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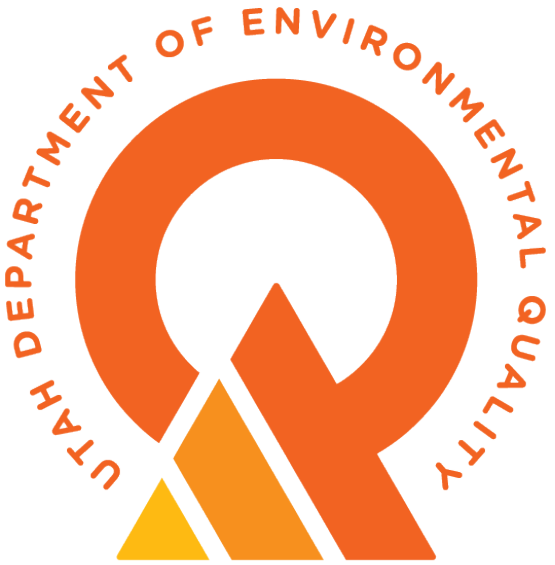
Exploration and Production Waste Rules Review Package



WASTE MANAGEMENT
& RADIATION CONTROL

March 15, 2024

Contents

Introduction

Historically, the Division of Oil, Gas, and Mining (DOGM) an agency of the Utah Department of Natural Resources, provided regulatory oversight of wastes generated from the exploration and production (E&P) of crude oil and natural gas throughout Utah. With DOGM's oversight, these wastes were formerly excluded from the Solid and Hazardous Waste Act, which is administered by the Division of Waste Management and Radiation Control (DWMRC), an agency of the Utah Department of Environmental Quality. However, in 2019, the Utah Legislature made important changes to the Solid and Hazardous Waste Act in response to a U.S. Environmental Protection Agency (EPA) requirement for Utah's solid waste program in the DWMRC to have primary responsibility for regulatory oversight of E&P wastes under the state's Resource Conservation Recovery Act (RCRA) primacy program.

This regulatory shift requires DOGM and DWMRC to coordinate efforts on the primary objectives which include modifications of existing rules and drafting new rules to clarify and define each agency's jurisdiction, and ensure that federal and state program requirements to protect human health and the environment are met. This review package was prepared to provide stakeholders an opportunity to participate in an informal comment process on the draft rules. Comments received during the informal process will be considered by DWMRC, and appropriate changes may be made before the proposed rules are presented to the Waste Management and Radiation Control Board for its formal review and public comment procedure.

Comment Procedure

Comments may be submitted using one of the methods below until the end of the day on May 3, 2024 as follows:

Electronically

dwmrcpublic@utah.gov

US Mail

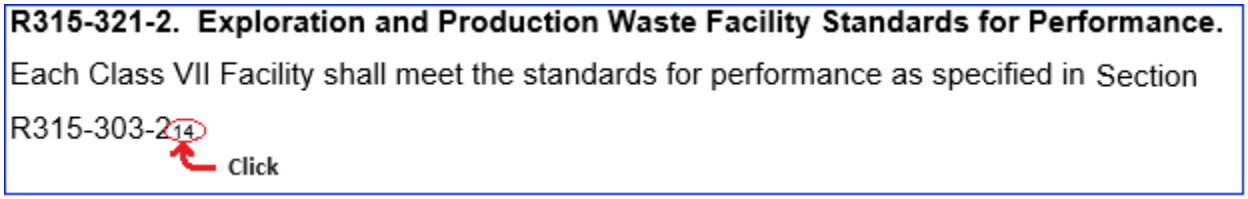
PO BOX 144880
Salt Lake City, UT 84114-4880

Contents of this Package

The Solid Waste Permitting and Management Rules are found in the 300-series of Title R315 of the Utah Administrative Code, currently comprising Utah Admin. Code R315-301 through R315-320.

This package includes proposed modifications to existing rules and drafts of new rules. Proposed definitions and modifications to existing definitions are presented first. These modifications are followed by proposed new rules, including Utah Admin. Code R315-321, Class VII Exploration and Production Waste Facility Requirements, and Utah Admin. Code R315-322, Solid Waste Surface Impoundment Requirements. Finally, this package includes an appendix, which lists the text of each citation referenced in the proposed rules for a greater understanding of the requirements.

For ease of reading through Utah Admin. Code R315-321 and R315-322 in this document, citations to other rules are followed by a reference number in subscript font (see image below). To view the referenced rule, click the subscript font to be taken to the full text in the appendix of this package.



Please note that all definitions and all Solid Waste Permitting and Management Rules are not included in this package. The additional generally applied solid waste rules, and those specific to other solid waste management facilities, are available at adminrules.utah.gov.

Definitions

§ 19-6-102. Definitions

(19)(a) **"Solid waste"** means garbage, refuse, sludge, including sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations and from community activities.

(b) "Solid waste" does not include solid or dissolved materials in domestic sewage or in irrigation return flows or discharges for which a permit is required under Title 19, Chapter 5, Water Quality Act, or under the Water Pollution Control Act, 33 U.S.C. Sec. 1251 *et seq*.

(c) "Solid waste" does not include metal that is:

(i) purchased as a valuable commercial commodity; and

(ii) not otherwise hazardous waste or subject to conditions of the federal hazardous waste regulations, including the requirements for recyclable materials found at 40 C.F.R. 261.6.

(d) "Solid waste" does not include post-use polymers or recovered feedstock, as those terms are defined in Section 19-6-502, converted or held at an advanced recycling facility.

R315-301-2. Definitions.

(13) **"Class VII Facility"** means a nonhazardous solid waste management facility that is permitted by the director for the treatment or disposal of exploration and production waste.

(25) **"Exploration and Production Waste" or "E&P Waste"** means solid wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil or natural gas, but only to the extent the waste is exempt from hazardous waste regulation according to Subsection R315-261-4(b)(5).

(27) **"Free liquids"** means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure or as determined by Test Method 9095B, Paint Filter Liquids Test, as provided in EPA Publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" available at the US EPA Hazardous Waste Test Methods/SW-846 website.

(31) **"High Liquid Waste"** means nonhazardous solid waste that is liquid in its natural state, contains free liquids, or is expected to liquefy or vaporize under the circumstances that it is managed or disposed.

(49) **"Non-commercial solid waste management facility"** means a facility that is not a "commercial nonhazardous solid waste treatment, storage, or disposal facility" as defined by Subsection 19-6-102(3).

(71) **"Solid waste surface impoundment"** means a solid waste management facility or any part of such a facility that is a natural topographic depression, human-made excavation, or a diked area that is designed to hold nonhazardous high liquid waste, leachate, or sludge, to dispose of, reduce the volume of, or otherwise separate or treat the waste. A solid waste surface impoundment does not include a surface impoundment that is:

(a) operated in connection with a permitted underground injection well;

(b) regulated under the authority of the Board of Oil, Gas, and Mining;

(c) used to manage storm water or is otherwise regulated under the authority of the Water Quality Board;

(d) regulated under Section R315-319-53; or

(e) a hazardous waste surface impoundment regulated under Rules R315-264 or R315-265.

R315-260-10. Definitions.

(c)(172) **"Very small quantity generator"** is a generator who generates less than or equal to the following amounts in a calendar month:

(i) one hundred kilograms, 220 lbs, of non-acute hazardous waste;

(ii) one kilogram, 2.2 lbs, of acute hazardous waste listed in Section R315-261-31 or Subsection R315-261-33I; and

(iii) one hundred kilograms, 220 lbs, of any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous waste listed in Section R315-261-31 or Subsection R315-261-33(e).

R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.

R315-321. Class VII Exploration and Production Waste Facility Requirements.

R315-321-1. Applicability.

The requirements of Rule R315-321 apply to each Class VII Facility as specified, excluding Class VII solid waste surface impoundment units. Each unit in a Class VII Facility that qualifies as a solid waste surface impoundment shall meet the applicable standards specified in Rule R315-322.

R315-321-2. Exploration and Production Waste Facility Standards for Performance.

Each Class VII Facility shall meet the standards for performance as specified in Section R315-303-2$_{14}$.

R315-321-3. Exploration and Production Waste Facility Location Standards.

(1) A new Class VII Facility or the lateral expansion of an existing Class VII Facility shall be subject to the following location standards:

(a) the ecologically and scientifically significant natural area standards of Subsection R315-302-1(2)(a)(ii)$_3$; and

(b) the standards found in Subsections R315-302-1(2)(c)$_4$ through R315-302-1(2)(f)$_4$.

(2) An existing Class VII Facility shall be subject to the following location standards:

(a) the ecologically and scientifically significant natural area standards of Subsection R315-302-1(2)(a)(ii)$_3$;

(b) the floodplain standards of Subsection R315-302-1(2)(c)(ii)$_5$; and

(c) all standards listed in Subsection R315-321-3(1) in effect at an existing facility for the purpose of protecting municipal drinking water, wetlands, and groundwater, prior to applying for a permit, shall be maintained for the life of the facility unless otherwise determined by the director.

(3) Location Standards Exemptions.

(a) Except for the standards listed in Subsection R315-321-3(3)(b), the director may grant an exemption from any location standard of Subsection R315-302-1(2)$_2$ for a Class VII Facility, on a site-specific basis if the director determines that the exemption will cause no adverse impacts to human health or the environment. If an exemption is granted, the director may require that the facility have more stringent design, construction, monitoring program, or operational practice to protect human health or the environment.

(b) No exemptions may be given for the following location standards at a Class VII Facility:

(i) ecologically and scientifically significant natural area standards of Subsection R315-302-1(2)(a)(ii)$_3$;

(ii) floodplain standards, unless the exemption meets the criteria of Subsection R315-302-1(2)(c)(ii)$_5$;

(iii) the location standards for wetlands for a new facility or lateral expansion of an existing facility, unless the exemption meets the criteria of Subsection R315-302-1(2)(d)$_6$; or

(iv) the location standards for groundwater for a new facility or lateral expansion of an existing facility that accepts very small quantity generator hazardous waste as defined in Subsection R315-260-10(c)(172)$_1$, unless the exemption meets the criteria of Subsection R315-302-1(2)(e)(vi)$_7$.

R315-321-4. Exploration and Production Waste Facility Requirements.

(1) Each Class VII Facility shall meet the following applicable requirements, as determined by the director:

(a) the plan of operation requirements of Subsection R315-302-2(2)$_8$, except plans to control wind-blown litter and disease vectors as found in Subsections R315-302-2(2)(h) and R315-302-2(2)(k) are not required;

(b) the recordkeeping requirements of Subsections R315-302-2(3)(a)$_{10}$, R315-302-2(3)(b)(i)$_{10}$, R315-302-2(3)(b)(iii)$_{10}$, R315-302-2(3)(b)(iv)$_{10}$, and R315-302-2(3)(b)(vi)$_{10}$;

(c) the reporting requirements of Subsection R315-302-2(4)$_{11}$; and

(d) the inspection requirements of Subsection R315-302-2(5)$_{12}$.

(2) Each Class VII Facility shall meet the applicable general requirements for closure and post-closure care of Subsections R315-302-2(6)$_{13}$ and R315-302-3$_{13}$, as determined by the director.

(a) If a Class VII Facility is already subject to the closure and post-closure requirements of another Federal or state agency which are as stringent as specified in Subsections R315-321-4(2), the facility may be exempt, upon approval of the director, from the closure requirements of Subsections R315-321-4(2).

(3) Standards for Design.

(a) The owner or operator of a Class VII Facility shall design the facility to control storm water run-on/run-off as specified in Subsections R315-303-3(1)(c)$_{15}$ and R315-303-3(1)(d)$_{15}$.

(b) Any container or tank storage area used to manage waste containing free liquids shall have secondary containment that:

(i) is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(ii) is sloped or otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation;

(iii) has sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

(iv) is designed and operated to prevent run-on into the containment system unless the system has sufficient excess capacity in addition to that required in Subsection R315-322-4(3)(b)(iii) to contain any run-on which might enter the system; and

(v) is operated to remove spilled or leaked waste and accumulated precipitation from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

(c) The owner or operator of a Class VII Facility shall comply with the requirements relating to the management of high liquid wastes set forth in Subsection R315-303-3(1.1)$_{16}$.

(d) The owner or operator of a Class VII Facility shall meet the closure requirements of Subsection R315-303-3(4)$_{19}$.

(e) The owner or operator of a Class VII Facility shall design the facility to meet the requirements of Subsection R315-303-3(7)$_{22}$ as determined by the director.

(i) In addition to the signage requirements of Subsection R315-303-3(7)(d)$_{22}$, the owner or operator of a Class VII Facility shall erect a sign displaying facility operator, and for those located in Duchesne County or Uintah County, the location using the Public Land Survey System.

(4) Groundwater Monitoring.

(a) The owner or operator of a Class VII Facility that receives very small quantity generator waste as defined in Subsection R315-260-10(c)(172)$_{1}$ shall prevent contamination of groundwater by either:

(i) monitoring the groundwater beneath the facility as found in Rule R315-308$_{24}$; or

(ii) applying for and receiving approval for a groundwater alternative or waiver according to Subsection R315-302-1(2)(e)(vi)$_{7}$.

(5) Standards for Operation.

(a) Each Class VII Facility shall meet the maintenance and operation standards of Section R315-303-4$_{23}$ except:

(i) daily cover requirements of Subsection R315-303-4(4) upon demonstration that uncovered waste is not a threat to human health, the environment, wildlife, or other receptors; and

(ii) recycling container requirements of Subsection R315-303-4(6).

(b) Class VII Facilities may receive and manage the following types of wastes and materials:

(i) exploration and production waste;

(ii) nonhazardous materials received in regular quantities used for the absorption of free liquids and stabilization in connection with the disposal of E&P Waste, such as ash, saw dust, gypsum, and nonhazardous petroleum contaminated soils;

(iii) nonhazardous solid waste generated incidental to oil and gas exploration and production and related operations; and

(iv) very small quantity generator hazardous waste as defined in Subsection R315-260-10(c)(172)$_{1}$ generated incidental to oil and gas exploration and production and related operations .

(6) Financial Assurance.

(a) The owner or operator of each Class VII Facility shall establish financial assurance as required by Section R315-309$_{25}$.

(b) If the owner or operator of a Class VII Facility has financial assurance, in effect and active, that covers the costs of closure and post-closure care of the facility as required by another Federal or state agency which is as stringent as the requirements of Section R315-309$_{25}$, the facility may be exempt, upon approval of the director, from the financial assurance requirements of Section R315-309$_{25}$.

(7) Permit Requirements.

(a) The owner or operator of a Class VII Facility shall apply for and obtain a permit to operate by meeting the applicable requirements of Rule R315-310$_{26}$, and is subject to the requirements of Rule R315-311$_{28}$.

KEY: solid waste management, solid waste disposal
Date of Enactment or Last Substantive Amendment: _____
Authorizing, and Implemented or Interpreted Law: 19-6-105; 19-6-108; 40 CFR 257

R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.

R315-322. Solid Waste Surface Impoundment Requirements.

R315-322-1. Applicability.

(1) Unless otherwise determined by the director, the following standards set forth in R315-322 shall apply to any solid waste surface impoundment, whether operated in connection with a solid waste management facility or on a stand-alone basis.

R315-322-2. Solid Waste Surface Impoundment Location Standards.

(1) A new solid waste surface impoundment or the expansion of an existing solid waste surface impoundment shall meet the location standards of Subsection R315-302-1(2)$_2$.

(2) An existing solid waste surface impoundment shall be subject to the following location standards:

(a) the ecologically and scientifically significant natural area standards of Subsection R315-302-1(2)(a)(ii)$_3$;

(b) the floodplain standards of Subsection R315-302-1(2)(c)(ii)$_5$; and

(c) all standards listed in Subsection R315-302-1(2)$_2$ in effect at an existing facility for the purpose of protecting municipal drinking water, wetlands, and groundwater, prior to applying for a permit, shall be maintained for the life of the facility unless otherwise determined by the director.

(3) Location Standards Exemptions.

(a) Except for the standards listed in Subsection R315-322-3(3)(b), the director may grant an exemption from any location standard of Subsection R315-302-1(2)$_2$ for a solid waste surface impoundment, on a site-specific basis if the director determines that the exemption will cause no adverse impacts to human health or the environment. If an exemption is granted, the director may require that the solid waste surface impoundment have more stringent design, construction, monitoring program, or operational practice to protect human health or the environment.

(b) No exemptions may be given for the following location standards at a solid waste surface impoundment:

(i) ecologically and scientifically significant natural area standards of Subsection R315-302-1(2)(a)(ii)$_3$;

(ii) floodplain standards, unless the exemption meets the criteria of Subsection R315-302-1(2)(c)(ii)$_5$;

(iii) the location standards for wetlands for a new or lateral expansion of an existing facility, unless the exemption meets the criteria of Subsection R315-302-1(2)(d)$_6$; or

(iv) the location standards for groundwater for a new or lateral expansion of an existing solid waste surface impoundment that accepts very small quantity generator hazardous waste as defined in Subsection R315-260-10(c)(172)$_1$, unless the exemption meets the criteria of Subsection R315-302-1(2)(e)(vi)$_7$.

R315-322-3. Solid Waste Surface Impoundment General Requirements.

(1) Each new solid waste surface impoundment shall meet the following applicable requirements, as determined by the director:

(a) the plan of operation requirements of Subsection R315-302-2(2)$_8$, except plans to control wind-blown litter and disease vectors as found in Subsections R315-302-2(2)(h) and R315-302-2(2)(k) are not required;

(b) the recordkeeping requirements of Subsections R315-302-2(3)(a)$_{10}$; and R315-302-2(3)(b)(i)$_{10}$, R315-302-2(3)(b)(iii)$_{10}$, R315-302-2(3)(b)(iv)$_{10}$, and R315-302-2(3)(b)(vi)$_{10}$;

(c) the reporting requirements of Subsection R315-302-2(4)$_{11}$; and

(d) the inspection requirements of Subsection R315-302-2(5)$_{12}$.

(2) Permit Application.

(a) The owner or operator of any solid waste surface impoundment shall apply for and obtain a permit to operate by meeting the applicable requirements of Rule R315-310$_{26}$.

(b) The permit application shall include detailed construction and installation diagrams of the surface impoundment, including details of side slopes, liners, pond storage capacity, leak detection systems, dikes or levees, wind fences, piping, enhanced evaporation systems with justification, water treatment systems and tanks.

(c) Contingencies for releases shall be included in the plan required by Subsection R315-302-2(2)(f)$_9$ and shall include procedures for repair of liners as specified in Subsection R315-322-5(11)(d).

(d) The owner or operator of a solid waste surface impoundment that does not accept very small quantity generator waste as defined by Subsection R315-260-10(c)(172)$_1$, shall submit details of controls and employee training programs used to prevent the acceptance of very small quantity generator waste.

R315-322-4. Solid Waste Surface Impoundment Standards for Performance.

(1) Each solid waste surface impoundment shall meet the standards for performance as specified in Section R315-303-2$_{14}$.

(2) The owner or operator of a Class VII solid waste surface impoundment shall plan for and implement appropriate measures to protect waterfowl and other wildlife receptors which may reasonably be expected to come into contact with exploration and production wastes managed in Class VII solid waste surface impoundments.

(3) The solid waste surface impoundment shall be fenced and maintained to deter access by livestock and wildlife and, if determined necessary by the director, equipped with flagging or netting to deter entry by birds and waterfowl.

R315-322-5. Standards for Design.

Surface impoundments shall be designed, maintained, and operated to meet the following requirements:

(1) Surface impoundments shall be designed for 55 acre-feet of water or less, unless otherwise approved by the director.

(2) Surface impoundment levees shall be constructed so that the inside grade of the levee is no steeper than 3:1 and the outside grade no steeper than 2:1.

(a) The top of the levee shall have a 2% cross slope toward the pond and be of sufficient width to allow for adequate anchoring of liner components and compaction.

(b) Vertical height of the levees shall not exceed 25 percent of the total vertical depth of the surface impoundment.

(3) Unloading structures.

(a) The owner or operator shall submit detailed construction and installation diagrams of all unloading structures and an explanation of methods that control flow and prevent undesired waste from entering the solid waste surface impoundment, including hydrocarbons.

(b) Unloading structures shall be designed, maintained, and operated to adequately process the waste received each day.

(c) Unloading structures shall be designed with a leak detection system unless determined unnecessary by the director.

(4) The design, construction, and operation of any dewatering or other stabilization or treatment technique used in association with a solid waste surface impoundment shall comply with the requirements in Subsection R315-303-3(1.1)(b)$_{17}$.

(5) Solid waste surface impoundments and associated enhanced evaporation systems shall be designed to prevent surface or subsurface discharge of water, and detailed information shall be submitted to demonstrate control features.

(6) Any container or tank storage area used to manage waste containing free liquids shall have secondary containment that:

(a) is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(b) is sloped or otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation;

(c) has sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

(d) is designed and operated to prevent run-on into the containment system unless the system has sufficient excess capacity in addition to that required in Subsection R315-322-5(6)(c) to contain any run-on which might enter the system; and

(e) is operated to remove spilled or leaked waste and accumulated precipitation from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

(7) The owner or operator of a solid waste surface impoundment shall design the facility to control storm water run-on and run-off as specified in Subsections R315-303-3(1)(c)$_{15}$ and R315-303-3(1)(d)$_{15}$.

(8) The owner or operator of a solid waste surface impoundment shall design the impoundment to meet the applicable requirements of Subsection R315-303-3(7)$_{22}$, except that the standards for groundwater protection are found in R315-322-5(10).

(a) In addition to the signage requirements of Subsection R315-303-3(7)(d)$_{22}$, the owner or operator of Class VII solid waste surface impoundment shall erect a sign displaying the facility operator, and for those located in Duchesne County or Uintah County, the location using the Public Land Survey System.

(9) The owner or operator of a solid waste surface impoundment shall provide design drawings and as built drawings signed and sealed by a professional engineer according to R315-303-3(6)$_{21}$.

(10) Groundwater Protection.

(a) The owner or operator of a solid waste surface impoundment shall comply with the groundwater standard for performance of Subsection R315-303-2(1)$_{14}$, and shall be subject to the corrective action requirements of Section R317-6-6.15$_{29}$ as applicable.

(b) The owner or operator of a new solid waste surface impoundment or lateral expansion of an existing solid waste surface impoundment shall either:

(i) meet the groundwater alternative or waiver found in Subsection R315-302-1(2)(e)(vi)$_{7}$;

(ii) monitor the groundwater beneath the impoundment as specified in Rule R315-308$_{24}$; or

(iii) install and maintain leak detection equipment and conduct monitoring according to Section R315-322-5(12).

(b) The owner or operator of an existing solid waste surface impoundment shall not receive very small quantity generator waste unless the requirements of Subsection R315-322-5(10)(a) are met and no groundwater assessment or corrective action measures are required under Section R317-6-6.15$_{29}$.

(c) The owner or operator of an existing solid waste surface impoundment that does not receive very small quantity generator waste shall maintain existing groundwater monitoring wells or leak detection equipment and associated monitoring programs for the life of the facility, unless otherwise determined by the director.

(11) Synthetic Liners.

(a) Materials used in lining solid waste surface impoundments shall be impervious and resistant to weather, tears and punctures, sunlight, and substances that might be contained in the waste including hydrocarbons, aqueous acids, alkalies, salt, fungi, or other produced water.

(b) If rigid materials are used, leak proof expansion joints shall be provided, or the material shall be of sufficient thickness and strength to withstand expansion, contraction and settling movements in the underlying earth, without cracking.

(c) Information regarding the type, thickness, strength, and life span of materials to be used for lining the pond and the method of installation shall be included in the quality control and quality assurance plan required by Subsection R315-310-4(2)(c)(x)$_{27}$.

(d) The owner or operator shall submit procedures for repair of the liner, should leakage occur. Repair procedures shall be reviewed and signed by a professional engineer and may include repair procedures prepared by the liner manufacturer. Repair procedures shall include:

(i) methods used to remove liquids and solids as necessary from the surface impoundment;

(ii) management of waste removed;

(iii) location of the leak;

(iv) repair of the leak;

(v) testing of the repair; and

(vi) procedures for resuming operations.

(e) Solid waste surface impoundments following the groundwater monitoring requirements of Subsection R315-322-5(10)(b)(ii) shall either meet the liner design requirements of Subsection R315-303-3(3)$_{18}$, or the dual liner design standards of Subsection R315-322-5(11)(f)).

(f) Solid waste surface impoundments following the leak detection monitoring requirements of Subsection R315-322-5(10)(b)(iii) shall be designed with two synthetic liners, an upper primary and lower secondary liner, with a leak detection system between them. Synthetic liners shall be installed according to the manufacturer's instructions.

(i) The primary liner shall be impervious with a hydraulic conductivity no greater than 1×10^{-7} cm/sec and constructed with a minimum 60-mil HDPE or equivalent liner approved by the division.

(ii) The secondary liner shall be impervious and constructed with a minimum 40-mil HDPE or equivalent liner approved by the director.

(iii) The leak detection system between the primary and secondary liners shall be constructed with a HDPE geonet or equivalent liner to provide separation between the primary and secondary liners and to enable flow of any leaked fluid through the primary liner to the leak detection observation sump.

(12) Leak Detection System.

(a) The point of compliance shall be the space between the liners. The owner or operator shall submit detailed construction and installation diagrams for the leak detection system between the liners.

(b) The leak detection design shall include a drainage and collection system placed between the upper and lower liners and sloped to facilitate the earliest possible detection of a leak.

(c) The leak detection design shall include a vertical riser outside the dike allowing direct visual inspection of the sump from the surface. The sump shall be designed:

(i) to be at least 18 inches in diameter and to extend a minimum of two feet below the inlet line from the pond, allowing visual detection of any fluid and sampling of fluid;

(ii) with a removable top for the sump riser that prevents entry of fluids; and

(iii) with leak detection piping capable of withstanding destruction resulting from contact with waste, structural loading from stresses and disturbances from overlying waste and cover materials, equipment operation, expansion or contraction, and facilitate clean-out maintenance.

(d) Leak detection monitoring shall be performed at each riser when liquid waste is present inside of the impoundment, and shall be:

(i) performed with no greater than 5 days between monitoring surveys, and on every day that waste is received in the impoundment; and

(ii) recorded in the facility operating record.

(e) Upon detecting a leak, the owner or operator of a solid waste surface impoundment shall:

(i) provide verbal notification to the director within 24 hours of detection;

(ii) submit written notification to the director within five days; and

(iii) submit a written schedule for conducting repair within 15 days of detection, including the steps required by the repair plan specified in Subsection R315-322-5(11)(d).

R315-322-6. Standards for Operation.

(1) Each surface impoundment shall meet the operation and maintenance standards of Section R315-303-4$_{23}$ except:

(i) daily cover requirements of Subsection R315-303-4(4) and recycling container requirements of Subsection R315-303-4(6).

(2) Each solid waste surface impoundment shall be operated with a minimum of three feet of freeboard.

(3) The director may permit an owner or operator of a solid waste surface impoundment to sell, reclaim, recycle, or reuse materials in connection with its operations, as provided in the Plan of Operations.

(4) Oil Separation. Class VII solid waste surface impoundments shall be operated to separate oil from the produced water fraction of exploration and production waste and shall not discharge the oil into the impoundment.

(a) Hydrocarbon accumulation, other than de minimis quantities, on a Class VII solid waste surface impoundment is prohibited. Any such accumulation shall be removed within 24 hours of the time accumulation began.

(5) Overspray including foam, from sprinklers, wind, or enhanced evaporation systems, outside of lined areas shall be corrected and cleaned up immediately.

(a) Sampling and testing of soils suspected to be contaminated from overspray may be required by the director.

R315-322-7. Closure and Post-Closure

(1) Financial Assurance. The owner or operator of each solid waste surface impoundment shall establish financial assurance as required by Rule R315-309$_{25}$.

(a) If the owner or operator of a solid waste surface impoundment has financial assurance, in effect and active, that covers the costs of closure and post-closure care of the surface impoundment as required by another Federal or state agency which is as stringent as the requirements of Rule R315-309$_{25}$, the solid waste surface impoundment may be exempt, upon approval of the director, from the financial assurance requirements of Rule R315-309$_{25}$.

(2) Upon closure, the owner or operator of each solid waste surface impoundment shall:

(a) excavate, remove, and dispose of all liners, sludges, stained soils, and other solid wastes associated with the solid waste surface impoundment for disposal in a permitted solid waste management facility and install soil and seed according to Subsection R315-303-3(4)(a)(ii)$_{20}$; or

(b) obtain a permit from the director to dispose of residual nonhazardous solid wastes associated with the solid waste surface impoundment on site, in compliance with Subsection R315-303-3(4)$_{19}$ relating to closure requirements; or

(c) a combination of Subsections R315-322-7(2)(a) and R315-322-7(2)(b), as approved by the director; and

(d) make the required recording with the county recorder specified in Subsection R315-302-2(6)$_{13}$.

(3) The post-closure care and monitoring shall be for five years, or such other period as determined by the director, and shall consist of:

(i) the maintenance of any monitoring equipment and sampling and testing schedules as required by the director; and

(ii) inspection and maintenance of any cover material, including repair as soon as possible of any erosion channels, and reseeding as required by the director.

KEY: solid waste management, solid waste disposal
Date of Enactment or Last Substantive Amendment: _____
Authorizing, and Implemented or Interpreted Law: 19-6-105; 19-6-108; 40 CFR 257

Appendix – Rules Referenced in R315-321 and R315-322

R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.

R315-260-10. Definitions.

1 (c)(172) "Very small quantity generator" is a generator who generates less than or equal to the following amounts in a calendar month:

(i) one hundred kilograms, 220 lbs, of non-acute hazardous waste;

(ii) one kilogram, 2.2 lbs, of acute hazardous waste listed in Section R315-261-31 or Subsection R315-261-33(e); and

(iii) one hundred kilograms, 220 lbs, of any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous waste listed in Section R315-261-31 or Subsection R315-261-33(e).

R315-302-1. Location Standards for Disposal Facilities.

2 (2) Location Standards. Each applicable solid waste facility shall be subject to the following location standards.

(a) Land Use Compatibility. No new facility shall be located within:

(i) one thousand feet of a:

(A) national, state, county, or city park, monument, or recreation area;

(B) designated wilderness or wilderness study area;

(C) wild and scenic river area; or

(D) stream, lake, or reservoir;

3 (ii) ecologically and scientifically significant natural areas, including wildlife management areas and habitat for threatened or endangered species as designated pursuant to the Endangered Species Act of 1982;

(iii) one-fourth mile of:

(A) existing permanent dwellings, residential areas, and other incompatible structures such as schools or churches unless otherwise allowed by local zoning or ordinance; and

(B) historic structures or properties listed or eligible to be listed in the State or National Register of Historic Places;

(iv) ten thousand feet of any airport runway end used by turbojet aircraft or within 5,000 feet of any airport runway end used by only piston-type aircraft unless the owner or operator demonstrates that the facility design and operation will not increase the likelihood of bird or aircraft collisions. Each new and existing disposal facility is subject to this requirement.

(A) If a new landfill or a lateral expansion of an existing landfill is located within six miles of an airport runway end, the owner or operator shall notify the affected airport and the Federal Aviation Administration; or

(v) areas with respect to archeological sites that would violate Section 9-8-404.

(b) Geology.

(i) No new facility or lateral expansion of an existing facility shall be located in a subsidence area, a dam failure flood area, above an underground mine, above a salt dome, above a salt bed, or on or adjacent to geologic features that could compromise the structural integrity of the facility.

(ii) Holocene Fault Areas. A new facility or a lateral expansion of an existing facility may not be located within 200 feet of a Holocene fault unless the owner or operator demonstrates to the director that an alternative setback distance of less than 200 feet will prevent damage to the structural integrity of the unit and will be protective of human health and the environment.

(iii) Seismic Impact Zones. A new facility or a lateral expansion of an existing facility may not be located in seismic impact zones unless the owner or operator demonstrates to the satisfaction of the director that any containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

(iv) Unstable Areas. The owner or operator of an existing facility, a lateral expansion of an existing facility, or a new facility located in an unstable area shall demonstrate to the satisfaction of the director that engineering measures have been incorporated into the facility design to ensure that the integrity of the structural components of the facility will not be disrupted. The owner or operator shall consider the following factors when determining whether an area is unstable:

(A) on-site or local soil conditions that may result in significant differential settling;

(B) on-site or local geologic or geomorphologic features; and

(C) on-site or local human-made features or events, both surface and subsurface.

4 (c) Surface Water.

(i) No new facility or lateral expansion of an existing facility shall be located on any public land that is being used by a public water system for water shed control for municipal drinking water purposes.

5 (ii) Floodplains. No new or existing facility shall be located in a floodplain unless the owner or operator demonstrates to the director that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in a washout of solid waste so as to pose a hazard to human health or the environment.

6 (d) Wetlands. No new facility or lateral expansion of an existing facility shall be located in wetlands unless the owner or operator demonstrates to the director that:

(i) where applicable under section 404 of the Clean Water Act or applicable state wetlands laws, the presumption that a practicable alternative to the proposed landfill is available that does not involve wetlands is clearly rebutted;

(ii) the unit will not violate any applicable state water quality standard or section 307 of the Clean Water Act;

(iii) the unit will not jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of a critical habitat protected under the Endangered Species Act of 1973;

(iv) the unit will not cause or contribute to significant degradation of wetlands. The owner or operator shall demonstrate the integrity of the unit and its ability to protect ecological resources by addressing the following factors:

(A) erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the unit;

(B) erosion, stability, and migration potential of dredged and fill materials used to support the unit;

(C) the volume and chemical nature of the waste managed in the unit;

(D) impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;

(E) the potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(F) any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected;

(v) to the extent required under section 404 of the Clean Water Act or applicable state wetlands laws, steps have been taken to try to achieve no net loss of wetlands, as defined by acreage and function, by first avoiding impacts to wetlands to the maximum extent practicable as required by Subsection R315-302-1(2)(d)(i), then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through any appropriate and practicable compensatory mitigation actions, for example, restoration of existing degraded wetlands or creation of man-made wetlands; and

(vi) sufficient information is available to make a reasonable determination with respect to these demonstrations.

(e) Groundwater.

(i) No new facility or lateral expansion of an existing facility shall be located at a site:

(A) where the bottom of the lowest liner is less than five feet above the historical high level of groundwater; or

(B) for a landfill that is not required to install a liner, the lowest level of waste shall be at least ten feet above the historical high level of groundwater.

(C) If the aquifer beneath a landfill contains groundwater that has a Total Dissolved Solids (TDS) of 10,000 mg/l or greater and the landfill is constructed with a composite liner, the bottom of the lowest liner may be less than five feet above the historical high level of the groundwater.

(ii) No new facility shall be located over a sole source aquifer as designated in 40 CFR 149.

(iii) No new facility shall be located over groundwater classed as IB under Section R317-6-3.3.

(iv) Unless each unit of the proposed facility is constructed with a composite liner or other equivalent design approved by the director:

(A) a new facility located above any aquifer containing groundwater that has a TDS content below 1,000 mg/l that does not exceed applicable groundwater quality standards for any contaminant is permitted only where the depth to groundwater is greater than 100 feet; or

(B) a new facility located above any aquifer containing groundwater that has a TDS content between 1,000 and 3,000 mg/l and does not exceed applicable groundwater quality standards for any contaminant is permitted only where the depth to groundwater is 50 feet or greater.

(C) The applicant for the proposed facility will make the demonstration of groundwater quality necessary to determine the appropriate aquifer classification.

(v) No new facility shall be located in designated drinking water source protection areas or, if no source protection area is designated, within a distance to existing drinking water wells or

springs for public water supplies of 250 days groundwater travel time. This requirement does not include on-site operation wells. The applicant for the proposed facility will make the demonstration, acceptable to the director, of hydraulic conductivity and other information necessary to determine the 250 days groundwater travel distance.

7 (vi) Groundwater Alternative.

(A) Subject to the groundwater performance standard stated in Subsection R315-303-2(1), if a solid waste disposal facility is to be located over an area where the groundwater has a TDS of 10,000 mg/l or greater, or where there is an extreme depth to groundwater, or where there is a natural impermeable barrier above the groundwater, or where there is no groundwater, the director may approve, on a site specific basis, an alternative groundwater monitoring system at the facility or may wave the groundwater monitoring requirement. If groundwater monitoring is waved the owner or operator shall make the demonstration stated in Subsection R315-308-1(3).

(B) A facility that has a groundwater monitoring alternative approved under Subsection R315-302-1(2)(e)(vi) is subject to the groundwater quality standards specified in Subsection R315-303-2(1) and the approved alternative shall be revoked by the director if the operation of the facility impacts groundwater.

(f) Historic preservation survey requirement.

(i) Each new facility or expansion of an existing facility shall:

(A) have a notice of concurrence issued by the state historic preservation officer as provided for in Subsection 9-8-404(3)(a)(i); or

(B) show that the state historic preservation officer did not respond within 30 days to the submittal, to the officer, of an evaluation; or

(C) have received a joint analysis conducted as required by Subsection 9-8-404(2).

(ii) Each existing facility shall, for any areas of the site that have not been disturbed:

(A) have a notice of concurrence issued by the state historic preservation officer as provided for in Subsection 9-8-404(3)(a)(i); or

(B) show that the state historic preservation officer did not respond within 30 days to the submittal, to the officer, of an evaluation; or

(C) have received a joint analysis conducted as required by Subsection 9-8-404(2).

(g) Traffic impact study requirement.

(i) For each new facility, the applicant shall pay the costs for review of a traffic impact study, any costs required by the road authority for improvements, and submit a traffic impact study that:

(A) demonstrates that requirements for safety, operation, and the condition of roadways serving the proposed facility meet locally forecasted needs;

(B) has been reviewed and approved by the Department of Transportation, a local highway authority, or a county or municipality road authority, whichever has jurisdiction over each road serving the proposed facility; and

(C) includes any maintenance agreement with a road authority in writing.

R315-302-2. General Facility Requirements.

8 (2) Plan of Operation. Each owner or operator shall develop, keep on file, and abide by a plan of operation approved by the director. The plan shall describe the facility's operation and shall convey to site operating personnel the concept of operation intended by the designer. The plan

of operation shall be available for inspection at the request of the director or the director's authorized representative. The facility shall be operated in accordance with the plan. Each plan of operation shall include:

(a) an intended schedule of construction. Facility permits will be reviewed by the director no later than 18 months after the permit is issued and periodically thereafter, to determine if the schedule of construction is reasonably being followed. Failure to comply with the schedule of construction may result in revocation of the permit;

(b) a description of on-site solid waste handling procedures during the active life of the facility;

(c) a schedule for conducting inspections and monitoring for the facility;

(d) contingency plans in the event of a fire or explosion;

(e) corrective action programs to be initiated if groundwater is contaminated;

9 (f) contingency plans for other releases, for example, release of explosive gases or failure of run-off containment system;

(g) a plan to control fugitive dust generated from roads, construction, general operations, and covering the waste;

(i) a description of maintenance of installed equipment including leachate and gas collection systems, and groundwater monitoring systems;

(j) procedures for excluding the receipt of prohibited hazardous waste or prohibited waste containing PCBs;

(l) a plan for an alternative waste handling or disposal system during periods when the solid waste facility is not able to dispose of solid waste, including procedures to be followed in case of equipment breakdown;

(m) closure and post-closure care plans;

(n) cost estimates and financial assurance as required by Subsection R315-309-2(3);

(o) a landfill operations training plan for site operators; and

(p) other information pertaining to the plan of operation as required by the director.

(3) Recordkeeping. Each owner or operator shall maintain and keep, on-site or at a location approved by the director, the following permanent records:

10 (a) a daily operating record, to be completed at the end of each day of operation, that shall contain:

(i) the weights, in tons, or volumes, in cubic yards, of solid waste received each day, number of vehicles entering, and if available, the type of wastes received each day;

(ii) deviations from the approved plan of operation;

(iii) training and notification procedures;

(iv) results of groundwater and gas monitoring that may be required; and

(v) an inspection log or summary; and

(b) other records to include:

(i) documentation of any demonstration made with respect to any location standard or exemption;

(iii) closure and post-closure care plans as required by Subsections R315-302-3(4) and R315-302-3(7);

(iv) cost estimates and financial assurance documentation as required by Subsection R315-309-2(3);

(vi) other information pertaining to operation, maintenance, monitoring, or inspections as may be required by the director.

11 (4) Reporting.

(a) Each owner or operator of any facility, including a facility performing post-closure care, shall prepare an annual report and place the report in the facility's operating record. The owner or operator of the facility shall submit a copy of the annual report to the director by March 1 of each year for the most recent calendar year or fiscal year of facility operation.

(b) The annual report shall cover facility activities during the previous year and shall include, at a minimum, the following information:

(i) name and address of the facility;

(ii) calendar year covered by the report;

(iii) annual quantity, in tons, of solid waste received, according to Subsections R315-302-2(4)(c) and R315-302-2(4)(d);

(iv) the annual update of the required financial assurances mechanism pursuant to Subsection R315-309-2(2);

(v) results of groundwater monitoring and gas monitoring; and

(vi) training programs or procedures completed.

(c) Since the amount of waste received must be reported in tons, the following conversion factors shall be used for waste received that is not weighted on scales.

(i) Municipal solid waste:

(A) Uncompacted - 0.15 tons per cubic yard; and

(B) Compacted, delivered in a compaction vehicle, - 0.30 tons per cubic yard.

(ii) Construction or demolition waste - 0.50 tons per cubic yard.

(iii) Municipal incinerator ash - 0.75 tons per cubic yard.

(iv) Other ash - 1.10 tons per cubic yard.

(v) Waste delivered by a resident in a pickup truck or a single axle trailer - 0.25 tons per vehicle.

(vi) Industrial waste - a reasonable conversion factor, based on site specific data, developed by the owner or operator of the facility.

(d) If an owner or operator of a municipal landfill or a construction or demolition landfill has documented conversion factors that are based on facility specific data, these conversion factors may be used to report the amounts of waste when approved by the director.

(e) Each owner or operator of a facility that treats, transfers, incinerates, or disposes of solid waste, shall submit a quarterly report by the 15th day of the month following the end of each quarter, ending March 31st, June 30th, September 30th, and December 31st.

(i) The quarterly report shall include:

(A) the name and address of the facility; and

(B) the quarterly quantity, in tons, of solid waste received, according to Subsections R315-302-2(4)(c) and R315-302-2(4)(d).

(ii) Each owner or operator shall pay fees established in Subsection 19-6-119(6) upon submittal of the quarterly report, except for:

(A) a person who treats, transfers, stores, or disposes of solid waste from the extraction, beneficiation, and processing of ores and minerals on the site where the waste was generated.

12 (5) Inspections.

(a) The owner or operator shall inspect the facility to prevent malfunctions and deterioration, operator errors, and discharges that may cause or lead to the release of wastes to the environment or to a threat to human health. The owner or operator shall conduct these inspections with sufficient frequency, no less than quarterly, to identify problems in time to correct them before they harm human health or the environment. The owner or operator shall keep an inspection log or summary including at least the date and time of inspection, the printed name and handwritten signature of the inspector, a notation of observations made, and the date and nature of any repairs or corrective action. The log or summary shall be kept at the facility or other convenient location if permanent office facilities are not on-site, for at least three years from the date of inspection. Inspection records shall be available to the director or the director's authorized representative upon request.

(b) The director or any authorized officer, employee, or representative of the director may, at any reasonable time and upon presentation of appropriate credentials, enter any solid waste facility and inspect the property, records, monitoring systems, activities and practices, or solid waste being handled for ascertaining compliance with Rules R315-301 through R315-[~~320~~]322 and the approved plan of operation for the facility.

(i) The inspector may conduct monitoring or testing, or collect samples for testing, to verify the accuracy of information submitted by the owner or operator or to ensure that the owner or operator is in compliance. The owner or operator may request split samples and analysis parameters on any samples collected by the inspector.

(ii) The inspector may use photographic equipment, video camera, electronic recording device, or any other reasonable means to record information during any inspection.

(iii) The results of any inspection shall be furnished promptly to the owner or operator of the facility.

13 (6) Recording with the County Recorder.

Before 60 days after certification of closure, the owner or operator of a solid waste disposal facility shall:

(a) submit plats and a statement of fact concerning the location of any disposal site to the county recorder to be recorded as part of the record of title; and

(b) submit proof of record of title filing to the director.

R315-302-3. General Closure and Post Closure Requirements.

(1) Applicability.

(a) The owner or operator of any solid waste disposal facility that requires a permit shall meet the applicable standards of Section R315-302-3 and shall provide financial assurance for closure and post-closure care costs that meets the requirements of Rule R315-309.

(b) The requirements of Subsections (2), (3), and (4) of this section apply to any solid waste management facility as defined by Subsection 19-6-502(12). The requirements of Subsections (5), (6), and (7) of this section apply to:

(i) Class I, II, IV, V, and VI Landfills;

(ii) Class III Landfills as specified in Rule R315-304: and

(iii) any landtreatment disposal facility.

(2) Closure Performance Standard. Each owner or operator shall close its facility or unit in a manner that:

(a) minimizes the need for further maintenance;

(b) minimizes or eliminates threats to human health and the environment from post-closure escape of solid waste constituents, leachate, landfill gases, contaminated run-off or waste decomposition products to the ground, ground water, surface water, or the atmosphere; and

(c) prepares the facility or unit for the post-closure period.

(3) Closure Plan and Amendment.

(a) Closure may include covering, grading, seeding, landscaping, contouring, and screening. For a transfer station or a drop box facility, closure includes waste removal and decontamination of the site, including soil analysis, ground water analysis, or other procedures as required by the Director.

(b) Each owner or operator shall develop, keep on file and abide by a plan of closure required by Subsection R315-302-2(2)(m) which, when approved by the Director, will become part of the permit.

(c) The closure plan shall project time intervals at which sequential partial closure, if applicable, is to be implemented and identify closure cost estimates and projected fund withdrawal intervals for the associated closure costs from the approved financial assurance instrument required by Rule R315-309.

(d) The closure plan may be amended if conditions and circumstances justify such amendment. If it is determined that amendment of a facility closure plan is required, the Director may direct facility closure activities, in part or whole, to cease until the closure plan amendment has been reviewed and approved by the Director.

(e) Each owner and operator shall close the facility or unit in accordance with the approved closure plan and all approved amendments.

(4) Closure Procedures.

(a) Each owner and operator shall notify the Director of the intent to implement the closure plan in whole or part, 60 days prior to the projected final receipt of waste at the unit or facility unless otherwise specified in the approved closure plan.

(b) The owner or operator shall commence implementation of the closure plan, in part or whole, within 30 days after receipt of the final volume of waste, or for landfills, when the final elevation is attained in part or all of the facility cell or unit as identified in the approved facility closure plan unless otherwise specified in the approved closure plan. Closure activities shall be completed within 180 days from their starting time. Extensions of the closure period may be granted by the Director if justification for the extension is documented by the owner or operator.

(c) When an owner or operator completes closure of a solid waste management unit or facility closure is completed, he shall, within 90 days or as required by the Director, submit to the Director:

(i) facility or unit closure plans, except for Class IIIb, IVb, and VI Landfills, signed by a professional engineer registered in the state of Utah, and modified as necessary to represent as-built changes to final closure construction as approved in the closure plan; and

(ii) certification by the owner or operator, and, except for Class IIIb, IVb, and VI Landfills, a professional engineer registered in the state of Utah, that the site or unit has been closed in accordance with the approved closure plan.

(5) Post-Closure Performance Standard. Each owner or operator shall provide post-closure activities for continued facility maintenance and monitoring of gases, land, and water for 30 years or as long as the Director determines is necessary for the facility or unit to become stabilized and to protect human health and the environment.

(6) Post-Closure Plan and Amendment.

(a) For any disposal facility, except an energy recovery or incinerator facility, post-closure care may include:

(i) ground water and surface water monitoring;

(ii) leachate collection and treatment;

(iii) gas monitoring;

(iv) maintenance of the facility, the facility structures that remain after closure, and monitoring systems for their intended use as required by the approved permit;

(v) a description of the planned use of the property; and

(vi) any other activity required by the Director to protect human health and the environment for a period of 30 years or a period established by the Director.

(b) Each owner or operator shall develop, keep on file, and abide by a post-closure plan as required by Subsection R315-302-2(2)(m) and as approved by the Director as part of the permit. The post-closure plan shall address facility or unit maintenance and monitoring activities until the site becomes stabilized (i.e., little or no settlement, gas production or leachate generation) and monitoring and maintenance activities can be safely discontinued.

(c) The post-closure plan shall project time intervals at which post-closure activities are to be implemented and identify post-closure cost estimates and projected fund withdrawal intervals from the selected financial assurance instrument, where applicable, for the associated post-closure costs.

(d) The post-closure plan may be amended if conditions and circumstances justify such amendment. If it is determined that amendment of a facility or unit post-closure plan is required, the Director may direct facility post-closure activities, in part or whole, to cease until the post-closure plan amendment has been reviewed and approved.

(7) Post-Closure Procedures.

(a) Each owner or operator shall commence post-closure activities after closure activities have been completed. The Director may direct that post-closure activities cease until the owner or operator receives a notice from the Director to proceed with post-closure activities.

(b) When post-closure activities are complete, as determined by the Director, the owner or operator shall submit a certification to the Director, signed by the owner or operator, and, except for Class IIIb, IVb, and VI Landfills, a professional engineer registered in the state of Utah stating why post-closure activities are no longer necessary (i.e., little or no settlement, gas production, or leachate generation).

(c) If the Director finds that post-closure monitoring has established that the facility or unit is stabilized (i.e., little or no settlement, gas production, or leachate generation) the Director may authorize the owner or operator to discontinue any portion or all of the post-closure maintenance and monitoring activities.

R315-303-2. Standards for Performance.

14 (1) Ground Water. An owner or operator of a disposal facility shall not contaminate the ground water underlying the facility beyond the ground water quality standard set in Section R315-308-4 or, for constituents not set in Section R315-308-4, as established by the Director based on health risk standards.

(2) Air Quality and Explosive Gas Emissions.

(a) An owner or operator of a disposal facility shall not allow concentrations of explosive gases generated by the facility to exceed:

(i) twenty-five percent of the lower explosive limit for explosive gases in facility structures, excluding gas control or recovery system components; and

(ii) the lower explosive limit for explosive gases at the property boundary or beyond.

(b) An owner or operator of a disposal facility shall not cause a violation of any ambient air quality standard at the property boundary or emission standard from any emission of landfill gases, combustion or any other emission associated with the facility.

(3) Surface Waters. An owner or operator of a disposal facility:

(a) shall not cause a violation of any Utah Pollution Discharge Elimination System permit or standard from discharges of surface run-off, leachate or any liquid associated with the facility; and

(b) shall be in compliance under the Clean Water Act for any discharge as well as in compliance with any area-wide or state-wide plan under Section 208 or 319 of the Clean Water Act.

R315-303-3. Standards for Design

15 (1) Minimizing Liquids. An owner or operator of a <u>that disposes of nonhazardous solid waste in</u> landfill <u>cells</u> shall minimize liquids admitted to active areas by:

(c) designing the landfill to prevent run-on of all surface waters resulting from a maximum flow of a 25-year storm into the active area of the landfill; and

(d) designing the landfill to collect and treat the run-off of surface waters and other liquids resulting from a 25-year storm from the active area of the landfill.

16 <u>(1.1) High liquid wastes.</u>

<u>(a) The direct disposal of high liquid wastes in landfill cells is prohibited unless the owner or operator implements appropriate measures described in a high liquid waste management plan approved by the director and included in the Plan of Operations, that includes the following information:</u>

<u>(i) waste acceptance criteria;</u>

<u>(ii) dewatering unit design and techniques, if proposed;</u>

<u>(iii) other stabilization or treatment techniques, if proposed; and</u>

<u>(iv) a communication plan to inform customers of high liquid waste acceptance criteria, and costs associated with treatment of high liquids waste at the facility.</u>

17 (b) An owner or operator of a solid waste management facility that utilizes processes such as dewatering or other stabilization or treatment techniques shall:

(i) install and maintain a containment system having a permeability of no more than 1 x 10^{-7} cm/sec, that is capable of maintaining integrity under the operation of heavy equipment for:

(A) staging areas for high liquid wastes prior to dewatering, stabilization, or other treatment;

(B) areas used for dewatering, stabilization, or other treatment; and

(ii) appropriately manage leachates derived from the dewatering or stabilization of high liquid wastes, including through evaporation in a permitted solid waste surface impoundment.

(c) Areas where high liquid waste is stored or managed prior to disposal shall be designed and operated in accordance with R315-308.

(d) The director may require that as a condition of approval of a high liquid waste management plan, that the owner or operator submit appropriate engineering reports demonstrating that disposal of stabilized or dewatered high liquid wastes in a landfill cell will not result in unacceptable geotechnical risks of landfill cell slope or final cover failures.

(e) Any solid waste surface impoundment shall comply with the requirements set forth in R315-322.

18 (3) Liner Designs. [~~An owner or operator of a landfill~~]Except as provided in R315-322-5, liner design for any landfill cell or solid waste surface impoundment shall use liners of one of the following designs:

(a) Standard Design. The design shall have a composite liner system consisting of two liners and the associated liner protection layers and a drainage system for leachate collection:

(i) an upper liner made of synthetic material with a thickness of a least 60 mils; and

(ii) a lower liner of at least two feet thickness of recompacted clay or other soil material with a permeability of no more than 1 x 10^{-7} cm/sec having the bottom liner sloped no less than 2% and the side liners sloped no more than 33%, except where construction and operational integrity can be demonstrated at steeper slopes, with the synthetic liner installed in direct and uniform contact with the compacted soil component; or

(b) Equivalent Design.

(i) The Director may approve an alternative liner design, on a site specific basis, if it can be documented that, under the conditions of location and hydrogeology, the equivalent design will minimize the migration of solid waste constituents or leachate into the ground or surface water at least as effectively as the liner design required in Subsection R315-303-3(3)(a).

(ii) When approving an equivalent liner design, the Director shall consider the following factors:

(A) the hydrogeologic characteristics of the facility and surrounding land;

(B) the climatic factors of the area; and

(C) the volume and physical and chemical characteristics of the leachate; or

(c) Alternative Design.

(i) The owner or operator may use, as approved by the Director, an alternative design.

(ii) The owner or operator must demonstrate that the ground water quality protection standard of Subsection R315-303-2(1) can be met. The demonstration must be approved by the Director, and must be based upon:

(A) the hydrogeologic characteristics of the facility and the surrounding land;

(B) the climatic factors of the area;

(C) the volume and physical and chemical characteristics of the leachate;

(D) predictions of contaminate fate and transport in the subsurface that maximize contaminant migration and consider impacts on human health and the environment; and

(E) predictions of leachate flow from the base of the waste to the uppermost aquifer; or

(d) Stringent Design. When conditions of location, hydrogeology, or waste stream justify, the Director may require that the liner of a landfill be constructed to meet standards more stringent than the liner designs of Subsection R315-303-3(3)(a).

(e) Small [~~Landfill~~]Facility Design.

(i) [~~The s~~]Small [~~landfill~~]facility design applies only to a Class II Landfill.

(ii) Each new Class II [~~Landfill~~]Facility and any existing Class II [~~Landfill~~]Facility seeking facility expansion shall meet the location standards of Section R315-302-1.

(iii) Each new and existing Class II [~~Landfill~~]Facility shall meet the performance standards of Section R315-303-2.

(iv) A Class II [~~Landfill~~]Facility, which meets the requirements of Subsection R315-303-3(3)(e)(v), is exempt from the liner, leachate collection system, and ground water monitoring requirements of Rule R315-303.

(v) A Class II [~~Landfill~~]Facility will be approved only if:

(A) there is no evidence of existing ground water contamination;

(B) the [~~landfill~~]facility serves a community that has no practicable waste management alternative as determined by the Director;

(C) the [~~landfill~~]facility is located in an area which receives less than 25 inches of annual precipitation;

(D) the [~~landfill~~]facility receives, on a yearly average, no more than 20 tons of waste per day, or if a tonnage cannot be determined, serves a population of no more than 8,900; and

(E) the [~~landfill~~]facility meets all the requirements in Rules R315-301 through [~~320~~]R315-322 applicable to Class II [~~landfill~~]facilities.

(vi) A Class II [~~Landfill~~]Facility may lose the exemptions of the small landfill design if at any time the [~~landfill~~]facility receives more than 20 tons of solid waste per day, based on an annual average, or has caused ground water contamination.

19 (4) Closure. At closure, an owner or operator of a Class I, II, IIIa, IVa, [~~and~~]V, or VII [~~Landfill~~]Facility shall use one of the following designs for the final cover for all associated landfill cells.

(a) Standard Design. The standard design of the final cover for landfill cells within the facility shall consist of two layers:

(i) a layer to minimize infiltration, consisting of at least 18 inches of compacted soil, or equivalent, with a permeability of 1 x 10^{-5} cm/sec or less, or equivalent, shall be placed upon the final lifts;

(A) in no case shall the cover of the final lifts be more permeable than the bottom liner system or natural subsoils present in the unit; and

(B) the grade of surface slopes shall not be less than 2%, nor the grade of side slopes more than 33%, except where construction integrity and the integrity of erosion control can be demonstrated at steeper slopes; and

20 (ii) a layer to minimize erosion, consisting of:

(A) at least 6 inches of soil capable of sustaining vegetative growth placed over the compacted soil cover and seeded with grass, other shallow rooted vegetation or other native vegetation; or

(B) other suitable material, approved by the Director.

(b) Requirements for any Earthen Final Cover [~~at~~]on a Landfill cell.

(i) Markers or other benchmarks shall be installed in any final earthen cover to indicate the thickness of the final cover. These markers shall be observed during each quarterly inspection and the earthen cover shall be raised to the appropriate thickness as necessary.

(ii) Erosion channels deeper than 10% of the total cover thickness shall be repaired as soon as possible following their discovery.

(c) Alternative Final Cover Design. The Director may approve an alternative final cover design, on a site specific basis, if it can be documented that:

(i) the alternative final cover achieves an equivalent reduction in infiltration as achieved by the standard design in Subsection R315-303-3(4)(a)(i); and

(ii) the alternative final cover provides equivalent protection from wind and water erosion as achieved by the standard design in Subsection R315-303-3(4)(a)(ii).

(d) The expected performance of an alternative final cover design shall be documented by the use of an appropriate mathematical model.

(i) The input for the modeling shall include the climatic conditions at the specific [~~landfill~~]facility site and the soil types that will make up the final cover.

(ii) The model shall:

(A) be run to show the expected performance of the final cover at normal precipitation for a period of time until stability has been reached; and

(B) shall be run to show the expected performance of the final cover during the five wettest years on record at the site or the nearest weather station.

(e) The director shall use the following criteria as part of the basis for determining if an alternative final cover will be approved:

(i) If the landfill cell has a liner design that does not use a synthetic material such as HDPE, the model will compare the infiltration through the standard cover as required in

Subsection R315-303-3(4)(a) and shall show that the alternative cover performs as well as the standard cover; or

(ii) If the landfill cell has a liner composed in part of a synthetic material such as HDPE, the model must show an infiltration rate of no greater that 3 millimeters of water per year during any year of the model run.

(f) If a landfill cell has been constructed using an approved alternative landfill cell design, the Director may require, on a site-specific basis, the landfill cell closure design to be more stringent than the standard design specified in Subsection R315-303-3(4)(a) to protect human health or the environment.

(g) In no case shall any modification be made to the final cover, as placed and approved at closure by the Director, unless that modification:

(i) is a necessary repair of the approved final cover;

(ii) maintains or improves the effectiveness of the final cover; and

(iii) is approved by the Director.

21 (6) Design Drawings.

(a) Design drawings and as built drawings of any engineered structure, including landfill cell liners, leachate collection systems, run-on/run-off control systems, final covers, ground water monitoring systems, and gas collection systems, shall be signed and sealed by a professional engineer registered in the State of Utah.

(b) As built drawings shall be submitted to the Director on or before 90 days following the completion of the engineered structures associated with [~~at~~] the [~~landfill~~]facility.

22 (7) Other Requirements. An owner or operator shall design each [~~landfill~~]solid waste management facility to provide for:

(a) fencing at the property or unit boundary or the use of other artificial or natural barriers to impede entry by the public and large animals. A lockable gate shall be required at the entry to the [~~landfill~~]facility;

(b) monitoring ground water according to Rule R315-308 using a design approved by the Director. The Director may also require monitoring of:

(i) surface waters, including run-off;

(ii) leachate; and

(iii) subsurface landfill gas movement and ambient air;

(c) weighing or estimating the tonnage of all incoming waste and recording the tonnage in the facility's operation record;

(d) erecting a sign at the facility entrance that identifies at least the name of the facility, the hours during which the facility is open for public use, unacceptable materials, and an emergency telephone number. Other pertinent information may also be included;

(e) adequate fire protection to control any fires that may occur at the facility. This may be accomplished by on-site equipment or by arrangement made with the nearest fire department;

(f) preventing potential harborage in buildings, facilities, and active areas of rat and other vectors, such as insects, birds, and burrowing animals;

(g) minimizing the size of the unloading area and working face as much as possible, consistent with good traffic patterns and safe operation;

(h) approach and exit roads of all-weather construction, with traffic separation and traffic control on-site and at the site entrance; and

(i) communication, such as telephone or radio, between employees working at the [~~landfill~~]facility and management offices on-site and off-site to handle emergencies.

23 **R315-303-4. Standards for Maintenance and Operation.**

(1) Plan of Operation. An owner or operator of a landfill shall maintain and operate the facility to conform to the approved plan of operation.

(2) Operating Details. An owner or operator of a landfill shall operate the facility to:

(a) control fugitive dust generated from roads, construction, general operations, and covering the waste;

(b) allow no open burning;

(c) collect scattered litter as necessary to avoid a fire hazard or an aesthetic nuisance;

(d) prohibit scavenging;

(e) conduct reclamation of facility property in an orderly sanitary manner and in a way that does not interfere with the disposal site operation;

(f) ensure that [~~landfill~~]facility personnel, trained in [~~landfill~~]facility operations, are on site when the site is open to the public:

(i) at least one person on site for landfills that receive, on an average annual basis, less than 15,000 tons per year; and

(ii) at least two persons on site, with one person at the active landfill cell face, for each landfill that receives, on an average annual basis, more than 15,000 tons per year;

(g) control insects, rodents, and other vectors; ~~and~~

(h) ensure that all waste containers and storage tanks are functional:

(i) containers or tanks that are deteriorating (e.g., cracked, rusted) or leaking must not be used; and

(ii) containers or tanks used to store waste must be made of or lined with materials that will not react with and are otherwise compatible with the waste in the container;

(i)~~(h)~~ ensure that reserve operational equipment will be available to maintain and meet these standards.

(3) Boundary Posts. An owner or operator of a landfill shall clearly mark the active area boundaries authorized in the permit by placing permanent posts or by using an equivalent method clearly visible for inspection purposes.

(5) Monitoring Systems. An owner or operator of a landfill shall maintain the monitoring systems required in Subsection R315-303-3(7)(b).

(7) Disposal of Hazardous Waste and Waste Containing PCBs.

(a) An owner or operator of a solid waste [~~disposal~~]management facility shall not knowingly accept, dispose, treat, store, or otherwise handle hazardous waste or waste containing PCBs except under the following conditions:

(i) hazardous waste:

(A) the waste meets the conditions specified in Subsections R315-261-4; or

(B) the waste meets the conditions specified in R315-262-13(f)(1) or R315-262-14; or

(ii) waste containing PCBs:

(A) the facility meets the requirements specified in Subsection R315-315-7(3)(a); or

(B) the waste meets the requirements specified in Subsections R315-315-7(2) or R315-315-7(3)(b).

(b) An owner or operator of a solid waste [~~disposal~~]management facility shall include and implement, as part of the plan of operation, a plan that will inspect loads or take other steps, as approved by the director, that will prevent the disposal of prohibited hazardous waste and prohibited waste containing PCBs, including:

(i) inspection frequency and inspection of loads suspected of containing prohibited hazardous waste or prohibited waste containing PCBs;

(ii) inspection in a designated area or at a designated point in the disposal process;

(iii) a training program for the facility employees in identification of prohibited hazardous waste and prohibited waste containing PCBs; and

(iv) maintaining written records of inspections, signed by the inspector.

(c) If the receipt of prohibited hazardous waste or prohibited waste containing PCBs is discovered, the owner or operator of the facility shall:

(i) notify the director, the hauler, and the generator within 24 hours;

(ii) restrict the inspection area from public access and from facility personnel; and

(iii) assure proper cleanup, transport, and disposal of the waste.

24

R315-308. Groundwater Monitoring Requirements.
R315-308-1. Applicability.

(1) Each existing landfill, pile, or landtreatment disposal facility that is required to perform groundwater monitoring shall comply with the groundwater monitoring requirements according to the compliance schedule as established by the director during the permitting or the permit renewal process.

(2) Before the acceptance of waste, each new landfill, pile, or landtreatment disposal facility that is required to perform groundwater monitoring shall have:

(a) a site specific groundwater monitoring plan approved by the director; and

(b) the groundwater monitoring system complete and operational.

(3) Groundwater monitoring requirements may be waived by the director if the owner or operator of a solid waste disposal facility can demonstrate that there is no potential for migration of hazardous constituents from the facility to the groundwater during the active life of the facility and the post-closure care period. This demonstration shall be certified by a qualified groundwater scientist and approved by the director, and shall be based upon:

(a) site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport; and

(b) contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and the environment.

(4) Once a groundwater monitoring system and program has been established at a disposal facility, groundwater monitoring shall continue to be conducted throughout the active life, closure, and post-closure care periods as specified by the director.

(5) A facility that has a groundwater monitoring alternative approved under Subsection R315-302-1(2)(e)(vi) is subject to the standards specified in Subsection R315-303-2(1) and the approved alternative shall be revoked by the director if the operation of the facility impacts groundwater.

R315-308-2. Ground Water Monitoring Requirements.

(1) Each facility owner or operator that is required to conduct ground water monitoring shall formulate a ground water monitoring plan that addresses the requirements of Section R315-308-2.

(2) The ground water monitoring system must consist of at least one background or upgradient well and two downgradient wells, installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer and all hydraulically connected aquifers below the facility, cell, or unit. The downgradient wells shall be designated as the point of compliance and must be installed at the closest practicable distance hydraulically down gradient from the unit boundary not to exceed 150 meters (500 feet) and must also be on the property of the owner or operator:

(a) the upgradient well must represent the quality of background water that has not been affected by leakage from the active area; and

(b) the downgradient wells must represent the quality of ground water passing the point of compliance. Additional wells may be required by the Director in complicated hydrogeological settings or to define the extent of contamination detected.

(3) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must allow collection of representative ground water samples. Wells must be constructed in such a manner as to prevent contamination of the samples, the sampled strata, and between aquifers and water-bearing strata. All monitoring wells and all other devices and equipment used in the monitoring program must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

(4) The ground water monitoring program must include at a minimum, procedures and techniques for:

(a) well construction and completion;

(b) decontamination of drilling and sampling equipment;

(c) sample collection;

(d) sample preservation and shipment;

(e) analytical procedures and quality assurance;

(f) chain of custody control or sample tracking, as approved by the Director; and

(g) procedures to ensure employee health and safety during well installation and monitoring.

(5) Each facility shall utilize a laboratory, that is certified by the state for the test methods used, to complete tests, using methods with appropriate detection levels, on samples for the following:

(a) during the first year of facility operation after wells are installed or an alternative schedule as approved by the Director, a minimum of eight independent samples from the upgradient and four independent samples from each downgradient well for all parameters listed in Section R315-308-4 to establish background concentrations;

(b) after background levels have been established, a minimum of one sample, semiannually, from each well, background and downgradient, for all parameters listed in Section R315-308-4 as a detection monitoring program;

(i) In the detection monitoring program, the owner or operator must determine ground water quality at each monitoring well on a semiannual basis during the life of an active area, including the closure period, and the post-closure care period.

(ii) The owner or operator must express the ground water quality at each monitoring well in a form appropriate for the determination of statistically significant changes;

(c) field-measured pH, water temperature, and water conductivity must accompany each sample collected;

(d) analysis for the heavy metals and the organic constituents from Section R315-308-4 shall be completed on unfiltered samples; and

(e) the Director may specify additional or fewer constituents depending upon the nature of the ground water or the waste on a site specific basis considering:

(i) the types, quantities, and concentrations of constituents in wastes managed at the landfill;

(ii) the mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the landfill;

(iii) the detectability of indicator parameters, waste constituents, and reaction products in the ground water; and

(iv) the background concentration or values and coefficients of variation of monitoring parameters or constituents in the ground water.

(f) The following information shall be placed in the facility's operating record and a copy submitted to the Director as the ground water monitoring results to be included in the annual report required by Subsection R315-302-2(4):

(i) a report on the procedures, including the quality control/quality assurance, followed during the collection of the ground water samples;

(ii) the results of the field measured parameters required by Subsections R315-308-2(5)(c) and R315-308-2(7);

(iii) a report of the chain of custody and quality control/quality assurance procedures of the laboratory;

(iv) the results of the laboratory analysis of the constituents specified in Section R315-308-4 or an alternative list of constituents approved by the Director:

(A) the results of the laboratory analysis shall list the constituents by name and CAS number; and

(B) a list of the detection limits and the test methods used; and

(v) the statistical analysis of the results of the ground water monitoring as required by Subsection R315-308-2(8).

(vi) The results of the ground water monitoring may be submitted in electronic format.

(6) After background constituent levels have been established, a ground water quality protection standard shall be set by the Director which shall become part of the ground water monitoring plan. The ground water quality protection standard will be set as follows.

(a) For constituents with background levels below the standards listed in Section R315-308-4 or as listed in Section R315-308-5, which presents the ground water protection standards that are available for the constituents listed as Appendix II in 40 CFR 258, the ground water quality standards of Sections R315-308-4 and R315-308-5 shall be the ground water quality protection standard.

(b) If a constituent is detected and a background level is established but the ground water quality standard for the constituent is not included in Section R315-308-4 or Section R315-308-5 the ground water quality protection standard for that constituent shall be set according to health risk standards.

(c) If a constituent is detected and a background level is established and the established background level is higher than the value listed in Section R315-308-4, R315-308-5 or the level established according to Subsection R315-308-2(6)(b), the ground water quality protection standard shall be the background concentration.

(7) The ground water monitoring program must include a determination of the ground water surface elevation each time ground water is sampled.

(8) The owner or operator shall use a statistical method for determining whether a significant change has occurred as compared to background. The Director will approve such a method as part of the ground water monitoring plan. Possible statistical methods include:

(a) a parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent;

(b) an analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent;

(c) a tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit;

(d) a control chart approach that gives control limits for each constituent; or

(e) another statistical test method approved by the Director.

(9) For both detection monitoring, as described in Subsection R315-308-2(5), and assessment monitoring, as described in Subsection R315-308-2(12), the Director may specify additional or fewer sampling and analysis events, no less than annually, depending upon the nature of the ground water or the waste on a site-specific basis considering:

(a) lithology of the aquifer and unsaturated zone;

(b) hydraulic conductivity of the aquifer and unsaturated zone;

(c) ground water flow rates;

(d) minimum distance between upgradient edge of the landfill unit and downgradient monitoring well screen (minimum distance of travel); and

(e) resource value of the aquifer.

(10) The owner or operator must determine and report the ground water flow rate and direction in the upper most aquifer each time the ground water is sampled.

(11) If the owner or operator determines that there is a statistically significant increase over background in any parameter or constituent at any monitoring well at the compliance point, the owner or operator must:

(a) within 14 days of the completion of the statistical analysis of the sample results and within 30 days of the receipt of the sample results, enter the information in the operating record and notify the Director of this finding in writing. The notification must indicate what parameters or constituents have shown statistically significant changes; and

(b) immediately resample the ground water in all monitoring wells, both background and downgradient, or in a subset of wells specified by the Director, and determine:

(i) the concentration of all constituents listed in Section R315-308-4, including additional constituents that may have been identified in the approved ground water monitoring plan;

(ii) if there is a statistically significant increase over background of any parameter or constituent in any monitoring well at the compliance point; and

(iii) notify the Director in writing within seven days of the completion of the statistical analysis of the sample results.

(c) The owner or operator may demonstrate that a source other than the solid waste disposal facility caused the contamination or that the statistically significant change resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water quality. A report documenting this demonstration must be certified by a qualified ground-water scientist and approved by the Director and entered in the operating record. If a successful demonstration is made and documented, the owner or operator may continue monitoring as specified in Subsection R315-308-2(5)(b).

(12) If, after 90 days, a successful demonstration as stipulated in Subsection R315-308-2(11)(c) is not made, the owner or operator must initiate the assessment monitoring program required as follows:

(a) within 14 days of the determination that a successful demonstration is not made, take one sample from each downgradient well and analyze for all constituents listed as Appendix II in 40 CFR Part 258, 2001 ed., which is adopted and incorporated by reference.

(b) for any constituent detected from Appendix II, 40 CFR Part 258, in the downgradient wells a minimum of four independent samples from the upgradient and four independent samples

from each downgradient well must be collected, analyzed, and statistically evaluated to establish background concentration levels for the constituents; and

(c) within 14 days of the completion of the statistical analysis of the sample results and within 30 days of the receipt of the sample results, place a notice in the operation record and notify the Director in writing identifying the Appendix II, 40 CFR Part 258, constituents and their concentrations that have been detected as well as background levels. The Director shall establish a ground water quality protection standard pursuant to Subsection R315-308-2(6) for any Appendix II, 40 CFR Part 258, constituent detected in the downgradient wells.

(d) The owner or operator shall thereafter resample:

(i) at a minimum, all downgradient wells on a quarterly basis for all constituents in Section R315-308-4, or the alternative list that may have been approved as part of the permit, and for those constituents detected from Appendix II, 40 CFR Part 258;

(ii) the downgradient wells on an annual basis for all constituents in Appendix II, 40 CFR Part 258; and

(iii) statistically analyze the results of all ground water monitoring samples.

(e) The Director may specify additional or fewer constituents depending upon the nature of the ground water or the waste on a site specific basis considering:

(i) the types, quantities, and concentrations of constituents in wastes managed at the landfill;

(ii) the mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the landfill;

(iii) the detectability of indicator parameters, waste constituents, and reaction products in the ground water; and

(iv) the background concentration or values and coefficients of variation of monitoring parameters or constituents in the ground water.

(f) If after two consecutive sampling events, the concentrations of all constituents being analyzed in Subsection R315-308-2(12)(d)(i) are shown to be at or below established background values, the owner or operator must notify the Director of this finding and may, upon the approval of the Director, return to the monitoring schedule and constituents as specified in Subsection R315-308-2(5)(b).

(13) If one or more constituents from Section R315-308-4 or the approved alternative list, or from those detected from Appendix II, 40 CFR Part 258, are detected at statistically significant levels above the ground water quality protection standard as established pursuant to Subsection R315-308-2(6) in any sampling event, the owner or operator must:

(a) within 14 days of the receipt of this finding, place a notice in the operating record identifying the constituents and concentrations that have exceeded the ground water quality standard. Within the same time period, the owner or operator must also notify the Director and all appropriate local governmental and local health officials that the ground water quality standard has been exceeded;

(b) characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(c) install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well and analyze the sample for the constituents in Section R315-308-4 or the approved alternative list and the detected constituents from Appendix II, 40 CFR Part 258; and

(d) notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site as indicated by sampling of wells in accordance with Subsections R315-308-2(13)(b) and (13)(c).

(e) The owner or operator may demonstrate that a source other than the solid waste disposal facility caused the contamination or that the statistically significant change resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water quality. A

report documenting this demonstration must be certified by a qualified ground-water scientist and approved by the Director and entered in the operating record. If a successful demonstration is made, documented and approved, the owner or operator may continue monitoring as specified in Subsection R315-308-2(12)(d) or Subsection R315-308-2(12)(e) when applicable.

R315-308-3. Corrective Action Program.

(1) If, within 90 days, a successful demonstration as stated in Subsection R315-308-2(13)(e) is not made, the owner or operator must:

(a) continue to monitor as required in Subsection R315-308-2(12)(d).

(b) take any interim measures as required by the Director or as necessary to ensure the protection of human health and the environment; and

(c) assess possible corrective action measures for the current conditions and circumstances of the disposal facility, addressing at least the following:

(i) the performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control exposure to any residual contamination;

(ii) time required to begin and complete the remedy;

(iii) the costs of remedy implementation;

(iv) public health or environmental requirements that may substantially affect implementation of the remedy; and

(v) prior to the selection of a remedy, discuss the results of the corrective measures assessment in a public meeting with interested and affected parties.

(d) Based on the results of the corrective measures assessment conducted and the comments received in the public meeting, the owner or operator must select a remedy which shall be submitted to the Director.

(i) The corrective action remedy must:

(A) be protective of human health and the environment;

(B) use permanent solutions that are within the capability of best available technology;

(C) attain the established ground water quality standard;

(D) control the sources of release so as to reduce or eliminate, to the maximum extent practicable, further releases of contaminants into the environment that may pose a threat to human health or the environment; and

(E) be approved by the Director.

(ii) Within 14 days after the selection of the remedy the owner or operator must:

(A) amend the corrective action program required by Subsection R315-302-2(2)(e) if necessary and send a report to the Director for approval describing the selected remedy and amendments, along with a schedule of implementation and estimated time of completion; and

(B) put in place the financial assurance mechanism as required by Rule R315-309 for corrective action and notify the Director of the financial assurance mechanism and its effective date.

(2) Upon approval of the selected corrective action remedy, the Director will notify the owner or operator of such approval and will require that the corrective action plan proceed according to the approved schedule.

(a) The Director may also require facility closure if the ground water quality standard is exceeded and, in addition, may revoke any permit and require reapplication.

(b) The Director or the owner or operator may determine, based on information developed after implementation of the corrective action plan, that compliance with the requirements of Subsection R315-308-3(1)(d)(i) of this section are not being achieved through the remedy selected. In such a case, the owner or operator must implement other methods or techniques, upon approval by the Director, that could practicably achieve compliance with the requirements.

(c) Upon completion of the remedy, the owner or operator shall notify the Director. The notification shall contain certification signed by the owner or operator and a qualified ground-water scientist that the concentration of contaminant constituents have been reduced to levels below the specified limits of the ground water quality standard for a period of three years or an alternative length of time specified by the Director. Upon approval of the Director the owner or operator shall:

(i) terminate corrective action measures;

(ii) continue detection monitoring as required in Subsection R315-308-2(5)(b); and

(iii) be released from the requirements of financial assurance for corrective action.

R315-308-4. Constituents for Detection Monitoring.

The table lists the constituents for detection monitoring as specified by Subsection R315-308-2(5), the CAS number for the constituents, and the ground water quality standard for the constituents for any facility that is required to monitor ground water under Rule R315-308.

TABLE

Constituents for Detection Monitoring

		Ground Water Protection Standard
Inorganic Constituents	CAS	(mg/l)
Ammonia (as N)	7664-41-7	
Carbonate/Bicarbonate		
Calcium		
Chemical Oxygen Demand (COD)		
Chloride		
Iron	7439-89-6	
Magnesium		
Manganese	7439-96-5	
Nitrate (as N		
pH		
Potassium		
Sodium		
Sulfate		
Total Dissolved Solids (TDS)		
Total Organic Carbon (TOC)		
Heavy Metals		
Antimony	7440-36-0	0.006
Arsenic	7440-38-2	0.01
Barium	7440-39-3	2
Beryllium	7440-41-7	0.004
Cadmium	7440-43-9	0.005
Chromium		0.1
Cobalt	7440-48-4	2
Copper	7440-50-8	1.3
Lead		0.015
Mercury	7439-97-6	0.002
Nickel	7440-02-0	0.1
Selenium	7782-49-2	0.05

Silver	7440-22-4	0.1
Thallium		0.002
Vanadium	7440-62-2	0.3
Zinc	7440-66-6	5
Organic Constituents		
Acetone	67-64-1	4
Acrylonitrile	107-13-1	0.1
Benzene	71-43-2	0.005
Bromochloromethane	74-97-5	0.01
Bromodichloromethane1	75-27-4	0.1
Bromoform1	75-25-2	0.1
Carbon disulfide	75-15-0	4
Carbon tetrachloride	56-23-5	0.005
Chlorobenzene	108-90-7	0.1
Chloroethane	75-00-3	15
Chloroform1	67-66-3	0.1
Dibromochloromethane1	124-48-1	0.1
1,2-Dibromo-3-chloropropane	96-12-8	0.0002
1,2-Dibromoethane	106-93-4	0.00005
1,2-Dichlorobenzene (ortho)	95-50-1	0.6
1,4-Dichlorobenzene (para)	106-46-7	0.075
trans-1,4-Dichloro-2-butene	110-57-6	
1,1-Dichloroethane	75-34-3	4
1,2-Dichloroethane	107-06-2	0.005
1,1-Dichloroethylene	75-35-4	0.007
cis-1,2-Dichloroethylene	156-59-2	0.07
trans-1,2-Dichloroethylene	156-60-5	0.1
1,2-Dichloropropane	78-87-5	0.005
cis-1,3-Dichloropropene	10061-01-5	0.002
trans-1,3-Dichloropropene	10061-02-6	0.002
Ethylbenzene	100-41-4	0.7
2-Hexanone	591-78-6	1.5
Methyl bromide	74-83-9	0.01
Methyl chloride	74-87-3	0.003
Methylene bromide	74-95-3	0.4
Methylene chloride	75-09-2	0.005
Methyl ethyl ketone	78-93-3	0.17
Methyl iodide	74-88-4	
4-Methyl-2-pentanone	108-10-1	3
Styrene	100-42-5	0.1
1,1,1,2-Tetrachloroethane	630-20-6	0.07
1,1,2,2-Tetrachloroethane	79-34-5	0.005
Tetrachloroethylene	127-18-4	0.005
Toluene	108-88-3	1
1,1,1-Trichloroethane	71-55-6	0.2
1,1,2-Trichloroethane	79-00-5	0.005
Trichloroethylene79-01-6	0.005	
Trichlorofluoromethane	75-69-4	10
1,2,3-Trichloropropane	96-18-4	0.04
Vinyl acetate	108-05-4	37

Vinyl Chloride	75-01-4	0.002
Xylenes	1330-20-7	10

[1]The ground water protection standard of 0.1 mg/l is for the total of Bromodichloromethane, Bromoform, Chloroform, and Dibromochloromethane.

R315-308-5. Solid Waste Groundwater Quality Protection Standards for 40 CFR 258 Appendix II Constituents.

The table lists the CAS number for each constituent and the groundwater quality protection standards which are currently available for the 40 CFR 258 Appendix II constituents required for assessment monitoring of groundwater at a solid waste facility as specified by Subsection R315-308-2(12).

Table		
Appendix II Constituent	CAS	Groundwater Protection Standard (mg/l)
2,4-D	94-75-7	0.07
2,4,5-T	93-76-5	0.37
2,4,5-TP	93-72-1	0.05
Anthracene	120-12-7	10
Benzo(a)pyrene	50-32-8	0.0002
bis(2-Ethylhexy)phthalate	117-81-7	0.006
Chlordane	57-74-9	0.002
Cyanide	57-12-5	0.2
Dinoseb	88-85-7	0.007
Endrin	72-20-8	0.002
Heptachlor	76-44-8	0.0004
Heptachlor epoxide	1024-57-3	0.0002
Hexachlorobenzene	118-74-1	0.001
Hexachlorocyclopentadiene	77-47-4	0.05
Lindane	58-89-9	0.0002
Methoxychlor	72-43-5	0.04
Pentachlorophenol	87-86-5	0.001
Polychlorinated (biphenyls PCBs)	1336-36-3	0.0005
Tin	7440-31-5	21.9
Toxaphene	8001-35-2	0.003
1,2,4-Trichlorobenzene	120-82-1	0.07

25 **R315-309. Financial Assurance.**

R315-309-1. Applicability.

(1) The owner or operator of any solid waste disposal facility [~~requiring a permit~~]subject to the requirements for a permit under Subsection R315-310-1(a), or as otherwise required by the director, shall establish financial assurance sufficient to assure adequate closure, post-closure care, and corrective action, if required, of the facility by compliance with one or more financial assurance mechanisms acceptable to and approved by the Director.

(2) Financial assurance is not required for a solid waste disposal facility that is owned or operated by the State of Utah or the Federal government.

(3) Existing Facilities.

(a) An existing facility shall have the financial assurance mechanism in place and effective according to the compliance schedule as established for the facility by the Director.

(b) In the case of corrective action, the financial assurance mechanism shall be in place and effective no later than 120 days after the corrective action remedy has been selected.

(4) A new facility or an existing facility seeking lateral expansion shall have the financial assurance mechanism in place and effective before the initial receipt of waste at the facility or the lateral expansion.

R315-309-2. General Requirements.

(1) A financial assurance plan, including the assurance mechanism proposed for use, shall be submitted:

(a) for new facilities, upon initial permit application; and

(b) for existing facilities, to meet the effective dates specified in Subsection R315-309-1(3).

(2) The financial assurance shall be updated each year as part of the annual report required by Subsection R315-302-2(4) to adjust for inflation or facility modification that would affect closure or post-closure care costs. The annual update of the financial assurance shall be reviewed and must be approved by the Director prior to implementation.

(3) Financial assurance cost estimates shall be based on a third party preforming closure or post-closure care.

(a) The closure cost estimate shall be based on the most expensive cost to close the largest area of the disposal facility ever requiring a final cover at any time during the active life in accordance with the closure plan and at a minimum must contain the following elements if applicable:

(i) the cost of obtaining, moving, and placing the cover material;

(ii) the cost of final grading of the cover material;

(iii) the cost of moving and placing topsoil on the final cover;

(iv) the cost of fertilizing, seeding, and mulching or other approved method; and

(v) the cost of removing any stored items or materials, buildings, equipment, or other items or materials not needed at the closed facility.

(b) The post-closure care cost estimate shall be based on the most expensive cost of completing the post-closure care reasonably expected during the post-closure care period and must contain the following elements:

(i) ground water monitoring, if required, including number of monitor wells, parameters to be monitored, frequency of sampling, and cost per sampling;

(ii) leachate monitoring and treatment if necessary;

(iii) gas monitoring and control if required; and

(iv) cover stabilization which will include an estimate of the area and cost for expected annual work to repair residual settlement, control erosion, or reseed.

(4) Any facility for which financial assurance is required for post-closure care must have a financial assurance mechanism, which will cover the costs of post-closure care, in effect and active until the Director determines that the post-closure care is complete.

(5) Financial assurance for corrective action shall be required only in cases of known releases of contaminants from a facility and shall be a current cost estimate for corrective action based on the most expensive cost of a third party performing the corrective action that may be required.

R315-309-3. General Requirements for Financial Assurance Mechanisms.

(1) Any financial assurance mechanism in place for a solid waste facility:

(a) must be legally valid, binding, and enforceable under Utah and Federal law;

(b) must ensure that funds will be available in a timely fashion when needed; and

(c) any financial assurance mechanism that guarantees payment rather than performance, but does not allow the Director to approve partial payments to a third party, shall establish a standby trust at the time the financial assurance mechanism is established.

(i) In the case of a financial assurance mechanism for which the establishment of a standby trust is required, the standby trust fund shall meet the requirements of Subsections R315-309-4(1), (2), and (4).

(ii) Payments from the financial assurance mechanism shall be deposited directly into the standby trust fund and payments from the standby trust fund must be approved by the Director and the trustee.

(2) The owner or operator of a solid waste facility that is required to provide financial assurance:

(a) shall submit the required documentation of the financial assurance mechanism to the Director;

(b) prior to the financial assurance mechanism becoming effective and active for a solid waste facility, the mechanism must be approved by the Director; and

(c) Financial assurance mechanism documents submitted to the Director shall be signed originals or signed duplicate originals.

(3) The owner or operator of a solid waste facility may establish financial assurance by any mechanism that meets the requirements of Subsection R315-309-1(1) as approved by the Director.

(4) The owner or operator of a solid waste facility may establish financial assurance by a combination of mechanisms that together meet the requirements of Subsection R315-309-1(1) as approved by the Director. Except for the conditions specified in Subsection R315-309-8(6)(c), financial assurance mechanisms guaranteeing performance, rather than payment, may not be combined with other instruments.

R315-309-4. Trust Fund.

(1) The owner or operator of a solid waste facility may establish a trust fund and appoint a trustee as a financial assurance mechanism. The trust fund and trustee must be with an entity that has the authority to establish trust funds and act as a trustee and whose operations are regulated and examined by a Federal or state agency.

(2) The owner or operator shall submit a signed original of the trust agreement to the Director for approval and shall place a signed original of the trust agreement in the operating record of the solid waste disposal facility.

(3) Payments into the trust fund must be made annually by the owner or operator according to the following schedule:

(a) for a trust fund for closure and post-closure care, annual payments that will ensure the availability of sufficient funds within the permit term or the remaining life of the facility, whichever is shorter for the cost estimates required in Subsection R315-309-2(3). The initial payment into the trust fund must be made, for a new facility or a lateral expansion of an existing facility, before the initial receipt of waste and for an existing facility, in accordance with the effective dates specified in Subsection R315-309-1(3)(a); or

(b) for a trust fund for corrective action, annual payments that will ensure the availability of sufficient funds within one-half of the estimated length in years of the corrective action program for the cost estimate required by Subsection R315-309-2(5). Payments shall be determined as follows:

(i) The first payment shall be at least equal to one-half of the current cost estimate for the corrective action divided by one-half the estimated length of the corrective action program. The initial payment into the trust fund shall be made in accordance with the schedule specified in Subsection R315-309-1(3)(b).

(ii) The amount of subsequent payments must be determined by the following formula: Next Payment = (RB-CV)/Y where RB is the most recent estimate of the required trust fund balance for corrective action (i.e., the total cost that will be incurred during the second half of the corrective action period), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator, or other person authorized to conduct closure, post-closure, or corrective action may request reimbursement from the trustee for closure, post-closure, or corrective action costs.

(a) Prior to the release of funds by the trustee, the request for reimbursement must be approved by the Director. The Director shall act upon the reimbursement request within 30 days of receiving the request.

(b) After receiving approval from the Director, the request for reimbursement may be granted by the trustee only if sufficient funds are remaining to cover the remaining costs and if justification and documentation of the costs is placed in the operating record.

(c) The owner or operator shall notify the Director that documentation for the reimbursement has been placed in the operating record and that the reimbursement has been received.

R315-309-5. Surety Bond Guaranteeing Payment or Performance.

(1) The owner or operator of a solid waste facility may provide a surety bond for a financial assurance mechanism. The bond must be effective, for a new facility or a lateral expansion of an existing facility, before the initial receipt of waste or, for an existing facility, in accordance with the effective dates specified in Subsection R315-309-1(3).

(2) The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury and the owner or operator must notify the Director that a copy of the bond has been placed in the operating record.

(3) The penal sum of the bond must be in an amount at least equal to the closure, post-closure, or corrective action cost estimates of Subsection R315-309-2(3) or Subsection R315-309-2(5), whichever is applicable.

(4) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(a) In the case of a payment bond, the surety shall pay the costs of closure and post-closure care if the owner or operator fails to complete closure and post-closure care activities.

(b) In the case of a performance bond, the surety shall perform closure and post-closure care on behalf of the owner or operator if the owner or operator fails to complete closure and post-closure care activities.

(5) The surety bond guaranteeing payment or performance shall contain provisions preventing cancellation except under the following conditions:

(a) if the surety sends notice of cancellation by certified mail to the owner or operator and the Director 120 days in advance of the cancellation date; or

(b) if an alternative financial assurance mechanism has been obtained by the owner or operator.

R315-309-6. Insurance.

(1) The owner or operator of a solid waste facility may provide insurance as a financial assurance mechanism. The insurance must be effective, for a new facility or a lateral expansion of an existing facility, before the initial receipt of waste or, for an existing facility, in accordance with the effective dates specified in Subsection R315-309-1(3).

(2) At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states, and the owner or operator must notify the Director that a copy of the insurance policy has been placed in the operating record.

(3) The insurance policy must guarantee that funds will be available to close the facility or unit and provide post-closure care or provide corrective action, if applicable. The policy must also guarantee that the insurer will be responsible for paying out funds, as directed in writing by the Director, to the owner or operator or other person authorized to conduct closure, post-closure, or corrective action, if applicable, up to an amount equal to the face amount of the policy.

(4) The insurance policy must be issued for a face amount at least equal to the closure, post-closure, or corrective action cost estimates required by Subsection R315-309-2(3) or Subsection R315-309-2(5), whichever is applicable.

(5) An owner or operator, or other authorized person may receive reimbursements for closure, post-closure, or corrective action, if applicable, if the remaining value of the policy is sufficient to cover the remaining costs of the work required and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the Director that the documentation and justification for the reimbursement has been placed in the operating record and that the reimbursement has been received.

(6) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator.

(7) The insurance policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner or operator and the Director 120 days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance.

(8) The insurer shall certify through the use of an insurance endorsement specified by the Director that the policy issued provides insurance covering closure costs, post-closure costs, or corrective action costs.

R315-309-7. Letter of Credit.

(1) The owner or operator of a solid waste facility may provide a letter of credit as a financial assurance mechanism. The letter of credit must be irrevocable and issued for a period of at least one year in the amount at least equal to the current cost estimate as required by Subsection R315-309-2(3) for closure and post-closure care or the cost estimate as required by Subsection R315-309-2(5) for corrective action, if necessary.

(2) The institution issuing the letter of credit must be an entity which has the authority to issue a letter of credit and whose operations are regulated and examined by a Federal or state agency.

(3) The letter of credit must be effective for closure and post-closure care:

(a) for a new facility or a lateral expansion of an existing facility, before the initial receipt of waste;

(b) for an existing facility, in accordance with the effective dates specified in Subsection R315-309-1(3)(a); and

(c) for corrective action, in accordance with the schedule specified in Subsection R315-309-1(3)(b).

(4) The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution has elected not to extend the letter of credit by sending notice by certified mail to the owner or operator and the Director 120 days in advance of the expiration.

(5) If the letter of credit is not extended by the issuing institution, the owner or operator shall obtain alternate financial assurance which will become effective on or before the expiration date.

R315-309-8. Local Government Financial Test.

(Omitted from this document, based on current ownership of Class VII facilities.)

R315-309-9. Corporate Financial Test.

(1) The terms used specifically in Section R315-309-9 are defined as follows.

(a) "Assets" means all existing and probable future economic benefits obtained or controlled by a particular entity.

(b) "Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

(c) "Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

(d) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 40 CFR 144.62(a), (b), and (c) (2001) which is adopted and incorporated by reference.

(e) "Independently audited" means an audit performed by and independent certified public accountant in accordance with generally accepted auditing standards.

(f) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

(g) "Net working capital" means current assets minus current liabilities.

(h) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

(i) "Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(2) A corporate owner or operator of a solid waste facility may demonstrate financial assurance up to the current cost estimate as required by Subsection R315-309-2(3) for closure and post-closure care and the cost estimate required by Subsection R315-309-2(5) for corrective action, if required, by meeting the following requirements.

(a) The owner or operator must satisfy one of the following three conditions:

(i) a current rating for its senior unsubordinated debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; or

(ii) a ratio of less than 1.5 comparing total liabilities to net worth: or

(iii) a ratio of greater than 0.10 comparing the sum of net income plus depreciation, depletion and amortization, minus $10 million, to total liabilities.

(b) The tangible net worth of the owner or operator must be greater than:

(i) the sum of the current closure, post-closure care, and corrective action cost estimates and any other environmental obligation, including guarantees, covered by a financial test plus $10 million except as provided in Subsection R315-309-9(2)(b)(ii);

(ii) $10 million in net worth plus the amount of any guarantees that have not been recognized as liabilities on the financial statements provided all of the current closure, post-closure care, and corrective action costs and any other environmental obligations covered by a financial test are recognized as liabilities on the owner's or operator's audited financial statements, and subject to the approval of the Director.

(c) The owner or operator must have assets located in the United States amounting to at least the sum of current closure, post-closure care, corrective action cost estimates and any other environmental obligations covered by a financial test.

(3) The owner or operator must place the following items into the facility's operating record and submit a copy of these items to the Director for approval:

(a) a letter signed by the owner's or operator's chief financial officer that:

(i) lists all current cost estimates for closure, post-closure care, corrective action, and any other environmental obligations covered by a financial test; and

(ii) provides evidence demonstrating that the firm meets the conditions of Subsection R315-309-9(2)(a)(i), or (a)(ii), or (a)(iii) and Subsections R315-309-9(2)(b) and (c); and

(b) a copy of the independent certified public accountant's unqualified opinion of the owner's or operator's financial statements for the latest completed fiscal year.

(i) To be eligible to use the financial test, the owner's or operator's financial statements must receive an unqualified opinion from the independent certified public accountant.

(ii) The Director may evaluate qualified opinions on a case-by-case basis and allow use of the financial test where the Director deems the matters which form the basis for the qualification are insufficient to warrant disallowance of the test.

(c) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that the owner or operator satisfies Subsection R315-309-9(2)(a)(i) or (ii) that are different from data in the audited financial statements or data filed with the Securities and

Exchange Commission, then a special report from the owner's or operator's independent certified public accountant is required. The special report shall:

(i) be based upon an agreed upon procedures engagement in accordance with professional auditing standards;

(ii) describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently audited, year-end financial statements;

(iii) describe the findings of that comparison; and

(iv) explain the reasons for any differences.

(d) If the chief financial officer's letter provides a demonstration that the firm has assured environmental obligations as provided in Subsection R315-309-9(2)(b)(ii), then the letter shall include a report from the independent certified public accountant that:

(i) verifies that all of the environmental obligations covered by a financial test have been recognized as liabilities on the audited financial statements;

(ii) explains how these obligations have been measured and reported; and

(iii) certifies that the tangible net worth of the firm is at least $10 million plus the amount of all guarantees provided.

(e) The items required by Subsection R315-309-9(3) are to be submitted to the Director and copies placed in the facility's operating record as follows:

(i) in the case of closure and post-closure care, for a new facility or a lateral expansion of an existing facility, before the initial receipt of waste;

(ii) in the case of closure and post-closure care, for an existing facility, in accordance with the effective dates specified in Subsection R315-309-1(3)(a); and

(iii) in the case of corrective action, in accordance with the schedule specified in Subsection R315-309-1(3)(b).

(4) A firm must satisfy the requirements of the financial test at the close of each fiscal year by submitting the items required in Subsection R315-309-9(3) as part of the facility's annual report required by Subsection R315-302-2(4).

(5) If the firm no longer meets the requirements of the corporate financial test it shall, within 120 days following the close of the firm's fiscal year:

(a) obtain alternative financial assurance that meets the requirements of R315-309-1(1); and

(b) submit documentation of the alternative financial assurance to the Director and place copies of the documentation in the facility's operating record.

(c) The Director, based on a reasonable belief that the firm may no longer meet the requirements of the corporate financial test, may require additional reports of financial condition from the firm at any time. If the Director finds that the firm no longer meets the requirements of the corporate financial test, firm shall be required to provide alternative financial assurance on a schedule established by the Director.

(6) Corporate Guarantee.

(a) A corporate owner or operator of a solid waste facility may demonstrate financial assurance for closure, post-closure care, and corrective action by obtaining a written guarantee provided by a corporation.

(i) The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a substantial business relationship with the owner or operator.

(ii) The firm shall meet the requirements of the corporate financial test in Section R315-309-9 and shall comply with the terms of the written guarantee as specified in Subsections R315-309-3(6)(b) and (c).

(A) A certified copy of the guarantee along with copies of the letter from the guarantor's chief financial officer and accountant's opinions must be submitted to the Director and placed in the facility's operating record.

(B) If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter from the guarantor's chief financial officer must describe the value received in consideration of the guarantee.

(C) If the guarantor is a firm with a substantial business relationship with the owner or operator, the letter from the chief financial officer must describe this substantial business relationship and the value received in consideration of the guarantee.

(b) The guarantee must be effective for closure and post-closure care:

(i) for a new facility or a lateral expansion of an existing facility, before the initial receipt of waste;

(ii) for an existing facility, in accordance with the effective dates specified in Subsection R315-309-1(3)(a); and

(iii) for corrective action, in accordance with the schedule specified in Subsection R315-309-1(3)(b).

(c) The guarantee shall provide that if the owner or operator fails to perform closure, post-closure care, or corrective action of a facility covered by the guarantee, the guarantor will:

(i) perform, or pay a third party to perform, closure, post-closure, or corrective action as required; or

(ii) establish a fully funded trust fund as specified in Section R315-309-4 in the name of the owner or operator.

(d) The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur until 120 days after the date the notice is received by the Director.

(e) If the guarantee is canceled, the owner or operator shall, within 90 days following the receipt of the cancellation notice:

(i) obtain alternate financial assurance that meets the requirements of Subsection R315-309-1(1);

(ii) submit documentation of the alternate financial assurance to the Director; and

(iii) place copies of the documentation of the alternate financial assurance in the facility's operating record.

(iv) If the owner or operator fails to provide alternate financial assurance within the 90 day period, the guarantor must provide the alternate financial assurance within 120 days following the guarantor's notice of cancellation, submit documentation of the alternate financial assurance to the Director for review and approval, and place copies of the documentation in the facility's operating record.

(f) If a corporate guarantor no longer meets the requirements of the corporate financial test as specified in Section R315-309-9:

(i) the owner or operator must, within 90 days, obtain alternate financial assurance; and

(ii) submit documentation of the alternate financial assurance to the Director and place copies of this documentation in the facility's operating record.

(iii) If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within the next 30 days.

R315-309-10. Discounting.

(1) The Director may allow discounting of closure, post-closure care, or corrective action costs up to the rate of return for essentially risk free investments, net inflation.

(2) Discounting may be allowed under the following conditions:

(a) the Director determines that cost estimates are complete and accurate and the owner or operator has submitted a statement from a professional engineer registered in the state of Utah so stating;

(b) the Director finds the facility in compliance with all applicable Utah Solid Waste Permitting and Management Rules and in compliance with all conditions of the facility's permit issued under the rules;

(c) the Director determines that the closure date is certain and the owner or operator certifies that there are no foreseeable factors that will change the estimate of the facility life; and

(d) discounted cost estimates must be adjusted annually to reflect inflation and years of remaining facility life.

R315-309-11. Termination of Financial Assurance.

The owner or operator of a solid waste facility may terminate or cancel an active financial assurance mechanism under the following conditions:

(1) if the owner or operator establishes alternate financial assurance as approved by the Director; or

(2) if the owner or operator is released from the financial assurance requirements by the Director after meeting the conditions and requirements of Subsections R315-302-3(7)(b) and (c) or Subsection R315-308-3(2)(c), whichever is applicable.

26

R315-310. Permit Requirements for Solid Waste Facilities.

R315-310-1. Applicability.

(1) [~~The following s~~]Solid waste facilities subject to the requirements of Rules R315-301 through R315-320 require a permit as follows:

(a) The following solid waste facilities are subject to the requirements of Sections R315-310-2 through R315-310-12:

(i) New and existing Class I, II, III, IV, V, VI, VII, and coal combustion residual (CCR) Landfills and coal combustion residual surface impoundments;

([~~b~~]ii) Class I, II, III, IV, V, and VI Landfills that have closed but have not met the requirements of Subsection R315-302-3(7);

([~~c~~]iii) incinerator facilities that are regulated by Rule R315-306;

([~~d~~]iv) land[-]treatment disposal facilities that are regulated by Rule R315-307;[~~ and~~]

([~~d~~]v) waste tire storage facilities; and[~~.~~]

(vi) solid waste surface impoundments that are regulated by Rule R315-322.

(b) Solid waste facilities not listed in Subsection R315-310-1(1)(a) are subject to the permitting requirements of Sections R315-310-2, R315-310-3, R315-310-9, R315-310-11.

(c) The following solid waste facilities are subject to Subsection R315-310-1(b) and the post-closure permit requirements of Section R315-310-10:

(i) compost facilities; and

(ii) waste piles when post-closure monitoring is required under Subsection R315-314-2(f)(ii).

(2) Permits are not required for corrective actions at solid waste facilities performed by the state or in conjunction with the United States Environmental Protection Agency or in conjunction with actions to implement the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), or corrective actions taken by others to comply with a state or federal cleanup order.

(3) The requirements of Sections R315-310-2 through 12 apply to each existing and new solid waste facility as indicated.

(a) The Director may incorporate a compliance schedule for each existing facility to ensure that the owner or operator, or both, of each existing facility meet the requirements of Rule R315-310.

(b) The owner or operator, or both, where the owner and operator are not the same person, of each new facility or expansion at an existing solid waste facility, for which a permit is required, shall:

(i) apply for a permit according to the requirements of Rule R315-310;

(ii) not begin the construction or the expansion of the solid waste facility until a permit has been granted; and

(iii) not accept waste at the solid waste facility prior to receiving the approval required by Subsection R315-301-5(1).

(4) A landfill may not change from its current class, or subclass, to any other class, or subclass, of landfill except by meeting all requirements for the desired class, or subclass, to include obtaining a new permit from the Director for the desired class, or subclass, of landfill.

(5) Any facility that is in operation at the time that a permit is required for the facility by Subsection R315-310-1(a) and has submitted a permit application within six months of the date the facility became subject to the permit requirements of Subsection R315-310-1(a) may continue to operate during the permit review period but must meet all applicable requirements of rules R315-301 through [~~320~~]R315-322 unless an alternative requirement has been approved by the Director.

R315-310-2. Procedures for Permits.

(1) Prospective applicants may request the Director to schedule a pre-application conference to discuss the proposed solid waste facility and application contents before the application is filed.

(2) Any owner or operator who intends to operate a facility subject to the permit requirements must apply for a permit with the Director.[~~Two copies of the application, signed by the owner or operator and received by the Director are required before permit review can begin.~~]

(3) Applications for a permit must be completed in the format prescribed by the Director.

(4) An application for a permit, all reports required by a permit, and other information requested by the Director shall be signed as follows:

(a) for a corporation: by a principal executive officer of at least the level of vice-president;

(b) for a partnership or sole proprietorship: by a general partner or the proprietor;

(c) for a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official; or

(d) by a duly authorized representative of the person above, as appropriate.

(i) A person is a duly authorized representative only if the authorization is made in writing, to the Director, by a person described in Subsections R315-310-2(4)(a), (b), or (c), as appropriate.

(ii) The authorization may specify either a named individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of facility manager, director, superintendent, or other position of equivalent responsibility.

(iii) If an authorization is no longer accurate and needs to be changed because a different individual or position has responsibility for the overall operation of the facility, a new authorization that meets the requirements of Subsections R315-310-2(4)(d)(i) and (ii) shall be submitted to the Director prior to or together with any report, information, or application to be signed by the authorized representative.

(5) Filing Fee and Permit Review Fee.

(a) A filing fee, as required by the Annual Appropriations Act, shall accompany the filing of an application for a permit. The review of the application will not begin until the filing fee is received.

(b) A review fee, as established by the Annual Appropriations Act, shall be charged at an hourly rate for the review of an application. The review fee shall be billed quarterly and shall be due and payable quarterly.

(6) All contents and materials submitted as a permit application shall become part of the approved permit and shall be part of the operating record of the solid waste disposal facility.

(7) The owner or operator, or both, of a facility shall apply for renewal of the facility's permit every ten years.

R315-310-3. General Contents of a Permit Application for a New Facility or a Facility Seeking Expansion.

(1) Each permit application for a new facility or a facility seeking expansion shall contain the following:

(a) the name and address of the applicant, property owner, and responsible party for the site operation;

(b) a general description of the facility accompanied by facility plans and drawings and, except for [~~Class IIIb, IVb, and Class VI Landfills and waste tire storage facilities, unless required by the Director~~]facilities listed in Subsection R315-310-3(1)(b)(i), the facility plans and drawings shall be signed and sealed by a professional engineer registered in the State of Utah;

(i) Plans and drawings for the following facilities do not require the signature or seal of a professional engineer registered in the State of Utah, unless required by the director:

(A) Class IIIb facilities;

(B) Class IVb facilities;

(C) Class VI facilities;

(D) Class VII facilities that are not surface impoundments; and

(E) waste tire storage facilities.

(c) a legal description and proof of ownership, lease agreement, or other mechanism approved by the Director of the proposed site, latitude and longitude map coordinates of the facility's front gate, and maps of the proposed facility site including land use and zoning of the surrounding area;

(d) the types of waste to be handled at the facility and area served by the facility;

(e) the plan of operation required by Subsection R315-302-2(2);

(f) the form used to record weights or volumes of wastes received required by Subsection R315-302-2(3)(a)(i);

(g) an inspection schedule and inspection log required by Subsection R315-302-2(5)(a);

(h) the closure and post-closure plans required by Section R315-302-3;

(i) documentation to show that any waste water treatment facility, such as a run-off or a leachate treatment system, is being reviewed or has been reviewed by the Division of Water Quality;

(j) a proposed financial assurance plan that meets the requirements of Rule R315-309; and

(k) A historical and archeological identification efforts, which may include an archaeological survey conducted by a person holding a valid license to conduct surveys issued under R694-1.

(l) An application for a new facility that is owned or operated by a local government shall include financial information that discloses the costs of establishing and operating the facility, including:

(i) land acquisition and leasing;

(ii) construction;

(iii) estimated annual operation;

(iv) equipment;

(v) ancillary structures;

(vi) roads;

(vii) transfer stations; and

(viii) other operations not contiguous to the proposed facility that are necessary to support the facility's construction and operation.

(2) Public Participation Requirements.

(a) Each permit application shall provide:

(i) the name and address of all owners of property within 1,000 feet of the proposed solid waste facility; and

(ii) documentation that a notice of intent to apply for a permit for a solid waste facility has been sent to all property owners identified in Subsection R315-310-3(3)(a)(i).

(iii) the Director with the name of the local government with jurisdiction over the site and the mailing address of that local government office.

(b) The Director shall send a letter to each person identified in Subsection R315-310-3(3)(a)(i) and (iii) requesting that they reply, in writing, if they desire their name to be placed on an interested party list to receive further public information concerning the proposed facility.

(3) Special Requirements for a Commercial Solid Waste Disposal Facility.

(a) The permit application for a commercial nonhazardous solid waste disposal facility shall contain the information required by Subsections 19-6-108[~~(9) and~~](10), including information to demonstrate that the requirements of Subsection 19-6-108(11) are satisfied.

(b) Subsequent to the issuance of a solid waste permit by the Director, a commercial nonhazardous solid waste disposal facility shall meet the requirements of Subsection 19-6-108(3)(c) and provide documentation to the Director that the solid waste disposal facility is approved by the local government, the Legislature, and the governor.

(c) Construction of the commercial solid waste disposal facility may not begin until the requirements of Subsections R315-310-3(2)(b) are met and approval to begin construction has been granted by the Director.

(d) Commercial solid waste disposal facilities solely under contract with a local government within the state to dispose of nonhazardous solid waste generated within the boundaries of the local government are not subject to Subsections R315-310-3(2)(a), (b), and (c).

(e) The governor's approval and legislative approval may be automatically revoked in accordance with Subsections 19-6-108(3)(c)(iv) and 19-6-108(3)(c)(v).

R315-310-4. Contents of a Permit Application for a New or Expanded Class I, II, III, IV, V, [~~and~~]VI, and VII Landfill Facility, or a Solid Waste Surface Impoundment, as Specified.

(1) Each application for a new or expanded landfill shall contain the information required by Section R315-310-3.

(2) Each application shall also contain:

(a) the following maps shall be included in a permit application for a Class I, II, III, IV, V, [~~and~~]VI, and VII Landfill:

(i) topographic map of the landfill unit drawn to a scale of 200 feet to the inch containing five foot contour intervals where the relief exceeds 20 feet and two foot contour intervals where the relief is less than 20 feet, showing the boundaries of the landfill unit, ground water monitoring wells, landfill gas monitoring points, and borrow and fill areas; and

(ii) the most recent full size U.S. Geological Survey topographic map, 7-1/2 minute series, if printed, or other recent topographic survey of equivalent detail of the area, showing the waste facility boundary, the property boundary, surface drainage channels, existing utilities, and structures within one-fourth mile of the facility site, and the direction of the prevailing winds.

(b) a permit application for a Class I, II, IIIa, Iva, and V Landfill, and a Class VII Landfill or any solid waste surface impoundment that accepts very small quantity generator waste, shall contain a geohydrological assessment of the facility that addresses:

(i) local and regional geology and hydrology, including faults, unstable slopes and subsidence areas on site;

(ii) evaluation of bedrock and soil types and properties, including permeability rates;

(iii) depths to ground water or aquifers;

(iv) direction and flow rate of ground water;

(v) quantity, location, and construction of any private and public wells on the site and within 2,000 feet of the facility boundary;

(vi) tabulation of all water rights for ground water and surface water on the site and within 2,000 feet of the facility boundary;

(vii) identification and description of all surface waters on the site and within one mile of the facility boundary;

(viii) background ground and surface water quality assessment and identification of impacts of the existing facility upon ground and surface waters from landfill leachate discharges;

(ix) calculation of a site water balance; and

(x) conceptual design of a ground water and surface water monitoring system, including proposed installation methods for these devices and where applicable, a vadose zone monitoring plan;

(c) a permit application for a Class I, II, IIIa, IVa, and V Landfill shall contain an engineering report, plans, specifications, and calculations that address:

(i) how the facility will meet the location standards pursuant to Section R315-302-1 including documentation of any demonstration made with respect to any location standard;

(ii) the basis for calculating the facility's life;

(iii) cell design to include liner design, cover design, fill methods, elevation of final cover and bottom liner, and equipment requirements and availability;

(iv) identification of borrow sources for daily and final cover, and for soil liners;

(v) interim and final leachate collection, treatment, and disposal;

(vi) ground water monitoring plan that meets the requirements of Rule R315-308;

(vii) landfill gas monitoring and control that meets the requirements of Subsection R315-303-3(5);

(viii) design and location of run-on and run-off control systems;

(ix) closure and post-closure design, construction, maintenance, and land use; and

27 (x) quality control and quality assurance for the construction of any engineered structure or feature, excluding buildings at landfills, at the solid waste disposal facility and for any applicable activity such as ground water monitoring.

(d) a permit application for a Class I, II, III, IV, V, and VI Landfill, or a solid waste surface impoundment shall contain a closure plan to address:

(i) closure schedule;

(ii) capacity of the solid waste disposal facility in volume and tonnage;

(iii) final inspection by regulatory agencies; and

(iv) identification of closure costs including cost calculations and the funding mechanism.

(e) a permit application for a Class I, II, III, IV, V, [~~and~~]VI, and VII Landfill, or a solid waste surface impoundment, shall contain a post-closure plan to address, as appropriate for the specific [~~landfill~~]facility:

(i) site monitoring of:

(A) landfill gas on a quarterly basis until the conditions of either Subsection R315-302-3(7)(b) or Subsection R315-302-3(7)(c) are met;

(B) ground water on a semiannual basis, or other schedule as determined by the Director, until the conditions of either Subsection R315-302-3(7)(b) or Subsection R315-302-3(7)(c) are met; and

(C) surface water, if required, on the schedule specified by the Director and until the Director determines that the monitoring of surface water may be discontinued;

(ii) inspections of the landfill by the owner or operator:

(A) for landfills that are required to monitor landfill gas, and Class II Landfills, on a quarterly basis; and

(B) for other landfills that are not required to monitor landfill gas, on a semiannual basis;

(iii) maintenance activities to maintain cover and run-on and run-off systems;

(iv) identification of post-closure costs including cost calculations and the funding mechanism;

(v) changes to record of title as specified by Subsection R315-302-2(6); and

(vi) list the name, address, and telephone number of the person or office to contact about the facility during the post-closure period.

R315-310-5. Contents of a Permit Application for a New or Expanding Class III, IV, [~~or~~]VI Landfill, or a Solid Waste Surface Impoundment.

(1) Each application for a permit for a new Class III, IV, or VI landfill or for a permit to expand an existing Class III, IV, or VI Landfill, or a solid waste surface impoundment, shall contain the information required in Section R315-310-3.

(2) Each application shall also contain an engineering report, plans, specifications, and calculations that address:

(a) the information and maps required by Subsections R315-310-4(2)(a)(i) and (ii);

(b) the design and location of the run-on and run-off control systems;

(c) the information required by Subsections R315-310-4(2)(d) and (e);

(d) the area to be served by the facility; and

(e) how the facility will meet the requirements of Rule R315-304[~~,~~] for a Class III Landfill, [~~or~~]Rule R315-305[~~,~~] for a Class IV or VI Landfill, or Rule R315-322 for a solid waste surface impoundment.

(3) Each application for a Class IIIa or Class IVa Landfill permit shall also contain the applicable information required in Subsections R315-310-4(2)(b) and (c).

R315-310-6. Contents of a Permit Application for a New or Expanding Landtreatment Disposal Facility.

(Omitted from this document because it is not applicable to facilities accepting E&P waste.)

R315-310-7. Contents of a Permit Application for a New or Expanding Incinerator Facility.

(Omitted from this document because it is not applicable to facilities accepting E&P waste.)

R315-310-8. Contents of a Permit Application for a New or Expanding Waste Tire Storage Facility.

(Omitted from this document because it is not applicable to facilities accepting E&P waste.)

R315-310-9. Contents of an Application for a Permit Renewal.

The owner or operator, or both, where the owner and operator are not the same person, of each existing facility who intend to have the facility continue to operate, shall apply for a renewal of the permit by submitting the applicable information and application specified in Sections R315-310-3, -4, -5, -6, -7, or -8, as appropriate. Applicable information, that was submitted to the Director as part of a previous permit application, may be copied and included in the permit renewal application so that all required information is contained in one document. The information submitted shall reflect the current operation, monitoring, closure, post-closure, and all

other aspects of the facility as currently established at the time of the renewal application [~~submittle~~]submittal.

R315-310-10. Contents of an Application for a Permit for a Facility in Post-Closure Care.

(1) The application for a Post-Closure Care permit shall contain the applicable information required in [~~Section R315-310-3 and documentation as to how the facility will meet the requirements of Section R315-302-3(5) and (6).~~]Subsections R315-310-3(1)(a) through R315-310-3(1)(c), and R315-310-3(1)(g) through R315-310-3(1)(j), and:

(a) for landfills, except CCR facilities:

(i) proof of recording with the county recorder as required by Subsection R315-302-2(6);

(ii) for Class I, II, IIIa, IVa, and V Landfills, demonstrate that the applicable requirements of Subsection R315-303-3(4) have been met;

(iii) for each Class III Landfill, the applicable requirements of Section R315-304-5;

(iv) for each Class IV or VI Landfill, the applicable requirements of Section R315-305-5;

(v) for each Class VII Landfill, the applicable requirements of Section R315-321-4;

(vi) for each solid waste surface impoundment, the applicable requirements of Section R315-322-7;

(vii) the applicable requirements for groundwater monitoring according to Rule R315-308; and

(viii) the financial assurance update requirements of Subsection R315-311-1(5);

(b) for incinerator facilities the required financial assurance for incinerators according to Section R315-306-2 or R315-306-3, as applicable;

(c) for landtreatment disposal facilities the applicable information required in Section R315-307-4;

(d) for composting facilities the applicable information required in Subsection R315-312-3(5);

(e) for waste piles subject to Rule R315-314 that are likely to produce leachate the applicable information required in Subsection R315-314-2(2)(f); and

(f) for CCR facilities the applicable information required in Sections R315-319-100 through R315-319-104.

R315-310-11. Permit Transfer.

(1) A permit may not be transferred without approval from the Director, nor shall a permit be transferred from one property to another.

(2) The new owner or operator shall submit to the Director:

(a) A revised permit application no later than 60 days prior to the scheduled change and

(b) A written agreement containing a specific date for transfer of permit responsibility between the current and new permittees.

(3) The new permittee shall:

(a) assume permit requirements and all financial responsibility;

(b) provide adequate documentation that the permittee has or shall have ownership or control of the facility for which the transfer of permit has been requested;

(c) demonstrate adequate knowledge and ability to operate the facility in accordance with the permit conditions; and

(d) demonstrate adequate financial assurance as required in the permit and R315-309 for the operation of the facility.

(4) When a transfer of ownership or operational control occurs, the old owner or operator shall comply with the requirements of Rule R315-309 until the new owner or operator has demonstrated that it is complying with the requirements of that rule.

(5) An application for permit transfer may be denied if the Director finds that the applicant has:

(a) knowingly misrepresented a material fact in the application;

(b) refused or failed to disclose any information requested by the Director;

(c) exhibited a history of willful disregard of any state or federal environmental law; or

(d) had any permit revoked or permanently suspended for cause under any state or federal environmental law.

R315-310-12. Contents of a Permit Application for a New or Expanding Coal Combustion Residual Landfill and Coal Combustion Residual Surface Impoundment.

(Omitted from this document because it is not applicable to facilities accepting E&P waste.)

28 **R315-311. Permit Approval For Solid Waste Disposal, Waste Tire Storage, Energy Recovery, And Incinerator Facilities.**

R315-311-1. General Requirements.

(1) Unless otherwise stated in Rules R315-301 through R315-[~~320~~]322, permit actions taken by the director are subject to Rules R315-311 and R315-124. Upon submittal of the complete information required by Rule R315-310 the application will be reviewed in accordance with Section R315-124-3 and a draft permit or permit denial will be prepared in accordance with Sections R315-124-5 through R315-124-6.

(a) After meeting the requirements of the public comment period and public hearing as stipulated in Section R315-311-3, the owner or operator may be issued a permit that will include appropriate conditions and limitations on operation and types of waste to be accepted at the facility.

(b) Construction may not begin before the receipt of the permit.

(2) Reserved.

(3) A permit can be granted for up to ten years by the director, except as allowed in Subsection R315-311-1(5).

(4) The owner or operator, or both, if the owner and the operator are not the same person, of each solid waste facility shall:

(a) apply for a permit renewal, as required by Section R315-310-9, 180 days before the expiration date of the current permit if the permit holder intends to continue operations after the current permit expires; and

(b) for facilities that require financial assurance in accordance with Section R315-309-1, submit, for review and approval by the director on a schedule of no less than five years, a complete update of the financial assurance required in Rule R315-309 that shall contain:

(i) a calculation of the current costs of closure as required by Subsection R315-309-2(3); and

(ii) a calculation that is not based on a closure cost that has been received by applying an inflation factor to past cost estimates.

(5) A permit for a facility in post-closure care:

(a) may be issued for the life of the post-closure care period; and

(b) the holder of the post-closure care permit shall comply with Subsection R315-311-1(4)(b).

R315-311-2. Permit Modification, Renewal, or Termination.

(1) A permit may be considered for modification or termination at the request of any interested person, including the permittee, or upon the director's initiative in accordance with Section R315-124-5. Requests for permit modification or termination shall become effective only upon approval by the director and in accordance with Section R315-124-15.

(a) Minor modifications of a permit or plan of operation may not be subject to the 45 day public comment period as required by Section R315-311-3, unless obligatory under Subsection R315-311-2(1)(b). The following modifications shall be considered minor, except that Subsections R315-311-2(1)(a)(vi) and R315-311-2(1)(a)(viii) are not minor modifications for coal combustion residual units.

(i) Corrections of typographical errors.

(ii) Changes to the name, address, or phone number of persons or agencies identified in the permit.

(iii) Changes to administrative or informational items.

(iv) Making changes to procedures for maintaining the operating record or the location where the operating record is kept.

(v) Changes are made to provide for more frequent monitoring, reporting, sampling, or maintenance.

(vi) A compliance date extension request is made for a new date not to exceed 120 days after the date specified in the approved permit.

(vii) Changes are made to the expiration date of the permit to allow an earlier permit termination.

(viii) Changes are made to the closure schedule for a unit, to the final closure schedule for the facility, or the closure period is extended.

(ix) The director determines, in the case of a permit transfer application, that no change in the permit other than the change in the name of the owner or operator is necessary.

(x) Equipment is upgraded or replaced with functionally equivalent components.

(xi) Changes are made in sampling or analysis methods, procedures, or schedules and those changes conform with Rule R315-308 if sampling or analyzing groundwater.

(xii) Changes are made in the construction or groundwater monitoring quality control quality assurance plans that will better certify that the specifications for construction, closure, sampling, or analysis will be met.

(xiii) Changes are made in the facility plan of operation that conform to guidance or rules approved by the Waste Management and Radiation Control Board or provide more efficient waste handling or more effective waste screening.

(xiv) Replacement of an existing monitoring well with a new well without changing the location.

(xv) Changes are made in the design or depth of a monitoring well that provides more effective monitoring.

(xvi) Changes are made in the statistical method used to statistically analyze the groundwater quality data that conform with Rule R315-308.

(xvii) Changes are made in any permit condition that are more restrictive or provide more protection to health or the environment.

(b) The director may subject any minor modification request to the 45 day public comment period described in Subsection R315-311-3(1) if justified by conditions and circumstances.

(c) A permit modification that does not meet the requirements of Subsection R315-311-2(1)(a) for a minor modification shall be a major modification.

(d) If the director determines that major modifications to a permit or plan of operation are justified, a new operational plan incorporating the approved modifications shall be prepared. The modifications shall be subject to the public comment period as specified in Section R315-311-3.

(2) An application for permit renewal shall consist of the information required by Section R315-310-9. Upon receipt, the director will review the application in accordance with Section R315-124-3, and a draft permit or a notice of intent to deny will be prepared in accordance with Section R315-124-6. The current permit shall remain in effect until issuance or denial of a new permit. Each permit renewal shall be subject to the public comment requirements of Section R315-311-3.

(3) The director shall notify, in writing, the owner or operator of any facility of intent to terminate a permit in accordance with Subsections R315-124-5(d) and R315-124-5(e). A permit may be terminated for:

(a) noncompliance with any condition of the permit;

(b) noncompliance with any applicable rule;

(c) failure in the application or during the approval or renewal process to disclose fully each relevant fact;

(d) misrepresentation by the owner or operator of any relevant facts at any time; or

(e) a determination that the solid waste activity or facility endangers human health or the environment.

(4) The owner or operator of a facility may appeal any action

associated with modification, renewal, or termination in accordance with Section R315-317-3, Title 63G Chapter 4, Administrative Procedures Act, and Rule R305-7.

R315-311-3. Public Comment Period.

(1) The draft permit, permit renewal, or major modification of a permit, for each solid waste facility that requires a permit, shall be subject to a 45 day public comment period and shall follow the procedures of Sections R315-124-10 through R315-124-20.

29

R317. Environmental Quality, Water Quality.

R317-6. Ground Water Quality Protection.

6.15 CORRECTIVE ACTION

It is the intent of the Board that the provisions of these rules should be considered when making decisions under any state or federal superfund action; however, the protection levels are not intended to be considered as applicable, relevant or appropriate clean-up standards under such other regulatory programs.

A. Application of R317-6-6.15

1. Generally - R317-6-6.15 shall apply to any person who discharges pollutants into ground water in violation of Section 19-5-107, or who places or causes to be placed any wastes in a location where there is probable cause to believe they will cause pollution of ground water in violation of Section 19-5-107.

2. Corrective Action shall include, except as otherwise provided in R317-6-6.15, preparation of a Contamination Investigation and preparation and implementation of a Corrective Action Plan.

3. The procedural provisions of R-317-6-6.15 shall not apply to any facility where a corrective or remedial action for ground water contamination, that the Director determines meets the substantive standards of this rule, has been initiated under any other state or federal program. Corrective or remedial action undertaken under the programs specified in Table 2 are considered to meet the substantive standards of this rule unless otherwise determined by the Director.

TABLE 2

PROGRAM

Leaking Underground Storage Tank, Sections 19-6-401, et seq.

Federal Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Sections 9601, et seq.

Hazardous Waste Mitigation Act, Sections 19-6-301 et seq.

Utah Solid and Hazardous Waste Act, Sections 19-6-101 et seq.

B. Notification and Interim Action

1. Notification - A person who spills or discharges any petroleum hydrocarbon or other substance which may cause pollution of ground waters in violation of Section 19-5-107 shall notify the Director within 24 hours of the spill or discharge. A written notification shall be submitted to the Director within five days after the spill or discharge.

2. Interim Actions - A person is encouraged to take immediate, interim action without following the steps outlined in R317-6-6.15 if such action is required to control a source of pollutants. Interim action is also encouraged if required to protect public safety, public health and welfare and the environment, or to prevent further contamination that would result in costlier clean-up. Such interim actions should include source abatement and control, neutralization, or

other actions as appropriate. A person that has taken these actions shall remain subject to R317-6-6.15 after the interim actions are completed unless he demonstrates that:

a. no pollutants have been discharged into ground water in violation of 19-5-107; and

b. no wastes remain in a location where there is probable cause to believe they will cause pollution of ground water in violation of 19-5-107, unless, in the case of diesel fuel and oil releases over 25 gallons, the responsible person demonstrates that the pollutant will not affect ground water quality by complying with the following:

(1) remove contaminated soil to the extent possible, or to established background levels, or 500 mg/kg total petroleum hydrocarbons for sensitive areas, or 5000 mg/kg total petroleum hydrocarbons for non sensitive areas as defined by R317-6-1;

(2) collect soil samples at locations and depths sufficient to document that cleanup has been achieved or as directed by the local health department;

(3) treat or dispose contaminated soil at a location approved by the local health department;

(4) submit an interim action report as defined by R317-6-1.23 or as directed by the local health department.

C. Contamination Investigation and Corrective Action Plan - General

1. The Director may require a person that is subject to R317-6-6.15 to submit for the Director's approval a Contamination Investigation and Corrective Action Plan, and may require implementation of an approved Corrective Action Plan. A person subject to this rule who has been notified that the Director is exercising his or her authority under R317-6-6.15 to require submission of a Contamination Investigation and Corrective Action Plan, shall, within 30 days of that notification, submit to the Director a proposed schedule for those submissions, which may include different deadlines for different elements of the Investigation and Plan. The Director may accept, reject, or modify the proposed schedule.

2. The Contamination Investigation or the Corrective Action Plan may, in order to meet the requirements of this Part, incorporate by reference information already provided to the Director in the Contingency Plan or other document.

3. The requirements for a Contamination Investigation and a Corrective Action Plan specified in R317-6-6.15.D are comprehensive. The requirements are intended to be applied with flexibility, and persons subject to this rule are encouraged to contact the Director's staff to assure its efficient application on a site-specific basis.

4. The Director may waive any or all Contamination Investigation and Corrective Action Plan requirements where the person subject to this rule demonstrates that the information that would otherwise be required is not necessary to the Director's evaluation of the Contamination Investigation or Corrective Action Plan. Requests for waiver shall be submitted to the Director as part of the Contamination Investigation or Corrective Action Plan, or may be submitted in advance of those reports.

D. Contamination Investigation and Corrective Action Plan - Requirements

1. Contamination Investigation - The contamination investigation shall include a characterization of pollution, a characterization of the facility, a data report, and, if the Corrective Action Plan proposes standards under R317-6-6.15.F.2. or Alternate Corrective Action

Concentration Limits higher than the ground water quality standards, an endangerment assessment.

a. The characterization of pollution shall include a description of:

(1) The amount, form, concentration, toxicity, environmental fate and transport, and other significant characteristics of substances present, for both ground water contaminants and any contributing surficial contaminants;

(2) The areal and vertical extent of the contaminant concentration, distribution and chemical make-up; and

(3) The extent to which contaminant substances have migrated and are expected to migrate.

b. The characterization of the facility shall include descriptions of:

(1) Contaminant substance mixtures present and media of occurrence;

(2) Hydrogeologic conditions underlying and, upgradient and downgradient of the facility;

(3) Surface waters in the area;

(4) Climatologic and meteorologic conditions in the area of the facility; and

(5) Type, location and description of possible sources of the pollution at the facility;

(6) Groundwater withdrawals, pumpage rates, and usage within a 2-mile radius.

c. The report of data used and data gaps shall include:

(1) Data packages including quality assurance and quality control reports;

(2) A description of the data used in the report; and

(3) A description of any data gaps encountered, how those gaps affect the analysis and any plans to fill those gaps.

d. The endangerment assessment shall include descriptions of any risk evaluation necessary to support a proposal for a standard under R317-6-6.15.F.2 or for an Alternate Corrective Action Concentration Limit.

e. The Contamination Investigation shall include such other information as the Director requires.

2. Proposed Corrective Action Plan

The proposed Corrective Action Plan shall include an explanation of the construction and operation of the proposed Corrective Action, addressing the factors to be considered by the Director as specified in R317-6-6.15.E. and shall include such other information as the Director requires. It shall also include a proposed schedule for completion.

3. The Contaminant Investigation and Corrective Action Plan must be performed under the direction, and bear the seal, of a professional engineer or professional geologist.

E. Approval of the Corrective Action Plan

After public notice in a newspaper in the affected area and a 30-day period for opportunity for public review and comment, the Director shall issue an order approving, disapproving, or modifying the proposed Corrective Action Plan. The Director shall consider the following factors and criteria in making that decision:

1. Completeness and Accuracy of Corrective Action Plan.

The Director shall consider the completeness and accuracy of the Corrective Action Plan and of the information upon which it relies.

2. Action Protective of Public Health and the Environment

a. The Corrective Action shall be protective of the public health and the environment.

b. Impacts as a result of any off-site activities shall be considered under this criterion (e.g., the transport and disposition of contaminated materials at an off-site facility).

3. Action Meets Concentration Limits

The Corrective Action shall meet Corrective Action Concentration Limits specified in R317-6-6.15.F, except as provided in R317-6-6.15.G.

4. Action Produces a Permanent Effect

a. The Corrective Action shall produce a permanent effect.

b. If the Corrective Action Plan provides that any potential sources of pollutants are to be controlled in place, any cap or other method of source control shall be designed so that the discharge from the source following corrective action achieves ground water quality standards or, if approved by the Director, alternate corrective action concentration limits (ACACLs). For purposes of this paragraph, sources of pollutants are controlled "in place" even though they are moved within the facility boundaries provided that they are not moved to areas with unaffected ground water.

5. Action May Use Other Additional Measures

The Director may consider whether additional measures should be included in the Plan to better assure that the criteria and factors specified in R317-6-6.15.E are met. Such measures may include:

a. Requiring long-term ground water or other monitoring;

b. Providing environmental hazard notices or other security measures;

c. Capping of sources of ground water contamination to avoid infiltration of precipitation;

d. Requiring long-term operation and maintenance of all portions of the Corrective Action; and

e. Periodic review to determine whether the Corrective Action is protective of public health and the environment.

F. Corrective Action Concentration Limits

1. Contaminants with specified levels

Corrective Actions shall achieve ground water quality standards or, where applicable, alternate corrective action concentration limits (ACACLs).

2. Contaminants without specified levels

For contaminants for which no ground water quality standard has been established, the proposed Corrective Action Plan shall include proposed Corrective Action Concentration Limits. These levels shall be approved, disapproved or modified by the Director after considering U.S. Environmental Protection Agency maximum contaminant level goals, health advisories, risk-based contaminant levels or standards established by other regulatory agencies and other relevant information.

G. Alternate Corrective Action Concentration Limits

An Alternate Corrective Action Concentration Limit that is higher or lower than the Corrective Action Concentration Limits specified in R317-6-6.15.F may be required as provided in the following:

1. Higher Alternate Corrective Action Concentration Limits

A person submitting a proposed Corrective Action Plan may request approval by the Director of an Alternate Corrective Action Concentration Limit higher than the Corrective Action Concentration Limit specified in R317-6-6.15.F. The proposed limit shall be protective of human health, and the environment, and shall utilize best available technology. The Corrective Action Plan shall include the following information in support of this request:

a. The potential for release and migration of any contaminant substances or treatment residuals that might remain after Corrective Action in concentrations higher than Corrective Action Concentration Limits;

b. An evaluation of residual risks, in terms of amounts and concentrations of contaminant substances remaining following implementation of the Corrective Action options evaluated, including consideration of the persistence, toxicity, mobility, and propensity to bioaccumulate such contaminants substances and their constituents; and

c. Any other information necessary to determine whether the conditions of R317-6-6.15.G have been met.

2. Lower Alternate Corrective Action Concentration Limits

The Director may require use of an Alternate Corrective Action Concentration Limit that is lower than the Corrective Action Concentration Limit specified in R317-6-6.15.F if necessary to protect human health or the environment. Any person requesting that the Director consider requiring a lower Alternate Corrective Action Concentration Limit shall provide supporting information as described in R317-6-6.15.G.3.

3. Protective of human health and the environment

The Alternate Corrective Action Concentration Limit must be protective of human health and the environment. In making this determination, the Director may consider:

a. Information presented in the Contamination Investigation;

b. Other relevant cleanup or health standards, criteria, or guidance;

c. Relevant and reasonably available scientific information;

d. Any additional information relevant to the protectiveness of a Corrective Action; and

e. The impact of additional proposed measures, such as those described in R317-6-6.15.E.5.

4. Good cause

An Alternate Corrective Action Concentration Limit shall not be granted without good cause.

a. The Director may consider the factors specified in R317-6-6.15.E in determining whether there is good cause.

b. The Director may also consider whether the proposed remedy is cost-effective in determining whether there is good cause. Costs that may be considered include but are not limited to:

(1) Capital costs;

(2) Operation and maintenance costs;

(3) Costs of periodic reviews, where required;

(4) Net present value of capital and operation and maintenance costs;

(5) Potential future remedial action costs; and

(6) Loss of resource value.

5. Conservative

An Alternate Corrective Action Concentration Limit that is higher than the Corrective Action Concentration Limits specified in R317-6-6.15.F must be conservative. The Director may consider the concentration level that can be achieved using best available technology if attainment of the Corrective Action Concentration Limit is not technologically achievable.

6. Relation to background and existing conditions

a. The Director may consider the relationship between the Corrective Action Concentration Limits and background concentration limits in considering whether an Alternate Corrective Action Concentration Limit is appropriate.

b. No Alternate Corrective Action Concentration Limit higher than existing ground water contamination levels or ground water contamination levels projected to result from existing conditions will be granted.