RRD Rule Quicklinks

Administrative Rules
for
PART 201
ENVIRONMENTAL REMEDIATION
of the
Natural Resources and Environmental Protection Act
1994 PA 451, as amended

Michigan Department of Environmental Quality
Remediation and Redevelopment Division

December 21, 2002

This document contains the administrative rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, including revisions to the rules that took effect on December 21, 2002.

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Jennifer M. Granholm, Governor ***Steven E. Chester, Director***

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL RESPONSE DIVISION

ENVIRONMENTAL CONTAMINATION RESPONSE ACTIVITY

Filed with the Secretary of State on December 13, 2002
These rules take effect 7 days after filing with the Secretary of State

(By authority conferred on the department of environmental quality by section 20104 of 1994 PA 451, MCL 324.20104 and Executive Order No. 1995-18, MCL 324.99903)

R 299.5101 to R 299.5115, R 299.5209, R 299.5211, R 299.5213, R 299.5217, R 299.5401 to R 299.5415, R 299.5601, R 299.5603, R 299.5607, R 299.5701, R 299.5703, R 299.5705, R 299.5707, R 299.5709, R 299.5801 to R 299.5809, R 299.5813, R 299.5815, R 299.5819, R 299.5823, R 299.5903, R 299.5919, R 299.51001, R 299.51003, R 299.51013, R 299.51015, R 299.51017, and R 299.51021 of the Michigan Administrative Code are amended, R 299.5117, R 299.5210, R 299.5219, R 299.5520, R 299.5522, R 299.5524, R 299.5526, R 299.5528, R 299.5530, R 299.5532, R 299.5534, R 299.5536, R 299.5538, R 299.5540, R 299.5542, R 299.5706, R 299.5706a, R 299.5708, R 299.5710, R 299.5712, R 299.5714, R 299.5716, R 299.5718, R 299.5720, R 299.5722, R 299.5724, R 299.5726, R 299.5728, R 299.5730, R 299.5732, R 299.5734, R 299.5736, R 299.5738, R 299.5740, R 299.5742, R 299.5744, R 299.5746, R 299.5748, R 299.5750 and R 299.5752 are added to the Code, and R 299.5201 to R 299.5207, R 299.5215, R 299.5301 to R 299.5305, R 299.5501, R 299.5503, R 299.5505, R 299.5507, R 299.5509, R 299.5511, R 299.5513, R 299.5515, R 299.5517, R 299.5519, R 299.5605, R 299.5711, R 299.5713, R 299.5715, R 299.5717, R 299.5719, R 299.5721, R 299.5723, R 299.5725, and R 299.5727 of the Code are rescinded as follows:

PART 1. GENERAL PROVISIONS

R 299.5101 Definitions; A to L.

Rule 101. As used in these rules:

(a) "Act" means 1994 PA 451, MCL 324.101 et seq., known as the natural resources and environmental protection act.

(b) "Ambient air" means the atmosphere outside of buildings.

(c) "Applicable criterion" means a cleanup criterion for a relevant pathway. A criterion is not an applicable criterion if the exposure pathway is not a relevant pathway at the facility or if the exposure it addresses is reliably restricted by a restrictive covenant or institutional control or other mechanism allowed for under part 201 of the act and these rules.

(d) "Aquifer" means a geological formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

(e) "Complete," when used to describe an interim response activity or a remedial action that is intended to attain the cleanup criteria established under section 20120a of the act, means that the person has performed and documented the following response activity:

(i) If the response activity is intended to attain the criteria established under section 20120a(1)(a) to (e) and (17) of the act, then all of the following are satisfied:

(A) The response activity complies with R 299.5526 or R 299.5532, as applicable, including requirements for approval of response activity.

(B) The applicable numerical criteria cleanup criteria under section 20120a(1)(a) to (e) and (17) of the act have been achieved.

(C) The appropriate notice has been recorded in compliance with section 20120b(2) of the act and R 299.5524, if notice is required.

(D) The appropriate notice or land or resource use restrictions has been provided to department and to the local unit of government in accordance with R 299.5524 and to the zoning authority for the local unit of government in compliance with section 20120b(9) of the act, if required.

(ii) If the response activity is intended to attain the criteria established under section 20120a(1)(f) to (j) and (17) or section 20120a(2) of the act, then all of the following are satisfied:

(A) The response activity complies with R 299.5526 or R 299.5532, as applicable, including requirements for approval of response activity.

(B) All physical components of the response activity have been constructed, have been demonstrated to be capable of meeting the performance standards applicable to the response activity, and are functioning effectively.

(C) Any applicable numerical cleanup criteria under section 20120a(1)(f) to (j) and (17) or section 20120a(2) of the act that are

not associated with assessing long-term performance of treatment or containment systems have been achieved and performance standards have been established for those components of the response activity that are associated with long-term performance.

(D) The person conducting the response activity has complied with section 20120b(4) of the act, if applicable.

(E) The person conducting the response activity has provided the appropriate notice or land or resource use restrictions to the department and the local unit of government under R 299.5524 and to the zoning authority of the local unit of government in compliance with section 20120b(9) of the act, if required.

(F) The person conducting the response activity has put in place all applicable elements delineated in section 20120b(3)(a) to (e) of the act, is complying with them, and has established a reliable mechanism to assure their ongoing performance.

(f) "C_{sat}" means the concentration in soil at which the solubility limits of the soil pore water, the vapor phase limits of the soil pore air, and the absorptive limits of the soil particles have been reached. As used in these rules, C_{sat} is a theoretical threshold above which a free phase liquid hazardous substance may exist.

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(g) "Direct contact" means exposure to hazardous substances through ingestion or dermal contact.

(h) "Groundwater" means water below the land surface in a zone of saturation.

(i) "Incident" means the subject of a report to the department which will be evaluated to determine whether there is sufficient evidence to conclude that a site of environmental contamination exists.

(j) "Institutional control" means a measure which is approved by the department, which takes a form other than a restrictive covenant, and which limits or prohibits certain activities that may interfere with the integrity or effectiveness of a remedial action or result in exposure to hazardous substances at a facility, or which provides notice about the presence of a hazardous substance at a facility in concentrations that exceed only an aesthetic-based cleanup criterion.

(k) "Land or resource use restrictions" means the provisions of any of the following measures that are used to limit or prohibit activities that may interfere with the integrity or effectiveness of a response activity, or to limit or prohibit activities that may result in exposure to hazardous substances at a facility, or to provide notice about the presence of a hazardous substance at a facility in concentrations that exceed only an aesthetic-based cleanup criterion:

(i) A restrictive covenant.

(ii) A notice of approved environmental remediation.

(iii) An institutional control, which may be a local ordinance or any form of preapproved institutional control, such as a notice of aesthetic impact.

R 299.5103 Definitions; M to V.

Rule 103. As used in these rules:

(a) "Method detection limit" means the minimum concentration of a hazardous substance which can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix that contains the analyte.

(b) "Notice of aesthetic impact" means a document that describes conditions at a facility that result from the presence of hazardous substances at concentrations which exceed only cleanup criteria that are based on aesthetic impacts.

(c) "Notice of approved environmental remediation" means the document called for in section 20120b(2) of the act that describes the category or categories of land use that are allowable at a facility, in light of the degree of cleanup completed and the zoning of the property.

(d) "Operation and maintenance" means the activities necessary to provide for continued effectiveness and integrity of a response activity after construction of the response activity measure or measures. The term includes activities such as groundwater removal and treatment.

(e) "Practical quantitation level" means the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine laboratory conditions and based on quantitation; precision and accuracy; normal operation of the laboratory; and the practical need in a compliance monitoring program to have a sufficient number of laboratories available to conduct the analyses.

(f) "Preapproved institutional control" means a form of institutional control that has been approved by the department for use without facility-specific approval of the implementing document by the department.

(g) "Public funds" means money from the environmental response fund created under section 20108 of the act, or the environmental protection bond fund created under part 195 of the act, or other funds appropriated to the department to carry out its responsibilities under the act.

(h) "Relevant pathway" means an exposure pathway that is reasonable and relevant because there is a reasonable potential for exposure to a hazardous substance to occur to a human or nonhuman receptor from a source or release. The components of an exposure pathway are a source or release of a hazardous substance, an exposure point, an exposure route, and, if the exposure point is not the source or point of release, a transport medium. The existence of a municipal water supply, exposure control measure, exposure barrier or other similar feature does not automatically make an exposure pathway irrelevant.

(i) "Remedial design" means the preparation of construction plans and specifications necessary for implementation of a remedial action or interim response activity.

(j) "Remedial investigation" means an evaluation to determine the nature, extent, and impact of a release or threat of release and the collection of data necessary to conduct a feasibility study of alternate response activities or to conduct a remedial action at a facility.

(k) "Sewer" means an enclosed structure used to convey stormwater or sanitary sewage, or both, and does not include an open drain.

(l) "Target detection limit" means the detection limit for a hazardous substance in a given environmental medium that is specified by the department on a list that it publishes not more than once a year. The department shall identify 1 or more analytical methods, when a method is available, that are judged to be capable of achieving the target detection limit for a hazardous substance in a

given environmental medium. The target detection limit for a given hazardous substance is greater than or equal to the method detection limit for that hazardous substance. In establishing a target detection limit, the department shall consider the following factors:

(i) The low level capabilities of methods published by government agencies.

(ii) Reported method detection limits published by state laboratories.

(iii) Reported method detection limits published by commercial laboratories.

(iv) The need to be able to measure a hazardous substance at concentrations at or below cleanup criteria.

(m) "Volatile" means any compound that exhibits a Henry's law constant equal to or greater than 0.00001 atmosphere-cubic meter per mole at standard temperature and pressure.

R 299.5105 Terms defined in the act; rules referred to in the act.

Rule 105. (1) A term defined in part 3 or part 201 of the act has the same meaning when used in these rules.

(2) Certain rules that were promulgated in 1990 under part 201 of the act, and that were in effect before these amendatory rules, are referred to in part 201 of the act. The rule references are affected by modification and renumbering of rules that resulted from these amendatory rules. Rules referred to in part 201 of the act, and the corresponding revised rule number or numbers, where a new rule or rules are applicable, are as follows:

(a) In section 20118 of the act, the rule references are unaffected.

(b) In section 20120a(5) of the act, the rule reference is unaffected.

(c) In section 20120a(8) of the act, R 299.5709 to R 299.5711(4), R 299.5711(6) to R 299.5715 and R 299.5727 correspond to R 299.5708 to R 299.5738.

(d) In section 20120a(9) of the act, R 299.5711(2) corresponds to R 299.5718 and R 299.5722.

(e) In section 20120a(11) of the act, the rule reference is unaffected.

(f) In section 20120a(13) of the act, the reference to R 299.5709 is unaffected and R 299.5711 corresponds to R 299.5718, R 299.5720, and R 299.5722.

(g) In section 20120a(17) of the act, R 299.5717 corresponds to R 299.5728 and R 299.5730.

(h) In section 20120d(2) of the act, R 299.5515 corresponds to R 299.5532.

R 299.5107 Applicability; authority of department to act under other statutes not limited by rules.

Rule 107. (1) These rules shall apply to all facilities without regard to whether the property is publicly or privately owned.

(2) These rules apply to the release or threat of release of a hazardous substance and not to hazardous substances that are being lawfully used or manufactured in operations at a facility or are being properly stored at a facility in compliance with all applicable laws and regulations.

(3) The department may undertake, using public funds, any response activity to address a release or threat of release of a hazardous substance where the department has determined that there is a threat to the public health, safety, or welfare or to the environment.

(4) Nothing in these rules shall be construed to limit the authority of the department to act pursuant to other existing statutes and rules.

R 299.5109 Compliance with other environmental statutes and rules required; storage, treatment, and disposal facility utilization.

Rule 109. (1) Any action taken under these rules shall be in compliance with all applicable environmental statutes and rules.

(2) Any response activity that involves the storage, transport, treatment, or disposal of hazardous substances off-site shall utilize only vehicles and facilities licensed, if a license is required, under appropriate federal or state permits or authorization and other legal requirements.

R 299.5111 Construction of rules.

Rule 111. (1) These rules shall not be construed to relieve a person from any obligation for the cost of evaluation or response activity related to a facility for which the person is liable or to relieve a person from the obligation to pay a fine, settlement, penalty, or damages.

R 299.5113 Identification of persons who are liable.

Rule 113. (1) The department shall, as soon as is practical upon identification of a facility, initiate appropriate actions to identify persons who are liable under section 20126 of the act for the facility.

(2) The department shall, as appropriate, use existing information-gathering authorities and coordinate the investigation with other state, local, and federal agencies.

R 299.5115 Notice to persons who are liable.

Rule 115. (1) Except as provided in subrule (3) of this rule, before beginning response activity at a facility with public funds, the department shall provide notice to persons who are liable who have been identified, as described in this rule.

(2) The notice, in the form of a letter mailed to the most recent known addresses of all identified persons who are liable, shall include all of the following information:

(a) A description of the response activity being undertaken or proposed to be undertaken by the state and, unless the activity in question is alternate water service, as that term is defined in part 4 of these rules, a request that the person who is liable carry out those actions in a timely manner. The time allowed for response shall be included in the letter and shall reflect the exigencies of the situation requiring response and the complexity of the requested action.

(b) A description of the nature and extent of contamination believed by the department to exist at the facility.

(c) The reason why the department believes that the person is liable.

(d) The names and addresses of other persons who are liable who have been or are being sent notice letters for the facility in question.

(e) The location of files used by the department in developing the notice.

(f) Notification that if a person who is liable fails to adequately implement the necessary response activity, the department may do either or both of the following if appropriate to protect the public health, safety, or welfare or the environment:

(i) Request that the attorney general take enforcement action.

(ii) Undertake the required response activity utilizing public funds. Any expenditure of public funds for this purpose is subject to cost recovery actions by the state.

(3) The requirements of this rule shall not apply when the department has not determined that a person is liable or when the notice process would unreasonably delay the response.

(4) The notice described in subrule (1) of this rule shall be sent by a means that provides proof of delivery.

(5) A copy of the notice described in subrule (1) of this rule shall be provided to the local unit of government in which the facility is located.

R 299.5117 Reportable quantities applicable to section 20114(1)(b) and (3) of act.

Rule 117. For release reports made after the effective date of this rule, the requirements of section 20114(1)(b) of the act shall be based on reportable quantities of hazardous substances established under 40 C.F.R. §§302.4 and 302.6 (July 1, 2001), which are adopted by reference in these rules and which are available for inspection at the Lansing office of the department, 525 West Allegan Street, Lansing, Michigan. Copies of the provisions may be purchased from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, (Stock Number 869-004-00157-8) at a cost as of the time of adoption of these rules of $41.00, or from the Department of Environmental Quality, Remediation and Redevelopment Division, 525 West Allegan Street, Lansing, Michigan 48909-7926, at cost.

PART 2. SITE IDENTIFICATION AND TRACKING

R 299.5201 Rescinded.

R 299.5203 Rescinded.

R 299.5205 Rescinded.

R 299.5207 Rescinded.

R 299.5209 Notice that site is proposed to be added to site list.

Rule 209. (1) The department shall make a reasonable effort to notify all of the following persons that a site is proposed to be included in the site list data base allowed by section 20105(9) of the act:

(a) The owner of the property that is a site.

(b) The local unit of government in which the site is located.

(c) The local health department having jurisdiction over the site.

(2) The notice described in subrule (1) of this rule shall be provided not less than 45 days before the site is added to the list and shall inform the recipient of the procedure described in R 299.5210(1).

(3) This rule shall apply only at the time a site is first placed on the site list. Sites that appeared on a list of sites of environmental contamination prepared under section 20105(1) of the act before the effective date of these amendatory rules are not subject to the notice requirement in subrules (1) and (2) of this rule.

(4) The inability of the department to provide notice under this rule does not limit the authority of the department to proceed with listing a site.

R 299.5210 Response to department notice of intent to include site on list.

Rule 210. (1) If a person who receives notice from the department under R 299.5209 wishes to dispute inclusion of a site on the list, then he or she shall respond to the department, in writing, within 30 days of receipt of the notice. A response made under this rule shall include all of the following information that is appropriate to the circumstances:

(a) Information to document that the property in question is not a site.

(b) Information to document that the site in question should not, according to the provisions of the act and these rules, be included on the list.

(c) Other information relevant to the disputed listing.

(2) The department shall review all information submitted under subrule (1) of this rule and shall prepare a written response to the person who submitted the information. The department's response shall include an explanation of the department's decision about inclusion of the site on the list. The site in question shall not be included in the list until the department completes its review of the submitted information and provides a response to the submitter.

R 299.5211 Inclusion of sites on site list; criteria.

Rule 211. (1) Locations shall be considered by the department for inclusion on the site list if they meet either of the following conditions:

(a) The incident involves a release of a hazardous substance or the potential release of a discarded hazardous substance in a quantity which is or may become injurious to the public health, safety, or welfare, or the environment and there are analytical data which document that the hazardous substance is present at concentrations in excess of the concentrations which satisfy the requirements of section 20120a(1)(a) or (17) of the act, for the environmental media in question. (b) There is insufficient information to conclude whether hazardous substance concentrations exceed the concentrations which satisfy the relevant requirements of section 20120a(1)(a) or (17) of the act, but 1 or both of the following conditions exist:

(i) An owner or operator reports a release of a hazardous substance or the potential release of a discarded hazardous

substance in a quantity which is or may become injurious to the public health, safety, or welfare or the environment.

(ii) Department staff have directly observed evidence of a release of a hazardous substance or the potential release of a discarded hazardous substance in a quantity which is or may become injurious to the public health, safety, or welfare or the environment.

(2) Sites may be identified on the site list by the name and location of the facility where the release occurred, if it is known, or by the location of the environmental contamination if the point of the release is not known.

R 299.5213 Status description in site list.

Rule 213. The site list shall include information that briefly describes the status of response activity that has been or is being implemented or has been completed at the site.

R 299.5215 Rescinded.

R 299.5217 Review of site information.

Rule 217. (1) The department shall, on an ongoing basis, review site information received from others or generated by itself and shall determine if the information provides a basis for any of the following:

(a) A change in the status of any site on the site list in accordance with R 299.5213.

(b) A change in the relative risk ranking of the site, consistent with section 20105(1)(a) of the act.

(c) Deletion of a site from the list. A site shall be deleted from the list only if it was included as the result of an error or incorrect information.

(d) A site that is documented to have met the cleanup criteria specified in section 20120a(1)(a) and (17) of the act shall be removed from the list as called for in section 20105(3) of the act. The department shall maintain a record of sites that have been removed from the list under section 20105(3) of the act and this subrule. A site that is documented to have met other cleanup criteria specified in section 20120a(1) or (2) of the act shall be identified on the site list as a site where a remedial action has been completed that requires land use or resource use restrictions.

(2) A person may, at any time, request that the department review and revise information about a site on the site list or remove a site from the list. A request made under this subrule shall be submitted to the department, in writing, and include all of the following information, as appropriate to the site:

(a) The name of the site.

(b) The specific change in the site list information that is requested.

(c) Information to document why the change or removal is appropriate and consistent with section 20105 of the act and these rules.

(3) The department shall prepare a written response to all requests submitted under subrule (2) of this rule within 90 days of receipt of the request indicating whether the proposed change was made. If the proposed change was not made, then the reasons for the department's decision shall be stated in its response.

R 299.5219 Revised site scores.

Rule 219. (1) The department shall, within 36 months of the effective date of this rule, rescore all sites on the list using the site assessment model contained in part 8 of these rules, as modified by these amendatory rules.

(2) The department shall generally rescore the sites in order of site score, beginning with the site that has the highest score based on the site assessment model applied before the effective date of these amendatory rules. The department may, at its discretion, rescore a site at any time regardless of its priority order.

PART 3. FUNDING

R 299.5301 Rescinded.

R 299.5303 Rescinded.

R 299.5305 Rescinded.

PART 4. ALTERNATE WATER SERVICE

R 299.5401 Definitions.

Rule 401. As used in this part:

(a) "Alternate water service" means a water supply provided as an alternative to, or as a supplement to, the use of a well or water supply system. The term includes, but is not limited to, providing bottled water, constructing a new private well, and extending or constructing a water supply system.

(b) "Public notification" means a letter to a property owner or notification at a public meeting as defined in 1976 PA 267, MCL 15.261 et seq., and known as the open meetings act.

(c) "Treatment system" means a device, installation, or structure and associated appurtenances that are installed for the purpose of treating drinking water before delivery in a distribution system.

(d) "Type I water supply" means a public water supply which provides year-round service to not less than 15 living units or which regularly provides year-round service to not less than 25 residents.

(e) "Water supply system" means a system of pipes and structures through which water is obtained and distributed for the purpose of furnishing water for drinking or household purposes, including any of the following:

(i) Wells and well structures.
(ii) Intakes and cribs.
(iii) Pumping stations.
(iv) Treatment plants.
(v) Storage tanks.
(vi) Pipelines and appurtenances.
(vii) A combination of the items specified in paragraphs (i) to (vi) of this subdivision.

R 299.5403 Department approval of permanent alternate water supply as an alternate water service; limitations on use of public funds.

Rule 403. (1) When public funds are used to provide a permanent alternate water supply, any new or modified well or water supply system shall be approved by the department under 1976 PA 399, MCL 325.1001 et seq. and part 217 of 1978 PA 368, MCL 333.12701 et seq.

(2) Public funds shall not be used to pay the cost of operation and maintenance of a permanent replacement well, water supply system, or treatment system, or the cost of water supplied by such a system.

(3) Except as provided in this rule, public funds shall not be used to pay for replacement of a well or water supply system unless the owner of that well or water supply system has agreed, in writing, to abandon and plug the existing well or wells, if any, in compliance with part 127 of 1978 PA 368, MCL 333.12701 et seq. Wells that are replaced shall be abandoned and plugged unless otherwise agreed, in writing, by the department. The cost for well plugging may be paid for as part of alternate water service.

(4) Public funds shall not be used to provide alternate water service to a person who is liable for a release that contaminated the water supply in question.

(5) Public funds shall not be used to provide alternate water service if, in the judgment of the department, illegal construction of a well contributed to its contamination, and the well serves the person who constructed the well.

(6) If either of the following criteria is met, then sufficient basis is established to conclude that an incident is the result of self-contamination and public funding shall not be provided:

(a) Hydrogeological data support the conclusion that the contaminated supply resulted from self-contamination.

(b) The department determines that an off-site source of contamination is not or was not evident, a probable source of the hazardous substance in question is or was located at the facility, and activities or practices are known to have in proximity to the affected well which could have resulted in the contamination documented in the well.

(7) Public funds shall be used to provide a well or water supply system connection to a property only when a drinking water well or connection to a public water supply exists at the time that public notice is given regarding provision of a permanent alternate water service.

(8) Public funds shall not be used to pay the cost of alternate water service at any facility that is included on the site list prepared under section 20105 of the act as a result of nitrate contamination from a non-point source or from a private septic tank and tile field system.

R 299.5405 Conditions for provision of alternate water service.

Rule 405. (1) Individual water supply system replacements shall be provided with public funds only when the water supply system proposed for replacement meets the criteria specified in both of the following provisions:

(a) The water supply system is contaminated, or threatened by contamination, with a hazardous substance as defined by the act.

(b) The department has issued an advisory which states that the current drinking water supply should not be used, or that an aesthetic drinking water criterion has been exceeded, or the department has concurred with an advisory issued by a local health department.

(2) All alternate water services that are provided with public funds shall be installed in accordance with department specifications.

R 299.5407 Use of public funds to address contamination of local government-owned type I water supplies.

Rule 407. (1) A project to address contamination of a local government-owned type I water supply system shall be eligible to receive public funds if both of the following criteria are met:

(a) There is a hazardous substance present in the water supply system or component as a result of environmental contamination and the department has issued an advisory against the use of the system or component as a result of that contamination.

(b) The project to be funded under this subrule is designed to reduce or eliminate a threat to the public health caused by environmental contamination.

(2) Projects to address state or federally owned type I water supply systems are not eligible to receive public funds.

(3) Public funds shall be used to pay 1/3 of the cost of a project which is approved by the department and which meets the criteria in subrule (1) of this rule, except as provided for in subrules (5) and (6) of this rule. Two-thirds of the cost of the project shall be paid by the local unit of government that receives the matching payment.

(4) Only locally generated funds shall be used for the local government share of the project costs. Federal or other funds shall not be used for the local government share.

(5) Except as provided in subrule (6) of this rule, the total amount of public funds that is available to any local unit of government for projects approved by the department under subrule (1) of this rule shall not be more than $500,000.00.

(6) If a local unit of government is the owner or operator of 1 or more type I water supply systems which serve another jurisdiction, that local unit of government may receive up to $500,000.00 for each water supply system that it owns or operates that is separate from its system and exclusively serves another jurisdiction.

(7) Public funds shall not be used as part of a project under this rule by a local unit of government to investigate the source of

groundwater contamination or to identify persons who are liable for the water supply contamination.

(8) Monies expended by the local unit of government for activities completed before the approval by the department of a project under this rule shall not be eligible as the local government share of costs.

R 299.5409 Service area boundaries; establishment.

Rule 409. (1) Before the approval of public funds by the department for extending or constructing a public water supply system, the department shall consider all of the following factors, to the extent that information is available, when determining the physical boundaries of the project service area:

(a) The extent of documented contamination.

(b) The nature, concentration, and mobility of the hazardous substances.

(c) The rate and direction of groundwater flow in the contaminated aquifer or aquifers.

(d) Whether the release of a hazardous substance has been controlled.

(e) If the project is an extension of water supply service, the attributes and limitations of the existing public water supply system.

(f) The probable impact of response activity or other actions at the facility, such as the shutdown of currently pumping wells and the effect of groundwater purge and treatment systems.

(2) Service area boundaries shall be established to protect well users from the current and projected impacts of the contaminated groundwater.

R 299.5411 Responsibilities of local governing entity.

Rule 411. (1) A public water supply construction or extension project shall not be funded unless the water supply owner has agreed, in writing, before public funds are authorized, to accept the responsibility for the ownership, operation, and maintenance of the proposed system.

(2) Public funds shall not be used to support operation and maintenance costs for public water supply systems.

(3) It is the responsibility of the water supply owner to obtain all necessary permits for the construction or extension of the public water supply system.

R 299.5413 Distribution of public funds for alternate water supply system; lowest cost alternative.

Rule 413. (1) Monies from the public funds shall be used only for a public or individual water supply system that is acceptable to the department. If more than 1 alternative is practical and acceptable to the department, then funding will be limited to the cost of the lowest-cost acceptable alternative.

(2) If more than 1 alternative is practical, then the following alternatives, at a minimum, shall be evaluated in determining the type of alternate water supply system that will be funded:

(a) Well replacement.

(b) Connection to an existing water supply system.

(c) Construction of a public water supply system.

(3) If the local governing entity or affected property owner chooses to implement an acceptable alternative in accordance with subrule (1) of this rule other than the lowest-cost alternative specified in subrule (1) of this rule, then public funds up to the value of the lowest-cost acceptable alternative may be provided.

R 299.5415 Notice to property owners in area to be served by public water supply system or extension.

Rule 415. (1) All property owners in an area proposed to be served by a public water supply system or an extension of such a system that is to be paid for with public funds shall be given written notice of the state's action. The notice shall include an explanation of the proposed project, including a description of the project area and the services proposed to be provided to each property owner at state expense. The notice shall also explain that state funding of the proposed project is not contingent on any local assessment, unless such an assessment is made to cover the local government cost share required by R 299.5407(3).

(2) For the purposes of this rule, mailing of the required notice to the last known address of the property owner is sufficient notice.

PART 5. RESPONSE ACTIVITIES

R 299.5501 Rescinded.

R 299.5503 Rescinded.

R 299.5505 Rescinded.

R 299.5507 Rescinded.

R 299.5509 Rescinded.

R 299.5511 Rescinded.

R 299.5513 Rescinded.

R 299.5515 Rescinded.

R 299.5517 Rescinded.

R 299.5519 Rescinded.

R 299.5520 Objective; response activities generally; affirmative obligations; requirement to diligently pursue; access; penalties; loss of complete status; cost recovery.

Rule 520. (1) The principal objective of all response activities is to ensure that timely and adequate measures are taken to prevent, minimize, or mitigate injury or unacceptable risk to the public health, safety, or welfare or to the environment.

(2) In selecting an appropriate response activity, a person shall first assess whether interim response activity is appropriate before remedial action, consistent with the terms of R 299.5526. A person who has an affirmative obligation to conduct a response activity shall conduct response activity in a manner and according to a schedule which is responsive to known and reasonably anticipated threats to the public health, safety, or welfare or to the environment.

(3) A person's responsibility to comply with the act and these rules exists independent of the department's knowledge of a facility or of its approval of any response activity proposed or taken at a facility. An owner or operator who is liable and who has knowledge that his or her property is a facility has an affirmative obligation to comply with section 20114(1) of the act and with section 20107a of the act. Unless a response activity that addresses the facility is complete upon transfer, a former owner or operator of property that is a facility continues to have the affirmative obligation under section 20114(1)(g) of the act if all of the following conditions apply:

(a) He or she owned or operated the property on or after June 5, 1995.

(b) He or she had knowledge at that time that the property was a facility.

(c) He or she is liable.

(4) If a person is subject to an administrative order or agreement or judicial decree entered prior to the effective date of these amendatory rules and new or modified language in these amendatory rules, including defined terms, changes the interpretation of that document, then the terms of the administrative order or agreement or judicial decree shall control, unless that document is modified with the consent of the parties and, if required, the court.

(5) Any evaluation of whether response activity was diligently pursued, in the context of determining compliance with section 20114 of the act, shall include all of the following considerations:

(a) Whether an emergency situation existed, to which the liable person responded appropriately and in good faith, based on his or her knowledge at the time.

(b) Whether effective interim response activities were employed.

(c) Whether injury or unacceptable exposures were prevented, minimized, or mitigated. This consideration shall include evaluation of the presence of wellhead protection zones that may be affected by the facility.

(d) Whether a determination of the nature and extent of contamination occurred at an appropriate pace based on a person's knowledge at the time.

(e) Whether off-property migration of hazardous substances, if any, was addressed in a timely manner after the person obtained knowledge of the condition.

(f) Whether a response activity was identified and implemented within a reasonable time frame, given the relevant pathways of exposure and the hazardous substances of concern.

(6) The obligation of a person to conduct response activity under section 20114 of the act or seek access under this rule does not create or provide a right of access to another person's property.

(7) Except as provided in subrule (8) of this rule, a person who has not secured access nor petitioned the circuit court for access within 1 year of the effective date of this amendatory rule, or 1 year of having reason to believe that access to another person's property is necessary to comply with section 20114 of the act, whichever is later, is subject to penalties under the act.

(8) If reasonable inferences from information available to a person who is subject to section 20114 of the act support a conclusion that the need for response activity is urgent, a person shall secure access or petition the court for access in a reasonable period of time shorter than 1 year, considering the exigencies of the situation. Any of the following conditions result in an urgent need for access:

(a) Actual or probable contamination of a private or public water supply.

(b) The presence of direct contact hazards that are an attractive nuisance.

(c) Risk of fire or explosion.

(9) If any response activity is not adequately documented, including meeting requirements for quality assurance and quality control of data, then a person who is liable may be required to conduct additional response activity in order to demonstrate that the response activity is complete or satisfactory.

(10) Nothing in these rules precludes a person from conducting response activity for which he or she is not liable.

(11) Any of the following conditions nullifies, without a specific determination or action by the department, the conclusion that a response activity is complete, unless the lapse or violation is corrected to the satisfaction of the department, or, for response activity implemented without facility-specific department approval, within a reasonable time after discovery, as gauged by the risk posed by the condition to the public health, safety, or welfare, or to the environment, but in no case longer than 90 days after discovery:

(a) Unknown conditions, that is, discovery of a condition that was present on the property at the time the response activity was conducted, but was unknown or undetected, and requires additional response activity.

(b) Remedy failure, that is, failure of the response activity to comply with applicable cleanup criteria identified in the interim response activity plan or remedial action plan, if any, or with performance standards established for those components of the response activity that are associated with long-term performance, if any.

(c) Failure by the person who completed the response activity to maintain a reliable mechanism for ongoing compliance with any applicable requirement of section 20120b(3)(a) to (e) of the act, or to comply with a legally enforceable agreement with the department, if one exists.

(d) Any financial assurance mechanism required by section 20120b(3)(e) of the act is no longer adequate or cannot be verified or accessed by the department.

(12) The department may determine that a response activity is not complete by finding that it is not effective and reliable, as those terms are described in R 299.5603, because the response activity repeatedly fails, notwithstanding repeated cures within the 90 day period provided in subrule (11) of this rule.

(13) A person who asserts that response activity is complete shall have the burden of demonstrating that he or she has satisfied the applicable requirements of R 299.5101(e) and the act. Nothing in these rules shall impair the department's authority to dispute an assertion that response activity is complete or to request information relevant to that assertion.

(14) A person seeking to recover response activity costs under section 20126a(1)(b) of the act may establish that a response activity is consistent with the rules relating to the selection and implementation of response activity costs by documenting that the work was in substantial compliance with R 299.5520 to R 299.5542 and R 299.5701 to R 299.5750, as applicable to the response activity undertaken. A person is not required to conduct the full range of response activity covered by R 299.5520 to R 299.5542 to establish that a specific response activity was conducted in substantial compliance with the rules. Written department approval of a specific response activity may be used as evidence that the response activity is consistent with R 299.5520 to R 299.5542 and R 299.5701 to R 299.5750, as applicable to the response activity undertaken.

R 299.5522 Notice to department and neighboring property owners; special conditions for notice required of permittees under part 615 of the act and by easement holders; community outreach.

Rule 522. (1) A person who is subject to section 20107a of the act shall provide notice to the department as provided in R 299.51017.

(2) A person who is subject to section 20114 of the act and who has reason to believe that 1 or more hazardous substances is emanating from, or has emanated from, and is present beyond a boundary of his or her property at a concentration in excess of criteria developed by the department under section 20120a(1)(a) and (17) of the act shall provide notice to the department and affected property owners as provided in this rule, unless the release in question is a permitted release. Notice shall also be made if hazardous substances emanating from his or her property enter any surface waters of the state in concentrations that exceed generic GSI criteria established under R 299.5716. The requirement to notify shall be based on reasonable inferences that can be made from available data about the facility, including, but not limited to, data gathered through investigation undertaken to comply with section 20114(1)(a) of the act. If, during the course of a remedial investigation or other response activity, information is gained which shows that additional properties have been affected, or are likely to be affected, by migrating contamination at a concentration in excess of a cleanup criterion developed by the department under section 20120a(1)(a) of the act, then notice shall be provided to the department and the affected property owner about each affected property. A single notice to the department may be provided to address multiple affected properties.

(3) If a person who is subject to this rule has provided notice under R 299.51017(1) or section 21309a of the act, then notice does not have to be made under this rule for the same affected property.

(4) The notice required by this rule shall be made, in writing, to the department and to owner of any property affected by migrating contamination within 45 days of the time that a person who is subject to section 20114 of the act has reason to believe that there is a condition that is subject to the notice provision, or within 9 months of the effective date of this rule, whichever is later. The notice shall include all of the following, as appropriate to the circumstances in question:

(a) The name and location of the property that is the source of the release at the facility.

(b) The name, address, and telephone number of a contact person for the facility.

(c) The address and property tax identification number, if available, or other location information for each property onto which contamination has migrated or is likely to have migrated.

(d) A summary of the information which shows that contamination is emanating from, or has emanated from, and is present beyond the boundary of the source property at a concentration which exceeds that allowed by section 20120a(1)(a) of the act. This summary shall identify the environmental media affected, specific hazardous substances, and the concentrations of those hazardous substances in all affected environmental media at the property boundary and in any sample locations beyond the property boundary. The summary shall also describe the basis for the conclusion that the contamination is emanating, has emanated, or is present beyond the boundary of the source property, including whether the conclusion is based on groundwater analytical data or fate and transport modeling, both, or neither.

(e) If the person making notice has reason to believe that a migrating hazardous substance has affected, or is likely to affect, a private or public water supply, then that water supply shall be identified in the notice.

(5) A person who holds a permit for an oil and gas well under part 615 of the act and is subject to section 20114 of the act shall give notice, as called for in subrules (2) and (4) of this rule, to the department and to the owner of the surface rights of the property if a release from the oil and gas exploration or production activities results in hazardous substance concentrations in excess of criteria developed by the department under section 20120a(1)(a) or (17) of the act on property where a well or related surface activity exists. Such notice shall be in addition to notice, as called for in subrule (2) of this rule, about migration of contamination beyond the boundary of property where the well or related surface activity is located.

(6) A person who holds an easement and is subject to section 20114 of the act shall provide notice, as called for in subrules (2) and (4) of this rule, to the department and to the grantor of the easement, or the grantor's successor in interest, if any, if there is a release from the easement holder's activities that results in hazardous substance concentrations in excess of criteria developed by the department under section 20120a(1)(a) or (17) of the act on property where the easement exists. Such notice shall be in addition to notice, as called for in subrule (2) of this rule, about migration of contamination beyond the boundary of the property where the easement exists.

(7) In making a determination whether there is significant public interest in a remedial action under section 20120d(3) of the act or in any other response activity being conducted with department knowledge, the department shall consider at least all of the following:

(a) Whether the response activity addresses a bioaccumulative chemical of concern, as that term is defined in R 323.1043(l).

(b) Whether hazardous substances migrated beyond the boundaries of the source property before or during response activities to address the facility.

(c) Whether the remedial action being proposed potentially impacts surrounding properties or residents in the area.

(d) Whether a neighboring property owner or resident or a local government official has communicated to the department that the category of response activity proposed or land use upon which the remedial action was based is inconsistent with local zoning, other local ordinance, or, in the case of property that is not zoned, the proposed reasonably foreseeable use is inconsistent or incompatible with surrounding land uses.

(8) Nothing in these rules prevents the department from conducting community outreach efforts at any time during a response activity or in any way more extensively than that required by section 20120d of the act.

R 299.5524 Land or resource use restrictions; disclosure under section 20116 of act of continuing obligations.

Rule 524. (1) All land or resource use restriction documents, other than local ordinances, shall be filed with the register of deeds for the county in which the facility is located, and a copy of the land or resource restrictions, with proof of filing, provided to the department and the clerk of the local unit of government in which the facility is located, as a condition of establishing that the response activity is complete. A restrictive covenant, notice of approved environmental remediation, notice of aesthetic impact, or other property-specific institutional control other than a local ordinance is valid as a part of response activity only when filed by the property owner or with the written permission of the property owner.

(2) Restrictive covenants and notices described in this rule shall be in a format approved by the department and made available on the department's internet web site, with modifications to reflect the facts applicable to each facility. Notices of approved environmental remediation for response activity that was not individually reviewed and approved by the department on a facility-specific basis shall be in a department approved format that provides substantially the same information as the format for activity approved on a facility-specific basis, but shall state that the response activity was approved by operation of rule, and that the department has not conducted a facility-specific review of the adequacy of the response activity or determined that the response activity is adequate or complete.

(3) A restrictive covenant used to impose land or resource use restrictions for response activity in a category provided for in section 20120a(1)(f) to (j) or (2) of the act shall conform to the requirements of section 20120b(4) of the act.

(4) A notice of approved environmental remediation shall be used in conjunction with response activity that meets generic cleanup criteria in a category other than residential, or for property that is not zoned, as provided in R 299.5532(8)(b). The notice of approved environmental remediation shall state that the property use is restricted to commercial, recreational, or industrial use, or a combination of those uses, as appropriate to the facility in question and that a change from that land use or uses may necessitate further evaluation of potential risks to the public health, safety, or welfare or to the environment. A notice of approved environmental remediation shall also include provisions for both of the following:

(a) Grant to the department the right to enter the property at reasonable times for the purpose of determining and monitoring compliance with the land or resource use restrictions, inspecting the operation and maintenance of any remedial action measures, and inspecting records related to the remedial action.

(b) Allow the state to enforce the land use restriction by legal action in a court of appropriate jurisdiction.

(5) A notice of aesthetic impact may be used as a preapproved institutional control in place of a restrictive covenant when the only cleanup criteria exceeded at the facility are criteria based on aesthetic impacts and the department has approved the response

activity on a facility-specific basis.

(6) A person who records with the register of deeds a certification, as allowed by section 20116(2) of the act, that all response activity required by a department-approved remedial action plan has been completed shall include in that certification a description of all elements of the response activity that are required to continue after completion, including compliance with land or resource use restrictions, operation and maintenance, monitoring, and financial assurance, as applicable to the facility.

R 299.5526 Scope and applicability of interim response activities generally; specific requirements for persons subject to section 20114 of act; documentation requirements; department approval required.

Rule 526. (1) An interim response may be undertaken once a person has knowledge that a property is a facility. All of the following factors shall be considered, if relevant to the facility, in determining the appropriateness of an interim response activity:

(a) Actual or probable threats to the public health, safety, or welfare or to the environment, and the severity of that threat.

(b) Actual or probable environmental contamination of drinking water supplies or sensitive ecosystems. This factor shall include identification of any wellhead protection zones in the vicinity of the facility and evaluation of the impact of the facility on any such zones.

(c) The presence of hazardous substances in abandoned or discarded containers.

(d) The likelihood that weather conditions will cause hazardous substances to migrate or be released.

(e) The likelihood that planned demolition activities will cause hazardous substances to migrate or be released.

(f) The threat of fire or explosion.

(g) The likelihood that source control measures implemented immediately will effectively prevent, minimize, or mitigate injury to the public health, safety, or welfare or to the environment.

(h) The feasibility of implementing a given response activity independent of other response activities.

(i) Whether taking interim response activity will speed completion of a remedial action.

(j) Whether the interim response will accomplish significant risk reduction.

(2) Interim response activities may include, but are not limited to, any of the following:

(a) Fences, warning signs, or other security or facility control precautions where humans or animals have access to the release or threat of release.

(b) Drainage controls where precipitation or runoff from other sources can enter the release area and spread hazardous substances.

(c) Stabilization of berms, dikes, or impoundments where needed to maintain their integrity.

(d) Capping or covering of contaminated soils or sludges where needed to prevent the migration of hazardous substances into the environment or to mitigate unacceptable exposure.

(e) Using chemicals or other materials to retard the spread of a release or mitigate its effects.

(f) Removal of contaminated soils from drainage or other areas to reduce the spread of hazardous substances.

(g) Removal of drums, barrels, tanks, or other bulk storage containers that contain hazardous substances where it will reduce the likelihood of any of the following:

(i) Spillage.

(ii) Leakage.

(iii) Fire or explosion.

(h) Groundwater control, treatment, or removal systems.

(i) Provision of an alternate water service where it will reduce the risk to humans or animals from contaminated water.

(j) Temporary evacuation where necessary to protect the public health, safety, or welfare where imminent and substantial endangerment has been identified.

(k) Demolition.

(l) Actions to repair or restore property improvements, such as landscaping and fences, that are damaged or destroyed as a result of response activity.

(m) Measures necessary to prevent or mitigate damage to utility lines or other public infrastructure.

(n) Other interim response activity judged by the department to be technically sound and necessary to stop or prevent the release at the source, reduce or eliminate any threat of fire or explosion, or prevent any direct contact hazards.

(3) Any person may, if they have appropriate legal access, conduct an interim response activity at a facility if circumstances warrant such action to prevent, minimize, or mitigate injury to the public health, safety, or welfare or to the environment. The department may, after considering the factors in R 299.5526(1), require a person who is liable to undertake interim response activity if sections 20114(1)(h) or 20119 of the act apply or if the response activity is being done pursuant to an existing administrative order or agreement or judicial decree. A person who has not been required by the department to undertake interim response activity may conduct that activity without department approval, subject to the exceptions in subrule (8) of this rule, or may seek department approval at any time for interim response activity that the person undertakes.

(4) A person who is subject to section 20114 of the act shall undertake or provide for the specific interim response activities which are described in this subrule if applicable to the circumstances in question. The required action shall be initiated immediately upon obtaining information reasonably supporting the conclusion that a condition exists which necessitates interim response activity and shall continue as necessary to mitigate or eliminate threats to the public health, safety, or welfare or to the environment. The obligation of a person to respond under this subrule is not limited by his or her property boundaries if contamination for which that person is liable has migrated. Interim response activities are presumptively determined to be necessary by the department at a facility to protect the public health, safety, and welfare and the environment in all of the following circumstances:

(a) If hazardous substances have contaminated groundwater or surface water which serves as a water supply source, and if the contamination poses an unacceptable risk to the public health, safety, or welfare, then the person who is subject to section 20114 of the act shall assure that all persons whose water supplies are contaminated or immediately threatened by contamination have alternate water service. Alternate water service provided under this rule shall be approved by the department. If the

department or a local health department has issued an advisory against the use of a water supply for any purpose, and that advisory is related to the release being responded to, then the alternate water service provided under this subrule shall address all unacceptable exposures identified in the advisory. This subrule shall not apply to a person who has received a written determination from the department that it is infeasible to provide temporary alternate water service.

(b) If there is a threat of fire or explosion at the source or anywhere on the facility where contamination has come to be located, then the person who is subject to section 20114 of the act shall immediately notify local fire officials, in addition to any other action undertaken in response to the threat of fire or explosion. The person who provides notice to local fire officials under this subrule shall maintain records of the contact made, including the name of the person contacted and the date and time that contact was made if not done in writing.

(c) If there is free phase liquid hazardous substance present at the facility, then the person who is subject to section 20114 of the act shall immediately implement source control measures to remove reasonably recoverable free phase liquid on an ongoing basis to reduce the potential for increasing environmental damage.

(d) If there is a release to surface water, either directly or through venting groundwater, that is acutely toxic.

(e) If there is surficial contamination that is acutely toxic to humans or wildlife.

(5) If a person who is planning to conduct or has conducted an interim response activity requests or is required to have the department's approval, then he or she shall submit an interim response work plan describing response activity to be performed or an implementation report that describes interim response activity that has been undertaken, whichever is appropriate. The department shall approve an interim response work plan or implementation report if it contains all of the following, and the documentation required by subrule (6) or (7) of this rule, if applicable, and the department determines that the action complies with part 201 and these rules with regard to interim response activity:

(a) A description of the objectives of the response activity and how they were or will be achieved.

(b) A legal description of the specific parcel of property addressed by the interim response activity.

(c) A detailed description of the response activity undertaken, including all data that is relevant to the conclusions drawn. Information supplied under this subdivision shall include sufficient documentation of the nature and extent of contamination to support any conclusions about the effectiveness of the response activity.

(d) If the interim response activity is a subset of a remedial action that is being planned, then a description of the relationship of the interim response to the remedial action.

(e) A schedule for implementation of the proposed activity, if department approval is sought for a work plan before implementation of the interim response activity.

(6) A person who wishes to establish that an interim response activity intended to meet applicable cleanup criteria provided for under section 20120a(1)(a) to (e) of the act is complete for 1 or more environmental media in all or a portion of the facility shall maintain documentation that substantially complies with subrule (5) of this rule and also includes all of the following:

(a) Clarification that the response activity is intended to satisfy particular land use-based cleanup criteria.

(b) Demonstration that the cleanup criteria selected are appropriate to the facility, including documentation of land use, zoning, activity patterns anticipated at the facility, and other factors that affect the appropriateness of the selected category.

(c) If subrule (8) of this rule applies, then the person shall secure and maintain documentation of the department's approval of that aspect of the interim response activity.

(d) The date on which the interim response activity is complete.

(e) A description of the condition of the facility at the conclusion of the interim response activity, including both of the following:

(i) Identification of areas known to be contaminated but not addressed by the interim response.

(ii) A discussion of how relevant pathways have been addressed and why other exposure pathways are not relevant or were not addressed in the area that was the subject of the interim response.

(7) A person who wishes to establish that an interim response activity intended to meet applicable cleanup criteria provided for under section 20120a(1)(f) to (j) or (2) of the act is complete for 1 or more environmental media in all or a portion of the facility shall maintain documentation that substantially complies with subrule (5) of this rule and also includes all of the following:

(a) Clarification that the response activity is intended to satisfy particular land use-based cleanup criteria.

(b) Demonstration that the cleanup criteria selected are appropriate to the facility, including documentation of land use, zoning, activity patterns anticipated at the facility, and other factors that affect the appropriateness of the selected category.

(c) Documentation of the department's approval of all of the following:

(i) The selected cleanup category.

(ii) The applicable provisions in section 20120b(3)(a) to (e) of the act.

(iii) Any of the components of the response activity in subrule (8) of this rule, if applicable.

(d) The date on which the interim response activity is complete.

(e) A description of the condition of the facility at the conclusion of the interim response activity, including both of the following:

(i) Identification of areas known to be contaminated but not addressed by the interim response.

(ii) A discussion of how relevant pathways have been addressed and why other exposure pathways are not relevant or were not addressed in the area that was the subject of the interim response.

(8) An interim response that includes any of the following components will not be considered complete, consistent with, or in compliance with, this rule unless the department has approved that component of the interim response:

(a) The interim response activity relies on an institutional control in any form that is not a preapproved institutional control in place of a restrictive covenant to achieve land or resource use restrictions.

(b) The response to aquifer contamination that is part of the interim response is the final action intended to be taken to address aquifer contamination and that action requires a waiver of R 299.5705(5) or R 299.5705(6) under section 20118 of the act.

(c) The interim response activity addresses venting groundwater and a mixing zone determination is required to establish that

the conditions in question are protective of the public health, safety, and welfare and the environment.

(9) The department may authorize a mixing zone that is based on compliance with a mixing zone determination issued under section 20120a(15) of the act as part of an interim response if information is provided which supports a conclusion that the discharge is protective of the public health, safety, and welfare and the environment. A person who receives authorization for a mixing zone under this rule shall acknowledge in writing any conditions the department may impose regarding that authorization.

R 299.5528 Purpose and scope of remedial investigation generally; certain facility characterization distinguished; department approval.

Rule 528. (1) The purpose of a remedial investigation is to assess site conditions in order to select an appropriate remedial action, if one is required, that adequately addresses those conditions. The remedial investigation identifies the source or sources of any contamination and defines the nature and extent of contamination originating from that source. Defining the nature and extent of contamination includes identifying contamination that may have migrated beyond the boundary of the source property in excess of applicable generic residential cleanup criteria. A remedial investigation work plan or report prepared under this rule shall be consistent with this part and sufficient to support determinations under parts 6 and 7 of these rules, R 299.5526(6) or (7), if applicable, R 299.5532, R 299.5534, R 299.5536, section 20118(5) and (6) of the act, if applicable, and sections 20120a and 20120b of the act.

(2) Prior department approval of a remedial investigation is required only as noted in section 20114(2) of the act and for a remedial investigation requested by the department pursuant to section 20114(1)(h) of the act or under the terms of an administrative order or agreement or judicial decree. Any person preparing a remedial investigation work plan or report may request department approval. The department shall approve remedial investigation work plans or reports for work done in phases if all of the following conditions are satisfied:

(a) Anticipated subsequent phases of investigation are described in sufficient detail so that the department can determine that the phase being proposed or reported on is appropriately defined.

(b) The remedial investigation described in the work plan or report complies with the requirements of this rule for the scope it is intended to address.

(c) If conducting the remedial investigation in phases will not prevent the remedial investigation from being completed in a timely fashion.

(3) A remedial investigation work plan prepared or remedial investigation conducted under part 201 of the act shall address the factors described in this subrule, as appropriate to the facility. If a likely category of remedial action, as set forth in section 20120a of the act, has been identified at the time that the remedial investigation is planned, then the scope of the remedial investigation may be guided by that remedial action objective. A subsequent change in remedial action objective may necessitate additional remedial investigation. The information that shall be provided in a remedial investigation, as appropriate to the facility, is as follows:

(a) Definition of the nature and extent of contamination at the facility. At a minimum, areas known or likely to have been used for hazardous substance storage, handling, transfer, transport, and disposal shall be investigated.

(b) Risks to the public health, safety, and welfare and to the environment and natural resources, including the identification of any water wells and wellhead protection zones in the vicinity of the facility and an evaluation of the impact of the facility on any such wells or zones.

(c) Relevant exposure pathways.

(d) All of the following with respect to hazardous substances that are present:

(i) Amount.

(ii) Concentration.

(iii) Hazardous properties.

(iv) Environmental fate.

(v) Bioaccumulative properties.

(vi) Persistence.

(vii) Mobility.

(viii) Physical state.

(e) All of the following with respect to the physical setting of the facility:

(i) Geology.

(ii) Hydrology.

(iii) Hydrogeology.

(iv) Depth to saturated zone.

(v) Hydrologic gradients.

(vi) Proximity to aquifers.

(vii) Proximity to surface water.

(viii) Proximity to floodplains.

(ix) Proximity to wetlands.

(f) Current and potential groundwater use.

(g) Source identification and evaluation.

(h) Whether hazardous substances at the facility can be reused or recycled.

(i) The likelihood of future releases if the hazardous substances remain at the facility.

(j) The extent to which natural or human-made barriers currently contain the hazardous substances and the adequacy of the barriers.

(k) The impact of any planned demolition activities on conditions at the facility.

(l) The extent to which hazardous substances have migrated or are expected to migrate from the area of release, including the potential for hazardous substances to migrate along preferential pathways.

(m) An evaluation of injury to, destruction of, or loss of natural resources related to the release.

(n) Contribution of the hazardous substances at the facility to contamination of the air, land, or water.

(o) Legally applicable or relevant and appropriate state and federal requirements.

(p) Sampling design and rationale for parameter selection.

(q) A description of monitoring well construction.

(r) A description of, and rationale for, any geophysical techniques used in the investigation. The data from geophysical testing shall be made available to the department on request.

(s) Sample collection and preparation procedures.

(t) Identification of the laboratory or laboratories responsible for sample analysis.

(u) Laboratory methods used to generate all remedial investigation data, quality assurance and quality control data that document the accuracy and precision of the reported data shall be made available to the department on request.

(v) A description of any statistical methods used to evaluate laboratory data relative to cleanup criteria and a discussion of the reasons why the statistical methods that were used are appropriate to the circumstances.

(w) Other matters appropriate to the facility. Department requests for information under this subdivision shall be limited to factors not adequately addressed by information required by other subdivisions of this subrule and shall be accompanied by an explanation of the need for such additional information.

(4) If the work has been completed, then the person may seek the department's approval by submitting a remedial investigation report that describes activity that has been completed and how it meets the requirements of this rule and R 299.5526(5)(c)(i) or R 299.5532, as applicable.

(5) Facility evaluation activities are not considered a remedial investigation if they are not intended to support preparation of a feasibility study, an interim response activity designed to achieve cleanup criteria, or a remedial action plan. Examples of facility evaluation that are not required to include all the elements of remedial investigation are property evaluation to support a baseline environmental assessment and focused evaluation to support an interim response that is not intended to achieve specific cleanup criteria. Facility or property evaluation activities conducted to meet these more limited goals shall be sufficient to support the objectives they are designed to meet.

R 299.5530 Feasibility study; department approval.

Rule 530. (1) The department may require that a person who is liable conduct a feasibility study at a facility where remedial action is to be undertaken, if both of the following conditions are satisfied:

(a) More than 1 remedial action alternative is practical.

(b) A feasibility study will provide information and comparisons that contribute to more effective remedy selection process, considering the requirements of R 299.5601 and R 299.5603.

(2) Any person who has not been required by the department to undertake a feasibility study may seek department approval for a feasibility study he or she elects to undertake. A person may seek department approval of a feasibility study that has been completed or a work plan that is proposed. If the work has been completed, then the person may seek the department's approval by submitting a feasibility study report that describes work that has been completed.

(3) A feasibility study shall evaluate a range of alternatives that reflects the practical options, the level of complexity of the contamination problem, and the remedial action that is needed to address the problem. A feasibility study submitted to the department for approval shall include development of alternative final remedies in each of the following categories that is practical and relevant for the facility:

(a) Alternatives for treatment, disposal, waste minimization, recycling, or destruction at an off-site facility.

(b) Alternatives for treatment, disposal, waste minimization, recycling, or destruction at an on-site facility.

(c) Alternatives that provide for a reduction in risk that is sufficient to meet appropriate land use-based cleanup criteria allowed for under section 20120a of the act and part 7 of these rules.

(d) No action alternative, only if a no action alternative can satisfy the requirements of the act and these rules.

(4) An initial screening of alternatives to narrow the list of potential remedies for detailed evaluation in the feasibility study shall be conducted using all of the following broad criteria:

(a) The effectiveness in achieving an appropriate land use-based cleanup, consistent with the requirements of sections 20118, 20120a, and 20120b of the act, R 299.5526 or R 299.5532, and part 7 of these rules.

(b) Cost of the remedial action.

(c) The time required to achieve remedial objectives.

(d) Acceptable engineering practices based on all of the following criteria:

(i) Feasibility for the location and conditions of release.

(ii) Applicability to the problem.

(iii) Reliability.

(5) The feasibility study shall include a detailed evaluation of the alternatives that remain after initial screening is conducted. The detailed analysis of each alternative shall, as appropriate, include all of the following:

(a) Assessment of the effectiveness of the alternative in protecting the public health, safety, and welfare and the environment and in responding to the remedy selection factors identified in R 299.5601 and R 299.5603.

(b) Refinement and specification of alternatives in detail.

(c) Detailed cost estimation, including operation and maintenance costs, over time, of implementing the final remedy.

(d) Evaluation in terms of engineering implementation, reliability, and constructability.

(e) Evaluation of technical feasibility.

(f) Analysis of whether recycling, reuse, waste minimization, waste biodegradation, waste destruction, or other advanced, innovative, or alternative technologies are appropriate.

(g) An analysis of any adverse environmental impacts, methods of mitigation, and costs of mitigation, including those adverse impacts which may result from planned demolition activities.

(h) Analysis of the risks and impacts remaining after implementation of the remedy.

(i) Analysis of the extent to which the alternative attains a degree of cleanup or control of hazardous substances that complies with legally applicable or relevant and appropriate requirements, rules, criteria, limitations, and standards of state and federal environmental law.

(6) An evaluation that is less comprehensive and detailed than called for in this rule may, if appropriate, be approved by the department as an interim response activity.

R 299.5532 Remedial action plan; required documentation; approval of cleanup category; department approval required for certain remedial action elements.

Rule 532. (1) A remedial action shall be performed by a person when the department requests one under section 20114(1)(h) of the act or when the objective of a response activity, including response activity undertaken to comply with section 20114(1)(g) of the act, is to address all releases of hazardous substances in all environmental media at a facility consistent with sections 20118, 20120a and 20120b of the act, except as provided in R 299.5534 and R 299.5536. Response activity will be considered a remedial action only if it complies with sections 20118, 20120a, 20120b of the act and these rules.

(2) A person may secure department approval under section 20120a of the act for a remedial action in the cleanup categories provided for in section 20120a(1)(a) to (e) of the act, except as provided in subrule (5) of this rule, by preparing and implementing a remedial action plan (RAP) that complies with subrules (6) to (11)(k) and (15) of this rule or an equivalent closure report and submitting the notice described in subdivision (a) of this subrule. Remedial actions in the categories of cleanup provided for in section 20120a(1)(f) to (j) or section 20120a(2) of the act shall be complete only after facility-specific department approval of a RAP or closure report.

(a) A person who wishes to establish that a remedial action in the cleanup categories provided for in section 20120a(1)(b) to (e) of the act is approved by operation of this rule without facility-specific department review of the RAP or closure report shall, in order to satisfy the requirement of section 20120b(7) of the act regarding department approval, submit to the department a notice that includes all of the following:

(i) The address, if one is available, and legal description of the property addressed by the remedial action.

(ii) The name, address, and telephone number of a contact person for the person who implemented the response activity.

(iii) The category or categories of cleanup criteria applicable to the remedial action.

(iv) The name and chemical abstract service numbers of the hazardous substances that were present as a result of the release at the facility at the completion of the response activity.

(v) A copy of the land or resource use restrictions imposed as part of the remedial action, if a copy of those restrictions has not previously been provided to the department pursuant to R 299.5524.

(vi) A statement that the notice is being provided pursuant to this rule and that the person submitting the notice is not seeking department review or approval of the remedial action.

The department may specify a form on which this notice shall be given. If the department requires a form, it shall be made available on the department's internet web site.

(3) Any person may submit a RAP to the department for approval before initiating a remedial action. If the remedial action is being performed at the department's request under section 20114(1)(h) of the act, then a RAP is required to be submitted for approval.

(4) A RAP may describe activities that are proposed to be undertaken to comply with the requirements of part 201 of the act and these rules, or it may describe activities that have already been undertaken, or both. If the RAP is for work that has already been implemented, the RAP shall be subtitled "closure report."

(5) A remedial action that includes 1 or more of the following elements will not be considered in compliance with this rule, regardless of the cleanup category proposed or implemented, unless the department has approved that element of the remedial action on a facility-specific basis:

(a) The remedial action relies on an institutional control in any form that is not a preapproved institutional control to achieve land or resource use restrictions.

(b) The remedial action addresses aquifer contamination and that action requires a waiver of R 299.5705(5) or R 299.5705(6) under section 20118 of the act.

(c) The remedial action relies on a mixing zone determination to establish that discharge of venting groundwater from the facility is protective of the public health, safety, and welfare and the environment.

(6) A RAP shall describe how the remedial action will meet the requirements of the act and these rules.

(7) A RAP shall identify which of the pathways, risks, and conditions in this rule are relevant for the facility and include an analysis of source control measures, as required by section 20118(8) of the act. All of the following are potential exposure pathways which shall be considered to determine if they are relevant:

(i) Risks due to hazardous substances in groundwater as a result of use of that groundwater for drinking water.

(ii) Risks due to hazardous substances in groundwater as a result of dermal contact with that groundwater.

(iii) Risks due to hazardous substances in groundwater as a result of those hazardous substances venting to surface water.

(iv) Risks due to hazardous substances in groundwater as a result of volatilization of those substances to indoor air.

(v) Risks due to hazardous substances in soil as a result of direct contact with soil.

(vi) Risks due to hazardous substances in soil as a result of the inhalation of the substances being emitted to and dispersed in ambient air.

(vii) Risks due to hazardous substances in soil as a result of the leaching of the substances to drinking water.

(viii) Risks due to hazardous substances in soil as a result of the leaching of the substances to groundwater and

subsequent dermal contact with the groundwater.

(ix) Risks due to hazardous substances in soil as a result of the leaching of the substances to groundwater and the subsequent venting of the groundwater to surface water.

(x) Risks due to hazardous substances in soil as a result of the direct transport of those substances to surface water as a result of erosion, runoff, or other similar means.

(xi) Risks due to hazardous substances in soil as a result of volatilization of those substances to indoor air.

(xii) Risks due to hazardous substances in surface water sediments when considering the factors identified in R 299.5730.

(xiii) Risks due to free-phase liquids and abandoned or discarded hazardous substances that have not yet been dispersed in the environment.

(xiv) Risks due to hazardous substances when considering acute toxic effects, physical hazards, and other hazards not accounted for in the development of generic cleanup criteria.

(xv) Risks due to hazardous substances when considering impacts on terrestrial flora and fauna, on the food chain, and on the aesthetic characteristics of the affected environmental media, consistent with the requirements of R 299.5728.

(8) A person who proposes or implements a remedial action shall document that the cleanup criteria in the RAP are appropriate to the facility, considering land use, activity patterns anticipated at the facility, and other factors that affect the appropriateness of the criteria for a facility. This documentation shall include identification of any wellhead protection zone that may be affected by the facility.

(a) A RAP shall identify the category or categories of cleanup criteria that are being proposed or relied upon. If a remedial action plan is based on criteria allowed for under section 20120a(1)(a) to (e) of the act, then the remedial action documentation shall include a statement confirming that the expected activity patterns at facility are consistent with the exposure assumptions used to calculate the applicable generic criteria.

(b) A RAP that relies on cleanup criteria allowed for under section 20120a(1)(b) to (e) or (2) of the act shall include documentation of the current zoning of the property and any legal nonconforming uses that are relevant to the RAP. In addition to the documentation of current zoning, the RAP shall include a statement confirming that the use contemplated is permitted in the current zoning category and that uses inconsistent with the exposure scenarios used to calculate the applicable cleanup criteria are not allowed. If the property is not zoned, then the RAP shall include documentation of the reasonably foreseeable future use of the property and natural resources in question. If the property is not zoned, then the remedial action shall be considered a site-specific remedial action under section 20120a(2) of the act; however, if the necessary land use restrictions can be accomplished in such cases through the procedure specified in section 20120b(2) of the act, then the procedures specified in section 20120b(3) and (4) of the act shall not apply. A RAP for property that is not zoned may rely on generic cleanup criteria developed under section 20120a (1)(a) to (e) of the act as site-specific criteria if the RAP includes documentation that the intended use of the property is a reasonably foreseeable future use and that the exposures associated with the intended uses are consistent with those used to calculate the generic criteria employed in the RAP.

(9) If the department has evidence that a generic cleanup criterion developed under section 20120a(1)(a) to (e) of the act is not protective of the public health, safety, or welfare or the environment at a given facility because of facility-specific conditions, then the department may establish additional requirements for response activity to address the facility-specific conditions, pursuant to R 299.5728. A person implementing a remedial action without department approval shall undertake a reasonable inquiry to determine if there are any facility-specific conditions, such as those described in R 299.5728, that result in a generic cleanup criterion not being protective. If his or her inquiry shows that such a condition exists, then that person shall modify the remedial action to account for the conditions.

(10) For a RAP which addresses releases at or from a facility that have impacted or are reasonably likely to impact the Great Lakes, the RAP shall, in addition to attaining compliance with the requirements of R 299.5716, consider the requirements of the Great Lakes water quality agreement of 1978, as amended by protocol signed November 18, 1987, and the Great Lakes toxic substances control agreement of 1986. The RAP shall document the analysis conducted to comply with this subrule.

(11) A RAP shall include the following, if relevant to the facility and conditions addressed by the RAP. If any of the following elements or conditions is not relevant to the facility, then the RAP shall briefly state why the element is not relevant:

(a) A discussion of statistical methods, if any, used to evaluate data or for any other purpose in the remedial action, including the reasons why the statistical methods that were used are appropriate to the circumstances.

(b) An evaluation of the impact on environmental conditions at the facility as a result of demolition if any structures are planned to be demolished before or as part of the remedial action.

(c) If the proposed remedial action does not comply with R 299.5705(5) or R 299.5705(6), or both, then a request that the department make a finding under section 20118(5) and (6) of the act that the remedial action is protective. The request shall be accompanied by information that demonstrates how 1 or more of the criteria in section 20118(6) of the act are satisfied by the remedial action.

(d) If venting groundwater is entering, or will in the future enter, surface waters of the state at levels that exceed generic criteria established under R 299.5716, then the RAP shall include a request for approval of that discharge, unless authorization has previously been obtained for the discharge of venting groundwater through approval by the department of an interim response activity or under part 31 of the act or some other action is proposed to address venting groundwater. A RAP which addresses venting groundwater shall include information required by the department to determine whether the discharge of venting groundwater complies with the requirements of part 31 of the act and rules promulgated under part 31 of the act. The information shall be submitted with a certification statement and the signature of an appropriate person. The certification statement shall state "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this request and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information." If venting in excess of the generic groundwater surface water interface criteria established under R 299.5716 has not yet occurred, and a mixing zone determination will be sought to authorize the anticipated discharge, the mixing zone determination

request shall be submitted in a timely manner. If venting groundwater was approved by the department before the submittal of a RAP, through an interim response activity plan, or an authorization granted under part 31 of the act, documentation of that approval shall be included in the RAP. If new information about the venting groundwater is provided or identified by the department as a result of the RAP submittal and that information shows that the mixing zone determination made as part of an interim response approval is not protective, then the department may revise the mixing zone determination.

(e) A RAP that addresses venting groundwater containing concentrations of hazardous substances that do not exceed the generic criteria established under R 299.5716 shall identify and describe the venting groundwater conditions and describe the basis for the conclusion that the hazardous substance concentrations in venting groundwater do not and will not exceed the generic criteria established under R 299.5716.

(f) A description of environmental monitoring activities to be undertaken during the remedial action, if such activities are appropriate during implementation of the remedial action to address risks associated with construction or other implementation activities. If a monitoring plan is established to assure compliance with part 55 of the act during the movement or temporary storage of contaminated soils, then that monitoring plan may be based on allowable air concentrations that reflect the risk associated with the short-term nature of the activity, if such concentrations have been approved by the department under part 55 of the act and rules promulgated under part 55.

(g) A schedule for implementation of the RAP. If a conceptual plan for operation and maintenance or monitoring is submitted with a RAP when department approval is sought, then the schedule shall include the date when a detailed plan that satisfies the requirements of R 299.5538 or R 299.5540, as appropriate, will be submitted for department approval. The schedule shall provide for timely abandonment, in a manner that is satisfactory to the department, of all monitoring wells, piezometers, boreholes, and other installations that present potential for contaminant migration.

(h) If the RAP is based on criteria other than the generic residential category under section 20120a(1)(a) of the act, then the RAP shall provide all of the following with respect to each recorded or readily evident easement that exists on property covered by the RAP:

(i) The name and address of the easement holder.

(ii) The nature of the easement, and, in particular, whether the easement gives exclusive rights to the property to the easement holder.

(iii) A copy of any notice that has been provided to the easement holder under R 299.51013(6).

(iv) Documentation that the easement holder consents to the imposition of any land or resource use restriction other than a local ordinance that affects the easement.

(i) If the RAP is based on criteria other than the generic residential category under section 20120a(1)(a) of the act, then the RAP shall provide an explanation of any land use or resource use restrictions to be imposed, in 1 or more of the categories in paragraphs (i) to (vii) of this subdivision, and how the restrictions will be effective in preventing or controlling unacceptable exposures, if restrictions are required under section 20120a(16) of the act.

(i) If the land use or resource use restrictions are to be accomplished through a restrictive covenant, then a proposed restrictive covenant for each property where a restrictive covenant is required shall be included in the RAP, together with a written statement from the owner or owners of the property that he or she consents to the placement of the restrictive covenant upon approval by the department of the RAP or closure report. The restrictive covenant shall conform to the requirements of section 20120b(4)(a) to (f) of the act.

(ii) If the land use restrictions are to be accomplished through a notice of approved environmental remediation, then a proposed notice of approved environmental remediation for each property where a notice of approved environmental remediation is required shall be included in the RAP, together with a written statement from the owner or owners of the property that he or she consents to the recordation of the notice of approved environmental remediation. If the RAP is submitted for department approval, the owner's or operator's consent may be conditioned upon approval by the department of the RAP or closure report.

(iii) If the land or resource use restrictions are to be accomplished through an institutional control in the form of an ordinance that has already been enacted by a local unit of government, then a copy of the existing ordinance shall be included in the RAP.

(iv) This is a typo

(v) If the RAP proposes to rely on an institutional control in the form of an ordinance that has not yet been enacted by a local unit of government, then a draft ordinance shall be included in the plan. When a draft ordinance is part of a RAP, then written confirmation that the local unit of government is willing to enact an ordinance substantially like the ordinance presented in the RAP shall also be included in the plan.

(vi) If the land use restrictions are to be accomplished through an institutional control in the form of a notice of aesthetic impact, then a proposed notice of aesthetic impact for each property where one is required shall be included in the RAP, together with a written statement from the owner or owners of the property that he or she consents to the recordation of the notice of aesthetic impact. The owner's or operator's consent may be conditioned upon approval by the department of the RAP or closure report.

(vii) If another form of institutional control is proposed, then a copy of the proposed institutional control or a draft of the proposed institutional control shall be included in the RAP.

(j) A monitoring plan that complies with R 299.5540, if monitoring is required to confirm the effectiveness or integrity of the remedial action. The monitoring plan in a RAP that is submitted for department approval may be a conceptual plan, if the conceptual plan provides sufficient detail to allow the department to judge the adequacy of the monitoring being proposed, and to reasonably estimate monitoring costs that need to be covered by a financial assurance mechanism, if one is required.

(k) An operation and maintenance plan that complies with R 299.5538, if any element of the RAP requires operation and maintenance. The operation and maintenance plan in a RAP that is submitted for department approval may be a conceptual plan, if the conceptual plan provides sufficient detail to allow the department to judge the adequacy of the actions being proposed, and to

reasonably estimate any operation and maintenance costs that need to be covered by a financial assurance mechanism, if one is required.

(l) If the remedial action is based on criteria allowed for under section 20120a(1)(f) to (j) or (2) of the act, then the RAP shall include an explanation of whether permanent markers are proposed to be installed to describe restricted areas of the facility and the nature of any restrictions, and the rationale for the proposal. If permanent markers are proposed, then the design and construction of the marker and the language describing the restrictions shall be included in the RAP.

(m) If the remedial action is based on criteria provided for in section 20120a(1)(f) to (j) or (2) of the act, a proposed financial assurance mechanism to cover monitoring, operation and maintenance, and other costs necessary to assure the effectiveness and integrity of the remedial action or an explanation of why a financial assurance is not proposed. The cost of activities covered by the financial assurance mechanism shall be documented on the basis of an annual estimate of maximum costs for the activity as if they were to be conducted by a person under contract to the state. Costs shall not be based on activities being conducted by employees of the person proposing the remedial action. A financial assurance mechanism shall be provided if the cost of monitoring, operation and maintenance, and other activities necessary to assure the effectiveness and integrity are more than an average of $2,500.00 per year in year 2001 dollars. Any adjustment in the $2,500.00 threshold to account for inflation shall be determined in a manner that is acceptable to the department. The financial assurance mechanism shall provide sufficient funds to conduct any task for which a financial mechanism is required under this subrule, but is not required to cover an alternative remedial action in the event of remedy failure. The financial assurance mechanism shall be in an amount and form that allows the department to immediately contract for the response activities for which financial assurance is required in the event that the person conducting response activity fails to implement the required tasks. An acceptable financial assurance shall be in one of the following forms:

(i) Letter of credit.
(ii) Environmental escrow.
(iii) Trust fund.
(iv) Certificate of deposit.
(v) Performance bond.
(vi) Another form that is acceptable to the department and satisfies the requirements of this subrule.

The department shall make available upon request standard documents for each of the forms identified in subdivisions (i) to (v) of this subrule.

(n) If the remedial action is based on criteria provided for in section 20120a(1)(f) to (j) or (2) of the act, a proposed legally enforceable agreement for performance of those elements listed in section 20120b(3)(a) to (e) of the act that are necessary to assure the effectiveness and integrity of the completed remedial action.

(12) A restrictive covenant, notice of approved environmental remediation, or notice of aesthetic impact that is documented to have been submitted to the register of deeds for recording within the time prescribed in section 20120b of the act will be considered to have met the required deadline for recording the document, if the document was prepared in a form acceptable for recording, and was submitted along with any fees or other materials required by the register of deeds.

(13) The department's approval of a RAP in a cleanup category provided for in section 20120a(1)(f) to (j) or (2) of the act shall not take effect until all of the following have occurred:

(a) An acceptable, detailed operation and maintenance plan or monitoring plan, if either is required, is submitted according to the schedule set forth in the RAP and approved by the department.

(b) An approved financial assurance mechanism, if one is required, is in place.

(c) A legally binding agreement has been signed by all parties to the agreement and been provided to the department.

(14) The department's approval of a RAP in a cleanup category allowed for under section 20120a(1)(f) to (j) or (2) of the act shall be void if provisions for any of the following that are part of a RAP lapse or are not complied with:

(a) Land or resource use restrictions.
(b) Monitoring.
(c) Operation and maintenance.
(d) Permanent markers.
(e) Financial assurance.

The approval shall be void from the time of lapse or noncompliance unless the lapse or noncompliance is corrected to the satisfaction of the department.

(15) At any time before completion, a RAP shall be promptly modified to address a change in circumstances that would result in the remedial action no longer being protective or reliable, including, but not limited to, either of the following:

(a) Unanticipated facility conditions.
(b) Changes in any element described in subrules (5) to (11) of this rule.

(16) If a RAP was approved by the department, any changes in that RAP shall be submitted to the department for approval. The department shall review and approve proposed modifications to the RAP if they are consistent with part 201 of the act and parts 5, 6, and 7 of these rules.

(17) Upon request, the department shall issue a certification of completion in accordance with section 20114(5) of the act when a remedial action is complete.

R 299.5534 Unremediated release defined; affidavit; additional response activity required; penalties.

Rule 534. (1) A remedial action plan (RAP) shall address all environmental contamination at a facility unless the RAP precisely describes the contamination to be excluded and is accompanied by an affidavit from the person submitting the RAP stating that he or she is not liable for 1 or more unremediated releases at the facility identified in the RAP and that he or she can demonstrate divisibility of harm and apportionment of liability as required by section 20129 of the act for the unremediated releases. For purposes of this rule, "unremediated release" means a release for which response activity has not been implemented that satisfies the remedial action requirements of part 201 of the act and these rules.

(2) The affidavit described in subrule (1) of this rule shall contain, or provide as an attachment, information that explains and

supports the basis for the conclusion that the person submitting the RAP is not liable for the contamination proposed to be omitted from the RAP. The affidavit or attachment shall also fully document the demonstration of divisibility of harm and apportionment of liability under section 20129 of the act. If the affidavit described in this subrule is provided, then the RAP may omit actions to address the unremediated releases.

(3) If the department approves a RAP that excludes unremediated releases, relying on representations about liability that are set forth in the affidavit of the person seeking approval, the ability of the department to subsequently review the liability of the person seeking approval of the RAP is not limited or affected by reliance on the affidavit or approval of the RAP. Upon review of the affidavit, supporting materials, and other information available to the department at any time, the department may determine that there is reason to believe that the person submitting a RAP is liable for the contamination proposed to be omitted from the RAP or that he or she has not met the burden of demonstrating divisibility of harm and apportionment of liability under section 20129 of the act.

(4) A person who implements a RAP that does not address the entire facility after following the procedure set forth in this rule, but who is later found to be liable, or to have failed to establish divisibility of harm or apportionment of liability shall promptly undertake remedial action to address that portion of the facility not covered by the RAP.

(5) If a person who is liable undertakes a remedial action that he or she knows will not, when complete, comprehensively address all contamination at a facility at the time the remedial action is undertaken, except as provided in this rule for unremediated releases, then the person is subject to fines and penalties as provided for under the act for failure to diligently pursue response activity under section 20114(1)(g) of the act.

(6) Response activity undertaken by a person who is liable that does not comprehensively address all contamination at a facility, except unremediated releases addressed through the procedure set forth in this rule, is considered an interim response and not a remedial action.

R 299.5536 Scope of remedial action plans generally; provisions in administrative agreements dependent on degree of cleanup achieved by remedial action.

Rule 536. (1) In addition to the general requirements of R 299.5532 that a remedial action plan (RAP) address all environmental contamination at a facility, all of the following principles apply when defining the area to be addressed in a RAP:

(a) Proper definition of the area to be addressed depends on having completed appropriate characterization. This requires that areas used for hazardous substance storage, handling, transfer, transport, and disposal be identified to the extent practical from available information and inquiry that is reasonable under the circumstances. Areas of known and likely hazardous substance release, based on such information and inquiry, shall then be evaluated to determine the nature and extent of environmental contamination associated with the releases.

(b) An unremediated release, as that term is used in R 299.5534 may be excluded from a RAP as provided for in that rule.

(c) The minimum area ordinarily covered in a RAP will be the property or contiguous contaminated properties owned or operated by the person proposing the remedial action, plus, when a person who is liable is conducting the remedial action, the extent of migration of environmental contamination beyond that person's property boundary. A facility is not necessarily coextensive with the area covered by RAP, and may be smaller.

(d) If there is more than 1 facility at a property or contiguous properties owned or operated by the person who is proposing the remedial action, then all facilities that are in reasonable proximity to one another shall be addressed in a single RAP. If there is more than 1 facility at a property or contiguous properties, then a release may be addressed in a separate RAP only if appropriate facility characterization demonstrates that environmental contamination from that facility is not, and will not become, commingled with environmental contamination from another facility, or otherwise approved by the department.

(e) If there is more than 1 facility at a property under common ownership, then the facilities shall not be addressed in more than 1 RAP if such an approach would make it impractical or unreasonably difficult to evaluate the appropriateness of the remedial action, or result in the need to define land or resource use restrictions in areas too small to be properly managed or in a pattern that makes compliance with the land or resource use restrictions impractical.

(f) If there is more than 1 facility at a property or contiguous properties under common ownership, then the facilities shall not be addressed in more than 1 RAP to avoid financial assurance requirements.

(2) Only areas of a property where appropriate site characterization has been conducted shall be included in a RAP. Any limitations in this regard shall be explicitly reflected in the restrictive covenant, notice of approved environmental remediation, or similar land or resource use restriction document associated with the remedial action. This subrule does not prohibit including, in a land or resource use restriction document, 1 or more areas where appropriate facility characterization activities have not been conducted, but the limitations of the characterization and the presumptive nature of the restrictions shall be reflected in the land or resource use restriction document as provided in this subrule.

R 299.5538 OPERATION AND MAINTENANCE; DEPARTMENT APPROVAL.

Rule 538. (1) Operation and maintenance shall be implemented as part of any response activity if necessary to achieve remedial objectives, assure the integrity and effectiveness of the response activity, or both. Operation and maintenance is not required if a complete interim response activity or a remedial action complies with criteria provided for in section 20120a(1)(b) to (e) of the act, unless it is necessary to assure compliance with criteria that apply outside the boundary of the property that is the source of the release.

(2) An operation and maintenance plan shall include all of the following as appropriate to the response activity:

(a) Name, phone number, and address of the person who is responsible for operation and maintenance.

(b) Operation and maintenance activities and schedule.

(c) A discussion of critical systems reliability, including options for repair or redundancy.

(d) Design and construction plans.

(e) Equipment diagrams, specifications, operating manuals, and manufacturers' guidelines.

(f) Emergency plan, including emergency contact phone numbers.

(g) A contingency plan that addresses response to failure of any critical system component.

(h) Other information required to determine the adequacy of the operation and maintenance plan. Department requests for information under this subdivision shall be limited to factors not adequately addressed by information required by other subdivisions of this rule and shall be accompanied by an explanation of the need for the additional information.

(3) Prior department approval of an operation and maintenance plan is required only as described in section 20114(2) of the act, for operation and maintenance plans submitted in response to a department request under section 20114(1)(h) of the act, and for operation and maintenance plans that are part of a remedial action in a category allowed for under section 20120a(1)(f) to (j) or (2) of the act.

(4) A person may seek department approval of an operation and maintenance plan in cases not covered by subrule (3) of this rule by submitting the plan to the department.

R 299.5540 MONITORING; DEPARTMENT APPROVAL.

Rule 540. (1) Environmental monitoring shall be undertaken as part of any response activity if necessary to judge the effectiveness of the response activity.

(a) Environmental monitoring is not required if a complete interim response activity or a remedial action complies with criteria provided for in section 20120a(1)(a) to (e) of the act, unless it is necessary to assure compliance with criteria that apply outside the boundary of the property that is the source of the release.

(2) A monitoring plan or report submitted shall address all of the following, as appropriate to the facility:

(a) The effectiveness of the response activities in protecting the public health, safety, and welfare and the environment. A response activity that includes measures to limit or control migration of hazardous substances shall include a plan and schedule for determining whether that objective is achieved.

(b) The effectiveness of the response activities in minimizing, mitigating, treating, or removing environmental contamination at a facility.

(c) Location of monitoring points for collection of environmental data.

(d) Environmental media to be monitored, such as soil, air, water, sediment, or biota.

(e) Monitoring schedule.

(f) Monitoring methodology, including sample collection procedures.

(g) Substances and conditions to be monitored.

(h) Laboratory methodology, including the name of the laboratory responsible for analysis of monitoring samples, and whether target detection limits were achieved for the monitoring samples. Quality assurance and quality control samples that document the accuracy and precision of the monitoring samples shall be made available to the department on request.

(i) Quality assurance and quality control plan.

(j) Data presentation and evaluation plan.

(k) Contingency plan to address ineffective monitoring.

(l) Operation and maintenance plan for monitoring equipment.

(m) An explanation of the way in which monitoring data will be used to demonstrate effectiveness of the response activities.

(n) Other elements required to determine the adequacy of the monitoring plan. Department requests for information under this subdivision shall be limited to factors not adequately addressed by information required by other subdivisions of this rule and shall be accompanied by an explanation of the need for the additional information.

(3) Prior department approval of a monitoring plan is required only as noted in section 20114(2) of the act, for monitoring plans submitted in response to a department request under section 20114(1)(h) of the act, and for monitoring plans that are part of a remedial action in a category allowed for under section 20120a(1)(f) to (j) or (2) of the act.

(4) A person may seek department approval of a monitoring plan in cases not covered by subrule (3) of this rule by submitting the plan to the department.

(5) In addition to environmental monitoring, a monitoring plan shall address compliance with land or resource use restrictions and integrity of exposure controls in the following manner:

(a) For response activity that is intended to comply with cleanup criteria provided for in section 20120a(1)(a) to (e) of the act, ongoing documentation of compliance with land use restrictions is not required as part of the monitoring plan when the response activity is complete.

(b) For response activity that is intended to comply with cleanup criteria provided for in section 20120a(1)(f) to (j) or (2) of the act, ongoing documentation of the integrity of any exposure control mechanisms and compliance with land or resource use restrictions shall be prepared and maintained.

R 299.5542 Relocation of soil; notification of department under section 20120c of the act.

Rule 542. (1) Section 20120c of the act applies only to soil, excluding sediments generated by nonremedial, maintenance dredging activities, and except as further described in the following provisions:

(a) Section 20120c of the act applies to solid waste, as that term is defined in part 115 of the act, if either of the following conditions is satisfied:

(i) That waste is present as contaminant in soil, but the mixture of soil and solid waste is predominantly natural soil and no other applicable law or regulation requires more restrictive handling of the mixed material. Such a mixture of soil and solid waste is "other wastes regulated by statute" as that term is used in section 11506(1)(l) of the act.

(ii) The solid waste was disposed of before 1978 outside of a landfill or other authorized disposal area. For the purpose of this rule, solid waste may be considered disposed of before 1978 after appropriate inquiry. Appropriate inquiry shall include a review of reasonably available information including aerial photos, interviews with property owners, and a review of government records, after which it cannot be reasonably determined or inferred that the disposal occurred after 1978.

(b) Section 20120c of the act is not applicable to contaminated soil that is hazardous waste under part 111 of the act. Relocation of soil that is hazardous waste shall be done in accordance with part 111 of the act and the rules promulgated under that

part.

(c) Except as provided in subdivision (a) of this subrule, section 20120c of the act is not applicable to soil mixed with significant amounts of garbage or rubbish as those terms are defined in part 115 of the act.

(d) Section 20120c of the act is not applicable to any of the following:

(i) Human body wastes.

(ii) Septage.

(iii) Sewage sludge.

(iv) Organic waste generated in the production of livestock or poultry.

(v) Liquid wastes.

(e) Except as provided in subrule (1)(a)(ii) of this rule, section 20120c of the act is not applicable to any of the following:

(i) Stamp sand.

(ii) Foundry sand.

(iii) Cement kiln dust.

(iv) Coal and wood ashes.

(v) Paper mill sludge.

(vi) Slag.

(f) For the purposes of evaluating compliance with part 115 of the act, soil that is lawfully relocated under section 20120c of the act and this rule is "other wastes regulated by statute" as that term is used in section 11506(1)(l) of the act.

(2) The requirements of section 20120c of the act apply to soil at a facility if hazardous substance concentrations in that soil exceed 1 or more residential cleanup criteria established by the department under section 20120a(1)(a) of the act, including those criteria that protect an aquifer from the impact of a hazardous substance leaching from soil into the aquifer, regardless of whether an aquifer is present at the facility. The person who is arranging for relocation of soil is responsible for determining that there will be no adverse impact on the public health, safety, or welfare or the environment as a result of the soil being relocated.

(3) Soil covered by section 20120c of the act may be relocated from a facility to an off-site location if 1 or more of the following conditions are satisfied:

(a) The soil is removed from a facility and taken to an off-site location for disposal, treatment, or recycling in compliance with all applicable laws and regulations. Prior department permission is not required under section 20120c(5) of the act for disposal off-site in accordance with parts 111 and 115 of the act and the rules promulgated under those parts.

(b) The facility or the off-site location is subject to a remedial action plan or an interim response activity plan that was intended to meet specific cleanup criteria and that plan was previously approved by the department as being consistent with the categorical cleanup criteria developed under section 20120a(1)(f) to (j) or (2) of the act and prior written department approval is obtained. The department shall use cleanup criteria developed under section 20120a(1) or (2) of the act, and that are applicable at the off-site location, to determine whether the soil will pose an unacceptable risk at the off-site location.

(c) The off-site location is a facility, subdivision (b) of this subrule is not applicable, and all of the following additional conditions are satisfied:

(i) The soil removed from the facility does not contain concentrations of hazardous substances that exceed the generic cleanup criteria developed under section 20120a(1)(a) to (e) of the act which are applicable to the off-site location.

(ii) The off-site location is similarly contaminated, considering the general nature, concentration, and mobility of hazardous substances at the location to which the soil will be moved.

(iii) Notice has been given to the department as required by section 20120c(6) of the act.

(iv) Except as provided in subrule (6) of this rule, the off-site location is owned by the person who owns the facility from which the soil is removed.

(4) Soil covered by section 20120c of the act may be relocated within a facility that is subject to a remedial action plan or a plan for interim response activity that is designed to meet specific cleanup criteria if either of those plans was approved by the department and all of the following conditions are satisfied:

(a) If the facility is subject to a remedial action plan approved by the department based on the categorical cleanup criteria developed under section 20120a(1)(f) to (j) or (2) of the act, and prior written approval is obtained from the department for relocation of soils. The department, in issuing an approval, shall determine that relocation of the soil will not interfere with the integrity and effectiveness of the remedial action addressed by the remedial action plan, and that unacceptable exposures will not occur as a result of the relocation of soil at the facility.

(b) If subdivision (a) of this subrule does not apply, and if the facility is subject to a remedial action plan based on cleanup criteria developed under section 20120a(1)(a) to (e) of the act, if the person proposing to relocate the soil assures that the same degree of control required for application of the criteria under the remedial action plan is provided for the relocated contaminated soil, and if notice has been given to the department as required by section 20120c(6) of the act.

(c) Notwithstanding this subrule, an owner or operator of a facility may temporarily relocate soil within the facility that is subject to a remedial action plan for the purposes of implementing response activity or utility construction or repair or similar activity, if the response activity, utility construction or repair or similar activity is completed in a timely fashion and if the short-term hazards associated with the contaminated soil are appropriately controlled.

(5) For facilities not subject to a remedial action plan approved by the department, soil may be relocated within similarly contaminated areas of the facility if the relocation is consistent with the requirements of section 20107a(1) of the act. For purposes of this subrule, the exceptions to section 20107a of the act that are set forth in section 20107a(4) and (5) of the act are not applicable.

(6) Soil may be relocated under section 20120c of the act to a location that is not owned by the person arranging for the relocation of soil if the relocation is explicitly authorized by department approval of a remedial action plan or interim response activity plan, if that plan is designed to meet criteria, for the property where the soil is being moved. A remedial action plan or interim response plan being reviewed by the department under this rule can be denied if the soil relocation is inconsistent with the reasonably foreseeable future use of the property.

(7) Relocation of soil within a facility or to an off-site location shall not result in the creation of nuisance conditions, including,

but not limited to, fugitive dust.

(8) Except as explicitly provided in this rule, section 20120c of the act shall not be used to circumvent the requirements of part 115 of the act for the licensing and regulation of solid waste disposal areas.

(9) Section 20120c of the act shall not be used as the basis for or considered an authorization for open water disposal of soil or sediments.

PART 6. SELECTION OF REMEDIAL ACTION

R 299.5601 Degree of cleanup; compliance with state and federal requirements; cost.

Rule 601. (1) All remedial actions carried out under these rules shall achieve a degree of cleanup that is protective of the public health, safety, and welfare and the environment.

(2) Remedial actions shall meet legally applicable state and federal requirements and shall meet relevant and appropriate state and federal requirements to the extent practical.

(3) The cost of a remedial action shall be a factor only in choosing among alternatives that adequately protect the public health, safety, and welfare and the environment, consistent with the requirements of section 20120a of the act.

R 299.5603 Evaluation of remedial action alternatives.

Rule 603. (1) When the department is selecting or approving a remedial action, or when another person is selecting a remedial action, all of the following shall be considered:

(a) The effectiveness of alternatives in protecting the public health, safety, and welfare and the environment.

(b) The long-term uncertainties associated with the proposed remedial action.

(c) The persistence, toxicity, mobility, and propensity to bioaccumulate of the hazardous substances.

(d) The short and long-term potential for adverse health effects from human exposure.

(e) Costs of remedial action, including long-term maintenance costs, except that costs shall only be considered as specified in R 299.5601(3).

(f) Reliability of the alternatives.

(g) The potential for future remedial action costs if an alternative fails.

(h) The potential threat to human health, safety, and welfare and the environment associated with excavation, transportation, and redisposal or containment.

(i) The ability to monitor remedial performance.

(j) For remedial actions that require the opportunity for public comment under section 20120d of the act, the public's perspective about the extent to which the proposed remedial action effectively addresses requirements specified in part 201 of the act and these rules.

(2) Evaluation of the factors in subrule (1) of this rule shall consider all factors in balance with one another as necessary to achieve the objectives of part 201 of the act and R 299.5601. No single factor in subrule (1) of this rule shall be considered most important.

R 299.5605 Rescinded.

R 299.5607 Administrative record.

Rule 607. (1) The department shall compile an administrative record of the decision process leading to the selection or approval of any remedial action. The administrative record shall contain all of the following information, as applicable:

(a) Remedial investigation data.

(b) The feasibility study and potential alternative actions.

(c) Public comments received, if any, and an explanation of how significant concerns are to be addressed.

(d) For remedial actions that have been completed in accordance with a department-approved remedial action plan, documentation prepared under section 20114(5) of the act, if applicable.

(e) For remedial action plans that include a demonstration prepared under section 20118(5) and (6) of the act, that demonstration and the department’s determination about the adequacy of the demonstration.

(f) Other information appropriate to the facility.

(2) If neither a remedial investigation nor a feasibility study was conducted for a facility subject to the requirements of section 20120d of the act, then the department shall include in the administrative record an explanation of the basis for the decision.

(3) The department shall prepare a summary document that explains its decision regarding a remedial action plan which is subject to the requirements of section 20120d of the act.

PART 7. CLEANUP CRITERIA REQUIREMENTS FOR REMEDIAL ACTIONS AND INTERIM RESPONSE ACTIVITY DESIGNED TO MEET CRITERIA

R 299.5701 Definitions; A to I.

Rule 701. As used in this part:

(a) "Acute toxicity" means the ability of a hazardous substance to cause a debilitating or injurious effect in an organism as a result of a single or short-term exposure.

(b) "Background" means the concentration or level of a hazardous substance which exists in the environment at or regionally proximate to a site that is not attributable to any release at or regionally proximate to the site.

(c) "Best available information" means, when used in relation to a risk assessment or the development of cleanup criteria, the most scientifically credible and relevant data available about a particular hazardous substance. Such information may include, but is not limited to, any of the following:

(i) The peer reviewed scientific literature.

(ii) Information sources recognized by the risk assessment community, such as the integrated risk information system database

maintained by the United States environmental protection agency or other scientifically reliable databases.

(iii) Other scientific studies that are acceptable to the department.

(d) “Cancer slope factor” means a plausible upper-bound estimate of the probability of a response per unit dose of a hazardous substance over a lifetime. the cancer slope factor is used to estimate an upper bound probability of an individual developing cancer as a result of a lifetime exposure to a particular level of a potential carcinogen.

(e) "Carcinogen" means a hazardous substance which, based on the weight of evidence, causes an increased incidence of benign or malignant neoplasms in animals or humans or that substantially decreases the time in which neoplasms develop in animals or humans.

~~(f) "Chronic toxicity" means the ability of a hazardous substance to cause an injurious or debilitating effect in an organism that results from repeated exposure to the hazardous substance for a time period representing a substantial portion of the natural life expectancy of the organism.~~

(g) “Generic commercial” means the cleanup criteria established by the department under section 20120a(1)(b) of the act and these rules. Generic commercial cleanup criteria shall be established in at least all of the following subcategories, based on activity patterns that characterize exposure:

(i) Commercial I. Commercial I cleanup criteria shall be identical to the generic residential cleanup criteria.

(ii) Commercial II. Commercial II cleanup criteria shall be identical to the generic industrial cleanup criteria.

(iii) Commercial III.

(iv) Commercial IV.

(h) “Generic industrial” means the cleanup criteria established by the department under section 20120a(1)(d) of the act and these rules.

(i) “Generic recreational” means the cleanup criteria established by the department under section 20120a(1)(c) of the act.

(j) “Generic residential” means the cleanup criteria established by the department under section 20120a(1)(a) of the act and these rules.

(k) "Increased cancer risk of 1 in 100,000" means the 95% upper bound on the calculated risk of 1 additional cancer above the background cancer rate per 100,000 individuals continuously exposed to a carcinogen at a given average daily dose for a 70-year lifetime.

~~(l) “Inhalation unit risk factor” means the additional lifetime cancer risk occurring in a population in which all individuals are exposed continuously for life to a concentration of 1 microgram per cubic meter of the hazardous substance in the air they breathe. The inhalation unit risk factor shall be calculated under the provisions of part 55 of the act and the rules promulgated under that part.~~

~~(m) “Initial threshold screening level” means a concentration in air of a toxic air contaminant which is used to evaluate noncarcinogenic health effects and is calculated under part 55 of the act and the rules promulgated under that part.~~

(n) "Ionizing organic hazardous substance" means an organic hazardous substance that has functional chemical groups that become ions when exposed to varying pH conditions.

R 299.5703 Definitions; L to W.

Rule 703. As used in this part:

(A) "Leachate" means liquid, including any suspended components in the liquid, that has percolated through or drained from a hazardous substance or soil contaminated with a hazardous substance.

(b) "Linearized multistage model" means a dose-response model which assumes that there are a number of distinct biological stages or changes that must occur for a normal cell to be transformed into a tumor and which assumes the dose-response relationship to be linear at low doses.

(c) "Reference dose" or "RfD" means a conservative estimate of the daily intake of the human population, including sensitive subgroups, that is likely to be without appreciable risk of deleterious effect during a lifetime. The reference dose is expressed in units of milligrams per kilogram body weight per day.

(d) “Relative source contribution factor” or “RSC” means that portion of a person’s total daily intake of a noncarcinogenic hazardous substance that comes from the medium being addressed by the cleanup criterion.

(e) "Risk assessment" means the analytical process used to determine the risk to the public health, safety, or welfare or to the environment associated with a release or threat of release of a hazardous substance at a facility.

(f) "Secondary maximum contaminant level" means the United States environmental protection agency's secondary maximum contaminant level for protection of the public welfare for substances that may adversely affect the taste, odor, color, appearance, or any aesthetic quality of drinking water, as set forth in 40 C.F.R. part 143 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection at the Lansing office of the department, 525 West Allegan Street, Lansing, Michigan. Copies of the provisions may be purchased, at a cost as of the time of adoption of these rules of $55.00, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401 (Stock Number 869-044-00152-7), or from the Department of Environmental Quality, Remediation and Redevelopment Division, 525 West Allegan Street, Lansing, Michigan 48933, at cost.

(g) "Toxicological interaction" means simultaneous exposure to 2 or more hazardous substances which will produce a toxicological response that is greater or less than their individual responses.

(h) "Weight of evidence," a term of art used in risk assessment, means an evaluation of the relevant scientific data conducted to determine the likelihood that a hazardous substance is a human carcinogen or causes noncancer adverse health effects, or both. The evaluation may include any of the following information in addition to toxicological bioassays:

(i) Structure-activity relationships.

(ii) chemical-physical properties.

(iii) Short-term test findings.

(iv) Results of appropriate physiological, biological, and toxicological observations.

(v) Comparative metabolism and pharmacokinetic studies.

R 299.5705 Remedial actions; protection of public health, safety, welfare, and environment required; Part 7 rules applicable to interim response actions designed to meet cleanup criteria; degree of cleanup; modification of cleanup category; aquifers; unacceptability of remedial action plan.

Rule 705. (1) All remedial actions shall be protective of the public health, safety, and welfare and the environment. applicable generic cleanup criteria established by the department pursuant to section 2012oa(1) and site specific cleanup criteria approved by the department under section 20120a(2) of the act and these rules reflect the departments judgment, at the time the criteria are established or approved by the department, about the numerical criteria required to meet this protectiveness requirement, subject to the provisions of R 299.5706(3), R 299.5728, and R 299.5734(2).

(2) A remedial action shall provide for response activity that will satisfy cleanup criteria in 1 or more land use-based categories, as allowed for under section 20120a(1) of the act, or site-specific cleanup criteria as provided in section 20120a(2) of the act. The rules in this part also apply to interim response activities that are designed to meet cleanup criteria. references in this part to remedial actions also include those interim response activities.

(3) The category of land use-based remedial action under section 20120a(1) of the act or the site-specific cleanup criteria identified under section 20120a(2) of the act may be modified by the person proposing to conduct the response activity that will result in modification during implementation or after completion of a remedial action, if appropriate to the facility and if that modification is accomplished in a manner that is consistent with the act and these rules.

(4) If a revised land use-based remedial action includes characteristics that are required by R 299.5532 to be approved by the department, then the person implementing the change shall seek department approval as required by part 201 of the act and these rules.

(5) The horizontal and vertical extent of hazardous substance concentrations in an aquifer above the higher of either the concentration allowed by Section 20120a(1)(a) or (11) of the act, as applicable, shall not increase after the initiation of remedial actions to address an aquifer, except as approved by the director as provided in section 20118(5) and (6) of the act.

(6) All remedial actions that address the remediation of an aquifer shall provide for removal of the hazardous substance or substances from the aquifer, either through active remediation or as a result of naturally occurring biological or chemical processes which can be documented to occur at the facility, except as provided in section 20118(5) and (6) of the act.

R 299.5706 General requirements for application of cleanup criteria.

Rule 706. (1) All cleanup criteria used in remedial actions undertaken under part 201 of the act and these rules shall be based on best available information.

(2) The generic cleanup criteria developed by the department using the algorithms presented in part 7 of these rules are derived primarily from data that reflect chronic toxicity endpoints. If a hazardous substance has a more sensitive toxic effect than those associated with the chronic toxicity data used to calculate a generic criterion, then a criterion shall be developed to address the most sensitive effect. Except as provided in R 299.5532(9), generic cleanup criteria established by the department shall be accepted as protective of the most sensitive toxic effect in a given exposure pathway for the hazardous substance in question.

(3) If the department has not calculated a criterion for a hazardous substance for a given exposure pathway, then the person proposing or implementing the remedial action shall supply the necessary data for the department to calculate a criterion or establish a criterion under subrule (4) of this rule, unless the department determines that a numerical criterion is not required to assure that a given remedial action will be protective.

(4) A generic or site-specific cleanup criterion may be established by the department based on best professional judgment instead of a calculation based on minimum toxicity data for a specific hazardous substance when the minimum toxicity data are not available for that hazardous substance, but data of sufficient quality are available to show that the hazardous substance in question can be adequately assessed by comparison to the toxicity of another hazardous substance for which sufficient data are available. A criterion may be established by the department in this manner when the hazardous substances are expected by the department to have similar fate and toxicity.

R 299.5706a Generic cleanup criteria; toxicological and chemical-physical properties; use of generic cleanup criteria as risk based screening levels; procedure for developing additional generic criteria.

Rule 706a. (1) Except as provided in R 299.5532(9) and subrules (10), (11) and (12) of this rule, generic groundwater cleanup criteria for the residential, commercial and industrial categories shall be the values shown in table 1 of R 299.5744. If a generic groundwater cleanup criterion is higher than the flammability and explosivity screening level or the acute inhalation screening level shown in table 1 of R 299.5744, then the person proposing or implementing response activity shall document whether additional response activity is required to protect against those acute hazards.

(2) Except as provided in R 299.5532(9) and subrules (10), (11), and (12) of this rule, generic soil cleanup criteria for the residential and commercial i categories shall be the values shown in table 2 of R 299.5746.

(a) If a generic soil cleanup criterion is greater than C_{sat}, then the person proposing or implementing response activity shall document whether additional response activity is required to control free-phase liquids or to protect against hazards associated with free-phase liquids that are not accounted for in development of the generic criteria.

(3) Except as provided in R 299.5532(9) and subrules (10), (11), and (12) of this rule, generic soil cleanup criteria for the commercial II, III, IV, and industrial categories shall be the values shown in table 3 of R 299.5748.

(4) The generic cleanup criteria shown in R 299.5744, R 299.5746, and R 299.5748 and identified under subrule (14) of this rule may be used and known as risk-based screening levels for corrective actions required under the part 213 of the act.

(5) Generic cleanup criteria under R 299.5744, R 299.5746, and R 299.5748 are based on R 299.5707 in the following cases:

(a) If a calculated cleanup criterion is less than the target detection limit for that hazardous substance in a given medium, then the target detection limit is the cleanup criterion. Criteria to which this subdivision applies are designated with a footnote in the criteria tables.

(b) A background concentration may be substituted for a generic cleanup criterion when the background concentration is higher than a criterion shown in R 299.5744, R 299.5746, or R 299.5748.

(6) If a hazardous substance imparts adverse aesthetic characteristics to groundwater at a concentration less than the health-based criterion for that hazardous substance, the aesthetic-based criterion derived under R 299.5709 is shown as the drinking water criterion in the table of generic cleanup criteria in R 299.5744 and designated with a footnote.

(7) Except as provided in section 20120a(10) of the act and R 299.5750(1)(o), the toxicological and physical-chemical input values used by the department to derive generic cleanup criteria with the equations and default assumptions provided in R 299.5710, R 299.5712, R 299.5714, R 299.5720, R 299.5722, R 299.5724, and R 299.5726 are shown in table 4 of R 299.5752.

(8) Toxicological and chemical-physical data in table 4 of R 299.5752, if available, shall be used in conjunction with the equations and default assumptions that appear in these rules for the development of generic cleanup criteria under subrule (10) or (11) of this rule, except as provided in section 20120a(10) of the act and R 299.5750(1)(o).

(9) Except as provided in subdivision (a) of this subrule, site-specific cleanup criteria developed under section 20120a(2) of the act shall use the toxicological and chemical-physical data in table 4 of R 299.5752, or shall be based on the procedures allowed for under subrules (10) and (11) of this rule. Site-specific assumptions may be substituted for the default assumptions specified in R 299.5710, R 299.5712, R 299.5714, R 299.5720, R 299.5722, R 299.5724, and R 299.5726, if appropriate; however, the equations presented in the pertinent rule shall be used to calculate site-specific criteria. Non-human health based toxicological values may be modified through the development of site-specific cleanup criteria under section 20120a(2) of the act and R 299.5716(11).

(a) The following chemical-physical properties may be modified as part of a site-specific cleanup criterion developed under section 20120a(2) of the act, if documented by the person proposing the site-specific criterion to be more appropriate for a specific facility than the generic parameter listed in table 4 of R 299.5752:

(i) Relative source contribution factor for drinking water.

(ii) Ingestion absorption efficiency.

(iii) Dermal absorption efficiency.

(iv) Relative source contribution factor for soil.

(v) Soil k_{oc} for ionizing organic compounds.

(vi) Soil-water distribution coefficients for inorganic compounds.

(10) For a substance that is not listed in the cleanup criteria tables in R 299.5744, R 299.5746, or R 299.5748, the department may determine if the substance is a hazardous substance using best available information about the toxicological and physical-chemical properties of that substance and use that information to develop a generic or site-specific cleanup criterion.

(11) For a substance that is listed in the cleanup criteria tables in R 299.5744, R 299.5746, or R 299.5748, if the department obtains sufficient information to support calculation of a cleanup criterion which is designated in the cleanup criteria tables or table 4 of R 299.5752 with a footnote “ID” or “NA,” the department shall use best available information to calculate a cleanup criterion for the hazardous substance.

(12) If a new state drinking water standard is established or a state drinking water standard is changed after the effective date of this rule, the drinking water standard in effect under section 5 of 1976 pa 399, MCL 325.1005 et seq. shall become the generic residential cleanup criterion under R 299.5744, as provided in section 20120a(5) of the act.

(13) If a generic cleanup criterion is developed under subrule (10) or (11) of this rule, or modified under subrule (12) of this rule, the department shall make the new toxicological and physical-chemical data and criterion available by announcing it on the department’s internet web site, and by publishing notice of the change in the department calendar, or by such other means that effectively notifies interested persons. The new criterion shall take effect when published and announced by the department as called for in this rule. The new data and resulting cleanup criterion shall remain effective and be used as required under these rules until the department promulgates revised data and criteria pursuant to 1969 PA 306, MCL 24.201 et seq.

R 299.5707 Background concentrations and target detection limits as cleanup criteria.

Rule 707. If the target detection limit or the background concentration is greater than the risk-based cleanup criteria for a hazardous substance in a given environmental medium, then the target detection limit or the background concentration, whichever is larger, shall be used in place of the risk-based value as the cleanup criterion.

R 299.5708 Groundwater cleanup criteria generally.

Rule 708. (1) Except as provided in subrule (2) of this rule, the generic groundwater cleanup criteria applicable at a given facility shall be the most restrictive of the criteria developed under R 299.5709 to R 299.5716 and section 20120a(15) of the act, considering those pathways that are reasonable and relevant to the facility and the category of cleanup criteria being proposed or implemented.

(2) If a generic groundwater cleanup criterion developed under R 299.5709 to R 299.5716 or section 20120a(15) of the act is greater than the solubility limit of that hazardous substance in water at 25º Celsius, then the solubility limit shall be the generic criteria for that pathway.

R 299.5709 Calculation of generic cleanup criteria for groundwater in an aquifer based on adverse aesthetic impacts.

Rule 709. (1) If a hazardous substance, singly or in combination with other hazardous substances present at the facility, imparts adverse aesthetic characteristics to groundwater in an aquifer, then the cleanup criterion shall be the secondary maximum contaminant level, or, if there is no secondary maximum contaminant level, then the concentration that is documented as the taste or odor threshold concentration or the concentration below which appearance or other aesthetic characteristics are not adversely affected. The criteria of this subrule shall apply only when the level required by this subrule is less than the level required by section 20120a(4) of the act. A taste or odor threshold concentration or a concentration adversely affecting appearance shall be determined according to methods approved by the united states environmental protection agency.

(2) For the purposes of this rule, the point of exposure shall be presumed to be any point in the affected aquifer.

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R 299.5710 Generic cleanup criteria for groundwater in an aquifer based on ingestion of groundwater for drinking water.

Rule 710. (1) Exposure to groundwater by ingestion shall be considered a relevant pathway for groundwater that satisfies either of the following conditions:

(a) The groundwater is in an aquifer.

(b) The groundwater is not in an aquifer, but can reasonably be expected to transport a hazardous substance into an aquifer in a concentration that exceeds the generic residential criteria developed under subrule (2) of this rule.

(2) The criteria developed pursuant to R 299.5709 and R 299.5710 are not applicable if ingestion of the groundwater is, or as part of the remedial action will be, reliably restricted by a restrictive covenant, a notice of approved environmental remediation, or an institutional control that is allowed for under these rules and approved by the department, if approval is required.

(3) Cleanup criteria for groundwater based on ingestion of groundwater for drinking water shall be calculated according to the following algorithms, except as provided for in R 299.5734. Criteria calculated under this subrule shall be the generic cleanup criterion, unless a state drinking water standard is available or, if a criterion protective of adverse aesthetic characteristics is more restrictive, as provided for in section 20120a(5) of the act.

EQUATION FOR CARCINOGENIC EFFECTS:

(Ratio of soil vapor concentration to groundwater/source concentration)
= chemical-specific,
$(ug/m^3)/(ug/L)$

The soil vapor-phase concentration generated from a hazardous substance in groundwater is assumed to be in equilibrium with the aqueous phase concentration (C_w) of that substance as related by the dimensionless Henry's law constant (H') such that:

Ratio of soil vapor concentration to groundwater/source concentration)
= chemical-specific,
$(ug/m^3)/(ug/L)$

H'
(Dimensionless Henry's law constant, where H' = HLC x 41)
= chemical-specific, unitless

HLC
(Henry's law constant at 25 degrees Celsius)
= chemical-specific,
$(atm\text{-}m^3/mol)$

TAF
(Temperature adjustment factor)
= 0.5, unitless

C_w
(Uniform unit groundwater concentration)
= 1 ug/L

The intrusion rate of hazardous substance vapors into buildings is predicted using an analytical solution which couples both diffusive and convective transport of vapors emanating from groundwater into enclosed spaces. An attenuation coefficient (A) is calculated that is expressed as the ratio of building indoor air concentration to the vapor-phase concentration at the source. Values of A are calculated assuming infinite source conditions. For infinite source conditions A is written as follows:

(Total effective diffusion coefficient)
= chemical-specific, cm^2/s

D^{crack}
(Effective diffusion coefficient through crack)
= cm^2/s, (D^{crack} = below)

A_b
(Area of enclosed space below grade)
= 1.96E+6 cm^2 (residential)
= 3.83E+6 cm^2 (commercial/ industrial)

$Q_{building}$
(Building ventilation rate)
= 1.51E+5 cm^3/s (residential)
= 5.04E+5 cm^3/s (commercial/ industrial)

L_{crack}
(Building foundation thickness)
= 15 cm

L_T
(Source-building separation distance)
= 115 cm (residential)
= 300 cm (commercial/

= 383 cm^2 (commercial/
industrial)
exp(p)
(The base of the natural logarithm raised to power p)
= e^p
To characterize contaminant diffusion from groundwater into buildings a total effective diffusion coefficient () is calculated to account for both liquid phase diffusion of the contaminant through the capillary fringe, () , and vapor phase diffusion through the vadose zone, () . The calculation is as follows:

where,

	(Total effective diffusion coefficient)	= chemical-specific, cm^2/s
L_T	(Source-building separation distance)	= 115 cm (residential) = 300 cm (commercial/ industrial)
h_v	(Thickness of vadose zone below enclosed space floor)	= 75 cm (residential) = 260 cm (commercial/ industrial)
L_{crack}	(Building foundation thickness)	= 15 cm
	(Effective diffusion coefficient through vadose zone)	= chemical-specific, cm^2/s
h_{cf}	(Thickness of capillary fringe)	= 25 cm
	(Effective diffusion coefficient through capillary fringe)	= chemical-specific, cm^2/s

The effective diffusion coefficient calculation for the vadose zone () is written as:

(Effective diffusion coefficient through vadose zone)
= chemical-specific, cm^2/s
D_a
(Diffusivity in air)
= chemical-specific, cm^2/s
q_a
(Soil air-filled porosity)
= 0.13 cm^3/cm^3
N
(Total soil porosity)
= 0.43 cm^3/cm^3
D_w
(Diffusivity in water)
= chemical-specific, cm^2/s
H'
(Dimensionless Henry's law constant, where H' = HLC x 41)
= chemical-specific, unitless
HLC
(Henry's law constant
= chemical-specific,
(atm-m^3/mol)
TAF
(Temperature adjustment factor)
= 0.5
q_w
(Soil water-filled porosity)
= 0.3 cm^3/cm^3
The effective diffusion coefficient calculation for the capillary fringe () is written as:
(Effective diffusion coefficient through capillary fringe)
= chemical-specific, cm^2/s
D_a
(Diffusivity in air)
= chemical-specific, cm^2/s
$q_{a,cf}$
(Soil air-filled porosity in capillary fringe)
= 0.078 cm^3/cm^3
D_w
(Diffusivity in water)
= chemical-specific, cm^2/s

(Temperature adjustment factor)
= 0.5
$q_{w,cf}$
(Soil water-filled porosity in capillary fringe)
= 0.352 cm^3/cm^3
N
(Total soil porosity)
= 0.43 cm^3/cm^3

(4) Facility-specific measurements of the following parameters may be substituted individually for the generic assumptions and still allow the facility to satisfy the generic categorical criteria under section 20120a(1)(a) to (e) of the act.
(a) Dry soil bulk density.
(b) Fraction of organic carbon in soil.
(c) Soil vapor permeability.
(d) Temperature adjustment factor for Henry's law constant.
(e) Source-building foundation separation distance.
(f) Vertical thickness of capillary fringe.
Facility-specific measurements shall be based on representative characterization. Documentation of all facility specific values shall be provided in the remedial action plan.
(5) The department may approve of methods to demonstrate compliance with criteria for this exposure pathway if those methods are more representative of in-situ conditions at the facility. Methods acceptable to the department may include, but are not limited to, use of representative soil gas concentrations.
(6) A site-specific GVIIC may be developed for remedial action plans prepared pursuant to section 20120a(2) of the act that is based on demonstration of compliance with 1974 PA 154, MCL 408.1001 et seq. and the rules promulgated pursuant to that act. This subrule shall apply only when all of the following conditions are satisfied:
(a) The risk being evaluated results from inhalation by workers of hazardous substances in indoor air within an active workplace that is regulated by 1974 PA 154, MCL 408.1001 et seq. and the rules promulgated pursuant to that act.
(b) The exposure to hazardous substances from environmental contamination is a portion of the exposure to which workers are otherwise subject from process-related sources of the same hazardous substance.
(c) The risk to the non-worker population, if any, from inhalation of indoor air at the property has been evaluated using generic residential GVIIC or a site-specific evaluation has been conducted for the non-worker population according to methods acceptable to the department, and the risk is not unacceptable on the basis of the risk management objectives set forth in section 20120a of the act.
R 299.5715 Rescinded.
R 299.5716 Cleanup criteria for groundwater based on protection of surface water resources from hazardous substances in venting groundwater.
Rule 716. (1) The pathway addressed by groundwater surface water interface (GSI) criteria shall be considered a relevant pathway when a remedial investigation or application of best professional judgment leads to the conclusion that a hazardous substance in groundwater is reasonably expected to vent to surface water in concentrations that exceed the generic GSI criteria. The factors to be considered in determining whether the pathway is relevant include all of the following:
(a) Whether there is a hydraulic connection between groundwater and the surface water in question.
(b) The proximity of surface water to source areas and areas of the groundwater contaminant plume that currently, or may in the future be expected to, exceed the generic GSI criteria.
(c) Whether the receiving surface water is surface waters of the state as that term is defined in administrative rules under part 31 of the act.
(d) The direction of groundwater movement.
(e) The presence of artificial structures or natural features that would alter hydraulic pathways. This includes, but is not limited to, highly permeable zones, utility corridors, and seawalls.
(f) The mass of hazardous substances present at the facility that may affect groundwater.
(g) Documented facility-specific evidence of natural attenuation, if any.
(2) GSI monitoring wells, as described in subrule (10) of this rule, are not required in order to make a determination under subrule (1) of this rule if other information is sufficient to make a judgment that the pathway is not relevant. Fate and transport modeling may be used, if appropriate, to support a professional judgment under subrule (1) of this rule. Predictions of fate and transport modeling shall be confirmed by field measurements.
(3) The hazardous substances in groundwater and water quality characteristics in surface water for which response activity is required under this rule are all of the following:
(a) Those hazardous substances determined to have been released at the facility.
(b) Any breakdown product of a hazardous substance determined to have been released at the facility.
(c) Any hazardous substance or water quality characteristic that has resulted from a reaction with the hazardous substance released, or that has been adversely affected by a release.
(4) Cleanup criteria for venting groundwater shall be in 1 or more of the following categories:
(a) Generic GSI criteria identified under subrule (6) of this rule, which shall be allowable in the categories provided for in section 20120a(1)(a) to (j) of the act.
(b) Mixing zone-based GSI criteria developed under subrule (8) of this rule, which shall be allowable in the categories provided for in section 20120a(1)(f) to (j) and (2) of the act.
(c) Site-specific criteria developed under section 201201a(2) of the act and subrules (11) and (12) of this rule. Mixing zones

subrule (6) of this rule, then a person may proceed under subrule (7) of this rule.

(7) A person may request, as provided in R 299.5526(9) and R 299.5532(11)(d), that the department authorize a response activity that includes a mixing zone. The mixing zone determination request shall provide the information required by the department to process the request, including all of the following:

(a) The name of the receiving surface water and the location where groundwater is venting.

(b) The location, nature, and chemical characteristics of past and current sources of groundwater contamination.

(c) The name, chemical abstract service number, and concentration in the groundwater at the GSI and upgradient of the interface to the source area of hazardous substances and water quality characteristics described in subrule (3) of this rule.

(d) The discharge rate, in cubic feet per second, of that portion of the venting groundwater plume that exceeds, or is likely in the future to exceed, a generic GSI criterion.

(e) The location of other venting groundwater plumes in the vicinity of the facility in question, together with information about the names and concentrations of hazardous substances in those plumes, if available.

(f) If the venting groundwater is a new or increased discharge to the surface waters of the state, then information to support an antidegradation demonstration or exemption, if one is required or allowed under R 323.1098.

(8) In response to a request under subrule (7) of this rule, the department shall calculate mixing zone based GSI criteria according to section 3109a of the act and the related rules promulgated under part 31.

(9) Compliance with mixing zone-based GSI criteria shall be assessed according to the following procedures:

(a) Compliance with section 20120a(15) of the act and this rule is demonstrated if the mixing zone based GSI criteria are not exceeded at the GSI monitoring wells required by subrule (10) of this rule and no water quality characteristics as described in subrule (3) of this rule exist that require response activity.

(b) Compliance with mixing zone-based GSI criteria that are based on chronic toxicity endpoints may be established by a statistical evaluation of the data, if that evaluation is part of a department-approved monitoring plan. The statistical evaluation may be based, if sufficient data are available, on a properly calculated and documented 95% upper confidence limit on the mean, or other statistical technique approved by the department. Compliance with mixing zone-based GSI criteria that are based on acute toxicity shall be demonstrated on a point-by-point basis.

(c) A contingency plan may be required by the department in conjunction with an authorization to rely on mixing zone-based GSI criteria if it is necessary to identify additional response activity that may be required in response to a future exceedance of the mixing zone-based GSI criteria and to assure protection of the public health, safety, and welfare, and the environment. The contingency plan shall allow for evaluation of the significance of any exceedance before implementation of additional response activity to control a future discharge that exceeds the mixing zone-based GSI criteria. Such evaluations shall consider, at a minimum, the magnitude and expected duration of the exceedance and the feasibility of implementing additional response activity during the anticipated duration of the exceedance.

(10) For groundwater venting to surface water, that does not vent indirectly through a storm sewer, GSI monitoring points shall be established by installing vertical wells at locations in the saturated zone that are representative of groundwater entering surface water. The vertical wells shall be installed as close as is practical to the surface water, where it can be demonstrated that the groundwater flow direction is toward the surface water in question. GSI monitoring activities shall also satisfy all of the following requirements:

(a) Concentrations in samples from GSI monitoring points shall be compared to generic GSI criteria, site-specific GSI criteria developed under section 20120a(2) of the act, or mixing zone-based GSI criteria, and applicable water quality standards to determine compliance with part 31 of the act and this rule.

(b) GSI monitoring points shall include the interval or intervals within each well or well cluster that shows the highest concentration of each hazardous substance present in that well or well cluster, in light of the physical properties of the hazardous substance and the characteristics of the saturated zone.

(c) Samples from GSI monitoring points shall be representative of groundwater, not surface water, and account for seasonal or periodic shifts in groundwater flow direction, or other natural or human-made features that affect groundwater flow.

(d) The location of a GSI monitoring point shall be selected after taking into consideration changes in groundwater flow direction, so that samples from the well are representative of groundwater flowing to surface water. This requirement does not preclude location of monitoring points in a floodplain.

(e) If a portion of the saturated zone does not vent to the surface water in question, then that portion of the groundwater is not required to be monitored as a GSI monitoring location for that surface water.

(11) A person may request that the department approve a site-specific GSI criterion or site-specific mixing zone under section 20120a(2) of the act only if all of the following conditions are satisfied:

(a) A site-specific criterion shall comply with part 31 of the act and the rules promulgated under part 31, as modified by this rule to apply to venting groundwater.

(b) Only numerical criteria, expressed as hazardous substance concentrations in water or as limits for water quality characteristics for which response activity is required by subrule (3) of this rule, are acceptable as site-specific criteria under 201201a(2) of the act.

(c) A site-specific criterion may be proposed for approval by the department under the rules promulgated pursuant to part 31 of the act that allow for water quality standards based on site-specific modifications, mixing zone demonstrations, or conditions resulting from discharge into the same body of water, as that term is defined in those rules.

(12) Compliance with a site-specific criterion or mixing zone approved under subrule (11) of this rule shall be based on a site-specific monitoring plan that takes into account the basis for the site-specific criterion or mixing zone.

(13) A person may propose to rely on monitoring points other than GSI monitoring wells required by subrule (10) of this rule. Alternative monitoring points are acceptable only if approved by the department in accordance with the requirements and procedures set forth in this rule. A proposal for alternative monitoring points shall be submitted to the department for approval and shall include all of the following:

(a) A demonstration that the proposed monitoring points are more representative of venting groundwater and allow a more

(iii) Documentation that the venting area identified and proposed monitoring points include points that are representative of the highest concentrations of hazardous substances present in the groundwater at the GSI, considering spatial and temporal variability.

(iv) If compliance with a mixing zone based GSI criterion is to be determined with data from the alternative monitoring points, documentation that it is possible to accurately calculate the volume of venting groundwater.

(c) A demonstration that the alternative GSI monitoring points will allow for venting groundwater to be sampled before mixing with surface water.

(d) A demonstration that the proposed alternative GSI monitoring points allow for reliable, representative monitoring of groundwater quality. This demonstration shall take into account all of the following:

(i) Temporal and spatial variability of hazardous substance concentrations in groundwater throughout the plume from the source or sources to the points of venting to surface water.

(i) Seasonal or periodic changes in groundwater flow.

(ii) Other natural or human-made features that affect groundwater flow.

(e) Identification and documentation of the chemical, physical, or biological processes that result in the reduction of hazardous substance concentrations between the monitoring wells required by subrule (10) of this rule and the proposed alternative monitoring points.

(f) The location of an alternative GSI monitoring point shall be selected after taking into consideration changes in groundwater flow conditions, so that samples from the monitoring point are representative of groundwater flowing to surface water. This requirement does not preclude location of monitoring points in a floodplain.

(g) Identification of sentinel monitoring points that will be used in conjunction with the alternative GSI monitoring points to assure that any potential exceedance of an applicable water quality standard can be identified with sufficient notice to allow additional response activity to be implemented that will prevent the exceedance. Sentinel monitoring points shall include, at a minimum, the monitoring points required by subrule (10) of this rule.

(14) If there is an exceedance of a GSI criterion based on acute toxicity at a monitoring well required by subrule (10) of this rule or an alternative monitoring point approved under subrule (13) of this rule then immediate action shall be taken as described in this rule:

(a) A person who is implementing response activity who determines that there is an exceedance of a GSI criterion based on acute toxicity at a monitoring well required by subrule (10) of this rule or an alternative monitoring point approved under subrule (13) of this rule shall notify the department of that condition within 7 days of obtaining knowledge that the exceedance is occurring, or within 30 days of the effective date of this rule, whichever is later, if that person is liable under section 20126 of the act, or if the person intends to seek approval of an alternative monitoring point under subrule (13) of this rule when one is not already approved.

(b) The person implementing response activity shall, within 60 days of the date on which notice is required under subdivision (a) of this subrule, do one or more of the following:

(i) Implement response activity to prevent the exceedance of a GSI criterion based on acute toxicity at the monitoring wells required by subrule (10) of this rule or an alternative monitoring point approved under subrule (13) of this rule, if applicable, and submit a schedule to the department for completion of response activity to prevent a discharge that exceeds a GSI criterion based on acute toxicity.

(ii) Submit notice of intent to propose an alternative monitoring point that complies with subrule (13) of this rule, if one has not already been approved. The notice shall include a schedule for submission of the proposal.

(iii) Submit notice of intent to propose a site-specific criterion under section 20120a(2) of the act. The notice shall include a schedule for submission of the proposal.

The department may approve a schedule as submitted under this subdivision or direct reasonable modifications in the schedule. The department may grant extensions of time for actions required under subdivision (b) of this subrule and for activities in an approved or department-modified schedule if the person is acting in good faith and site conditions inhibit progress or completion of such activity or if there is no adverse impact on surface water resources as a result of the discharge. The department's decision to grant an extension or impose a schedule modification shall consider the practical problems associated with carrying out the required response activity and the nature and extent of the exceedances of GSI criteria.

(c) If the person does not implement effective response activity or submit a notice as required by subdivision (b) of this subrule, or does not comply with the schedule in his or her notice, including modifications made by the department, if any, and no schedule extension was approved by the department, the person shall perform interim response activity sufficient to prevent the exceedance of any GSI criterion based on acute toxicity at the monitoring wells required by subrule (10) of this rule or an alternative monitoring point approved under subrule (13) of this rule, if applicable. He or she shall continue such activity until agreement on an alternative monitoring point or site-specific criterion is reached, if applicable, or, if the proposal is rejected by the department, until a different response activity is implemented to protect the surface water. If an alternative monitoring point was approved by the department prior to detection of the exceedance of a GSI criterion based on acute toxicity in that alternative monitoring point, action to prevent that exceedance shall continue as long as there is a reasonable potential for an exceedance to occur or until a different response activity is implemented to protect the surface water. Interim response activity undertaken to prevent the exceedance during the time needed for review by the department of the proposal shall be documented. An alternative monitoring point proposal that does not adequately document interim response activity required to satisfy this rule, if applicable, shall be considered lacking information necessary or required for the department to make its decision.

(15) If a person proposes a site-specific GSI criterion or alternative GSI monitoring point and the department does not approve the proposal, then the department shall indicate, in writing, the rationale for its disapproval, citing the scientific, mathematical, or legal basis for its disapproval. This written communication shall also indicate whether the department will entertain further proposals to address the issue.

(16) When groundwater is venting indirectly to surface waters of the state, that groundwater shall be addressed in one of the following ways, as applicable to the situation:

(a) If venting groundwater enters a storm drainage system owned by an entity that is subject to storm water regulation under

(17) If a person has controlled the source of groundwater contamination and has demonstrated that compliance with a GSI criterion developed under this rule is unachievable, then that person may appeal to the director for resolution of the matter. An appeal to the director under this rule shall be made in writing and include documentation of the reasons why compliance is unachievable. If a decision on the appeal is not rendered with 60 days after the director receives the appeal, the director shall provide a preliminary response within that time period. The director's preliminary response shall indicate the additional information, if any, required to make a determination and specify the anticipated time required to render a final decision. Decisions by the director under this subrule shall consider the public interest and the need to protect the public health, safety, and welfare, and the environment.

R 299.5717 Rescinded.

R 299.5718 Cleanup criteria for soil generally.

Rule 718. (1) The generic cleanup criteria for soil at a facility shall be the most restrictive of the applicable criteria developed under R 299.5720 to R 299.5728, considering those pathways that are reasonable and relevant at the facility and the category of remedial action being proposed or implemented.

(2) If a generic soil cleanup criterion developed under R 299.5720 to R 299.5726 is greater than the C_{sat} concentration for that hazardous substance, then the C_{sat} concentration shall be the generic criteria for that pathway, unless a facility-specific C_{sat} concentration is established using facility-specific soil characteristics.

R 299.5719 Rescinded.

R 299.5720 Generic cleanup criteria for soil based on direct contact.

Rule 720. (1) Cleanup criteria for soil based on direct contact shall be calculated for the generic residential and commercial I categories according to the following algorithms, except as provided in R 299.5734(3):

EQUATION FOR CARCINOGENS:

where,

DCC	(Direct contact criterion)	=	chemical-specific, ug/kg or ppb
TR	(Target risk level)	=	10^{-5}
AT	(Averaging time)	=	25,550 days (70 years x 365 days/year)
CF	(Conversion factor)	=	1E+9 ug/kg
SF	(Oral cancer slope factor)	=	chemical-specific $(mg/kg\text{-}day)^{-1}$
EF_i	(Ingestion exposure frequency)	=	350 days/year
IF	(Age-adjusted soil ingestion factor)	=	114 mg-year/kg-day*
AE_i	(Ingestion absorption efficiency)	=	chemical-specific or default specified at R 299.5720(3)
EF_d	(Dermal exposure frequency)	=	245 days/year
DF	(Age-adjusted soil dermal factor)	=	353 mg-year/kg-day**
AE_d	(Dermal absorption efficiency)	=	chemical-specific or default specified at R 299.5720(3)

EQUATIONS FOR NONCARCINOGENS:

where,

DCC	(Direct contact criterion)	=	chemical-specific (ug/kg or ppb)
THQ	(Target hazard quotient)	=	1
RfD	(Oral reference dose)	=	chemical-specific mg/kg-/day
AT	(Averaging time)	=	10,950 days (30 years x 365 days/year)
CF	(Conversion factor)	=	1E+9 ug/kg
RSC	(Relative source contribution)	=	1
EF_i	(Ingestion exposure frequency)	=	350 days/year
IF	(Age-adjusted soil ingestion factor)	=	114 mg-year/kg-day*
AE_i	(Ingestion absorption efficiency)	=	chemical-specific or default specified at R 299.5720(3)
EF_d	(Dermal exposure frequency)	=	245 days/year
DF	(Age-adjusted soil dermal factor)	=	353 mg-year/kg-day**
AE_d	(Dermal absorption efficiency)	=	chemical-specific or default specified at R 299.5720(3)

and,

BW_{adult}	(Body weight)	=	70 kg

AND,
**

WHERE,

$SA_{age\ 1\text{-}6}$	(Skin surface area)	=	2,670 cm^2/dayevent
EV	(Event frequency)	=	1 event/day
$AF_{age\ 1\text{-}6}$	(Soil adherence factor)	=	0.2 mg/cm^2
$ED_{age\ 1\text{-}6}$	(Exposure duration)	=	6 years
$BW_{age\ 1\text{-}6}$	(Body weight)	=	15 kg
SA_{adult}	(Skin surface area)	=	5,800 cm^2/dayevent
AF_{adult}	(Soil adherence factor)	=	0.07 mg/cm^2
ED_{adult}	(Exposure duration)	=	24 years
BW_{adult}	(Body weight)	=	70 kg

(2) Cleanup criteria for soil based on direct contact shall be calculated for the generic industrial and commercial II, III, and IV categories according to the following algorithms, except as provided in R 299.5734(3):

EQUATION FOR CARCINOGENS:

where,

DCC	(Direct contact criterion)	=	chemical-specific, ug/kg or ppb
TR	(Target risk level)	=	10^{-5}
BW	(Body weight)	=	70 kg
AT	(Averaging time)	=	25,550 days (70 years x 365 days/year)
CF	(Conversion factor)	=	1E+9 ug/kg
SF	(Oral cancer slope factor)	=	chemical-specific $(mg/kg\text{-}day)^{-1}$
ED	(Exposure duration)	=	21 years
EF_i	(Ingestion exposure frequency)	=	245 days/year
IR_s	(Soil ingestion rate)	=	100 mg/day 100 mg/day (commercial IV)
AE_i	(Ingestion absorption efficiency)	=	chemical-specific or default specified at R 299.5720(3)
EF_d	(Dermal exposure frequency)	=	160 days/year
SA	(Skin surface area)	=	3,300 cm^2/day event
EV	(Event frequency)	=	1 event/day
AF	(Soil adherence factor)	=	0.2 mg/cm^2 (industrial and commercial II)
		=	0.1 mg/cm^2 (commercial IV)
		=	0.01 mg/cm^2 (commercial III)
AE_d	(Dermal absorption efficiency)	=	chemical-specific or default specified at R 299.5720(3)

EQUATION FOR NONCARCINOGENS:

where,

DCC	(Direct contact criterion)	=	chemical-specific, ug/kg or ppb
THQ	(Target hazard quotient)	=	1
RfD	(Oral reference dose)	=	chemical-specific, mg/kg-/day
BW	(Body weight)	=	70 kg
AT	(Averaging time)	=	7,665 days (21 years x 365 days/year)
CF	(Conversion factor)	=	1E+9 ug/kg
RSC	(Relative source contribution)	=	1
ED	(Exposure duration)	=	21 years
EF_i	(Ingestion exposure frequency)	=	245 days/year
IR_s	(Soil ingestion rate)	=	100 mg/day100 mg/day (commercial IV)
AE_i	(Ingestion absorption efficiency)	=	chemical-specific or default specified at R 299.5720(3)
EF	(Dermal exposure frequency)	=	160 days/year

(3) Absorption efficiencies used to calculate generic direct contact criteria are as follows:

(a) Chemical-specific data may be submitted to the department to support development of a new generic criterion under R 299.5706a(10) or (11) and shall be used in this rule if determined by the department to be the best available information.

(b) If chemical-specific data are not available, then the following default absorption efficiencies shall be used:

(i) AE_i shall be 50% for organic hazardous substances which exhibit an log octanol water partitioning coefficient greater than 5 and a molecular weight greater than 200 grams per mole or which are not ionizing organic compounds, and 100% for all other organic hazardous substances.

(ii) AE_i shall be 50% for inorganic hazardous substances.

(iii) AE_d shall be assumed to be 10% for organic hazardous substances.

(iv) AE_d shall be assumed to be 1% for inorganic hazardous substances.

(4) To demonstrate compliance with generic direct contact criteria, the criteria shall be applied without regard to the depth of contaminated soil.

R 299.5721 Rescinded.

R 299.5722 Generic cleanup criteria for soil based on leaching of hazardous substances into groundwater.

Rule 722. (1) To assure that soils do not pose a threat of aquifer contamination, the concentration of the hazardous substance in soil shall be below that which produces a concentration in leachate that is equal to the least restrictive of the applicable groundwater criteria specified in subdivisions (a) to (c) of this subrule, or below a criterion based on the soil-water partitioning characteristics of a hazardous substance as provided in subrule (4) of this rule, whichever is higher. The selection of the least restrictive value listed below, and comparison to the soil-water partitioning value, shall be done separately for each pathway that is relevant at the facility.

(a) The groundwater criteria developed under R 299.5708 to 299.5716.

(b) The leachate concentration generated by background soil.

(c) The groundwater concentration allowed by R 299.5707, if it is higher than a risk-based criterion that would otherwise be the most restrictive.

(2) Leachate testing is not required to demonstrate compliance with subrule (1) of this rule if the total concentration of a hazardous substance in soil does not exceed 20 times the lowest groundwater cleanup criterion that is applicable at the facility or does not exceed the soil-water partitioning value established under subrule (4) of this rule, whichever is higher.

(3) Leachate concentrations shall be determined by a method that best represents in-situ conditions. For the purposes of this rule, the following test methods are acceptable:

(a) The United States environmental protection agency's toxicity characteristic leaching procedure (TCLP) (revised as of July 1992) or the synthetic precipitation leachate procedure (SPLP) (revised as of September 1994) as set forth in SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, (revised to include Update III, June 13, 1997), published by the United States Environmental Protection Agency, which are adopted by reference in these rules and which are available for inspection at the Lansing office of the department, 525 West Allegan Street, Lansing, Michigan. Copies of the provisions may be purchased at a cost as of the time of adoption of these rules of $239.00 from the National Technical Information Service, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 (publication number PB97-156111GEI), or from the Department of Environmental Quality, Remediation and Redevelopment Division, 525 West Allegan, Lansing, Michigan 48909, at cost.

(b) Other methods accepted by the department to more accurately simulate conditions at the site than the test methods specified in subdivision (a) of this subrule.

(4) The department may, if adequate data are available, establish acceptable soil concentrations based on soil-water partitioning characteristics of a hazardous substance.

R 299.5723 Rescinded.

R 299.5724 Generic cleanup criteria for soil based on indoor inhalation of hazardous substance vapors volatilized from soil.

Rule 724. (1) Indoor inhalation of hazardous substance vapors volatilizing to indoor air from soil shall be considered a reasonable and relevant exposure pathway only for hazardous substances that have a Henry's law constant greater than or equal to 0.00001 atm-m^3/mole.

(2) Except as provided in subrule (1) of this rule, if any of the following conditions exist, the generic criteria developed pursuant to this rule shall not apply and a site-specific evaluation of indoor inhalation risks shall be conducted:

(a) There is a structure present or planned to be constructed at the facility which does not have a concrete block or poured concrete floor and walls.

(b) There is a sump present that is not completely isolated from the surrounding soil by its materials of construction.

(3) Soil cleanup criteria based on indoor inhalation of volatile emissions from hazardous substances in soil shall be called soil volatilization indoor air inhalation criteria ("SVIIC"). The SVIIC is determined by the following series of calculations, except as provided in R 299.5734(3):

EQUATION FOR CARCINOGENIC EFFECTS:

where,

EF	(Exposure frequency)	= 350 days/year (residential) = 245 days/year (commercial/industrial)
ED	(Exposure duration)	= 30 years (residential) = 21 years (commercial/industrial)
$CR_{building}$	(Ratio of indoor air concentration to soil concentration)	= chemical-specific, $(ug/m^3)/(ug/kg)$

EQUATION FOR NONCARCINOGENIC EFFECTS:

where,

SVIIC	(Soil volatilization indoor air inhalation criterion)	= chemical-specific, ug/kg
THQ	(Target hazard quotient)	= 1
AT	(Averaging time)	= 10,950 days (residential) = 7,665 days (commercial/ industrial)
EF	(Exposure frequency)	= 350 days/year (residential) = 245 days/year (commercial/industrial)
ED	(Exposure duration)	= 30 years (residential) = 21 years (commercial/ industrial)
ITSL	(Initial threshold screening level)	= chemical-specific, ug/m^3
$CR_{building}$	(Ratio of indoor air concentration to soil concentration)	= chemical-specific, $(ug/m^3)/(ug/kg)$

The contaminant vapor concentration in the building indoor air is written as:

where,

$CR_{building}$	(Ratio of indoor air concentration to soil concentration)	= chemical-specific, $(ug/m^3)/(ug/kg)$
a	(Attenuation coefficient)	= chemical-specific, unitless
	(Ratio of soil vapor concentration to soil/source concentration)	= chemical-specific, $(ug/m^3)/(ug/kg)$

The vapor-phase contaminant concentration at the source for soil is written as:

where,

	(Ratio of soil vapor concentration to soil/source concentration)	= chemical-specific, $(ug/m^3)/(ug/kg)$
H'	(Dimensionless Henry's law constant, where H' = HLC x 41)	= chemical-specific, unitless
HLC	(Henry's law constant at 25 degrees Celsius)	= chemical-specific, $(atm\text{-}m^3/mol)$
TAF	(Temperature adjustment factor)	= 0.5, unitless
	(Uniform concentration in soil)	= 1 ug/kg
	(Dry soil bulk density)	= 1.5 g/cm^3
	(Soil water-filled porosity)	= 0.3 cm^3/cm^3
	(Soil-water partition coefficient)	= chemical-specific, cm^3/g (equivalent to L/kg)
	For organic compounds	= K_{oc} (cm^3/g) x f_{oc} (g/g)
	For inorganic compounds	= chemical-specific, cm^3/g
	(Soil organic carbon partition coefficient)	= chemical-specific, cm^3/g
	(Fraction of organic carbon content of soil)	= 0.002 g/g (0.2%)
	(Soil air-filled porosity)	= 0.13 cm^3/cm^3

The intrusion rate of hazardous substance vapors into buildings is predicted using an analytical solution which couples both diffusive and convective transport of vapors emanating from subsurface soil into enclosed spaces. An attenuation coefficient (A) is calculated that is expressed as the ratio of building indoor air concentration to the vapor-phase concentration at the source. Values of A are calculated assuming infinite source conditions. For infinite source conditions A is written as follows:

where,

a	(Attenuation coefficient)	= unitless
	(Effective diffusion coefficient through vadose zone)	= chemical-specific, cm^2/s

L_{crack}	(Building foundation thickness)	= 15 cm
L_T	(Source-building separation distance)	= 15 cm (All land use categories)
Q_{soil}	(Volumetric flow rate of soil vapor into the building)	= 0.81 cm^3/s (residential) = 2.10 cm^3/s (commercial/ industrial)
A_{crack}	(Total area of cracks below grade)	= 196 cm^2 (residential) = 383 cm^2 (commercial/ industrial)
exp(p)	(The base of the natural logarithm raised to power p)	= e^p

The effective diffusion coefficient calculation for the vadose zone () is written as:
where,

	(Effective diffusion coefficient through vadose zone)	= chemical-specific, cm^2/s
D_a	(Diffusivity in air)	= chemical-specific, cm^2/s
q_a	(Soil air-filled porosity)	= 0.13 cm^3/cm^3
n	(Total soil porosity)	= 0.43 cm^3/cm^3
D_w	(Diffusivity in water)	= chemical-specific, cm^2/s
H'	(Dimensionless Henry's law constant, where H' = HLC x 41)	= chemical-specific, unitless
HLC	(Henry's law constant	= chemical-specific, (atm-m^3/mol)
q_w	(Soil water-filled porosity)	= 0.3 cm^3/cm^3

(4) Facility-specific measurements of the following parameters may be substituted individually for the generic assumptions and still allow the facility to satisfy the categorical criteria in section 20120a(1)(a) to (e) of the act:
(a) Dry soil bulk density.
(b) Fraction of organic carbon in soil.
(c) Soil vapor permeability.
(d) Temperature adjustment factor for Henry's law constant.
Facility-specific measurements shall be based on representative characterization. documentation of all facility specific values shall be provided in the remedial action plan.
(5) The department may approve of methods to demonstrate compliance with criteria for this exposure pathway if those methods are more representative of in-situ conditions at the facility. Methods acceptable to the department may include, but are not limited to, evaluation of representative soil gas concentrations.
(6) A site-specific SVIIC may be developed for remedial action plans prepared pursuant to section 20120a(2) of the act that is based on demonstration of compliance with 1974 PA 154, MCL 408.1001 et seq. and the rules promulgated pursuant to that act. This subrule shall apply only when all of the following conditions are satisfied:
(a) The risk being evaluated results from inhalation by workers of hazardous substances in indoor air within an active workplace that is regulated by 1974 PA 154, MCL 408.1001 et seq. and the rules promulgated pursuant to that act.
(b) The exposure to hazardous substances from environmental contamination is a portion of the exposure to which workers are otherwise subject from process-related sources of the same hazardous substance.
(c) The risk to the non-worker population, if any, from inhalation of indoor air at the property has been evaluated using generic residential GVIIC or a site-specific evaluation has been conducted for the non-worker population according to methods acceptable to the department, and the risk is not unacceptable on the basis of the risk management objectives set forth in section 20120a of the act.

R 299.5725 Rescinded.

R 299.5726 Generic cleanup criteria for soil based on inhalation of hazardous substances in ambient air.
Rule 726. (1) Inhalation of hazardous substance emissions in ambient air from soil shall be considered a reasonable and relevant pathway for all facilities.
(2) Generic cleanup criteria for soil based on inhalation of volatile hazardous substance emission to ambient air shall be called volatile soil inhalation criteria (VSIC). Generic cleanup criteria for soil based on inhalation of particulate hazardous substance emission to ambient air shall be called particulate soil inhalation criteria (PSIC). The generic residential VSIC and PSIC are calculated as follows, except as provided in R 299.5734(3):

EQUATIONS FOR CARCINOGENS:

where,

VSIC	(Volatile soil inhalation criterion)	=	chemical-specific, ug/kg or ppb
TR	(Target risk level)	=	10^{-5}
AT	(Averaging time)	=	25,550 days (70 years x 365 days/year)

PSIC	(Particulate soil inhalation criterion)	=	chemical-specific, ug/kg or ppb
TR	(Target risk level)	=	10^{-5}
AT	(Averaging time)	=	25,550 days (70 years x 365 days/year)
IURF	(Inhalation unit risk factor)	=	chemical-specific $(ug/m^3)^{-1}$
EF	(Exposure frequency)	=	350 days/year
ED	(Exposure duration)	=	30 years
PEF	(Particulate emission factor)	=	chemical-specific, m^3/kg

EQUATIONS FOR NONCARCINOGENS:

where,

VSIC	(Volatile soil inhalation criterion)	=	chemical-specific, ug/kg or ppb
THQ	(Target hazard quotient)	=	1
AT	(Averaging time)	=	10,950 days (30 years x 365 days/year)
EF	(Exposure frequency)	=	350 days/year
ED	(Exposure duration)	=	30 years
ITSL	(Initial threshold screening level)	=	chemical-specific, ug/m^3
VF	(Volatilization factor)	=	chemical-specific, m^3/kg

and,

where,

PSIC	(Particulate soil inhalation criterion)	=	chemical-specific, ug/kg or ppb
THQ	(Target hazard quotient)	=	1
AT	(Averaging time)	=	10,950 days (30 years x 365 days/year)
EF	(Exposure frequency)	=	350 days/year
ED	(Exposure duration)	=	30 years
ITSL	(Initial threshold screening level)	=	chemical-specific, ug/m^3
PEF	(Particulate emission factor)	=	chemical-specific, m^3/kg

(3) The soil to air volatilization factor (VF) relates the concentration of a contaminant in the soil to the concentration of volatilized contaminant in the ambient air. If the vertical extent of the contaminant source has not been characterized, then the VF shall be calculated based on the infinite equation presented in subdivision (a) of this subrule. If the vertical extent of the contaminant source has been adequately characterized throughout the facility, then the VF shall be calculated either by the finite source equation presented in subdivision (b) of this subrule or the mass balance equation presented in subdivision (c) of this subrule, whichever yields the highest VSIC.

(a)
, using the infinite source model shall be calculated as follows:

and D_A shall be calculated as:

where,

VF	(Volatilization factor)	=	chemical-specific, m^3/kg
	(Normalized average flux from soil)	=	chemical-specific, g/m^2-second
D_A	(Apparent diffusivity)	=	chemical-specific, cm^2/second
Q/C	(Dispersion factor for 1/2 acre)	=	82.33, g/m^2-second per kg/m^3
t	(Exposure time)	=	seconds (ED x 3.1536E+7 seconds/yr)
q_a	(Soil air-filled porosity)	=	0.28 L_{air}/L_{soil}
n	(Total soil porosity)	=	0.43 L_{pore}/L_{soil}
q_w	(Soil water-filled porosity)	=	0.15 L_{water}/L_{soil}
r_b	(Dry soil bulk density)	=	1.5 g/cm^3
D_a	(Diffusivity in air)	=	chemical-specific, cm^2/second
D_w	(Diffusivity in water)	=	chemical-specific, cm^2/second
H¢	(Dimensionless Henry's law constant, where H¢ = HLC x 41)	=	chemical-specific, unitless
HLC	(Henry's law constant at 25^0 C)	=	chemical-specific, atm-m^3/mol
TAF	(Temperature adjustment factor)	=	0.5
K_d	(Soil-water partition coefficient)	=	chemical-specific, cm^3/g
	For organic compounds	=	K_{oc} (cm^3/g) x f_{oc} (g/g)
	For inorganic compounds	=	chemical-specific, $cm^3/$

where,

VF	(Volatilization factor)	=	chemical-specific, m^3/kg
Q/C	(Dispersion factor for 1/2 acre)	=	82.33, g/m^2-second per kg/m^3
C_o	(Uniform contaminant concentration at t=0)	=	1.5 E-6 g/cm^3
r_b	(Dry soil bulk density)	=	1.5 g/cm^3
	(Normalized average flux from soil)	=	chemical-specific, g/m^2-second
J_e	(Instantaneous flux from soil at time t)	=	chemical-specific, g/m^2-second
D_A	(Apparent diffusivity - see equation above)	=	chemical-specific, cm^2/second
t	(Time)	=	seconds
d_e	(Thickness of source)	=	site-specific, meters
exp(p)	(The base of the natural logarithm raised to power (p))	=	e^p

(c) Mass balance VF shall be calculated as follows:

where,

VF	(Volatilization factor)	=	chemical-specific, m^3/kg
Q/C	(Dispersion factor for 1/2 acre)	=	82.33, g/m^2-second per kg/m^3
AT	(Exposure period)	=	scenario-specific, years
r_b	(Dry soil bulk density)	=	1.5 mg/m^3
d_e	(Average source depth)	=	site-specific, meters

(4) The particulate emission factor shall be calculated as follows:

where,

PEF	(Particulate emission factor)	=	chemical-specific, m^3/kg
Q/C	(Dispersion factor for 1/2 acre)	=	82.33, g/m^2-second per kg/m^3
Ew	(Emission due to wind)	=	g/m^2 per second
Ev	(Emission due to vehicle traffic)	=	g/m^2 per second
V	(Vegetative cover)	=	0.5 (50%), unitless

(5) VSIC and PSIC for industrial/commercial facilities shall be calculated as follows, except as provided in R 299.5734(3):

EQUATIONS FOR CARCINOGENS:

where,

VSIC	(Volatile soil inhalation criterion)	=	chemical-specific, ug/kg or ppb
TR	(Target risk level)	=	10^{-5}
AT	(Averaging time)	=	25,550 days (70 years x 365 days/year)
AIR	(Adjusted inhalation rate)	=	(20 m^3/day)/(10 m^3/day)
IURF	(Inhalation unit risk factor)	=	chemical-specific $(ug/m^3)^{-1}$
EF	(Exposure frequency)	=	245 days/year
ED	(Exposure duration)	=	21 years
VF	(Volatilization factor)	=	chemical-specific, m^3/kg

and,

where,

PSIC	(Particulate soil inhalation criterion)	=	chemical-specific, ug/kg or ppb
TR	(Target risk level)	=	10^{-5}
AT	(Averaging time)	=	25,550 days (70 years x 365 days/year)
AIR	(Adjusted inhalation rate)	=	(20 m^3/day)/(10 m^3/day)
IURF	(Inhalation unit risk factor)	=	chemical-specific $(ug/m^3)^{-1}$
EF	(Exposure frequency)	=	245 days/year
ED	(Exposure duration)	=	21 years

AT	(Averaging time)	=	7,665 days (21 years x 365 days/year)
EF	(Exposure frequency)	=	245 days/year
ED	(Exposure duration)	=	21 years
ITSL	(Initial threshold screening level)	=	chemical-specific, ug/m^3
VF	(Volatilization factor)	=	chemical-specific, m^3/kg

and,

where,

PSIC	(Particulate soil inhalation criterion)	=	chemical-specific, ug/kg or ppb
THQ	(Target hazard quotient)	=	1
AT	(Averaging time)	=	7,665 days (21 years x 365 days/year)
EF	(Exposure frequency)	=	245 days/year
ED	(Exposure duration)	=	21 years
ITSL	(Initial threshold screening level)	=	chemical-specific, ug/m^3
PEF	(Particulate emission factor)	=	chemical-specific, m^3/kg

Modifiers		
Source Size (ft^2 or acres)	Q/C (g/m^2-s per kg/m^3)	Modifier
400 ft^2	261.26	3.17
1000 ft^2	180.76	2.2
2000 ft^2	144.91	1.76
¼ acre	94.56	1.15
½ acre	82.33	1
1 acre	71.74	0.87
2 acres	63.51	0.77
5 acres	54.62	0.66
10 acres	49.13	0.6
32 acres	41.55	0.5
100 acres	35.66	0.43

(7) Facility-specific measurements of the following parameters may be substituted for the generic assumptions and still allow the facility to satisfy the categorical criteria in section 20120a(1)(a) to (e) of the act:

(a) Dry soil bulk density (r_b).
(b) Soil water-filled porosity (q_w).
(c) Soil air-filled porosity (q_a).
(d) Fraction of organic carbon in soil (f_{oc}).
(e) Emission due to wind (Ew).
(f) Dispersion factor (Q/C).

Facility-specific measurements shall be based on representative characterization. Documentation of all facility-specific values shall be provided in the remedial action plan or other response activity documentation.

(8) A person who is implementing response activity may demonstrate compliance with the generic criteria developed under this rule through the collection and analysis of ambient air samples within the facility boundaries, if the hazardous substance concentration in surficial soil is representative of facility conditions.

R 299.5727 Rescinded.

R 299.5728 Cleanup criteria for contaminated environmental media based on other injury which requires consideration.

Rule 728. (1) To assure that hazardous substances in contaminated environmental media do not pose unacceptable risks not accounted for by other rules in this part, the concentration of a hazardous substance in a given environmental medium shall meet cleanup criteria based on sound scientific principles and determined by the department to be necessary to protect the public health, safety, and welfare and the environment from any of the following:

(a) Food chain contamination.
(b) Damage to soil or biota in the soil that impairs the use of such soil for agricultural purposes.
(c) Phytotoxicity.
(d) Physical hazards.
(e) Nonsystemic or acute toxicity.
(f) Injury that may result from the direct transport or runoff of hazardous substances in soil into surface water.
(g) Injury to the groundwater resource which may impair its use for other purposes that are determined by the department to be reasonable and relevant considerations at a facility.
(h) Other injury that requires consideration.

(2) The basis for, and information used by the department to develop, cleanup criteria under this rule shall be made available to the public upon request.

R 299.5730 Cleanup criteria for surface water and surface water sediments.

Rule 730. (1) Any remedial action plan that addresses surface water or sediments associated with waters of the state shall include site-specific cleanup criteria established by the department on the basis of sound scientific principles and evaluation of bulk sediment chemistry, sediment toxicity and benthic community populations. Criteria shall be established considering the need to eliminate or mitigate the following use impairments, as appropriate to the facility in question:

(a) Restrictions on fish or wildlife consumption.
(b) Tainting of fish and wildlife flavor.
(c) Degraded fish or wildlife populations.
(d) Fish tumors or other deformities.
(e) Bird or animal deformities or reproductive problems.
(f) Degradation of benthos.
(g) Restrictions on dredging activities.
(h) Eutrophication or undesirable algae.
(i) Restrictions on drinking water consumption or taste or odor problems.
(j) Beach closings.

the public upon request.

r 299.5732 Limited category and site-specific cleanup criteria generally; use of occupational health standards as limited or site-specific cleanup criteria under section 20120a of the act.

Rule 732. (1) A remedial action plan which relies on cleanup criteria other than the generic cleanup criteria provided for in section 20120a(1)(a) to (e) of the act and these rules shall be based on either limited category cleanup criteria or on site-specific cleanup criteria that are documented in a remedial action plan. It is the responsibility of the person proposing the plan to adequately document the basis for limited or site-specific cleanup criteria in any remedial action plan.

(2) Limited or site-specific cleanup criteria may be based on reliable exposure control measures, including work schedule limitations and personal protective equipment used by workers at a facility to prevent exposure to hazardous substances. The specific exposure control measures shall be described in the remedial action plan and the land or resource use restriction document for the facility, including an explanation of how the measures will reliably and effectively reduce risk to the allowable levels set forth in section 20120a of the act. The remedial action plan shall also provide for appropriate monitoring of the use of exposure control measures, if appropriate.

(3) If the exposure control measures called for in a remedial action plan are based on measures used to assure compliance with 1974 PA 154, MCL 408.1001 et seq. and known as the occupational safety and health act, and the rules promulgated under that act, then that remedial action plan complies with part 201 of the act only if the level of risk reduction achieved is consistent with the requirements of section 20120a of the act. Such remedial action plans shall be either limited or site-specific remedial action plans under the provisions of section 20120a(1)(f) to (j) or (2) of the act.

(4) A site-specific cleanup criterion under section 20120a(2) of the act and subrule (3) of this rule that is based on demonstration of compliance with 1974 PA 154, MCL 408.1001 et seq. And the rules promulgated pursuant to that act shall be allowed only when the risk to the non-worker population, if any, at the facility has been evaluated using generic residential cleanup criteria or a site-specific evaluation has been conducted for the non-worker population according to methods acceptable to the department, and the risk is not unacceptable on the basis of the risk management objectives set forth in section 20120a of the act.

R 299.5734 Special considerations for risk assessment and development of cleanup criteria for certain substances.

Rule 734. (1) All polychlorinated and polybrominated dibenzodioxins and dibenzofurans shall be considered as 1 hazardous substance, expressed as an equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin, based upon the relative potency and concentration of the congeners present at the facility.

(2) If 2 or more hazardous substances are present and known to result in toxicological interaction, then the interactive effects shall be considered in establishing levels that are protective of the public health, safety, and welfare and the environment.

(3) The department may calculate generic cleanup criteria for certain hazardous substances using exposure assumptions other than those shown in the algorithms in part 7 of these rules if either of the following conditions is satisfied:

(a) A hazardous substance causes an adverse effect in a sensitive subpopulation that is not adequately protected or represented by the generic exposure assumptions.

(b) The toxicokinetics of a hazardous substance are not best represented by the average daily dose, when accounting for the most sensitive effect.

R 299.5736 Minimum toxicity data for calculation of criteria based on noncarcinogenic endpoints.

Rule 736. (1) The minimum data required to calculate a cleanup criterion for a noncarcinogen when the route of exposure is ingestion or dermal absorption shall be the reference dose that is determined on the basis of the best available information and considering the weight of evidence.

(2) The minimum data required to calculate a cleanup criterion for a noncarcinogen when the route of exposure is inhalation shall be the minimum data required for calculation of an initial threshold screening level developed under part 55 of the act, and rules promulgated under part 55.

R 299.5738 Determination of cancer slope factors for use in calculation of criteria based on carcinogenic endpoints.

Rule 738. (1) A non-threshold mechanism of carcinogenesis shall be assumed unless biological data adequately demonstrate the existence of a threshold on a hazardous substance-specific basis.

(2) All appropriate human epidemiologic data, animal cancer bioassay data, and all other pertinent data shall be considered and a cancer slope factor developed if the weight of evidence for carcinogenicity is sufficient. Preferred data are those from studies which use the same route of exposure addressed by the criteria. However, in the absence of such data, route-to-route extrapolations may be conducted where appropriate, considering whether the critical effect is systemic and thus possible for each different route of exposure. The risk-associated dose shall be set at a level corresponding to an increased cancer risk of 1 in 100,000. If acceptable human epidemiologic data are available for a hazardous substance, then those data shall be used to derive the risk-associated dose. If acceptable human epidemiologic data are not available, then the risk-associated dose shall be derived from available animal bioassay data. Data from a species that is considered most biologically relevant to humans, that is, responds most like humans, is preferred where all other considerations regarding quality of data are equal. In the absence of data to distinguish the most relevant species, data from the most sensitive species tested, that is the species showing a carcinogenic effect at the lowest administered dose, shall generally be used.

(3) If animal bioassay data are used and a non-threshold mechanism of carcinogenicity is assumed, then the data shall be fitted to a linearized multistage model, for example, a Global ‘86 or equivalent computer model. Global ‘86 is the linearized multistage model that was derived by Howe, Crump, and Van Landingham (1986), which was prepared for the United States environmental protection agency under subcontract 2-251u-2745 to Research Triangle Institute, contract 68-01-6826, and which the United States environmental protection agency uses to determine cancer potencies. The upper-bound 95% confidence limit on risk, or the lower 95% confidence limit on dose, at the 1 in 100,000 risk level shall be used to calculate a risk-associated dose for individual hazardous substances. Other models, including modifications or variations of the linearized multistage model that are more

slope factor by the ratio of human to animal body weights raised to the 1/4 power. However, if adequate pharmacokinetic and metabolism studies are available, then these data may be factored into the adjustment for species differences on a case-by-case basis.

(6) Additional adjustments shall be made to the data as appropriate. For some cancer data sets, it may be appropriate to combine incidences of multiple tumor types or combine benign and malignant tumors of the same histogenic origin. All doses shall be adjusted to give an average daily dose over the study duration. Adjustments shall be made to the tumor incidence for early mortality. Animals dying before the appearance of the first tumor within their dose group shall be removed from the data set. Before quantification of the dose response, a goodness-of-fit evaluation of the data shall be conducted.

(7) If human epidemiologic data, animal bioassay data, or other biological data indicate that a chemical causes cancer via a threshold mechanism, then the risk-associated dose may, on a case-by-case basis, be calculated using a method that assumes a threshold mechanism is operative.

(8) Inhalation unit risk factors shall be calculated in the same manner as cancer risk screening levels for inhalation risk under part 55 of the act.

R 299.5740 Availability of information used by department to establish cleanup criteria; public review and comment on revised criteria.

Rule 740. (1) The department shall make available to the public the detailed basis for calculation of any cleanup criterion established under these rules, including the references for original studies, papers, or other sources of information that were used or considered. Requests for information under this rule shall specify the hazardous substance and exposure pathways for which information is desired.

(2) Any proposed change to a criterion shall be published by the department and subject to review and comment as part of the rule-making process.

R 299.5742 Evaluation of data to establish compliance with criteria.

Rule 742. (1) If the criterion in question is below the practical quantitation level, then the following procedure shall be used to determine whether available data demonstrate compliance with the criterion:

(a) If a hazardous substance is not detected in a sample at or below the target detection limit and the target detection limit is higher than the criteria to be achieved for that substance, then the criteria shall be considered to have been achieved.

(b) If a hazardous substance is reported to be present in a sample above the target detection limit, but below the practical quantitation level, then the significance of that data shall be determined by a method acceptable to the department, considering the number of samples, the distribution of data, and other factors influencing the selection of a statistical method.

PART 8. SITE ASSESSMENT MODEL

R 299.5801 Definitions; A to I.

Rule 801. As used in this part:

(a) "Aquatic life" means all life forms that live in surface water or get most of their food from surface water.

(b) "Category" means any of the 6 major components of the site assessment model. A category shall be 1 of the following:

(i) Environmental contamination.

(ii) Mobility rating.

(iii) Sensitive environmental resource.

(iv) Population.

(v) Institutional population.

(vi) Chemical hazard.

(c) "Category subscore" means the points scored for a site for each of the 6 categories in the site screening model.

(d) “Chemical hazard” means the category in which the hazard posed by a substance is evaluated, considering the quantity of the hazardous substance; health-related effects, such as acute toxicity, carcinogenicity, mutagenicity, persistence, and bioaccumulation; and other adverse effects on human and non-human life forms.

(e) "Confirmed contamination" means the component of the environmental contamination category scored when analytical data is available to confirm a release of a hazardous substance.

(f) "Containment structure" means any natural or human-made structure that is designed or used for the storage, transport, treatment, or disposal of hazardous substances, and from which substances may be released. The term may include soil and surface waters.

(g) “Concentration and cleanup criteria ratio” means the value obtained when the concentration of a hazardous substance is divided by the cleanup criterion for that hazardous substance as further described in R 299.5819(3)(a).

(h) "Contaminant mobility" means the category in which points are assigned based on the potential or actual migration of a hazardous substance.

(i) "Environmental contamination" means the category in which points are assigned for hazardous substance effects on environmental media.

(j) "Environmental media" means any of the following:

(i) Soil.

(ii) Groundwater.

(iii) Surface water.

(iv) Air.

(v) Aquifer matrix.

(vi) Sediments.

(k) "Human exposure" means the component of the environmental contamination category scored when there is or may be

relationship to one another.

(c) "Population" means the category in which points are assigned on the basis of the population density for the area within 1/2 mile of the site.

(d) "Potential contamination" means the component of the environmental contamination category scored when there is a potential for a hazardous substance to contaminate the environmental media being evaluated.

(e) "Receptor" means an individual or a population that may be affected by the release of a hazardous substance.

(f) "Saturated soil" means soil in which the concentration of a hazardous substance exceeds the soil saturation limit established under R 299.5718(2), or, if data are not available, soil that appears, upon visual inspection, to contain a free phase hazardous substance.

(g) "Semiliquid" means a substance which is intermediate in properties between a solid and a liquid, but which flows readily.

(h) "Semisolid" means a substance which is intermediate in properties between a solid and a liquid, but which will not flow readily.

(i) "Sensitive environmental resource" means the category in which points are assigned for either a natural community which occurs within 1/2 mile of the site and which has been classified as uncommon, extremely rare, or rare or a plant or animal species which has been classified as endangered or threatened as defined in section 2(d) or (l) of 1974 PA 203, MCL 299.222(d) or (l). The term also includes plant and animal species classified as being of special concern. All such classifications are made by the department of natural resources.

(j) "Site assessment model" means the numerical risk assessment model that is used to establish the relative risk rankings of sites of environmental contamination.

(k) "Site score" means the sum of the 6 category subscores in the site screening model.

(l) "Surface impoundment" means a natural topographic depression, human-made excavation, or diked area which holds an accumulation of liquid that contains hazardous substances. The term may include natural lakes, ponds, or wetlands.

(m) "Surface water" has the meaning given in R 323.1044(v).

(n) "Surficial soil" means the top 6 inches of the ground surface.

(o) "Suspected contamination" means the component of the environmental contamination category scored when analytical data is not available to confirm a release of a hazardous substance, but a release can reasonably be judged to have occurred, based on visual or other evidence.

(p) “Target area" means the area within 1/2 mile of a site.

(q) "Vulnerable aquifer" means an aquifer that is not protected by an aquitard from contamination by hazardous substances.

(r) "Waste" means disposed of or discarded material that contains 1 or more hazardous substances.

(s) "Waste class" means the component of the chemical hazard category that is scored on the basis of the business type or waste source.

(t) “Wellhead protection area” means the surface and subsurface area surrounding a water well or well field, supplying a public water system, through which hazardous substances are reasonably likely to move toward and reach such water well or well field.

(u) "Well log" means the record of earth materials and other data recorded by a licensed well driller under part 127 of 1978 PA 368, MCL 333.12701 et seq.

(v) "Wetland" has the meaning defined in section 2(g) of 1979 PA 203, MCL 281.702(g), and known as the Goemaere-Anderson wetland protection act.

R 299.5805 Site assessment model.

FIGURE 1
SITE SCORING SHEET

Site Name	Site ID	County	Score

CATEGORY **CATEGORY**

SUBSCORE

Environmental Contamination (20 points Max.)	Environmental Media	Potential Contamination	Suspected Contamination	Confirmed	Human Contamination	Exposure
	Soils	1	3	6	9	
	Ground Water	1	3	6	9 to 20	
	Surface Water	1	3	6	9 to 20	
	Air	1	3	6	9 to 20	

Population (4 points Max.)	Density (persons per square mile)	Points
	1 - 10	1
	11 - 100	2
	101 - 1000	3
	1,001 or more	4

FIGURE 1
SITE SCORING SHEET- Continued

Site Name	Site ID	County	Score

CATEGORY **CATEGORY**

SUBSCORE

Institutional Population (1 point Max.)	Presence of one or more institutions in target area	1

Chemical Hazard Method A

Concentration/ Cleanup Criteria Ratio	Points
1.01-4.9	3
5 - 9.9	5
10 - 49.9	7
50 - 99.9	9
100 - 499.9	11
500 - 1000	13
> 1000	15

Chemical Hazard Method B Unidentified Chemical(s)

Quantity of Waste (Cubic meters or acres)		Waste Class D	C	B	A
<50	<0.5	3	5	7	9
50 -500	0.5 - 10	5	7	9	11
501 - 2,500	11 - 60	7	9	11	13
>2,500	>60	9	11	13	15

Special Wastes Severely Toxic Waste = 15

Total Possible Points = 48 Total Site Score _____

Scored By _____ Date _____

(2) Zero points shall be awarded to categories when the conditions of this rule and R 299.5809 to R 299.5821 are not met.

R 299.5809 Environmental contamination category.

Rule 809. (1) Environmental contamination includes all of the following subcategories:

(a) Potential contamination.

(b) Suspected contamination.

(c) Confirmed contamination.

(d) Human exposure.

(2) The environmental contamination category subscore shall be the sum of the highest point value applicable to each environmental media, not to exceed 20 points total. If analytical data exist for a given contaminant, then the threshold value for scoring for soil and groundwater is the applicable residential criterion established under part 7 of these rules. The threshold value for discharges to surface water shall be the groundwater surface water interface criteria established under R 299.5716. The threshold value for emissions to air from soil shall be the generic cleanup criteria for soil based on inhalation of hazardous substances in ambient air established under R 299.5726.

(3) The potential contamination subcategory shall be scored according to the following criteria:

(a) One point shall be scored for soil if the containment structure or structures is known or likely to have inadequate integrity and a release would contaminate soils.

(b) One point shall be scored for groundwater if a site overlies a vulnerable aquifer. The vulnerability of an aquifer shall be determined by consulting local well logs, hydrogeological studies, or published sources of information about geology and hydrogeology in the area of the site.

(c) One point shall be scored for surface water if a surface water body or wetland is located within 1/2 mile of the site.

(d) One point shall be scored for air if a containment structure which is located at or within 12 inches of the ground surface and which is judged to contain volatile liquids or mobile solids is of suspect or inadequate integrity. Zero points shall be scored for air if a containment structure is empty.

(e) If a hazardous product is stored in containment that is known or likely to be inadequate, then it shall be scored under this subrule as if it is a discarded hazardous substance.

(4) The suspected contamination subcategory shall be scored according to the following criteria:

(a) Three points shall be scored for soil if there has been a release to soils or there is waste in the surficial soils, but the release has not been confirmed with analytical data.

(b) Three points shall be scored for groundwater if any 1 of the following conditions is judged to be attributable to a hazardous substance associated with the site:

(i) There has been a release to the groundwater, but the release has not been documented with analytical data.

(ii) A sheen is visible on an exposed groundwater surface.

(iii) A hazardous substance or waste is in contact with groundwater.

(iv) The site is located within a wellhead protection area.

(c) Three points shall be scored for surface water if any 1 of the following conditions is judged to be attributable to a hazardous substance associated with the site:

(i) There has been a release to surface water, but the release is not documented with analytical data.

(ii) Leachate or contaminated groundwater is entering surface water.

(iii) Stained soils are in contact with surface water.

(d) Three points shall be scored for air if any 1 of the following conditions is judged to be attributable to a hazardous substance associated with the site:

(i) There is an open container or surface impoundment that contains volatile compounds.

(ii) An obnoxious or chemical odor that is associated with a hazardous substance has been confirmed at the site by state or local agency personnel and is attributable to the site being scored.

(iii) Volatile compounds are present in uncovered surficial soils.

(iv) An emission of dust or particulate matter is observed from a known contamination area.

(v) A vapor cloud is observed emanating from a containment structure or contaminated area.

(5) The confirmed contamination subcategory shall be scored according to the following criteria when there is a release from a containment structure that is documented by quantitative analytical data above acceptable thresholds defined in R 299.5809(2):

(a) Six points shall be scored for soils if quantitative analytical data document a release to soils.

(b) Six points shall be scored for groundwater if quantitative analytical data document the presence of a hazardous substance in groundwater.

(c) Six points shall be scored for surface water if either of the following exists:

(i) Analytical data that document a hazardous substance in surface water or sediment.

(ii) Documentation of fish kill, fish tissue contamination, or other adverse impact on wildlife or aquatic life that is attributable, wholly or in part, to a release at the site being scored.

(d) Six points shall be scored for air if air sampling data document the presence of a hazardous substance on the property or being transported by air beyond the property boundary and the hazardous substance is attributable to the site.

(6) The human exposure subcategory shall be scored according to the following criteria when there has been, or may be, a human exposure to contaminants documented by analytical data above acceptable thresholds defined in R 299.5809(2):

(a) Nine points shall be scored for soil if hazardous substances are present at the soil surface and the area of contamination is accessible to the public or efforts to restrict access to the area of contamination have been unsuccessful and the site is unlikely to be secured.

(b) Nine points shall be scored for groundwater if the department has recommended that a potable water supply well that serves 59 or fewer people not be used due to hazardous substance contamination that is attributable to the site and permanent alternate

with a hazardous substance attributable to the site and permanent alternate water service has not been provided.

(e) Twenty points shall be scored for surface water if either of the following conditions exists:

(i) The department has determined that at least 1 potable surface water intake that serves 60 or more people is contaminated with a hazardous substance that is attributable to the site.

(ii) The department of community health has issued a no consumption fish advisory for a water body and the cause of such an advisory can be attributed to the site.

(f) Nine points shall be scored for air if analytical data from air sampling, surficial soil, or other environmental samples indicate that airborne hazardous substances from the site have reached or affected a receptor at or beyond the property boundary of the source area.

(g) Twenty points shall be scored for air if 15 or more residences being receptors meet the criteria specified in subdivision (f) of this subrule.

R 299.5811 Mobility rating.

Rule 811. (1) The contaminant mobility score on the site scoring sheet illustrated in figure 1 of R 299.5807 shall be assigned using the mobility ratings in table 1.

(2) Mobility ratings shall be based on physical state at the time of disposal, unless a special condition in table 1 applies.

(3) A mobility rating of 5 shall be scored when there has been a documented release to the air, groundwater, or surface water.

(4) When more than 1 mobility rating applies to a site, the highest rating shall be used.

(5) The category subscore shall be of the highest mobility rating applicable to any hazardous substance at the site, not to exceed 5 points.

(6) Table 1 reads as follows:

Table 1
Mobility Ratings

Physical State of Hazardous Substance	Mobility Rating
Immobile solid (particle size greater than 2000 microns in diameter)	1
Semisolid	1
Semiliquid	1
Liquids and gases/mobile solids	3

Special Conditions	Mobility Rating
Contaminated soils	
Immobile dry solids	1
Saturated/mobile solids	3
Landfills	1
Landfills with leachate present	3
Hazardous substances in groundwater	5
Hazardous substances in surface water	5
Hazardous substance transport by air	5

R 299.5813 Sensitive environmental resource category.

Rule 813. (1) The sensitive environmental resource category shall be scored when either or both of the following conditions exist:

(a) A natural community that is located within 1/2 mile of the site has been classified by the department of natural resources as extremely rare, rare, or uncommon.

(b) A plant or animal that is located within 1/2 mile of the site has been classified by the department of natural resources as endangered, threatened, or of special concern.

(2) Zero points shall be scored where only groundwater is contaminated and a sensitive environmental resource is not likely to be affected by the hazardous substance either directly or during response activity undertaken to address the site.

(3) Points shall be assigned according to the criteria shown in figure 1 of R 299.5807.

(4) The sensitive environmental resource category subscore shall consist of the sum of the points shown in figure 1 of R 299.5807 for the number of occurrences of sensitive environmental resources. The sensitive environmental resource subscore shall not exceed 3 points.

R 299.5815 Population category.

Rule 815. (1) The population category subscore shall be determined from the criteria in the site scoring sheet illustrated in figure 1 of R 299.5807, considering the population density within 1/2 mile of the site or the density of the population potentially exposed through an exposure pathway that extends outside the target area, whichever is greater.

(2) The determination of population densities shall be based upon the best data that are readily available to the department.

outside the target area.

R 299.5817 Institutional population.

Rule 817. When at least 1 occupied school, hospital, licensed child care center, or nursing home exists within 1/2 mile of a site, the institutional population subscore shall be 1 point.

R 299.5819 Chemical hazard category.

Rule 819. (1) The chemical hazard category shall be scored on the site scoring sheet illustrated in figure 1 of R 299.5807 according to the criteria described in this rule.

(2) The total quantity of waste on site shall not include any material that is properly stored in compliance with all applicable state and federal laws and regulations.

(3) Scoring shall be done according to 1 or both of the following methods described in subdivisions (a) and (b) of this subrule:

(a) Method A shall be used when the identity of a hazardous substance is known, and the concentration of 1 or more hazardous substances is known. If more than 1 hazardous substance is present at the same site, then the hazardous substance that provides the highest score shall be used to calculate the chemical hazard category subscore. The highest measured concentration from the most recent 12 months of sampling shall be used. The chemical hazard category score shall be determined by determining the applicable scoring ranges for the concentration and cleanup criteria ratios on the site scoring sheet illustrated in figure 1 of R 299.5807.

(b) Method B shall be used to score all hazardous substances at a site which have not been individually identified, but which are present in quantities that are known or can be estimated. For this method, the waste shall be characterized according to the type of business or process associated with the production of the waste contained in table 2. If more than 1 type of business or process is associated with a site, then the classification that best characterizes the suspected source of the environmental contamination shall be used. If a business or process which must be characterized is not found in table 2, the class which best approximates the business's waste stream, when compared to other businesses in that class, shall be assigned. The chemical hazard category score shall be determined on the basis of the applicable scoring ranges for waste class and quantity on the site scoring sheet illustrated in figure 1 of R 299.5807.

(c) If the quantity of waste is unknown, but the identity of the suspected or failed containment structure is known, then assume a onetime total volume loss.

(d) To estimate the volume of a lagoon when the depth is unknown, the depth shall be assumed to be 3 meters.

(e) To estimate the volume of contaminated soils when the depth of contamination is unknown, assume the depth to be 1 meter.

(f) If data availability allows for all of the hazardous substances at a site to be scored with 1 method, then method A is preferred. The method shall be determined by the availability of data.

(g) If data availability requires that more than 1 method for scoring the chemical hazard category be used, then hazardous substances at the site shall be combined on the basis of data availability and each group scored separately using the most appropriate method. The highest score of any 1 method shall be used as the chemical hazard score for the site.

(4) Score 15 points for the chemical hazard category when a polychlorinated dibenzodioxin or dibenzofuran is present at the site in a concentration that exceeds an applicable generic residential cleanup criterion for the substances.

(5) Table 2 reads as follows:

Table 2

Waste Class A

(Typical waste sources or business types)

Pharmaceutical production
Chemical formulation
Explosives production
Heavy metals
Wood treatment
Chemical treating
Plating shops
Chemical bonding
Printed circuits
Large assembly plants
Polymer synthesis
Solvent storage
Chemical coating
Petroleum or natural gas production, storage, refining, and transportation facilities
Oil-based paint production
Petroleum bulk storage
Agricultural pesticides
Metal coating
Organic chemical production
Hazardous waste hauling, storage, or treatment facility
Dyes and pigments
Oil or solvent recycling

Iron mining
Inorganic chemical production
Copper mining
Adhesive/sealant production
Iron steel foundry
Body work and paint shops
Railroads
Pulp and paper production
Rubber products production
Gasoline station
Battery production/recycling
Auto manufacturing
Fuel transport
Leather tanning
Chemical transport
Barrel reclaiming
Engine component manufacturing
Charcoal manufacturing
Clay/glass production
Heavy manufacturing
Landfill - more than 10 to 50% industrial waste

Waste Class C

(Typical waste sources or business types)

Product assembly
Boat assembly
Plastic molding
Medical/hospital
Soap and detergent production
Machining formulation
Tool and die
Metal stamping/forging
Aircraft assembly
Consumer packaging
Latex paint production
Furniture stripping
Laundry/dry cleaner
Laboratory waste
Coal gasification
Coal ash or foundry sands
Scrap metal yard
Cleaning transport vehicles
Appliance manufacturing
Plastics fabrication
Light manufacturing
Auto repair
Landfill - 1 to 10% industrial waste
Gas/oil drilling
Fertilizer storage and processing
Auto junkyard
Asphalt, roofing production

Waste Class D

(Typical waste sources or business types)

Sanitary landfill - domestic or commercial wastes only
Dump - domestic or commercial wastes only
Recycling center
Salt storage
Food processing
Poultry farming
Printing
Brine use/disposal
Hog farming

assessment model.

(2) Any changes in the numerical risk assessment model shall be made under 1969 PA 306, MCL 24.201 et seq., and known as the administrative procedures act.

PART 9. BASELINE ENVIRONMENTAL ASSESSMENTS

R 299.5901 Definitions.

Rule 901. As used in this part:

(a) "Act" means Act No. 451 of the Public Acts of 1994, as amended, being 324.101 et seq. of the Michigan Compiled Laws.

(b) "Administratively incomplete," when used in reference to a petition, means a petition that does not include 1 or more administrative or technical elements required by these rules.

(c) "Baseline environmental assessment" or "BEA" has the same meaning as defined in section 20101(1)(d) of the act.

(d) "Category D BEA" means a BEA that is conducted for a property where the hazardous substances to be considered are different from the hazardous substances that are known or reasonably believed to have previously been released at the property or are present at the property as a result of the decomposition of the substances that were released. Hazardous substances to be considered are those that are anticipated by the submitter to be present, as of the date of completion of the BEA, at the property in a quantity and manner that constitute significant hazardous substance use after ownership or occupancy commences.

(e) "Category N BEA" means a BEA that is conducted for a property where hazardous substances are not, as of the date the BEA is conducted, anticipated by the submitter to be present in a quantity and manner that constitute significant hazardous substance use at the property after ownership or occupancy commences.

(f) "Category S BEA" means a BEA that is conducted for a property where the hazardous substances to be considered are the same as the hazardous substances that are known or reasonably believed to have previously been released at the property or are present as a result of the decomposition of hazardous substances that were released, except as provided in R 299.5903(9). Hazardous substances to be considered are those that are anticipated by the submitter to be present, as of the date of completion of the BEA, in a quantity and manner that constitute significant hazardous substance use at the property after ownership or occupancy commences.

(g) "Conducted," when used in reference to the date that a BEA is conducted, means the date when all site history research, field work, laboratory analysis, and data interpretation are complete and preparation of the BEA report is substantially complete.

(h) "Date of completion," when used in reference to the date of completion of a BEA, means the date when the BEA report is finalized by the submitter for initial disclosure to the department. The date of completion shall not be more than 15 days after the date required by section 20126(1)(c) of the act or by R 299.5903(8).

(i) "Date of occupancy," except as provided in R 299.5903(8), means the date when a person first becomes an operator of the property.

(j) "Engineering control" means measures or conditions which exist or are created at the property and which are presented in the BEA as an alternative or supplement to environmental data as the means by which a new release can be distinguished from existing contamination.

(k) "Isolation zone" means an area of uncontaminated soil or other media that can be monitored to determine whether a new release has occurred. An isolation zone may be presented in the BEA as an alternative or supplement to environmental data as the means by which a new release can be distinguished from existing contamination.

(l) "Petition" means the form and all required associated materials submitted to the department to request a determination under section 20129a of the act.

(m) "Petitioner" means a person who is seeking liability protection through the process set forth in section 20129a of the act and these rules.

(n) "Section 7a compliance analysis" means a report prepared in compliance with R 299.5915 and submitted under section 20129a of the act that documents how the use of the property by the owner or operator, or both, will assure compliance with section 20107a of the act.

(o) "Significant hazardous substance use" means the use, storage, handling, or management, at any time, of hazardous substances in quantities that exceed those commonly used for typical residential or office purposes. However, significant hazardous substance use does not include any of the following:

(i) Gasoline, oil, or other vehicle fluids that are contained in vehicles traversing or parked at a property on a short-term basis.

(ii) Storage of hazardous substances for retail sale in packaging and in quantities consistent with use by occupants of residential dwellings.

(iii) Storage or management of aboveground storage tanks, barrels, containers, or other receptacles containing hazardous substances that are appropriately identified in the BEA as being abandoned or discarded at the time of purchase, occupancy, or foreclosure.

(p) "Stipulated condition" means a statement included in a BEA or affidavit that defines a condition which is acknowledged by the submitter to be the basis for defining the scope of the evaluation provided in a BEA and the basis for resulting liability protection.

(q) "Submitter" means a person who is seeking, through a petition under section 20129a of the act or through a disclosure under section 20126(1)(c)(ii) of the act, liability protection by conducting and disclosing a BEA.

R 299.5903 Use of evaluation of environmental conditions as BEA for certain property; property description; establishing basis to distinguish existing contamination from new release; determination of significant hazardous substance use; inclusion in BEA of data and information from other studies; exemption from liability not invalidated by change in property use or hazardous substance use; time to conduct BEA prepared to establish liability exemption for development of oil or gas resources;

provide an exemption from liability only for the property that is specified in the BEA, as required by these rules.

(3) A BEA may establish a basis to distinguish existing contamination from a new release through any of the following, if the elements of the BEA comply with the pertinent requirements of these rules:

(a) Environmental data that characterize conditions at the property.

(b) Engineering controls.

(c) Isolation zones.

(d) Stipulated conditions.

(4) The department may issue a written determination, on a case-by-case basis, that the use, storage, or handling of hazardous substances that exceed quantities commonly used for typical residential or office purposes is not significant hazardous substance use. If the department determines that there is no significant hazardous substance use, then the hazardous substance covered by the determination can be eliminated from further consideration in the BEA.

(5) A BEA submitted by an owner shall consider significant hazardous substance use by the owner and all tenants and operators who, at the time the BEA is completed, are currently in possession of, or are under agreement to take possession of, all or part of the property.

(6) A BEA may include data and information from studies prepared by others or conducted for other purposes if the BEA provides sufficient rationale to demonstrate that the data are reliable and relevant to define conditions at the property at the time of purchase, occupancy, or foreclosure.

(7) If a person has established an exemption from liability by completing a BEA that satisfies the requirements of part 201 of the act and these rules, then a change in property use or hazardous substance use after the date of completion of the BEA will not invalidate the exemption.

(8) For the purposes of a BEA prepared to establish a liability exemption for a person who is a permittee for subsurface oil, gas, storage, or mineral rights under part 615 or part 625 of the act, the period to conduct a BEA shall end 45 days after the date when a permit is issued to the person by the department, unless, in the case of oil and gas development activities regulated under part 615 of the act, notice is provided to the department under R 324.402 not less than 5 days in advance of any site preparation work. If the notice is provided, then the period to conduct a BEA shall end 45 days after the date that the department receives the notice. For the purposes of these rules, notice provided to the department under R 324.402 shall modify the period for completion of a BEA only if it is received by the department not less than 5 days before site preparation activities begin and is sent to the department by a means that provides proof of delivery. Verbal notice under R 324.402 is not sufficient to modify the date on which the 45-day period ends. If an amendment to a permit to drill and operate that changes the permitted location or increases the scope of activities allowed at the permitted location is issued by the department, then the period to conduct a BEA with respect to the revised permit location or new scope of activity covered by the amendment shall end 45 days after the amendment is issued. The provisions of this subrule apply to persons who receive a new permit to drill and operate under part 615 of the act but who do not apply to the transfer of existing permits to drill and operate as provided by R 324.206(6) and (7), where site preparation activities have occurred. For the purposes of this subrule, "site preparation activities" means any change to the landscape, including cutting or removing trees or other vegetation, or any earth changes at the permitted location.

(9) For purposes of compliance with part 9 of these rules, an acquiring agency under 1980 PA 87, MCL 231.51, et seq., and known as the uniform condemnation procedures act, shall not become the owner or operator of a property that is a facility or a portion of a facility until possession of the facility of a portion of the facility has been transferred to the acquiring agency.

(10) A person submitting a BEA may consider only those hazardous substances that are present at the property in excess of applicable residential cleanup criteria in determining whether the BEA will be a category S or a category D. Hazardous substances that are detected at the property, but that are not present in excess of applicable residential criteria, may be dropped from further consideration in the BEA if the BEA contains documentation that there is a reasonable basis, after all appropriate inquiry, including review of property use history and appropriate characterization, to conclude that the hazardous substance in question is not present above applicable residential cleanup criteria.

(11) A BEA which was completed before March 11, 1999, and which does not comply with the requirements of these rules is considered inadequate to establish an exemption from liability if it fails to conform with written instructions for BEAs issued by the department at the time the BEA was completed. Disclosure of such a BEA to the department shall be governed by R 299.5919(10).

R 299.5905 Eligibility to conduct BEA; "date provided by law" defined.

Rule 905. (1) Except as provided in section 20126(2) of the act and subrules (2) and (4) of this rule, a person who becomes the owner or operator of a facility on or after the date provided by law is eligible to conduct a BEA to establish an exemption from liability for existing contamination at a facility.

(2) A person who was the operator of a facility before the date provided by law and who becomes the owner of the facility on or after the date provided by law without interruption in his or her status as either owner or operator is not eligible or required to complete a BEA to establish his or her liability with respect to contamination at the facility. The liability of a person who was the operator of a facility before the date provided by law and who becomes the owner of the facility on or after the date provided by law without interruption in his or her status as owner or operator shall be determined under section 20126(1)(a), (b), (d), (e), and (f), (3), and (4) of the act, and not under section 20126(1)(c) of the act.

(3) A person who was a lessee at a facility or held another possessory interest in the facility, but was not the operator of the facility, and who becomes the owner or operator of the facility on or after the date provided by law is eligible to conduct a BEA under section 20126(1)(c) of the act. A BEA conducted by the person does not provide an exemption from liability for contamination if he or she is otherwise liable under section 20126 of the act.

(4) Except as provided in subrule (5) of this rule, an owner or an operator of a facility who changes status from operator to owner or owner to operator on or after the date provided by law is not eligible to conduct a BEA when a change in status occurs.

(5) A person who has been the owner or operator of a facility, who then is neither the owner or operator of the facility for a time, and who again becomes the owner or operator of the facility shall, if he or she wishes to establish liability protection for contamination attributable to intervening owners or operators, conduct a BEA under section 20126(1)(c) of the act. A BEA

facility following a default in the land contract and a writ of restitution is issued and executed, the date the writ of restitution is executed shall constitute the date the land contract vendor regained possession of the facility.

(7) For the purpose of this rule, "date provided by law" means March 6, 1996, with regard to underground storage tank systems regulated under part 213 of the act, and June 5, 1995, with respect to all other facilities or portions of facilities.

R 299.5907 Minimum technical standards for categories of BEAs.

Rule 907. (1) This rule sets forth the minimum technical standards for each category of a BEA. All elements from the minimum technical standards for the appropriate category of a BEA shall be included in a BEA, except as provided in R 299.5909. In addition to the specific elements required for each category of a BEA, as set forth in subrules (2), (3), (4), and (5) of this rule, a submitter shall conduct all appropriate inquiry into the previous uses of the property, including a search of pertinent government records, consistent with good commercial or customary practice and describe the results of the inquiry in the BEA.

(2) A category N BEA shall include all of the following:

(a) A legal description and scaled map or survey depicting the property.

(b) The property tax identification numbers or ward and item numbers for parcels that are included, in whole or in part, as property covered by the BEA.

(c) The names and chemical abstract service numbers, when a chemical abstract service number is available, of all hazardous substances known to have been released at the property.

(d) The basis for the conclusion that the property is a facility.

(e) Identification, by general or specific location, of known contamination on the property, including the environmental media affected.

(f) Identification of all of the following that are known to be present at the property after a reasonable inspection of the property and review of pertinent government records:

(i) Abandoned or discarded aboveground storage tanks or surface impoundments that contain hazardous substances.

(ii) Underground storage tanks that contain hazardous substances.

(iii) Abandoned or discarded barrels, containers, and other receptacles that contain hazardous substances.

(iv) A general description of the contents of any aboveground or underground storage tank, surface impoundments, barrel, container, or other receptacle identified under paragraphs (i), (ii), and (iii) of this subdivision, and any specific information known to the submitter about the contents.

(v) An estimate of the volume of the contents of each aboveground or underground storage tank, surface impoundments, barrel, container, or other receptacle identified under paragraphs (i), (ii), and (iii) of this subdivision, unless it is impractical to make an estimate. If it is impractical to estimate the volume of the contents of tanks, barrels, surface impoundments, containers, or other receptacles at the facility, then the BEA shall include an explanation of why it is impractical.

(g) Photographs that depict important features of the property and visually evident releases, including abandoned and discarded containers, unless it is impractical to provide photographs or photographs would not provide useful information about the property. Photographs shall be accompanied by all of the following information:

(i) The actual or approximate date the photograph was taken.

(ii) A description of what the photograph illustrates.

(iii) The location where the photograph was taken.

(iv) The name of the person who took the photographs.

(h) A specific statement that there will be no significant hazardous substance use at the property and that this stipulated condition is the basis for being able to distinguish existing contamination from a new release.

(3) A category D BEA shall include all of the following:

(a) A legal description and scaled map or survey depicting the property.

(b) The property tax identification numbers or ward and item numbers for parcels that are included, in whole or in part, as property covered by the BEA.

(c) The names and chemical abstract service numbers, when a chemical abstract service number is available, of all hazardous substances that will be used or otherwise be present as a result of operations at the property in a quantity that constitutes significant hazardous substance use. Identification solely by trade name, reliance on material safety data sheets that list unidentified or unspecified substances as an ingredient in a product, or other imprecise identification of hazardous substances is acceptable only if the information is adequate to allow a new release to be distinguished from existing contamination.

(d) The names and chemical abstract service numbers, if chemical abstract service numbers are available, of all hazardous substances known to have been released at the property or to be present as a result of the decomposition of hazardous substances that were released.

(e) The basis for the conclusion that the property is a facility.

(f) Identification of all of the following that are known to be present at the property after a reasonable inspection of the property and review of pertinent government records:

(i) Abandoned or discarded aboveground storage tanks or surface impoundments that contain hazardous substances.

(ii) Underground storage tanks that contain hazardous substances.

(iii) Abandoned or discarded barrels, surface impoundments, containers, and other receptacles that contain hazardous substances.

(iv) A general description of the contents of any aboveground or underground storage tank, surface impoundments, barrel, container, or other receptacle identified under paragraphs (i), (ii), and (iii) of this subdivision, and any specific information known to the submitter about the contents.

(v) An estimate of the volume of the contents of each aboveground or underground storage tank, surface impoundment, barrel, container, or other receptacle that is identified under paragraphs (i), (ii), and (iii) of this subdivision, unless it is impractical to make an estimate. If it is impractical to estimate the volume of the contents of tanks, barrels, containers, or other receptacles at the facility, then the BEA shall include an explanation of why it is impractical.

subrule have not been released at the facility or documentation showing why the submitter does not reasonably believe that 1 or more hazardous substances identified in subdivision (c) of this subrule have ever been present at the property, or both. Those hazardous substances need not be characterized in detail.

(j) For BEAs being submitted under section 20129a of the act, an explanation of how the body of information in the BEA can be used, and why it is sufficient, to distinguish a new release from existing contamination.

(4) A category S BEA shall include all of the following:

(a) A legal description and scaled map or survey depicting the property.

(b) The property tax identification numbers or ward and item numbers for parcels that are included, in whole or in part, as property covered by the BEA.

(c) The names and chemical abstract service numbers, when a chemical abstract service number is available, of all hazardous substances that will be used or otherwise be present as a result of operations at the property in a quantity that constitutes significant hazardous substance use. Identification solely by trade name, reliance on material safety data sheets that list unidentified or unspecified substances as an ingredient in a product, or other imprecise identification of hazardous substances is acceptable only if the information is adequate to allow a new release to be distinguished from existing contamination.

(d) The names and chemical abstract service numbers, if chemical abstract service numbers are available, of all hazardous substances known to have been released at the property or that are present as the result of decomposition of hazardous substances that were released.

(e) Photographs that depict important features of the property and visually evident releases, including abandoned and discarded containers, unless it is impractical to provide photographs or photographs would not provide useful information about the property. Photographs shall be accompanied by all of the following information:

(i) The actual or approximate date when the photograph was taken.

(ii) A description of what the photograph illustrates.

(iii) A description of the location where the photograph was taken.

(iv) The name of the person who took the photographs.

(f) The basis for the conclusion that the property is a facility.

(g) Identification of all of the following that are known to be present at the property after a reasonable inspection of the property and review of pertinent government records:

(i) Abandoned or discarded aboveground storage tanks or surface impoundments that contain hazardous substances.

(ii) Underground storage tanks that contain hazardous substances.

(iii) Abandoned or discarded barrels, containers, and other receptacles that contain hazardous substances.

(iv) A general description of the contents of any aboveground or underground storage tank, surface impoundments, barrel, container, or other receptacle identified under paragraphs (i), (ii), and (iii) of this subdivision, and any specific information known to the submitter about the contents.

(v) An estimate of the volume of the contents of each aboveground or underground storage tank, surface impoundment, barrel, container, or other receptacle that is identified under paragraphs (i), (ii), and (iii), unless it is impractical to make an estimate. If it is impractical to estimate the volume of the contents of tanks, surface impoundments, barrels, containers, or other receptacles at the facility, then the BEA shall include an explanation of why it is impractical.

(h) Identification and quantification of each hazardous substance that is part of the known existing contamination at the property if the hazardous substance will be used at the facility. Statistical analyses may be presented to characterize the mass of hazardous substances that are part of existing contamination, if mass calculations are pertinent in distinguishing a new release from existing contamination.

(i) For all hazardous substances that will be used at the facility, documentation of the extent of existing contamination for hazardous substances known to have been released, and general projections about the fate of contamination, including all of the following:

(i) Information about significant property features that influence contaminant migration.

(ii) Identification of known sources of hazardous substance releases on the property.

(iii) Documentation of the vertical and horizontal extent of hazardous substance concentrations at the property above residential cleanup criteria.

(j) Information to confirm the presence of, quantify, and delineate the horizontal and vertical extent of, contamination with respect to any hazardous substance that has potentially been released on the property. Statistical analyses may be presented to characterize the mass of hazardous substances that are part of existing contamination, if mass calculations are pertinent in distinguishing a new release from existing contamination. Identification of hazardous substances subject to this subdivision shall be based on a thorough review of the property use to assess the likelihood that hazardous substances not addressed by subdivisions (h) and (i) of this subrule have been present on the property. Documentation showing why the submitter reasonably believes that 1 or more hazardous substances identified in subdivision (c) of this subrule have not ever been present at the property and the basis for the conclusion shall be included in the BEA and those hazardous substances need not be characterized in detail. Investigation for substances covered by this subdivision shall include areas of likely release based on historical information. Areas that should be considered for investigation include the following:

(i) Spills.

(ii) Seepage lagoons.

(iii) Floor drains.

(iv) Dry wells.

(v) Septic tank and tile field systems.

(vi) Buried wastes.

(vii) Underground storage tanks.

(k) For BEAs being submitted under section 20129a of the act, an explanation of how the body of information in the BEA can be used, and why it is sufficient, to distinguish a new release from existing contamination.

after the state or a local unit of government has possession of the portion of the property where the underground storage tank is located. The department may, at its discretion, extend the 45-day period for emptying an underground storage tank under extenuating circumstances. Extenuating circumstances that may be considered by the department in granting an extension include, but are not limited to, the presence of deteriorated structures that make removal of the underground storage tank unsafe and severe weather conditions that interfere with removal of the underground storage tank. A request for extension of the 45-day period to empty an underground storage tank under this subdivision shall be made in writing by the owner or operator and received by the department before the expiration of the 45-day period.

(c) For the purpose of this subrule, use of an underground storage tank does not include the storage of hazardous substances for 45 days or less after the earliest of the date of purchase, occupancy, or foreclosure or for another period allowed under subdivision (b) of this subrule if the underground storage tank is emptied within the period.

(d) The requirements of this subrule are in addition to any other requirements of state or federal laws and regulations applicable to underground storage tanks and do not limit the obligation of an owner or operator under any other state or federal law or regulation with respect to an underground storage tank.

(6) For the purpose of this rule, the term "known" refers to information known, at the time the BEA is conducted, to the submitter of the BEA and his or her agents, including the environmental professional who prepares the BEA.

(7) A BEA report shall follow a format specified by the department. The department may specify different formats for BEAs that are submitted with petitions and BEAs that are disclosed under section 20126(1)(c)(ii) of the act.

R 299.5909 Engineering controls and stipulated conditions.

Rule 909. (1) Alternative approaches may be used to satisfy certain provisions of the minimum technical standards in conjunction with, or in place of, some of the information required by R 299.5907. Alternative approaches are acceptable only if they provide or contribute to a reliable means of distinguishing between existing contamination and a new release. The purpose and function of all engineering controls, isolation zones, and stipulated conditions shall be clearly defined in the BEA.

(2) Subject to the limitations set forth in subdivision (b) of this subrule and in subrules (3), (4), and (5) of this rule, either of the following can be included in a BEA, if the BEA, taken in its entirety, satisfies the requirements of section 20101(1)(d) of the act:

(a) Engineering controls, isolation zones, or other features that provide a verifiable means of assuring that any release that occurs after purchase, occupancy, or foreclosure will be spatially separated from existing contaminated media, will be detected, and can be responded to in a timely manner so as to prevent commingling with existing contamination. A BEA that includes engineering controls, isolation zones, or other similar features shall include, at a minimum, the information required by R 299.5907(2).

(b) For BEAs that are submitted with a petition, the BEA may include 1 or more of the following stipulated conditions specified in the affidavit from the petitioner:

(i) The petitioner acknowledges that the BEA does not provide sufficient environmental data with respect to a specific hazardous substance, and that the petitioner acknowledges that the BEA does not provide an exemption to strict liability with respect to response activity required to address a release of the hazardous substance at the property.

(ii) The petitioner acknowledges that the BEA does not provide sufficient environmental data with respect to certain areas of the property, and that the petitioner acknowledges that the BEA does not provide an exemption to strict liability with respect to response activity required to address contamination in those areas of the property.

(3) If a BEA relies on engineering controls or other similar features to prevent commingling of a new release with existing contamination, then the BEA shall include stipulated conditions in an affidavit from the petitioner or submitter acknowledging that if there is a failure of an engineering control or similar feature identified in the BEA and if a release occurs as a result of the failure, then the BEA does not provide an exemption to liability for response activity necessary to address contamination resulting from the failure. The stipulated conditions in the affidavit shall also state that the burden of distinguishing the release attributable to the failure of the engineering control from existing contamination shall be borne by the petitioner or submitter according to section 20129 of the act. The content of stipulated conditions used in conjunction with an engineering control or other similar feature may be modified from the affidavit statement on a case-by-case basis, with the approval of the department, to fit the facts and circumstances of a particular case.

(4) If a BEA relies on an isolation zone as a means of detecting a new release, then the BEA shall include a stipulated condition in an affidavit from the petitioner or submitter acknowledging that if hazardous substances are detected in the isolation zone, then the BEA does not provide an exemption to liability for response activity necessary to address the contamination. The stipulated condition in the affidavit shall also state that the burden of distinguishing a new release that has migrated beyond the isolation zone from existing contamination shall be borne by the petitioner or submitter according to section 20129 of the act. The content of stipulated conditions used in conjunction with an isolation zone or other similar feature may be modified from the affidavit statement on a case-by-case basis, with the approval of the department, to fit the facts and circumstances of a particular case.

(5) The department may, on a case-by-case basis, approve of other stipulated conditions as part of a BEA petition. Stipulated conditions other than those provided for in subrules (2), (3), and (4) of this rule and R 299.5907(2)(h) shall not be acceptable as part of a BEA if the department determines that the stipulated condition is to be used wholly, or in large measure, in place of a technical requirement that can be complied with in a manner that is cost effective and practical. Stipulated conditions that are predicated on no hazardous substance release occurring are unacceptable for category S and category D BEAs.

(6) The form of all affidavits required under this rule shall be specified by the department.

R 299.5911 Seeking department determination for exemption from liability; required forms and affidavits; department processing of petitions.

Rule 911. (1) If a person wishes to petition the department under section 20129a of the act for a determination that the person meets the requirements for an exemption from liability under section 20126(1)(c) of the act then the person shall use a form specified by the department.

(2) Each person who seeks a determination under section 20129a of the act shall submit a separate petition, unless the petitioners are joint owners of the property as tenants in common, tenants in entirety, or joint tenants. The exception for tenants in

(4) If a petitioner seeks a determination by the department that the proposed use of the facility will satisfy the person's obligations under section 20107a of the act, then the petitioner shall provide a section 7a compliance analysis that complies with the requirements of R 299.5915. The petitioner shall also provide an affidavit of an environmental professional in support of a petition for a determination of compliance with section 20107a of the act. The form of the affidavit shall be specified by the department. The affidavit shall be completed by the environmental professional who was the author of, or who supervised the preparation of, the section 7a compliance analysis.

(5) The department may return to the petitioner as administratively incomplete, and without making a determination, a BEA that does not include all elements required by these rules. If the department intends to return a BEA without review or determination because it is administratively incomplete, then the department shall do so within 15 business days after receipt of the petition. Return of an administratively incomplete BEA by the department does not alter the deadlines for completion and disclosure of the BEA that are set forth under part 201 of the act and these rules.

(6) The department may provide comments on a BEA, form, affidavit, or other material associated with the BEA in a verbal and brief written communication before issuing a determination. This communication shall be directed to the contact person identified by the petitioner on the petition form or to the petitioner.

(7) If a petitioner submits information to respond to the comments made through the process provided for in subrule (6) of this rule, then the department shall make a determination within 15 business days of receipt of the additional materials. If materials that respond to the comments are not received by the department within 15 business days of the contact made under subrule (6) of this rule, or within a time that the department and the petitioner mutually agree upon, then the department shall issue a determination that the person does not meet the requirements for an exemption under section 20126(1)(c) of the act. If, after being informed of department comments under subrule (6) of this rule, the petitioner wishes to receive a determination without submitting materials to respond to the comments, then the department shall issue the determination as required by section 20129a of the act, within 15 days of being informed of that decision by the petitioner or the petitioner's contact person identified on the petition form.

(8) If the department does not respond to a petition within 15 business days after the petition is received by the department, either by issuing a determination or providing comments according to the process described in subrule (6) of this rule, and if the delay in the department's response prevents the petitioner from curing deficiencies in the BEA within the time frames allowed by these rules, then the time allowed for the petitioner to cure any deficiencies shall be the time that would have been available to the petitioner if the department had responded on the fifteenth business day.

(9) If any of the following deficiencies are not cured by the petitioner within the time allowed under part 201 of the act and these rules, then the department may either issue a determination that the person does not meet the requirements for an exemption from liability under section 20129a of the act or, at the option of the department, inform the petitioner that the deficiency prevents the department from issuing a determination that a person meets the requirements for an exemption from liability under section 20129a of the act:

(a) A required form or affidavit is not submitted with the petition.

(b) A required form or affidavit lacks a complete response to a required element, including proper notarization, signatures, and information about the property or the petitioner. The petitioner shall respond to an inapplicable question on a form or affidavit by stating "not applicable."

(c) The text of a required form or affidavit is altered from the standard text, unless the department has authorized the petitioner or affiant to modify the standard text.

(d) The fee required by section 20129a of the act and R 299.5913 of these rules has not been paid.

If the department informs the petitioner that it will not issue an affirmative determination because of the deficiency, the department shall treat the BEA as a disclosure under section 20126(1)(c)(ii) of the act.

(10) A person who submits a BEA to the department under this rule satisfies the requirement under section 20126(1)(c)(ii) of the act that the person disclose the results of a BEA to the department.

R 299.5913 Fee for review of BEA and section 7a compliance analysis.

Rule 913. (1) The fee prescribed by law for review of a petition shall accompany a petition submitted for department review under section 20129a of the act. The fee shall be paid by a check or money order payable to: "State of Michigan."

(2) There is no fee for a BEA disclosed under section 20126(1)(c)(ii) of the act if the disclosure is not accompanied by a petition.

(3) If a petition and fee are received by the department and either the petition states that the property is not a facility or the department determines after review of the BEA that the BEA does not provide sufficient information to demonstrate that the property is a facility, then the department will retain the payment.

(4) Payment of the fee for BEA petition review entitles a petitioner to all of the following services:

(a) Review of, and a determination regarding, the initial BEA and other required materials.

(b) One review of, and a determination regarding the adequacy of, revisions to the BEA or other required materials if the initial determination identifies any deficiencies in the BEA or other petition documents.

(c) Review of, and a determination regarding, the initial section 7a compliance analysis if the petitioner exercises his or her option to seek a determination of compliance with the requirements of section 20107a of the act and review of a plan for response activity, if a plan is proposed, to assure compliance with section 20107a of the act.

(d) One review of, and a determination regarding, a revised section 7a compliance analysis and a plan for response activity, if relevant, if a revised analysis is prepared in response to deficiencies identified in the initial determination.

(5) If additional iterations of the BEA or section 7a compliance analysis or a plan for response activity are submitted for department determination, then the petitioner shall pay an additional statutory fee in the same amount as the initial fee, unless the department determines that payment of an additional fee is not required because of the minor nature of any remaining deficiency. Payment of the additional fee shall be made in accordance with the requirements of this rule for the initial fee.

(6) The department shall not issue determinations in response to submittals beyond the first revisions, as described in subrule (4) of this rule, that are not accompanied by the fee. The submittals may be retained in department files.

(7) If a check is returned for insufficient funds, then the petitioner shall be given 21 days in which to make the proper payment.

explanation of omitted information required.

Rule 915. (1) A person who is seeking a determination from the department that his or her proposed use of the facility will satisfy the person's obligations under section 20107a of the act shall prepare and submit a section 7a compliance analysis to the department.

(2) A section 7a compliance analysis may be submitted for a determination under section 20129a of the act only in conjunction with a petition regarding a BEA. The section 7a compliance analysis may be submitted with the BEA or as a subsequent submittal if it is submitted within 6 months from the time that the BEA is complete.

(3) If a person submits a section 7a compliance analysis separately from a petition, then the section 7a compliance analysis shall be accompanied by a copy of the relevant petition form for the facility.

(4) A section 7a compliance analysis shall include the following elements, as appropriate to the facility:

(a) Hazardous substance information, including all information regarding previous and proposed hazardous substance use at the property that is relevant for the section 7a compliance analysis.

(b) Detailed characteristics of property use, including a description of current and proposed property use.

(c) Plan for response activities, if response activities are necessary for a person to satisfy his or her obligations under section 20107a of the act.

(d) Evaluation and demonstration of compliance with section 7a obligations, including an evaluation of the information provided in response to the requirements of the other subdivisions of this subrule that discusses and demonstrates how the proposed use satisfies a person's obligations under section 20107a(1)(a), (b), and (c) of the act.

(5) A section 7a compliance analysis shall be assembled and presented in a format specified by the department.

(6) If information is omitted because it is not relevant for the facility, then the section 7a compliance analysis shall include a discussion that explains which elements were omitted and why they are not relevant to the facility.

R 299.5917 Submittal of information to cure deficiencies in BEA or section 7a compliance analysis; required forms and affidavits; timing.

Rule 917. (1) Data or information collected after the end of the 45-day period in section 20126(1)(c) of the act or after the expiration of an extension of the 45-day period as provided for in R 299.5903(8) may be submitted to cure a deficiency in a BEA identified by the department in response to a petition submitted under section 20129a of the act under the following circumstances:

(a) If it is necessary to collect additional samples to cure the identified deficiency, data from the samples will be accepted only if the owner or operator has not conducted business activities involving significant hazardous substance use at the property. If additional samples are taken after the 45-day period in section 20126(1)(c) of the act or after an extension of the 45-day period as provided for in R 299.5903(8) has expired, then an affidavit shall be included with the data stating that the owner or operator had not conducted business activities that involved significant hazardous substance use at the property. The department shall specify the form of the affidavit that is to be used.

(b) If additional samples are not required to cure the deficiency, then the use of hazardous substances does not impair the opportunity to cure the deficiency and an affidavit regarding this issue is not required.

(2) Sample data and information gathered within the 45-day period may be submitted any time within the 6-month period provided for in section 20129a of the act to initiate the BEA petition review.

(3) All resubmittals prepared to cure deficiencies in the initial BEA shall also be submitted to the department within the 6-month period provided for in section 20129a of the act if a department review is requested. If the sample data are collected within the time frames allowed by these rules and submitted within 6 months of completion of the initial BEA, then the department shall review the revised BEA and other petition documents and issue a determination regarding the revised BEA petition if requested by the petitioner.

(4) The 6-month period allowed for submittal of any BEA and section 7a compliance analysis shall be counted from the time an initial BEA is complete, not from the time additional data or information is prepared.

(5) The following procedure shall be followed when submitting materials to cure a deficiency in a BEA or other petition documents:

(a) Information shall be submitted to the department's district office that serves the property.

(b) Information shall be accompanied by a letter which describes the purpose of the submittal and which summarizes how the BEA or other petition documents, or both, have been revised. This letter shall include the petition number assigned by the department to the original petition.

(6) The department will not prepare an acknowledgment of receipt of the materials specified in subrule (5) of this rule, but shall, upon request, provide a receipt for the materials that are hand-delivered.

(7) A person who submits a request for a determination of compliance with section 20107a of the act in conjunction with a BEA determination shall submit his or her completed section 7a compliance analysis and, if required, plan for response activity that will result in compliance with section 20107a of the act within 6 months from the date of completion of the initial BEA.

(8) Materials submitted under subrule (7) of this rule shall be accompanied by a copy of the original petition that was submitted with the BEA and a cover letter stating which one of the following conditions applies:

(a) The submittal provides information to cure deficiencies in the section 7a compliance analysis.

(b) The section 7a compliance analysis request is in conjunction with a prior request for determination under section 20129a of the act.

R 299.5919 Disclosure of BEA under section 20126(1)(c)(ii) of act; forms; timing.

Rule 919. (1) A person who wishes to effectuate and maintain liability protection afforded by section 20126(1)(c) of the act is required by section 20126(1)(c)(ii) of the act to disclose the results of a BEA to the department and subsequent purchasers or transferees. The requirement to disclose the results of the BEA to the department is satisfied if the person follows the relevant procedures in this rule.

(2) Disclosure shall be made to all persons who will become the owner or operator of the property that was the subject of the

(6) A person who wishes to maintain liability protection afforded by section 20126(1)(c) of the act shall disclose the contents of the BEA to a subsequent transferee before conveying interest in the property, consistent with subrule (2) of this rule.

(7) For the purposes of subrules (5) and (6) of this rule, the requirement to disclose the results of the BEA to a subsequent purchaser or transferee may be satisfied by providing a summary of the BEA and, if requested by the person to whom an interest is being transferred, the full BEA report and related materials submitted to the department under subrules (3) and (4) of this rule. If a summary of a BEA is provided to satisfy the requirements of this rule, then the summary shall include, but is not limited to, all of the following information:

(a) The reason that the property is a facility.

(b) The category of BEA that was conducted for the property, and the reason that that category of BEA was conducted.

(c) The general nature and extent of contamination at the property revealed by the BEA.

(8) If the BEA is disclosed to the department not later than 8 months after the latest of the date of purchase, occupancy, or foreclosure, then the owner's or operator's liability exemption shall be effective on the date of purchase, occupancy, or foreclosure and shall remain in effect if the owner or operator complies with subrules (5) and (6) of this rule.

(9) A person who obtained liability protection under section 20126(1)(c) of the act by complying with subrules (3), (4), (5), and (6) of this rule, but who subsequently fails to comply with subrule (5) or (6) of this rule, is not exempt from liability as of the date of noncompliance with subrule (5) or (6) of this rule.

(10) A person who wishes to effectuate and maintain liability protection afforded by section 20126(1)(c) of the act and who has not disclosed to the department the contents of a BEA that was complete before March 11, 1999, shall complete his or her disclosure not later than September 11, 1999.

(11) If a person has conducted a BEA within 45 days of purchase, occupancy, or foreclosure, but has not yet disclosed the BEA to the department and less than 6 months has elapsed since the date of completion of the BEA, then liability under section 20126(1)(c) of the act shall be established only after a determination has been made as to whether the requirements for an exemption from liability under section 20126(1)(c) of the act would be met if the BEA had been disclosed.

PART 10. COMPLIANCE WITH SECTION 20107a OF ACT

R 299.51001 Definitions.

Rule 1001. As used in this part:

(a) "All appropriate inquiry" means the inquiry necessary to determine what response activity is needed to comply with section 20107a of the act.

(b) "Belowground" means buried under soil or debris. "Belowground," when used to describe containers, does not include containers that are in basements or vaults or are otherwise under the ground surface in structures that allow visual inspection of the container.

(c) "Container" means a barrel, drum, tank, vessel, surface impoundment, pipeline, or other receptacle, regardless of size, that contains a hazardous substance.

(d) "Mitigate" means to reduce exposure to the degree that the exposure is no longer unacceptable, consistent with R 299.51013. With respect to fire and explosion hazards, "mitigate" means to eliminate the threat of fire and explosion.

(e) "Property" means the real property owned or operated by a person who is subject to section 20107a of the act.

R 299.51003 Applicability; compliance with section 20107a of act generally; documentation of compliance.

Rule 1003. (1) The requirements of this part apply to a person who is subject to section 20107a of the act and to conditions about which he or she has knowledge, based upon all appropriate inquiry.

(2) For purposes of compliance with part 10 of these rules, an acquiring agency under 1980 PA 87, MCL 231.51 et seq., and known as the uniform condemnation procedures act, shall not become the owner or operator of a property that is a facility or a portion of a facility until possession of the facility or portion of the facility has been transferred to the acquiring agency.

(3) A person who is subject to section 20107a of the act shall, except as provided in R 299.51019, undertake response activity as necessary to comply with section 20107a of the act and these rules on the property that he or she owns or operates and provide notices as described in R 299.51017 with respect to a hazardous substance that he or she has reason to believe is emanating from, or has emanated from, and is present beyond, the boundary of the property that he or she owns or operates.

(4) The requirements of section 20107a of the act apply to all of the following:

(a) Discarded or abandoned containers that contain a quantity of hazardous substance which is or may become injurious to the public health, safety, or welfare or to the environment.

(b) A threat of release of a quantity of hazardous substance that is or may become injurious to the public health, safety, or welfare or to the environment.

(c) Hazardous substances that have otherwise been released at the property.

The requirements do not apply to hazardous substances being lawfully used in operations at the property or being properly stored at the property.

(5) A person who is subject to section 20107a of the act shall maintain documentation of compliance with section 20107a of the act and shall provide the documentation to the department upon request. All of the following provisions apply to the documentation of compliance:

(a) With regard to section 20107a(1)(b) of the act, required documentation shall consist of all of the following:

(i) Identification of exposure pathways that are complete, or are likely to become complete, in light of the intended use of the property and the features of the property, including potential exposure barriers such as structures or pavement.

(ii) Information about the concentrations of hazardous substances to which persons may be exposed in each pathway identified through the analysis described in paragraph (i) of this subdivision, unless a reasonable evaluation of the conditions at the property supports the conclusion that quantification of hazardous substance exposures is not necessary to determine that there is

compliance with section 20107a(1)(b) of the act is not required if conditions that determine exposures to hazardous substances at the property remain unchanged.

(6) Except as provided in R 299.51017(4)(c), the documentation required by subrule (5) of this rule shall, for a person who became the owner or operator of a facility before March 11, 1999, be available to the department upon request not later than March 11, 2000. For a person who became the owner or operator of a facility on or after March 11, 1999, the required documentation shall be available to the department upon request not later than 8 months after the earliest of the date of purchase, occupancy, or foreclosure. The time frames specified in this subrule do not alter the continuing obligation of a person who is subject to section 20107a of the act to be in compliance with the law and these rules.

R. 299.51005 Compliance with other laws and regulations.

Rule 1005. (1) The obligation of a property owner or operator to comply with all laws and regulations applicable to hazardous substances is unaffected by part 201 of the act and these rules, except as provided in sections 20129a(5) and 20142 of the act.

(2) Other laws and regulations that may be relevant to the management of hazardous substances include, but are not limited to, the following:

(a) Part 55 of the act (air pollution control).

(b) Part 111 of the act (hazardous waste management).

(c) Part 115 of the act (solid waste management).

(d) Part 211 of the act (underground storage tank regulation).

(e) Part 213 of the act (leaking underground storage tanks).

(f) Part 615 of the act (supervisor of wells).

(g) Act No. 207 of the Public Acts of 1941, as amended, being 29.1 et seq. of the Michigan Compiled Laws, and known as the fire protection code.

(h) The toxic substances control act, 15 U.S.C. 2601 et seq.

(i) The resource conservation and recovery act, 42 U.S.C. 6901 et seq.

(j) Rules and regulations promulgated under the laws listed in subdivisions (a) to (i) of this subrule.

R 299.51007 Compliance with section 20107a(1)(a) of act.

Rule 1007. (1) The result of an activity undertaken by the owner or operator of a property is not exacerbation through an increase in response activity costs if the activity satisfies both of the following conditions:

(a) Any resulting increase in response activity cost is small in relation to the total cost of response activity that would be required to satisfy the relevant land use-based cleanup criteria and other requirements of sections 20120a and 20120b of the act or section 21301a of the act, as appropriate to the facility, at the time the activities are undertaken. Examples of such response activity include, but are not limited to, the placement of pavement or landscaping cover that constitutes a barrier to direct contact.

(b) The activity undertaken provides environmental or public health benefits.

(2) There may also be other circumstances that an owner or operator can demonstrate are not a change in facility conditions which increase response activity costs.

(3) Notwithstanding subrules (1) and (2) of this rule, if a determination is made under section 20107a(2) of the act that an action constitutes exacerbation, then the determination of the amount owed as increased response activity costs shall be reduced based on consideration of the public health or environmental benefits, or both, provided by the action.

(4) This rule shall not modify the burden of proof set forth in section 20107a(2) of the act.

R 299.51009 Compliance with section 20107a(1)(b) of act; discarded or abandoned aboveground containers.

Rule 1009. (1) To be in compliance with section 20107a(1)(b) of the act with respect to a container at the property that is on or above the ground surface, and with respect to the portion of a container that is partially on or above the ground surface, an owner or operator shall manage the container in a manner that can be reasonably expected to prevent a release from the container in a quantity which is or may become injurious to the public health, safety, or welfare or to the environment. However, if the container is too large to allow it to be moved practically to inspect the integrity of the entire container, then the owner or operator shall prevent a release in a quantity that is or may become injurious to the public health, safety, or welfare or to the environment that would be evident from inspection of the visible portions of the container and the surrounding surface.

(2) If containers are located inside a structure that, upon reasonable inquiry, is determined to be deteriorating, then the owner or operator shall take reasonable and prudent measures to assure that deterioration of the structure does not lead to damage to the containers which may result in a release.

(3) If a release occurs from a container as a result of a failure to comply with subrule (1) or (2) of this rule, then the owner or operator shall stop the release and take all other steps necessary to comply with requirements applicable to a new release.

(4) The requirements of this rule shall be in addition to the requirements of other applicable laws and regulations to which the owner or operator is subject, except as provided in sections 20129a(5) and 20142 of the act.

R 299.51011 Compliance with section 20107a(1)(b) of act; belowground containers.

Rule 1011. (1) To be in compliance with section 20107a(1)(b) of the act with respect to belowground containers at the property, an owner or operator shall prevent or eliminate any unacceptable exposure to hazardous substances in, or released from, a belowground container and shall eliminate any fire and explosion hazard resulting from hazardous substances in, or released from, a belowground container.

(2) Compliance with section 20107a of the act does not require that belowground containers be emptied, unless a container must be emptied to satisfy a performance standard under this rule. Other requirements to which the owner or operator is subject may require belowground containers, such as underground storage tanks, to be emptied. R 299.51005 identifies some other

(c) Complies with R 299.51005, R 299.51009, R 299.51011, and R 299.51015 to R 299.51019 with regard to conditions at the property.

(2) In evaluating compliance with section 20107a(1)(b) of the act, exposure pathways shall be considered pertinent only if they are or may be complete in light of the intended use of the property and the features of the property, including potential exposure barriers such as structures or pavement.

(3) Except as provided in subrules (4) and (5) of this rule, exposure to hazardous substances is an unacceptable exposure for the purposes of section 20107a(1)(b) of the act if concentrations of hazardous substances to which persons may be exposed exceed an applicable criterion developed by the department under section 20120a(1)(a) to (e) of the act.

(4) A site-specific evaluation may be conducted to document that conditions at a property do not result in an unacceptable exposure. In these cases, comparison of exposure concentrations to criteria developed by the department under section 20120a(1)(a) to (e) of the act is not required. Except as provided in subrule (5) of this rule, an evaluation relied upon under this subrule shall be consistent with the risk management objectives set forth in section 20120a of the act and risk assessment methods acceptable to the department.

(5) As described in this subrule, a site-specific evaluation to document that conditions at the property do not result in an unacceptable exposure through inhalation of indoor air may be based on a demonstration of compliance with 1974 PA 154, MCL 408.1001 et seq., and the rules promulgated under 1974 PA 154. This subrule applies only when all of the following conditions are satisfied:

(a) The risk being evaluated results from inhalation by workers of hazardous substances in indoor air within an active commercial or industrial workplace that is regulated by 1974 PA 154, MCL 408.1001 et seq., and the rules promulgated under 1974 PA 154.

(b) The exposure to hazardous substances from environmental contamination is a portion of the exposure to which workers are otherwise subject from process-related sources of the same hazardous substance.

(c) The risk to the non-worker population, if any, from inhalation of indoor air at the property has been evaluated according to the requirements of subrule (3) of this rule or a site-specific evaluation has been conducted for the non-worker population according to risk assessment methods acceptable to the department, and the risk is not unacceptable on the basis of the risk management objectives set forth in section 20120a of the act.

(6) If the hazardous substances present at the property may present an unacceptable exposure to utility workers or other persons conducting activities at the property in an easement, under the terms of a utility franchise, or pursuant to severed subsurface mineral rights or severed subsurface formations, then the owner or operator may satisfy his or her obligation to mitigate unacceptable exposures to the utility workers or other persons by providing written notice, by a method that provides proof of delivery, of the general nature and extent of contamination and potential unacceptable exposures to all of the following:

(a) Easement holders of record.

(b) Utility franchise holders of record.

(c) The owner or operator of all public utilities that serve the property.

(d) Owners or lessees of severed subsurface mineral rights or subsurface formations.

If the person described in subdivisions (a) to (d) of this subrule is not an individual, then the notice shall be provided to the chief executive officer of the organization. The notice required under this rule shall be provided as soon as the exigencies of the situation require, but not later than 9 months after the effective date of this amendatory rule or the deadline set forth in R 299.51003(6), whichever is applicable.

(7) Upon request of a person to whom information is provided under subrule (6) of this rule, the owner or operator of property who provided notice under subrule (6) of this subrule shall provide all available information about conditions at the property that he or she owns or operates which are relevant to the activities of the person who received notice under subrule (6) of this rule. The owner or operator of a property who is subject to section 20107a of the act shall also provide, to other persons conducting activities at the property with the knowledge or permission of the owner or operator, information about conditions at the property that are relevant to the person's activities at the property.

R 299.51015 Notice to department of discarded or abandoned containers.

Rule 1015. (1) Except as provided in subrules (2), (3), and (4) of this rule and in R 299.51021, an owner or operator who is subject to section 20107a of the act shall notify the department, in writing, of the presence of discarded or abandoned containers at the property that contain a quantity of hazardous substance which is or may become injurious to the public health, safety, or welfare or to the environment. The owner or operator shall provide the required notice by September 11, 1999, within 45 days of becoming the owner or operator, or within 45 days of acquiring knowledge of the discarded or abandoned containers, whichever is later. The notice required by this rule shall include all information known to the owner or operator about the number, type, size, and contents of the discarded or abandoned containers.

(2) The notification requirement of subrule (1) of this rule does not apply to an owner or operator who disposes of discarded or abandoned containers and their contents according to all applicable laws and regulations by September 11, 1999, within 45 days of becoming the owner or operator, or within 45 days of acquiring knowledge of the discarded or abandoned containers, whichever is later. If the response activity is not complete within 45 days, then an owner or operator shall give notice that would otherwise have been required by subrule (1) of this rule to the department within 14 days after the end of the 45-day period provided in this subrule to complete the response activity.

(3) In place of the notice required by subrule (1) of this rule, a person who owns or operates an underground storage tank that is subject to notice or registration requirements, or both, under other state or federal requirements shall comply with the notice or registration requirements.

(4) If an owner or operator discloses a baseline environmental assessment under section 20126(1)(c)(ii) of the act, and the baseline environmental assessment includes identification of discarded or abandoned containers at the property on a form provided by the department for that purpose, then separate notice under subrule (1) of this rule is not required. Identification of an underground storage tank in a baseline environmental assessment does not eliminate or modify the obligation of an owner or

the owner of the affected adjacent property as required in subrules (4) and (5) of this rule, except that subrules (4) and (5) shall not apply for permitted releases. The notices required by this subrule shall also be made if hazardous substances emanating from his or her property enter surface waters of the state on or adjacent to the property in concentrations that exceed generic GSI criteria established under R 299.5716. The requirement to notify the department and the affected adjacent property owner shall be based on reasonable inferences that can be made from available data about the facility, including, but not limited to, data gathered through investigation undertaken to comply with section 20114(1)(a) of the act.

(2) A person who holds a permit for an oil and gas well under part 615 of the act and is subject to section 20107a of the act, shall provide the notice required by this rule to the department and to owner of the surface rights of the property if a release from the oil and gas exploration or production activities results in hazardous substance concentrations in excess of criteria developed by the department under section 20120a(1)(a) or (17) of the act on property where the well or related surface activity exists. This notice is required in addition to the migration notice required by subrule (1) of this rule, if applicable.

(3) A person who holds an easement and is subject to section 20107a of the act, shall provide notice, as called for in subrule (1) of this rule, to the department and to the grantor of the easement, or the grantor's successor in interest, if any, if there is a release from the easement holder's activities that results in hazardous substance concentrations in excess of criteria developed by the department under section 20120a(1)(a) or (17) of the act on property where the easement exists. Such notice shall be in addition to the notice required by subrule (1) of this rule, if applicable to the release in question.

(4) A person shall provide the notice required by subrule (1) of this rule to the department and to the affected adjacent property owner, in writing, within the following time frames:

(a) Except as provided in subdivision (c) of this subrule, with regard to conditions that were not known to the owner or operator before March 11, 1999, notice shall be provided within 45 days after the owner or operator has reason to believe that hazardous substances have migrated, or are likely to have migrated, beyond the property boundary.

(b) Except as provided in R 299.51021 and subdivision (c) of this subrule, with regard to conditions that were known to the owner or operator before March 11, 1999, notice shall have been provided by June 9, 1999.

(c) If a person is required to provide additional notice as a result of these amendatory rules, then the additional notice shall be made and included in the documentation of compliance required by R 299.51003(5) not later than 9 months after the effective date of these amendatory rules.

(5) The department may prescribe a form to be used for reports made under this rule. All of the following information shall be included in a report provided under this rule:

(a) The location of the property.

(b) The name, address, and telephone number of the property owner or operator who is submitting the notice.

(c) The name, address, and telephone number of a contact person familiar with the content of the notice.

(d) The name, chemical abstract service number, and maximum measured concentration of the hazardous substance or substances that have migrated, or are likely to have migrated, up to or beyond the property boundary.

(6) A person who has provided the notice required by section 21309a of the act is not required to make the notice to affected adjacent property owners called for in subrule (1) of this rule.

R 299.51019 Mitigating fire and explosion hazards; action and notice required.

Rule 1019. (1) An owner or operator who is obligated to mitigate a fire or explosion hazard under section 20107a(1)(b) of the act shall provide immediately notify the local fire department of the hazard and shall take such other steps as are reasonable and prudent under the circumstances to mitigate or eliminate the hazard.

(2) If initial action does not permanently abate the fire and explosion hazard, then, within 7 days after notice is provided under subrule (1) of this rule, the owner or operator shall provide written notice to the department. The notice shall include all of the following information:

(a) A description of the conditions that resulted in a fire or explosion hazard.

(b) The date and time that notice was provided to the local fire department.

(c) A description of the response provided by the local fire department.

(d) A description of conditions which remain that may require additional action to mitigate fire or explosion hazards due to hazardous substances at the property.

R 299.51021 Applicability of rules to persons who have received affirmative determinations of compliance with section 20107a of act under section 20129a of act.

Rule 1021. If, before March 11, 1999, a person received a determination from the department under section 20129a of the act that the person's proposed use of a facility satisfies the person's obligations under section 20107a of the act, then these rules shall not be applied retroactively to impose additional obligations upon the person or alter the department's determination with regard to the compliance analysis that was submitted. If the department's affirmative determination was conditioned on the implementation of response activity, then this rule shall apply to the owner or operator only if the response activity was implemented in a timely manner.