a “large quantity generator” if the quantity of dangerous waste generated is greater than 2200 pounds per month or exceeds 2200 pounds accumulated on-site. A hospital becomes a large quantity generator if it generates or accumulates greater than 2.2 pounds of extremely hazardous waste. Large quantity generators are responsible for the handling requirements described in WAC 173-303-170 and -200.

19.2.5 Managing Dangerous Waste

19.2.5.1 Overview

Generators are required to manage waste in accordance with chapter 173-303 WAC. This subsection of chapter 19 provides a high-level description of the requirements for (a) waste analysis, and (b) storage/accumulation, treatment, and disposal of waste. Chapter 173-303 WAC provides for on-site treatment and storage/accumulation without a permit under certain conditions. Otherwise, dangerous waste may be offered only to a permitted dangerous waste management facility, including permit-by-rule, interim status, or final status.⁷ Permitted storage facility standards and permit requirements are found in WAC 173-303-280 to -395, -600 to -680, and -800 to -840. This subsection of the chapter also provides references for recycling of waste.

Chapter 173-303 WAC includes a variety of other requirements, including obtaining an EPA/state identification number and annual reporting.⁸ DOE’s “Best Management Practices for Hospital Waste,” Publication No. 05-04-013 is a comprehensive guidance document.

19.2.5.2 Waste Analysis

A facility owner or operator is required to confirm knowledge about a dangerous waste before storing, treating, or disposing of it.⁹ An owner or operator must obtain a detailed chemical, physical, and/or biological analysis of a dangerous waste, including the information necessary to manage the waste in accordance with the requirements of chapter 173-303 WAC.¹⁰ The analysis must include or consist of existing published or documented data on the dangerous waste, or on waste generated from similar processes, or data obtained by testing, or a combination of these.¹¹ An owner/operator may rely on knowledge from the generator instead of analytical testing of a sample if the information is documented and meets the definition of knowledge in WAC 173-303-040.¹² Analysis must be repeated as necessary.¹³ An owner/operator must develop a written waste analysis plan.¹⁴

⁶ WAC 173-303-201(1).

⁷ WAC 173-303-141.

⁸ WAC 173-303-060.

⁹ WAC 173-303-300(1).

¹⁰ WAC 173-303-300(2). The requirement also applies to nondangerous wastes if applicable under WAC 173-303-610(4)(d), which involves closure and post-closure requirements for dangerous waste facilities.

¹¹ *Id.*

¹² WAC 173-303-300(2)(a).

¹³ WAC 173-303-300(4).

¹⁴ WAC 173-303-300(5).

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19.2.5.3 Satellite Accumulation

WAC 173-303-200(2) sets forth requirements for satellite accumulation. A satellite accumulation area is defined as a location at or near the point of hazardous waste generation where waste is initially accumulated in containers prior to consolidation at an accumulation area or storage area.¹⁵ Small quantity generators are exempt from the requirements of WAC 173-303-200 if they manage their waste as described in WAC 173-303-070(8).

A generator may accumulate up to 55 gallons of dangerous waste or one quart of acutely hazardous waste per waste stream in containers at satellite accumulation areas.¹⁶ Satellite accumulation is allowed without a permit if the generator complies with the following provisions of chapter 173-303 WAC:

- Container labeling/marketing requirements (WAC 173-303-200(1)(c) and (d)).
- Condition of containers (WAC 173-303-630(2)).
- Compatibility of waste with containers (WAC 173-303-630(4)).
- Closing of containers (WAC 173-303-630(5)(a)).
- Container handling to prevent leaks (WAC 173-303-630(5)(b)).
- Special requirements for ignitable or reactive wastes (WAC 173-303-630(8)(a)).
- Special requirements for incompatible wastes (WAC 173-303-630(9)(a) and (b)).

On a case-by-case basis, the Department of Ecology may require the satellite area to be managed with all or some of the accumulation area standards.¹⁷

DOE guidance indicates that dangerous waste is counted at the point of generation prior to storage or accumulation, including satellite accumulation. Dangerous waste is not required to be counted again when it is moved from satellite accumulation to the generator's accumulation area.¹⁸

Additional reference: Department of Ecology Technical Information Memorandum, "Satellite Accumulation," Publication No. 94-120, Revised January 2003.

19.2.5.4 Storage/Accumulation

If dangerous waste is placed in an area that is not a satellite accumulation area, then the area must be identified as a permitted storage facility or an accumulation area that complies with the requirements of WAC 173-303-200 and -201. Accumulation of dangerous waste, by the generator on the site of generation, is not storage as long as the generator complies with the applicable requirements of WAC 173-303-200 and WAC 173-303-201.¹⁹ Small quantity generators are exempt from these requirements.

WAC 173-303-200 sets forth a variety of requirements for accumulation areas for large quantity generators. These requirements include a 90-day time limit. After 90 days, waste must be shipped off-site to a designated facility, placed in an on-site facility permitted under WAC 173-303-800-845, or recycled or treated on-site within 90 days. The Department of Ecology may grant a 30-day extension in certain circumstances.²⁰

WAC 173-303-201 provides certain exceptions to the above requirements for medium quantity generators that do not accumulate on-site more than 2200 pounds of dangerous waste, also known as a "quantity exclusion limit" (QEL). These exceptions include a 180-day time limit instead of a 90-day time limit. The

¹⁵ WAC 173-303-040.

¹⁶ WAC 173-303-200(2)(a).

¹⁷ WAC 173-303-200(2)(c).

¹⁸ "Counting Dangerous Waste Under the Dangerous Waste Regulations," Publication No. 98-414, Revised September 2003.

¹⁹ WAC 173-303-040.

²⁰ WAC 173-303-200(1)(a).

exceptions do not apply to acutely hazardous waste or toxic extremely hazardous waste that exceed the QEL that are being accumulated by the generator. WAC 173-303-202 identifies special requirements that apply when a medium quantity generator stores wastes in tanks.

19.2.5.5 Treatment by Generator

Treatment by Generator (TBG) provisions allow treatment on site without a treatment permit under certain conditions. *See* WAC 170-303-170(3)(b) and (c). Under TBG provisions, generators may treat dangerous waste on site in accumulation tanks, containers, and containment buildings if they comply with the applicable requirements for accumulation described in WAC 173-303-200, -201, and -202 and discussed in subsection 19.2.5.4 of this chapter.²¹ Generators also may treat special waste on site under certain conditions.²² DOE guidance indicates that dangerous waste intended for treatment under the TBG allowance is counted toward the generator's status before it is treated. Additionally, dangerous waste derived from a treatment-by-generator activity is counted toward the generator's status.²³

Additional reference: DOE Technical Information Memorandum, "Treatment by Generator," Publication No. 96-412, Revised December 2009.

19.2.5.6 Permit by Rule

Permit by Rule (PBR) provisions also allow on-site treatment without a permit.²⁴ WAC 173-303-802 sets forth the particular facilities and activities that qualify for PBR and the applicable conditions. These provisions apply only when generators treat their waste in a wastewater treatment unit, elementary neutralization unit, or totally enclosed treatment unit. DOE guidance indicates that dangerous wastes removed from the PBR unit are counted and no longer covered by PBR provisions. Wastes managed immediately upon generation in an on-site PBR unit are not counted, nor are wastes discharged in compliance with the PBR provisions and wastes discharged in compliance with the unit's National Pollutant Discharge Elimination System permit.²⁵

19.2.5.7 Recycled Dangerous Waste

Generally, dangerous wastes that are recycled are subject to generator requirements prior to recycling. Certain exemptions apply, however, to wastes that are recycled in certain ways, for example as described in WAC 173-303-017 and -120.²⁶ Specific recycling requirements are identified in WAC 173-303-500 to -525.

19.2.5.8 Pharmaceutical Waste Exclusion

Pharmaceuticals that designate as state-only dangerous waste are eligible for management under the conditional exclusion in WAC 173-303-071(nn). Under this exclusion, state-only pharmaceutical wastes are excluded from the rest of chapter 173-303 WAC if they are destroyed in an incinerator that meets certain performance standards.

Additional reference: DOE, "Conditional Exclusion for the Disposal of Controlled Substances, Legend Drugs, and Over-the-Counter Drugs," Publication No. 03-04-035, Revised June 2004.

A generator that chooses to mix state-only pharmaceutical waste with RCRA hazardous waste must manage the combined wastes according to chapter 173-303 WAC or DOE's Interim Enforcement Policy "Pharmaceutical Waste in Healthcare," April 2008. The policy explains the requirements for profiling waste, notifying DOE, training staff, accumulating waste, disposing of waste, empty containers, using the reverse distribution system, and keeping records. The policy includes references to federal requirements,

²¹ WAC 173-303-170(3)(b).

²² WAC 173-303-170(3)(c). "Special waste" is defined in WAC 173-303-040.

²³ "Counting Dangerous Waste Under the Dangerous Waste Regulations," Publication No. 98-414, Revised September 2003.

²⁴ WAC 173-303-040 defines "permit-by-rule" as "a provision of this chapter stating that a facility or activity is deemed to have a dangerous waste permit if it meets the requirements of the provision."

²⁵ "Counting Dangerous Waste Under the Dangerous Waste Regulations," Publication No. 98-414, Revised September 2003.

²⁶ WAC 173-303-070(7).

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including Drug Enforcement Administration requirements. Pharmaceutical waste that is managed according to the policy is not required to be counted.

19.2.5.9 Domestic Sewage Waste Exclusion

The Domestic Sewage Exclusion allows dangerous waste to be discharged to a publicly owned treatment works (POTW) when such wastes are treatable at the POTW and the discharger has a permit that authorizes the discharge of certain waste described in the permit.²⁷ DOE guidance indicates that dangerous waste stored, treated, or recycled prior to the point of discharge is counted. Dangerous waste mixed with domestic sewage is not required to be counted when the waste is directly discharged into the POTW system in compliance with the exclusion in WAC 173-303-071(3)(a).²⁸ Local authorities may also have requirements.

19.2.5.10 Off Site Locations

Dangerous waste shipped off site by large and medium quantity generators must be sent to a designated facility listed on the manifest. Manifest requirements are described in WAC 173-303-180. Persons transporting dangerous waste and transporters who own or lease and operate a transfer facility are subject to the requirements of WAC 173-303-240, -250, -260, -270. Federal regulations also may apply. *See, e.g.*, 49 CFR Parts 172 and 173.

19.3 Universal Waste

The following wastes are subject to an alternative set of management standards in lieu of the requirements of chapter 173-303 WAC, except for WAC 173-303-050 (involving DOE cleanup authority), WAC 173-303-145 (involving spills and discharges), and WAC 173-303-960 (involving powers and authorities of DOE):

- Batteries as defined in WAC 173-303-573(2);
- Thermostats as defined in WAC 173-303-573(3);
- Mercury-containing equipment as defined in WAC 173-303-573(4); and
- Lamps as defined in WAC 173-303-573(5).²⁹

“Small quantity handlers of universal waste,” as defined in WAC 173-303-040, are governed by WAC 173-303-573(6) – (16). “Large quantity handlers of universal waste,” as defined in WAC 173-303-040, are governed by WAC 173-303-573(17) – (27). Additionally, transporters are governed by WAC 173-303-573(28) – (34), and destination facilities are governed by WAC 173-303-573(35) – (37).

19.4 Biomedical Waste Management

19.4.1 Overview

In 1992, the Washington State Legislature determined that it is a “matter of statewide concern that biomedical waste be handled in a manner that protects the health, safety, and welfare of the public, the environment, and the workers who handle the waste.”³⁰ Improper disposal of biomedical waste poses a risk of transmitting infectious disease.³¹ The existence of a statewide definition of biomedical waste is intended to simplify compliance with local regulations and preserve local control of biomedical waste management.³²

19.4.2 Definition

RCW 70.95K.010(1) defines the categories of biomedical waste regulated in Washington State. Specifically, biomedical waste means the following types of waste:

²⁷ WAC 173-303-071(3)(a).

²⁸ “Counting Dangerous Waste Under the Dangerous Waste Regulations,” Publication No. 98-414, Revised September 2003.

²⁹ WAC 173-303-573(1).

³⁰ RCW 70.95K.005(1).

³¹ RCW 70.95K.005(2).

³² RCW 70.95K.005(3).

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- “Animal waste” is waste animal carcasses, body parts, and bedding of animals that are known to be infected with, or that have been inoculated with, human pathogenic microorganisms infectious to humans.³³
- “Biosafety level 4 disease waste” is waste contaminated with blood, excretions, exudates, or secretions from humans or animals who are isolated to protect others from highly communicable infectious diseases that are identified as pathogenic organisms assigned to biosafety level 4 by the Centers for Disease Control, National Institutes of Health, Biosafety in Microbiological and Biomedical Laboratories, current edition.³⁴
- “Cultures and stocks” are wastes infectious to humans and includes specimen cultures, cultures and stocks of etiologic agents, wastes from production of biologicals and serums, discarded live and attenuated vaccines, and laboratory waste that has come into contact with cultures and stocks of etiologic agents or blood specimens. Such waste includes, but is not limited to, culture dishes, blood specimen tubes, and devices used to transfer, inoculate, and mix cultures.³⁵
- “Human blood and blood products” is discarded waste human blood and blood components, and materials containing free-flowing blood and blood products.³⁶
- “Pathological waste” is human source biopsy materials, tissues, and anatomical parts that emanate from surgery, obstetrical procedures, and autopsy. “Pathological waste” does not include teeth, human corpses, remains, and anatomical parts that are intended for interment or cremation.³⁷
- “Sharps waste” is all hypodermic needles, syringes with needles attached, IV tubing with needles attached, scalpel blades, and lancets that have been removed from the original sterile package.³⁸

This state definition preempts local definitions.³⁹

19.4.3 Regulatory Framework

Biomedical waste is unique to the health sciences and is primarily regulated at the state and local level, rather than the federal level. Such waste may be regulated by local governments, cities, towns, or counties, as well as local health departments.⁴⁰ Federal agencies may, however, oversee some aspects of biomedical waste management.⁴¹ For instance, the Centers for Disease Control and Prevention (CDC) promulgates infection control guidelines,⁴² the Occupational Safety and Health Administration (OSHA) enforces rules protecting workers handling biomedical waste,⁴³ and the U.S. Department of Transportation (DOT) regulates packing of biomedical waste for shipment as well as training of employees regarding safe handling.⁴⁴ Transporters of biomedical waste must also comply with all federal, state and local laws and rules governing such transportation.⁴⁵

³³ RCW 70.95K.010(1)(a).

³⁴ RCW 70.95K.010(1)(b);

³⁵ RCW 70.95K.010(1)(c). The current edition of the Biosafety in Microbiological and Biomedical Laboratories (BMBL) is available at <http://www.cdc.gov/biosafety/publications/bmbl5/index.htm> (last visited September 15, 2010).

³⁶ RCW 70.95K.010(1)(d).

³⁷ RCW 70.95K.010(1)(e).

³⁸ RCW 70.95K.010(1)(f).

³⁹ RCW 70.95K.011.

⁴⁰ RCW 70.95K.010(2) and (3).

⁴¹ This section discusses biomedical waste at a basic level. A complete explanation of all laws impacting biomedical waste is beyond the scope of this section.

⁴² The CDC guidelines for infection control guidelines for protecting patients, protecting healthcare workers, and other guidelines by topic are available at <http://www.cdc.gov/ncidod/dhqp/guidelines.html> (last visited September 15, 2010).

⁴³ 29 CFR 1910.1030, OSHA Standard governing bloodborne pathogens.

⁴⁴ 49 CFR 173.22 and 49 CFR 173.1.

⁴⁵ WAC 480-70-431.

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In Washington, implementation of solid waste management programs is delegated to local agencies.⁴⁶ Generally, biomedical waste generators must segregate and treat their waste prior to disposal. Treatment of biomedical waste means “incineration, sterilization, or other method, technique, or process that changes the character or composition of a biomedical waste so as to minimize the risk of transmitting an infectious disease.”⁴⁷ Permitting and other regulatory function are typically performed by local environmental health divisions.

19.4.4 County Biomedical Waste Regulations

The following chart identifies county regulations addressing biomedical waste and provides a brief overview of these regulations. Additional counties may have adopted biomedical waste requirements since this chart was created. It is recommended that you contact the appropriate county agency if you need clarity as to the application of local provisions to your facility.

Chart 1: Counties with Biomedical Waste Regulations

County Name	County Regulation	Chapter Title	Brief overview
Clallam	19.30.010; see also 9.7 of the Final Draft-Comprehensive Solid Waste Management Plan Update 2006	Comprehensive Solid Waste Management Plan	Adopts Clallam County Comprehensive Solid Waste Management Plan. The plan update specifies existing conditions and identifies possible future needs and opportunities.
Clark	24.12.250 Hazardous Wastes	Solid Waste Management	Wastes from medical, dental and veterinary clinics and other medical facilities should be incinerated if possible.
Island	8.08B.340 Infectious Waste	Solid Waste Handling Regulations	Requires generators to develop a written infectious waste management plan.
Jefferson	8.10.305(3) Solid waste handling standards for specific waste stream	Solid Waste Regulations	Applies to all generators regardless of amount.
King	10.07 Biomedical Waste	Board of Health Solid Waste Regulations	Requires generators to prepare a biomedical waste management plan.
Kitsap	305(3) of Kitsap County Board of Health Ordinance number 2010-01 Biomedical Waste	Solid Waste Regulations	Applies to all persons generating biomedical waste.
Kittitas	Section IV B 4 of Kittitas County Board of Health Ordinance number 1999-01 Biomedical Waste	Solid Waste Regulations	Adopts references to WAC and addresses home sharps.
Lewis	8.20 Infectious Waste	Infectious Waste	This rule establishes the minimum requirements; persons may use more stringent standards.
Lincoln	8.28.010; see also 6.5 of the Preliminary Draft Lincoln County 2009 Solid Waste Management Plan Update Adoption	Hazardous Waste Management Plan	Lincoln County adopts the 1991 Grant, Adams and Lincoln Counties regional local hazardous waste management plan. The update specifies existing conditions and key issues.
Mason	6.72.034 See also Mason County Solid Waste Management Plan 2006 Biomedical Wastes	Solid Waste and Biosolids Handling and Facilities Regulations	Applies to all biomedical waste generators. Addresses storage, handling and disposal.
Okanogan	8.62 Infectious Waste	Infectious Waste Management	Infectious waste definition includes biomedical waste.

⁴⁶ RCW 70.95.160.

⁴⁷ RCW 70.95K.010(5).

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County Name	County Regulation	Chapter Title	Brief overview
	Management		
Pierce	8.38; See also 5.04 Tacoma Municipal Code Infectious Waste Management	Infectious Waste Management	Requires all facilities generating infectious waste to have a written infectious waste management plan.
Skagit	12.16.350 Biomedical Waste	Solid Waste Handling and Facilities	Permits biomedical waste generator to submit an alternative plan for biomedical waste to the Health Department.
San Juan	8.14.030 J Solid Waste Handling	Solid Waste and Biosolids Handling and Facilities	Applies to biomedical waste generators.
Skamania	8.08.010 Authority and scope	Solid Waste Disposal	Adopts applicable WACs.
Snohomish	7.04.010 and 3.1 XIX of the Snohomish Health District Sanitary Code Biomedical Waste Handling	Sanitary Code	Requires each facility follow a written biomedical waste management plan.
Spokane	8.03A.013; 8.20.010 Pretreatment; Solid Waste Facilities	Pretreatment; Solid Waste Facilities	Defines medical waste for purposes of pretreatment; defines infectious waste for purposes of solid waste facilities.
Whatcom	24.26.040 Biomedical waste	Solid Waste Rules & Regulations – Standards and Permits	Defines infectious waste as a subset of biomedical waste.

19.5 Radioactive Waste Management

19.5.1 Types of Radiation and Radioactive Waste

There are three types of radiation to consider in the health care environment: alpha, beta, and gamma. Alpha radiation cannot penetrate the skin and can be blocked out by a sheet of paper. Beta radiation can penetrate the body, but can be blocked by a sheet of aluminum foil. Gamma radiation can penetrate through the body and requires several centimeters of lead or concrete, or a meter of water to block it.⁴⁸

The United States Nuclear Regulatory Commission classifies radioactive waste as either high-level or low-level.⁴⁹ High-level waste is spent uranium fuel that has been used in a nuclear power reactor to produce electricity.⁵⁰ Low-level wastes are those radioactive wastes other than high-level wastes and include waste that has been contaminated with radioactive material or has become radioactive through exposure to neutron radiation.⁵¹ Low-level radioactive waste is generated by health care facilities and generally consists of contaminated clothing, needles, syringes, and other medical equipment.⁵²

Radioactive waste can be a byproduct of diagnostic procedures and therapeutic practices used in health care facilities. Diagnostic nuclear medicine uses radioactive materials to image tumors and other physiological problems. Radioactive materials also have therapeutic uses, such as brachytherapy and Gamma Knife, which aim to kill cancerous tissue or reduce pain.⁵³

19.5.2 Regulatory Overview

The Nuclear Regulatory Commission (NRC) is the federal agency with regulatory authority over the medical use of radioactive materials as well as the storage and disposal of commercially generated radioactive waste.

⁴⁸ U.S. NRC, “Radiation Basics,” available at <http://www.nrc.gov/about-nrc/radiation/health-effects/radiation-basics.html> (last visited September 15, 2010).

⁴⁹ U.S. NRC, “Backgrounder on Radioactive Waste,” available at <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/radwaste.html> (last visited September 15, 2010).

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ U.S. NRC, “Fact Sheet on Risks Associated with Medical Events,” available at <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/risks-assoc-medical-events.html> (last visited September 15, 2010).

Chapter 19: Hospital Environmental, Hazardous, and Radiation Waste Regulations

(prepared from reference materials available as of September 30, 2010)

The regulations governing the medical use of radioactive materials are contained in 10 C.F.R. §35. These regulations provide for the safety of workers, the public, patients, and human research subjects.⁵⁴ 10 C.F.R. §61 sets forth the procedures, criteria, terms and conditions for licensing sites for the land disposal of low-level waste. 10 C.F.R. §61 applies to all persons in the United States except as provided in 10 C.F.R. §150 which provides for Agreement States to assume certain regulatory authority regarding the use of specific radioactive materials within its borders.⁵⁵ An Agreement State is any State which the NRC or the Atomic Energy Commission has entered into an effective agreement.⁵⁶

Washington is an Agreement State. Washington entered into this agreement in 1966, and amended it in 1982.⁵⁷ Washington State Department of Health is the state radiation control agency.⁵⁸ The requirements for the medical use of radioactive material and for the issuance of specific licenses authorizing the medical use of this material are contained in WAC 246-240. A license is required to manufacture, produce, acquire, receive, possess, prepare, use, or transfer radioactive material for medical use.⁵⁹ Generators and brokers of low-level radioactive waste seeking to dispose waste at any commercial disposal facility in Washington are governed by WAC 246-249. The licensing procedures for the land disposal of low-level radioactive wastes received from other persons are delineated in WAC 246-250.

19.6 Other

19.6.1 Chemical Hazard Communication Program

The Washington Department of Labor and Industries requires employers to have in place a written Chemical Hazard Communication Program. *See* WAC 296-800-170. Required elements of the program include:

- Identify and list all hazardous chemicals at the workplace;
- Obtain and maintain Material Safety Data Sheets (MSDSs) for each hazardous chemical used;
- Make sure MSDSs are readily accessible to employees and the National Institute for Occupational Safety and Health;
- Label containers holding hazardous chemicals; and
- Inform and train employees about hazardous chemicals in the workplace.

19.6.2 JCAHO Requirements

The Joint Commission of Accreditation of Healthcare Organizations (JCAHO) requires that all hospitals develop and implement a performance improvement structure or framework to design, assess and improve a healthcare organization's performance of the environment of care function. Operations and planning under the Environment of Care (EOC) standards include safety, security, hazardous materials, emergency preparedness, life safety, medical equipment, and utilities management.

EOC standard 3 addresses the design, implementation and assessment of the Hazardous Materials and Waste Management Plan. The EOC standard is separate entity from environmental regulations addressed elsewhere in this document, but such environmental regulations must be incorporated and become an integral component of the EOC standard.

⁵⁴ 10 C.F.R. §35.1.

⁵⁵ 10 C.F.R. §61.1.

⁵⁶ 10 C.F.R. §150.3.

⁵⁷ "Annotated History of the Washington State Radiation Control Program," available at <http://www.doh.wa.gov/ehp/rp/rphist.pdf> (last visited September 15, 2010).

⁵⁸ RCW 70.88.050(1).

⁵⁹ WAC 246-240-016.