

R315. Environmental Quality, Solid and Hazardous Waste.
R315-8. Standards for Owners and Operators of Hazardous
Waste Treatment, Storage, and Disposal Facilities.
R315-8-6. Groundwater Protection.

6.1 APPLICABILITY

(a)(1) Except as provided in R315-8-6.1(b), R315-8-6 applies to owners or operators of facilities that treat, store or dispose of hazardous waste. The owner or operator shall satisfy the requirements identified in R315-8-6.1(a)(2) for all wastes, or constituents thereof, contained in solid waste management units at the facility, regardless of the time at which waste was placed in the units.

(2) All solid waste management units shall comply with the requirements in R315-8-6.12. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982, hereinafter referred to as a "regulated unit", shall comply with the requirements of R315-8-6.2 through R315-8-6.11 in lieu of R315-8-6.12 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of R315-8-6.12 apply to regulated units.

(3) Groundwater monitoring shall be required at non-land disposal facilities as determined to be necessary and appropriate by the Executive Secretary.

(b) The owner or operator's regulated unit or units are not subject to regulation for releases into the uppermost aquifer under R315-8-6 if:

(1) The owner or operator is exempted under R315-8-1(e)
or

(2) He operates a unit which the Board finds:

(i) Is an engineered structure.

(ii) Does not receive or contain liquid waste or waste containing free liquid.

(iii) Is designed and operated to exclude liquid, precipitation, and other run-on and run-off.

(iv) Has both inner and outer layers of containment enclosing the waste.

(v) Has a leak detection system built into each containment layer.

(vi) The owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and post-closure care periods, and

(vii) To a reasonable degree of certainty, will not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the post-closure care

period.

(3) The Board finds pursuant to R315-8-13.11(d) that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of R315-8-13.9 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of this subpart during the post-closure care period; or

(4) The Board finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit, including the closure period and the post-closure care period specified under R315-8-7, which incorporates by reference 40 CFR 264.110 - 264.120. This demonstration shall be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator shall base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(5) He designs and operates a waste pile in compliance with R315-8-12.1(c).

(c) The regulations under this section apply during the active life of the regulated unit, including the closure period. After closure of the regulated unit, the regulations in this section:

(1) Do not apply if the waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(2) Apply during the post-closure care period under R315-8-7, which incorporates by reference 40 CFR 264.110 - 264-120, if the owner or operator is conducting a detection monitoring program under R315-8-6.9;

(3) Apply during the compliance period under R315-8-6.7 the owner is conducting a compliance monitoring program under R315-8-6.10 or a corrective action program under R315-8-6.11.

(d) Requirements in this section may apply to miscellaneous units when necessary to comply with R315-8-24, which incorporates by reference 40 CFR 264.601 - 264.603.

(e) The regulations of R315-8-6 apply to all owners and operators subject to the requirements of R315-3-1.1(e)(7), when the Executive Secretary issues either a post-closure permit or an enforceable document, as defined in R315-3-

1.1(e)(7), at the facility. When the Executive Secretary issues an enforceable document, references in R315-8-6 to "in the permit" mean "in the enforceable document."

(f) The Executive Secretary may replace all or part of the requirements of R315-8-6.2 through R315-8-6.11 applying to a regulated unit with alternative requirements for groundwater monitoring and corrective action for releases to groundwater set out in the permit, or in an enforceable document, as defined in R315-3-1.1(e)(7) where the Executive Secretary determines that:

(1) The regulated unit is situated among solid waste management units, or areas of concern, a release has occurred, and both the regulated unit and one or more solid waste management unit(s), or areas of concern, are likely to have contributed to the release; and

(2) It is not necessary to apply the groundwater monitoring and corrective action requirements of R315-8-6.2 through R315-8-6.11 because alternative requirements will protect human health and the environment.

6.2 REQUIRED PROGRAMS

(a) Owners and operators subject to this section shall conduct a monitoring and response program as follows:

(1) Whenever hazardous constituents under R315-8-6.4, from a regulated unit are detected at the compliance point under R315-8-6.6, the owner or operator shall institute a compliance monitoring program under R315-8-6.10. Detected is defined as statistically significant evidence of contamination as described in R315-8-6.9(f);

(2) Whenever the groundwater protection standard under R315-8-6.3, is exceeded, the owner or operator shall institute a corrective action program under R315-8-6.11. "Exceeded" is defined as statistically significant evidence of increased contamination as described in R315-8-6.10(d);

(3) Whenever hazardous constituents under R315-8-6.4, from a regulated unit exceed concentration limits under R315-8-6.5 in groundwater between the compliance point under R315-8-6.6 and the downgradient facility property boundary, the owner or operator shall institute a corrective action program under R315-8-6.11; or

(4) In all other cases, the owner or operator shall institute a detection monitoring program under R315-8-6.9.

(b) The Executive Secretary will specify in the facility permit the specific elements of the monitoring and response program. The Executive Secretary may include one or more of the programs identified in R315-8-6.2(a) in the facility permit as may be necessary to protect human health and the environment and will specify the circumstances under

which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the Executive Secretary will consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate this type of a program could be taken.

6.3 GROUNDWATER PROTECTION STANDARD

The owner or operator shall comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents under R315-8-6.4 that are detected in the groundwater from a regulated unit do not exceed the concentration limits under R315-8-6.5 in the uppermost aquifer underlying the waste management area beyond the point of compliance under R315-8-6.6 during the compliance period under R315-8-6.7. The Executive Secretary will establish this groundwater protection standard in the facility permit when hazardous constituents have been detected in the groundwater.

6.4 HAZARDOUS CONSTITUENTS

(a) The Executive Secretary will specify in the facility permit the hazardous constituents to which the groundwater protection standard of R315-8-6.3 applies. Hazardous constituents are constituents identified in R315-50-10, which incorporates by reference 40 CFR 261, Appendix VIII, that have been detected in groundwater in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Executive Secretary has excluded them under paragraph 8.6.4(b).

(b) The Executive Secretary will exclude an R315-50-10 constituent from the list of hazardous constituents specified in the facility permit if he finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the Executive Secretary will consider the following:

(1) Potential adverse effects on groundwater quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of groundwater and the direction of groundwater flow;

(iv) The proximity and withdrawal rates of groundwater

users;

(v) The current and future uses of groundwater in the area;

(vi) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(vii) The potential for health risks caused by human exposure to waste constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically-connected surface water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of groundwater and the direction of groundwater flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the regulated unit to surface waters;

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;

(viii) The potential for health risks caused by human exposure to waste constituents;

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under R315-8-6.4(b) about the use of groundwater in the area around the facility, the Executive Secretary will consider any identification of underground sources of drinking water.

6.5 CONCENTRATION LIMITS

(a) The Executive Secretary will specify in the facility permit concentration limits in the groundwater for hazardous constituents established under R315-8-6.4. The concentration of a hazardous constituent:

(1) Shall not exceed the background level of that

constituent in the groundwater at the time that limit is specified in the permit; or

(2) For any of the constituents listed in Table 1, shall not exceed the respective value given in that Table if the background level of the constituent is below the value given in Table 1; or

TABLE 1
Maximum Concentration of Constituents for Groundwater Protection

CONSTITUENT	MAXIMUM CONCENTRATION(1)	
Arsenic	0.05	
Barium	1.0	
Cadmium	0.01	
Chromium	0.05	
Lead	0.05	
Mercury	0.002	
Selenium	0.01	
Silver	0.05	
Endrin	(1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,9a-octahydro-1,4-endo,endo-5,8-dimethano naphthalene)	0.0002
Lindane	(1,2,3,4,5,6,-hexachlorocyclohexane, gamma isomer)	0.004
Methoxychlor	(1,1,1-Trichloro-2,2-bis (p-methoxyphenylethane)	0.1
Toxaphene	(C10H10Cl8, Technical chlorinated camphene, 67-69 percent chlorine)	0.005
2,4-D	(2,4-Dichlorophenoxyacetic	

acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.01

(1) Milligrams per liter

(3) Shall not exceed an alternate limit established by the Executive Secretary under R315-8-6.5(b).

(b) The Executive Secretary will establish an alternate concentration limit for a hazardous constituent if they find that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the Executive Secretary will consider the following factors:

(1) Potential adverse effects on groundwater quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of groundwater and the direction of groundwater flow;

(iv) The proximity and withdrawal rates of groundwater users;

(v) The current and future uses of groundwater in the area;

(vi) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(vii) The potential for health risks caused by human exposure to waste constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically connected surface water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of groundwater, and the direction of groundwater flow;

- (iv) The patterns of rainfall in the region;
 - (v) The proximity of the regulated unit to surface waters;
 - (vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;
 - (vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
 - (viii) The potential for health risks caused by human exposure to waste constituents;
 - (ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
 - (x) The persistence and permanence of the potential adverse effects.
- (c) In making any determination under R315-8-6.5(b) about the use of groundwater in the area around the facility the Board will consider any identification of underground sources of drinking water.

6.6 POINT OF COMPLIANCE

(a) The Executive Secretary will specify in the facility permit the point of compliance at which the groundwater protection standard of R315-8-6.3 applies and at which monitoring shall be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

(b) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(1) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(2) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

6.7 COMPLIANCE PERIOD

(a) The Executive Secretary will specify in the facility permit the compliance period during which the groundwater protection standard of R315-8-6.3 applies. The compliance period is the number of years equal to the active life of the waste management area, including any waste management activity prior to permit and the closure period.

(b) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting

the requirements of R315-8-6.9.

(c) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in R315-8-6.7(a), the compliance period is extended until the owner or operator can demonstrate that the groundwater protection standard of R315-8-6.3 has not been exceeded for a period of three consecutive years.

6.8 GENERAL GROUNDWATER MONITORING REQUIREMENTS

The owner or operator shall comply with the following requirements for any groundwater monitoring program developed to satisfy R315-8-6.9, R315-8-6.10, or R315-8-6.11:

(a) The groundwater monitoring system shall consist of a sufficient number of wells, installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that:

(1) Represent the quality of background water that has not been affected by leakage from a regulated unit;

(i) A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(A) hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; and

(B) Sampling at other wells will provide an indication of background groundwater quality that is representative or more representative than that provided by the upgradient wells;

(2) represent the quality of groundwater passing the point of compliance; and

(3) allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer.

(b) If a facility contains more than one regulated unit, separate groundwater monitoring systems are not required for each regulated unit provided that provisions for sampling the groundwater in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the groundwater in the uppermost aquifer.

(c) All monitoring wells shall be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing shall be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space, i.e., the space between the bore hole and well casing, above the sampling depth shall be sealed to prevent contamination of samples and the groundwater.

(d) The groundwater monitoring program shall include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of groundwater quality below the waste management area. At a minimum the program shall include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures; and
- (4) Chain of custody control.

(e) The groundwater monitoring program shall include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents in groundwater samples.

(f) The groundwater monitoring program shall include a determination of the groundwater surface elevation each time groundwater is sampled.

(g) In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the permit will be collected from background wells and wells at the compliance point. The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size should be as large as necessary to ensure with reasonable confidence that a contaminant release to groundwater from a facility will be detected. The owner or operator will determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit which shall be specified in the unit permit upon approval by the Executive Secretary. This sampling procedure should be:

(1) a sequence of at least four samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity, and hydraulic gradient, and the fate and transport characteristics of the potential contaminants;

or

(2) an alternate sampling procedure proposed by the owner or operator and approved by the Executive Secretary.

(h) The owner or operator will specify one of the following statistical methods to be used in evaluating groundwater monitoring data for each hazardous constituent, upon approval by the Executive Secretary, will be specified in the unit permit. The statistical test chosen shall be conducted separately for each hazardous constituent in each

well. Where practical quantification limits, pql's, are used in any of the following statistical procedures to comply with R315-8-6.8(i)(5), the pql shall be proposed by the owner or operator and approved by the Executive Secretary. Use of any of the following statistical methods shall be protective of human health and the environment and shall comply with the performance standards outlined in R315-8-6.8(i).

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

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

(3) 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;

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

(5) another statistical test method submitted by the owner or operator and approved by the Executive Secretary.

(i) Any statistical method chosen under R315-8-6.8(h) for specification in the unit permit shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experimentwise error rate for each testing period shall be no

less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons shall be maintained. This performance standard does not apply to tolerance intervals, predictions intervals or control charts.

(3) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be proposed by the owner or operator and approved by the Executive Secretary if he finds it to be protective of human health and the environment.

(4) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval shall contain, shall be proposed by the owner or operator and approved by the Executive Secretary if he finds these parameters to be protective of human health and the environment. These parameters will be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantification limit, pql, approved by the Executive Secretary under R315-8-6.8(h) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(j) Groundwater monitoring data collected in accordance with R315-8-6.8(g) including actual levels of constituents shall be maintained in the facility operating record. The Executive Secretary will specify in the permit when the data shall be submitted for review.

6.9 DETECTION MONITORING PROGRAM

An owner or operator required to establish a detection monitoring program under this section shall, at a minimum, discharge the following responsibilities:

(a) The owner or operator shall monitor for indicator parameters, e.g., specific conductance, pH, total organic carbon, or total organic halogen, waste constituents, or reaction products that provide a reliable indication of the

presence of hazardous constituents in groundwater. The Executive Secretary will specify the parameters or constituents to be monitored in the facility permit after considering the following factors:

(1) The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;

(2) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;

(3) The detectability of indicator parameters, waste constituents, and reaction products in groundwater; and

(4) The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the groundwater background.

(b) The owner or operator shall install a groundwater monitoring system at the compliance point as specified under R315-8-6.6. The groundwater monitoring system shall comply with R315-8-6.8(a)(2), (b), and (c).

(c) The owner or operator shall conduct a groundwater monitoring program for each chemical parameter and hazardous constituent specified in the permit pursuant to R315-8-6.9(a) in accordance with R315-8-6.9(g). The owner or operator shall maintain a record of groundwater analytical data as measured and in a form necessary for the determination of statistical significance under R315-8-6.8(h).

(d) The Executive Secretary will specify the frequencies for collecting samples and conducting statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the permit under R315-8-6.9(a) in accordance with R315-8-6.8(g). A sequence of at least four samples from each well, background and compliance wells, shall be collected at least semiannually during detection monitoring.

(e) The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(f) The owner or operator shall determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in the permit pursuant to R315-8-6.9(a) at a frequency specified under R315-8-6.9(d).

(1) In determining whether statistically significant evidence of contamination exists, the owner or operator shall use the method specified in the permit under R315-8-6.8(h). This method shall compare data collected at the compliance point to the background groundwater quality data.

(2) The owner or operator shall determine whether there is statistically significant evidence of contamination at each monitoring well as the compliance point within a reasonable period of time after completion of sampling. The Executive Secretary will specify in the facility permit what period of time is reasonable, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(g) If the owner or operator determines pursuant to R315-8-6.9(f) that there is statistically significant evidence of contamination for chemical parameters of hazardous constituents specified pursuant to R315-8-6.9(a) at any monitoring well at the compliance point, he shall:

(1) notify the Executive Secretary of this finding in writing within seven days. The notification shall indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination;

(2) immediately sample the groundwater in all monitoring wells and determine whether constituents in the list of R315-50-14, which incorporates by reference 40 CFR 264, Appendix IX, are present, and if so, in what concentration;

(3) for any R315-50-14, which incorporates by reference 40 CFR 264, Appendix IX, compounds found in the analysis pursuant to R315-8-6.9(g)(2), the owner or operator may resample within one month and repeat the analysis for these compounds detected. If the results for the second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the owner or operator does not resample for the compounds found pursuant to R315-8-6.9(g)(2), the hazardous constituents found during this initial R315-50-14, which incorporates by reference 40 CFR 264, Appendix IX, analysis will form the basis for compliance monitoring;

(4) within 90 days, submit to the Executive Secretary an application for a permit modification to establish a compliance monitoring program meeting the requirements of R315-8-6.10. The application shall include the following information;

(i) an identification of the concentration of any R315-50-14, which incorporates by reference 40 CFR 264, Appendix IX, constituent detected in the groundwater at each monitoring well at the compliance point;

(ii) any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of R315-8-6.10;

(iii) any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of R315-8-6.10;

(iv) for each hazardous constituent detected at the compliance point, a proposed concentration limit under R315-8-6.10(a)(1) or (2), or a notice of intent to seek an alternate concentration limit under R315-8-6.5(b); and

(5) within 180 days, submit to the Executive Secretary:

(i) all data necessary to justify an alternate concentration limit sought under R315-8-6.5(b); and

(ii) an engineering feasibility plan for a corrective action program necessary to meet the requirement of R315-8-6.11, unless:

(A) all hazardous constituents identified under R315-8-6.9(g)(2) are listed in R315-8-6.5, Table 1 and their concentrations do not exceed their respective values given in that table; or

(B) the owner or operator has sought an alternate concentration limit under R315-8-6.5(b) for every hazardous constituent identified under R315-8-6.9(g)(2).

(6) If the owner or operator determines, pursuant to R315-8-6.9(f), that there is a statistically significant difference for chemical parameters or hazardous constituents specified pursuant to R315-8-6.9(a) at any monitoring well at the compliance point, he may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the groundwater. The owner or operator may make a demonstration under R315-8-6.9(g)(6) in addition to, or in lieu of, submitting a permit modification application under R315-8-6.9(g)(4); however, the owner or operator is not relieved of the requirement to submit a permit modification application within the time specified in R315-8-6.9(g)(4) unless the demonstration made under R315-8-6.9(g)(6) successfully shows that a source other than the regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under R315-8-6.9(g)(6), the owner or operator shall:

(i) notify the Executive Secretary in writing within seven days of determining statistically significant evidence of contamination at the compliance point that he intends to make a demonstration under this paragraph;

(ii) within 90 days, submit a report to the Executive Secretary which demonstrates that a source other than a

regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation;

(iii) within 90 days, submit to the Executive Secretary an application for a permit modification to make any appropriate changes to the detection monitoring program facility; and

(iv) continue to monitor in accordance with the detection monitoring program established under R315-8-6.9.

(h) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, he shall, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

6.10 COMPLIANCE MONITORING PROGRAM

An owner or operator required to establish a compliance monitoring program under this section shall, at a minimum, discharge the following responsibilities:

(a) The owner or operator shall monitor the groundwater to determine whether regulated units are in compliance with the groundwater protection standard under R315-8-6.3. The Executive Secretary will specify the groundwater protection standard in the facility permit including:

(1) A list of the hazardous constituents identified under R315-8-6.4;

(2) Concentration limits under R315-8-6.5 for each of those hazardous constituents;

(3) The compliance point under R315-8-6.6;

(4) The compliance period under R315-8-6.7.

(b) The owner or operator shall install a groundwater monitoring system at the compliance point as specified under R315-8-6.6. The groundwater monitoring system shall comply with R315-8-6.8(a)(2), (b) and (c).

(c) The Executive Secretary will specify the sampling procedures and statistical methods appropriate for the constituents and the facility, consistent with R315-8-6.8(g) and (h).

(1) The owner or operator shall conduct a sampling program for each chemical parameter or hazardous waste constituent in accordance with R315-8-6.8(g).

(2) The owner or operator shall record groundwater analytical data as measured and in form necessary for the determination of statistical significance under R315-8-6.8(h) for the compliance period of the facility.

(d) The owner or operator shall determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous

constituent specified in the permit, pursuant to R315-8-6.10(a), at a frequency specified under R315-8-6.10(f).

(1) In determining whether statistically significant evidence of increased contamination exists, the owner or operator shall use the method specified in the permit under R315-8-6.5. The method shall compare data collected at the compliance point to a concentration limit developed in accordance with R315-8-6.8(h).

(2) The owner or operator shall determine whether there is statistically significant evidence of increase contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The Executive Secretary will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(e) The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(f) The Executive Secretary will specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased contamination in accordance with R315-8-6.8(g). [~~A sequence of at least four samples from each well, background and compliance wells, shall be collected at least semi-annually during the compliance period of the facility.~~]

(g) The owner or operator shall analyze samples from all monitoring wells at the compliance point for all constituents contained in R315-50-14, which incorporates by reference 40 CFR, Appendix IX, at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer and, if so, at what concentration, pursuant to procedures in R315-8-6.9(f). If the owner or operator finds R315-50-14, which incorporates by reference 40 CFR 264, Appendix IX, constituents in the groundwater that are not already identified in the permit as monitoring constituents, the owner or operator may resample within one month and repeat the R315-50-14, which incorporates by reference 40 CFR 264, Appendix IX, analysis. If the second analysis confirms the presence of new constituents, the owner or operator shall report the concentration of these additional constituents to the Executive Secretary within seven days after the completion of the second analysis and add them to the monitoring list. If the owner or operator chooses not to resample, then he shall report the concentrations of these additional constituents to the Executive Secretary within seven days after completion of the initial analysis and add

them to the monitoring list.

(h) If the owner or operator determines pursuant to R315-8-6.10(d) that any concentration limits under R315-8-6.5 are being exceeded at any monitoring well at the point of compliance he shall:

(1) Notify the Executive Secretary of this finding in writing within seven days. The notification shall indicate which concentration limits have been exceeded;

(2) Submit to the Executive Secretary an application for a permit modification to establish a corrective action program meeting the requirements of R315-8-6.11, within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the Executive Secretary under R315-8-6.9(h)(5). The application shall at a minimum include the following information:

(i) A detailed description of corrective actions that will achieve compliance with the groundwater protection standard specified in the permit under R315-8-6.10(a); and

(ii) A plan for a groundwater monitoring program that will demonstrate the effectiveness of the corrective action. The groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of this section.

(i) If the owner or operator determines, pursuant to R315-8-6.10(d), that the groundwater concentration limits under R315-8-6.10 are being exceeded at any monitoring well at the point of compliance, he may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the groundwater. In making a demonstration under R315-8-6.10(i), the owner or operator shall:

(1) Notify the Executive Secretary in writing within seven days that he intends to make a demonstration under R315-8-6.10(i);

(2) Within 90 days, submit a report to the Executive Secretary which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Executive Secretary an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and

(4) Continue to monitor in accord with the compliance monitoring program established under this section.

(j) If the owner or operator determines that the

compliance monitoring program no longer satisfies the requirements of this section, he shall within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

6.11 CORRECTIVE ACTION PROGRAM

An owner or operator required to establish a corrective action program under this section shall, at a minimum, discharge the following responsibilities:

(a) The owner or operator shall take corrective action to ensure that regulated units are in compliance with the groundwater protection standard under R315-8-6.3. The Executive Secretary will specify the groundwater protection standard in the facility permit, including:

(1) A list of hazardous constituents identified under R315-8-6.4;

(2) Concentration limits under R315-8-6.5 for each of those hazardous constituents;

(3) The compliance point under R315-8-6.6; and

(4) The compliance period under R315-8-6.7.

(b) The owner or operator shall implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit will specify the specific measures that will be taken.

(c) The owner or operator shall begin corrective action within a reasonable time period after the groundwater protection standard is exceeded. The Executive Secretary will specify that time period in the facility permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit will specify when the corrective action will begin and the requirement will operate in lieu of R315-8-6.10(i)(2).

(d) In conjunction with a corrective action program, the owner or operator shall establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. The monitoring program may be based on the requirements for a compliance monitoring program under R315-8-6.10 and shall be as effective as that program in determining compliance with the groundwater protection standard under R315-8-6.3 and in determining the success of a corrective action program under R315-8-6.11(e), where appropriate.

(e) In addition to the other requirements of this section, the owner or operator shall conduct a corrective action program to remove or treat in place any hazardous constituents under R315-8-6.4 that exceed concentration

limits under R315-8-6.5 in groundwater:

(1) between the compliance point under R315-8-6.6 and the downgradient facility property boundary; and

(2) beyond the facility boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Executive Secretary that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake the action. The owner or operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address the releases will be determined on a case-by-case basis.

(3) Corrective action measures under R315-8-6.11(e) shall be initiated and completed within a reasonable period of time considering the extent of contamination.

(4) Corrective action measures under this paragraph may be terminated once the concentration of hazardous constituents under R315-8-6.4 is reduced to levels below their respective concentration limits under R315-8-6.5.

(f) The owner or operator shall continue corrective action measures during the compliance period to the extent necessary to ensure that the groundwater protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, he shall continue that corrective action for as long as necessary to achieve compliance with the groundwater protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area, including the closure period if he can demonstrate, based on data from the groundwater monitoring program under R315-8-6.11(d), that the groundwater protection standard of R315-8-6.3 has not been exceeded for a period of three consecutive years.

(g) The owner or operator shall report in writing to the Executive Secretary on the effectiveness of the corrective action program. The owner or operator shall submit these reports semi-annually.

(h) If the owner or operator determines that the corrective action program no longer satisfies the requirements of this section, he shall within 90 days, submit an application for a permit modification to the program.

6.12 CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

(a) The owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste shall institute corrective action as necessary to protect human health and the environment for all releases of

hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit.

(b) Corrective action will be specified in the permit in accordance with R315-8-6-12 and R315-8-21, which incorporates by reference 40 CFR 264.552 and 264.553. The permit will contain schedules of compliance for the corrective action, where such corrective action cannot be completed prior to issuance of the permit, and assurances of financial responsibility for completing the corrective action.

(c) The owner or operator shall implement corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Executive Secretary that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake the actions. The owner or operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address the releases will be determined on a case-by-case basis. Assurances of financial responsibility for corrective action shall be provided.

(d) This does not apply to remediation waste management sites unless they are part of a facility subject to a permit for treating, storing, or disposing of hazardous wastes that are not remediation wastes.

R315-8-7. Closure and Post Closure.

The requirements as found in 40 CFR subpart G, 264.110 - 264.120, 1998 ed., as amended by 63 FR 56710, October 22, 1998, are incorporated by reference with the following exceptions:

(a) substitute "[~~Board~~] Executive Secretary" for all references made to "Regional Administrator" [~~except in 264.112 where "Regional Administrator" and "Director" means "Executive Secretary"~~].

(b) substitute R315-3 for all general reference made to 40 CFR 124 and 270.

(c) substitute "The Utah Solid and Hazardous Waste Act" for all references made to the "Resource Conservation and Recovery Act" or "RCRA."

R315-8-15. Incinerators.

15.1 APPLICABILITY

(a) The rules in this section apply to owners or

operators of facilities that incinerate hazardous waste, as defined in 40 CFR 260.10, except as R315-8-1 provides otherwise.

(b) Integration of the MACT standards.

(1) Except as provided by R315-8-15.1(b)(2), (3), and (4) the standards of R315-8 do not apply to a new hazardous waste incineration unit that becomes subject to RCRA permit requirements after October 12, 2005; or no longer apply when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the maximum achievable control technology (MACT) requirements of R307-214-2, which incorporates by reference 40 CFR 63, subpart EEE, by conducting a comprehensive performance test and submitting to the Executive Secretary a Notification of Compliance under R307-214-2, which incorporates by reference 40 CFR 63.1207(j) and 63.1210([b]d), documenting compliance with the requirements of 307-214-2, which incorporates by reference 40 CFR 63, subpart EEE. Nevertheless, even after this demonstration of compliance with the MACT standards, hazardous waste permit conditions that were based on the standards of R315-8 will continue to be in effect until they are removed from the permit or the permit is terminated or revoked, unless the permit expressly provides otherwise.

(2) The MACT standards do not replace the closure requirements of R315-8-15.8 or the applicable requirements of R315-8-1 through R315-8-8, R315-8-18, which incorporates by reference 40 CFR 264 subpart BB, and R315-8-22, which incorporates by reference 40 CFR 264 subpart CC.

(3) The particulate matter standard of R315-8-15.4(b) remains in effect for incinerators that elect to comply with the alternative to the particulate matter standard of R307-214-2, which incorporates by reference ~~[tø]~~ 40 CFR 63.1206(b)(14) and 63.1219(e).

(4) The following requirements remain in effect for startup, shutdown, and malfunction events if you elect to comply with R315-3-9(a)(1)(i) to minimize emissions of toxic compounds from these events:

(i) R315-8-15.6(a) requiring that an incinerator operate in accordance with operating requirements specified in the permit; and

(ii) R315-8-15.6(c) requiring compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes.

(c) After consideration of the waste analysis included with part B of the permit application, the Executive Secretary, in establishing the permit conditions, shall

exempt the applicant from all requirements of this section except R315-8-15.2, Waste Analysis and R315-8-15.8, Closure,

(1) If the Executive Secretary finds that the waste to be burned is:

(i) Listed as a hazardous waste in R315-2-10 or R315-2-11 solely because it is ignitable, Hazard Code I, corrosive Hazard Code C, or both; or

(ii) Listed as a hazardous waste in R315-2-10 or R315-2-11 solely because it is reactive, Hazard Code R, for characteristics other than those listed in R315-2-9(f)(1)(iv) and (v), and will not be burned when other hazardous wastes are present in the combustion zone; or

(iii) A hazardous waste solely because it possesses the characteristics of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under R315-2-9, or

(iv) A hazardous waste solely because it possesses any of the reactivity characteristics described by R315-2-9(f)(1)(i), (ii), (iii), (vi), (vii), and (viii) and will not be burned when other hazardous wastes are present in the combustion zone; and

(2) If the waste analysis shows that the waste contains none of the hazardous constituents listed in R315-50-10, which incorporates by reference 40 CFR 261 Appendix VIII, which could reasonably be expected to be in the waste.

(d) If the waste to be burned is one which is described by R315-8-15.1(c)(1)(i), (ii), (iii), or (iv) and contains insignificant concentrations of the hazardous constituents listed in R315-50-10, which incorporates by reference 40 CFR 261 Appendix VIII, then the Executive Secretary may, in establishing permit conditions, exempt the applicant from all requirements of this section except R315-8-15.2, Waste analysis and R315-8-15.8, Closure, after consideration of the waste analysis included with part B of the permit application, unless the Executive Secretary finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(e) The owner or operator of an incinerator may conduct trial burns subject only to the requirements of R315-3-6.3.

15.2 WASTE ANALYSIS

(a) As a portion of the trial burn plan required by R315-3-6.3 or with part B of the permit the owner or operator shall have included an analysis of the waste feed sufficient to provide all information required by R315-3-6.3(b) or R315-3-2.10. Owners or operators of new hazardous waste incinerators shall provide the information required by R315-3-6.3(c) or R315-3-2.10 to the greatest extent possible.

(b) Throughout normal operation the owner or operator shall conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit, R315-8-15.6.

15.3 PRINCIPAL ORGANIC HAZARDOUS CONSTITUENTS (POHCS)

(a) Principal Organic Hazardous Constituents (POHCs) in the waste feed shall be treated to the extent required by the performance standard of R315-8-15.4.

(b)(1) One or more POHCs will be specified in the facility's permit, from among these constituents listed in R315-50-10, which incorporates by reference 40 CFR 261 Appendix VIII, for each waste feed to be burned. This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with part B of the permit. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

(2) Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified R315-3-6.3 for obtaining trial burn permits.

15.4 PERFORMANCE STANDARDS

An incinerator burning hazardous waste shall be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under R315-8-15.6, it will meet the following performance standards:

(a)(1) An incinerator burning hazardous waste shall achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated, R315-8-15.3, in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = (W_{in} - W_{out}) / W_{in} \times 100\%$$

Where:

W_{in} = Mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator, and

W_{out} = Mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour, 4 pounds per hour, of hydrogen chloride (HCl) shall control HCl emissions so that the rate of emission is no

greater than the larger of either 1.8 kilograms per hour or one percent of the HCl in the stack gas prior to entering any pollution control equipment.

(b) An incinerator burning hazardous waste shall not emit particulate matter in excess of 180 milligrams per dry standard cubic meter, 0.08 grains per dry standard cubic foot, when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times 14 / (21 - Y)$$

When P_c is correct concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, as presented in 40 CFR 60 Appendix A Method 3. This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities, the Executive Secretary will select an appropriate correction procedure, to be specified in the facility permit.

(c) For purposes of permit enforcement, compliance with the operating requirements specified in the permit under R315-8-15.6 will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance requirements of this section may be "information" justifying modification, revocation, or reissuance of a permit under R315-3-4.2.

(d) An incinerator burning hazardous wastes F020, F021, F022, F023, F026, or F027 shall achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) designated, under R315-8-15.3, in its permit. This performance shall be demonstrated on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in R315-8-15.4(a)(1). In addition, the owner or operator of the incinerator shall notify the Executive Secretary of his intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

15.5 HAZARDOUS WASTE INCINERATOR PERMITS

(a) The owner or operator of a hazardous waste incinerator may burn only wastes specified in his permit and only under operating conditions specified for those wastes under 8.15.6., except:

- (1) In approved trial burns, R315-3-6.3, or
 - (2) Under exemptions created by R315-8-15.1.
- (b) Other hazardous wastes may be burned after

operating conditions have been specified in a new permit or a permit modification, as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with part B of a permit under R315-3-2.10.

(c) The permit for a new hazardous waste incinerator shall establish appropriate conditions for each of the applicable requirements of this section including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of R315-8-15.6, sufficient to comply with the following standards:

(1) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in R315-8-15.5(c)(2), not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements shall be those most likely to ensure compliance with the performance standards in R315-8-15.4 based on the Executive Secretary's engineering judgement. The Executive Secretary may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant;

(2) For the duration of the trial burn, the operating requirements shall be sufficient to demonstrate compliance with the performance standards of R315-8-15.4 and shall be in accordance with the approved trial burn plan;

(3) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Executive Secretary, the operating requirements shall be those most likely to ensure compliance with the performance standards of R315-8-15.4 based on the Executive Secretary's engineering judgement.

(4) For the remaining duration of the permit, the operating requirements shall be those demonstrated, in a trial burn or by alternative data specified in R315-3-2.10(c), as sufficient to ensure compliance with the performance standards of R315-8-15.4.

15.6 OPERATING REQUIREMENTS

(a) An incinerator shall be operated in accordance with operating requirements specified in the permit. These will be specified on a case-by-case basis as those demonstrated, in a trial burn or in alternative data as specified in R315-8-15.5(b), and included with part B of a facility's permit to

be sufficient to comply with the performance standards of R315-8-15.4.

(b) Each set of operating requirements will specify the composition of the waste feed, including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirements of R315-8-15.4, to which the operating requirements apply. For each such waste feed, the permit will specify acceptable operating limits including the following conditions:

- (1) Carbon monoxide (CO) level in the stack exhaust gas;
- (2) Waste feed rate;
- (3) Combustion temperature;
- (4) An appropriate indicator of combustion gas velocity;
- (5) Allowable variations in incinerator system design or operating procedures; and
- (6) Any other operating requirements as are necessary to ensure that the performance standards of R315-8-15.4 are met.

(c) During start-up and shut-down of an incinerator, hazardous waste, except wastes exempted in accordance with R315-8-15.1, shall not be fed into the incinerator unless the incinerator is operating within the conditions of operation, temperature, air feed rate, etc., specified in the permit.

(d) Fugitive emissions from the combustion zone shall be controlled by:

- (1) Keeping the combustion zone totally sealed against fugitive emissions; or
- (2) Maintaining a combustion zone pressure lower than atmospheric pressure; or
- (3) An alternative means of control demonstrated, with part B of the permit to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(e) An incinerator shall be operated with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established under R315-8-15.6(a).

(f) An incinerator shall cease operation when changes in waste feed, incinerator design, or operating conditions exceed limits designated in its permit.

15.7 MONITORING AND INSPECTIONS

(a) The owner or operator shall conduct, as a minimum, the following monitoring while incinerating hazardous waste:

- (1) Combustion temperature, waste feed rate, and the

indicator of combustion gas velocity specified in the facility permit shall be monitored on a continuous basis.

(2) Carbon monoxide (CO) shall be monitored on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.

(3) Upon request by the Board, sampling and analysis of the waste and exhaust emissions shall be conducted to verify that the operating requirements established in the permit achieve the performance standards of R315-8-15.4.

(b) The incinerator and associated equipment, pumps, valves, conveyors, pipes, etc., shall be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency waste feed cutoff system and associated alarms shall be tested at least weekly to verify operability, unless the applicant demonstrates to the Board that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. At a minimum, operational testing shall be conducted at least monthly.

(d) This monitoring and inspection data shall be recorded and the records shall be placed in the operating record required by R315-8-5.3, which incorporates by reference 264.73.

15.8 CLOSURE

At closure the owner or operator shall remove all hazardous waste and hazardous waste residues, including, but not limited to, ash, scrubber waters, and scrubber sludges, from the incinerator site.

At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with R315-2-3(d), that the residue removed from the incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with applicable requirements. R315-4 - R315-9.

KEY: hazardous waste

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