

CHAPTER 133
RULES FOR DETERMINING
CLEANUP ACTIONS AND RESPONSIBLE PARTIES

567—133.1(455B,455E) Scope.

133.1(1) These rules establish the procedures and criteria the department will use to determine the parties responsible and cleanup actions necessary to meet the goals of the state pertaining to the protection of the groundwater. These rules pertain to the cleanup of groundwater itself and soils and surface water where groundwater may be impacted. They may also be used as guidelines in other environmental protection activities authorized by Iowa Code chapter 455B. Where specific federal or state programs or funds exist to address situations that are also governed by these rules, the rules and standards of the specific programs or funds will be integrated and utilized to achieve an equitable, expeditious and environmentally sound resolution of the particular contamination situation. These rules apply specifically to point source contamination only.

133.1(2) These rules apply specifically to cleanup actions required to abate, prevent or remediate a hazardous condition, the presence of a hazardous substance or waste, the release of a regulated substance, or the discharge of a pollutant as those terms are defined in Iowa Code chapter 455B.

133.1(3) These rules shall not limit the department's authority to require remedial or preventative action, or to take remedial or preventative action, as necessary to protect the public health, the environment, or the quality of life. The department will make its evaluation on a case-by-case basis, considering site characteristics, and where more than one contaminant is present or there is no established action level, will consider the toxicity, mobility and persistence of contaminants involved. The evaluation may include the potential synergistic, antagonistic, or cumulative effects of the contaminants involved in a particular case.

133.1(4) Persons subject to these rules retain all applicable appeal rights provided in Iowa Code chapter 455B.

133.1(5) This chapter is applicable to releases of petroleum from underground storage tanks subject to regulation under Iowa Code chapter 455B, Division IV, Part 8, to the extent they are not inconsistent with the corrective action rules in 567—135.6(455B) to 567—135.17(455B). This subrule is not intended to limit the authority of the department to establish liability against responsible parties other than owners and operators as defined in Iowa Code sections 455B.471(5) and 455B.471(6).

567—133.2(455B,455E) Definitions.

"Action level" means, for any contaminant, the HAL, if one exists; if there is no HAL, then the NRL, if one exists; if there is no HAL or NRL, then the MCL. If there is no HAL, NRL, or MCL, an action level may be established by the department based on current technical literature and recommended guidelines of EPA and recognized experts, on a case-by-case basis.

"Active cleanup" means removal, treatment, or isolation of a contaminant from groundwater or associated environment through the directed efforts of humans.

"AFS" means the Special Publication 30, "Investigation and Monetary Values of Fish and Freshwater Mussel Kills," published by the American Fisheries Society.

"Aggravated risk" means a contamination situation which presents a potentially catastrophic or an immediate and substantial risk of harm to human life or health or to the environment. Examples include exposure of humans, animals or the food chain to acutely toxic substances, contamination of a drinking water supply, threat of fire or explosion, or similar situations.

"Air or air resources" means those naturally occurring constituents of the atmosphere, including those gases essential for human, plant, and animal life.

"Background" means groundwater quality unaffected by human activities, and generally shall be determined by historical data of the geological services bureau or other government agencies for the type of aquifer or location involved in a given case. If available data is not adequate, background may be established by groundwater samples upgradient of a source or potential source of a substance which is detected in or has a reasonable probability of entering the groundwater.

“Best available technology” means those processes which most effectively remove, treat, or isolate contaminants from groundwater or associated environment, as determined through professional judgment considering actual equipment or techniques currently in use, published technical articles and research results, engineering reference materials, consultation with known experts in the field, and guidelines or rules of other regulatory agencies.

“Best management practices” means maintenance procedures, schedules of activities, prohibition of practices, and other management practices, or a combination thereof, which, after problem assessment and evaluation of alternatives is determined to be the most effective means of preventing or abating contamination at a location.

“Biological resources” means fish, wildlife and other biota belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the state of Iowa, the United States, or local government. Fish and wildlife include freshwater aquatic and terrestrial species; game, nongame, and commercial species; and threatened and endangered species. Other biota encompass shellfish, terrestrial and aquatic plants, and other living organisms not otherwise listed in this definition.

“Contaminant” means any chemical, ion, radionuclide, synthetic organic compound, microorganism, waste or other substance which does not occur naturally in groundwater or which occurs naturally at a lower concentration, and includes all hazardous substances as defined in 42 U.S.C. 9601, and any element, compound, mixture, solution or substance designated pursuant to 40 CFR 302.4 as of September 13, 1988.

“Damages” means the costs of restoration, rehabilitation, and replacement of resources, or acquisition of equivalent resources, as determined in accordance with this chapter; the reasonable and necessary costs of the assessment, to include the cost of performing the assessment and administrative costs and expenses necessary for, and incidental to, the assessment; lost services to the public; and, in the event the damages claim is not resolved within six months after the incident leading to the damages, interest at the current rate published in the Iowa Administrative Bulletin by the department of revenue pursuant to Iowa Code section 421.7. The interest amount shall be computed from the date the amount of the claim is confirmed by a final ruling of the commission in a contested case decision.

“Drinking water supply” means any raw or finished water source that is or may be used by a public water system, as defined in Iowa Code section 455B.171, or as drinking water by one or more individuals.

“Geologic resources” means those elements of Earth’s crust such as soils, sediments, rocks, and minerals, including petroleum and natural gas, that are not included in the definitions of groundwater and surface water resources.

“Groundwater” means any water of the state as defined in Iowa Code section 455B.171 which occurs beneath the surface of the earth in a saturated geologic formation of rock or soil.

“Groundwater resources” means water in a saturated zone or stratum beneath the surface of land or water and the rocks or sediments through which groundwater moves. It includes groundwater resources that meet the definition of drinking water supplies.

“HAL” means a lifetime health advisory level for a contaminant, established by the United States Environmental Protection Agency (EPA). Health advisories represent the concentration of a single contaminant, based on current toxicological information, in drinking water which is not expected to cause adverse health effects over lifetime exposure.

“Hazardous substance” means a hazardous substance as defined in Iowa Code section 455B.381.

“MCL” means the enforceable maximum contaminant level established by the EPA pursuant to the Safe Drinking Water Act.

“Natural resources” or *“resources”* means land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, the state of Iowa, or local government. These natural resources have been categorized into the following five groups: surface water resources, groundwater resources, air resources, geologic resources, and biological resources.

“NRL” means the negligible risk level for carcinogens established by the EPA, which is an estimate of one additional cancer case per million people exposed over a lifetime to the contaminant (1×10^{-6}).

“*Passive cleanup*” means the removal or treatment of a contaminant in groundwater, or associated environment, through management practices or the construction of barriers, trenches and other similar facilities for prevention of contamination, as well as the use of natural processes such as groundwater recharge, natural decay and chemical or biological decomposition.

“*Point source*” means any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or any site or area where a contaminant has been deposited, stored, disposed of, or placed, or otherwise come to be located.

“*Preventative*” or “*prevention*” refers, in the context of these rules, to actions or efforts to minimize or stop further contamination in a situation where contamination already exists or is imminent.

“*Remedial action plan*” means a written report which includes all relevant information, findings, and conclusions from a site assessment, including all analytical results and identification of contaminant migration pathways; identification and evaluation of cleanup alternatives, including both active and passive measures using best available technology and best management practices; a recommended cleanup action or combination of action, including identification of expected cleanup levels consistent with the cleanup goal of 133.4(3) “*b*”; a monitoring network and schedule to document cleanup levels; and a proposed schedule of implementation.

“*Responsible person*” means any person who is legally liable for the contamination in question or who is legally responsible for abating contamination under any applicable law, including Iowa Code chapters 455B and 455E, and the common law. This may include the person causing, allowing or otherwise participating in the activities or events which cause the contamination, persons who have failed to conduct their activities so as to prevent the release of contaminants into groundwater, property owners who are obligated to abate a condition, or persons responsible for or successor to such persons.

“*Significant risk*” means:

1. The presence in groundwater of a contaminant in excess of an action level;
2. The presence of a contaminant in the soils, surface water, or other environment in proximity to groundwater which may reasonably be expected to contaminate the groundwater to an action level; or
3. The presence of a contaminant or contaminants in the groundwater, or in the soils, surface water or other environment in proximity of groundwater which may be expected to contaminate groundwater in quantities, concentrations, or combinations which may significantly adversely impact the public health, safety, environment, or quality of life. This criterion would normally be applied where there is no established action level or where combinations of more than one contaminant are present.

“*Site assessment plan*” means a written proposal for study of a contamination situation to determine the types, amounts, and sources of contaminants present, hydrogeological characteristics of the site, and the vertical and horizontal extent of contamination, with a goal of developing an adequate remedial action plan. The proposal must include: recommendations for collection of relevant historical data such as site management practices, inventory records, literature searches, photographs and personal interviews; a methodology for obtaining groundwater flow information including well placements, construction and elevation, bore logs, static groundwater table measurements, groundwater elevations, groundwater gradients (isopleth), and information on soil transmissivity, porosity and permeability; and a methodology for identifying contaminant plumes, including additional monitoring wells to identify the horizontal and vertical extent of contamination, a site plot showing the estimated configuration of contamination, and a sampling schedule and list of constituents to be analyzed. The plan development may require preliminary field investigations.

“*Surface water resources*” means the waters of the state, including the sediments suspended in water or lying on the bank, bed, or shoreline. This term does not include groundwater or water or sediments in ponds, lakes, or reservoirs designed for waste treatment under applicable laws regulating waste treatment. [ARC 8470B, IAB 1/13/10, effective 2/17/10]

567—133.3(455B,455E) Documentation of contamination and source.

133.3(1) *Sampling and analytical procedures.* Unless rules for specific programs under USEPA or department authority provide otherwise, or unless other methods are approved by the department for a

specific situation, samples taken and analyses made to document contamination or cleanup levels under this chapter shall be conducted in accordance with the following:

a. Samples. “A Compendium of Superfund Field Operations Methods,” USEPA, Office of Emergency and Remedial Response, Washington, D.C. 20460 (EPA/540/P-87/001, OSWER Directive 93.55.0-14, December 1987).

b. Analyses. “Test Methods for Evaluation of Solid Waste, Physical-Chemical Methods (SW-846),” USEPA, Third Edition, November 1986, as revised through December 1988. Until the department adopts rules regarding certification of laboratories, analyses shall be conducted at a laboratory that certifies to the department that the appropriate analytical procedure is utilized, or a laboratory which has been approved under EPA’s Contract Laboratory Program. Upon adoption of rules by the department regarding certification of laboratories, all analyses shall be made at a certified laboratory. The parties, both the department and person responsible for investigating, shall have the opportunity to split samples for independent analysis, and where appropriate a sample portion shall be retained for a reasonable period of time for possible reanalysis.

133.3(2) Department determination of contamination. When the department receives or obtains evidence of groundwater contamination or the release or presence of contaminants in the environment associated with groundwater, where contamination of the groundwater may reasonably be expected, the department shall make reasonable efforts to document the source of contamination, and shall require responsible persons to take appropriate preventative, investigatory and remedial actions. Evidence of contamination may include but is not limited to the following:

- a.* Water samples indicating the presence of a contaminant at levels above background.
- b.* Soil or surface water samples indicating the presence of a contaminant at levels above background, where release to the groundwater is likely.
- c.* Known releases of contaminants into the environment in quantities and locations that could reasonably be expected to cause groundwater contamination.
- d.* Other events that the department determines could potentially cause groundwater contamination.

The amount and type of evidence necessary to document contamination or potential contamination will vary with the circumstances of each case, including the amount and type of contaminant involved, site topography and geologic conditions, and potential adverse effects. Normally, a reasonable number of water and soil samples will be taken or analyses obtained by the department. However, where a significant quantity of contaminants is known to have been released into the environment, for example from a spill, which could reach groundwater, the department is not required to collect samples.

133.3(3) Department determination of source. The department shall determine whether the contamination is or likely was caused by a particular source or sources, for example a known spill of contaminants or current or past facilities or activities in the vicinity which involved products or substances which could be a likely source. If no such person or event can be identified, the department shall make reasonable efforts to determine whether there is a relatively restricted area of more concentrated contaminants in the vicinity which is or is likely to be a source of the contamination. This subrule does not require the department to identify a specific person or persons responsible for the contamination, but to determine whether the contamination has or has likely come from a relatively defined source.

133.3(4) Determination of responsible persons. Where a source or likely source of contamination is identified, the person or persons responsible for that source or sources shall conduct necessary preventative, investigatory and remedial actions.

a. Identification. The persons responsible or potentially responsible initially shall be identified by the department through such measures as on-site observations; interviews with witnesses and local officials; review of public records, including department files; and interviews with or information obtained from potentially responsible persons. Where there may be more than one source, or the source is otherwise not conclusively identified, persons who handle or have handled materials or wastes in the vicinity of the contamination, which could be the source, shall investigate and provide information satisfactory to the department to confirm or disaffirm that their activities are a source of

the contamination. Investigation by the responsible or potentially responsible person may include inspection of inventory or other records, and soil and groundwater monitoring to better define the source. Such monitoring shall conform to the requirements of 133.4(3)“a,” provided that a full-scale assessment may not be required for this purpose.

b. Notification. The department shall notify in writing the persons determined responsible under the above procedures, and include a brief statement of the facts upon which the department concluded that they are responsible, and the actions required; provided that where immediate action is necessary, verbal notification may be given, followed up with written notification. The persons notified may provide information disputing or supplementing the information relied on by the department, which shall be considered by the department.

c. Responsible persons may be jointly and severally liable, and the department is not required to name all potentially responsible parties in directing responsive actions to contamination.

567—133.4(455B,455E) Response to contamination.

133.4(1) *Prevention of further contamination.* In all cases where an active source of contamination is identified, such as leaking tanks or current practices, which may be readily corrected, the source shall be removed, repaired or otherwise contained, or the contaminating practices ceased, immediately upon discovery of the source. In addition, readily accessible contaminants, for example concentrated contaminants spilled on the ground or accessible through a recovery well or system, shall be promptly removed to avoid or minimize further contamination in the groundwater.

133.4(2) *Aggravated risk.* Where the contamination presents an aggravated risk, the preventative, investigatory and remedial measures provided in subrules 133.4(1) and 133.4(3) shall be expedited to remove such risk. In addition, the following actions shall be taken by the responsible parties, if necessary, to protect the public health or environment:

- a.* Providing alternate water supplies.
- b.* Installing security fencing or other measures to limit access.
- c.* Extraordinary measures to control the source of release.
- d.* Removal of hazardous substances to an approved site for storage, treatment or disposal.
- e.* Placing physical barriers to deter the spread of the release.
- f.* Recommending to appropriate authorities the evacuation of threatened individuals.
- g.* Using other materials to restrain the spread of the contaminant or to mitigate its effects.
- h.* Executing damage control or salvage operations.

133.4(3) *Significant risk.* In cases of significant risk, the following investigatory and remedial measures shall be implemented:

a. Investigation. The responsible party shall determine the extent and levels of contamination through a site assessment conducted under the supervision of a registered professional engineer, an expert in the field of hydrogeology, or other qualified person. A site assessment plan shall be submitted to the department within 45 days of notice by the department, unless a shorter time is required or a longer time is authorized by the department. The plan shall be approved by the department prior to initiation of the assessment, unless otherwise approved by the department. The site assessment shall be conducted within a reasonable time and a remedial action plan shall be submitted to the department, within the time directed or approved by the department. The department may require further investigation by the responsible person in order to adequately assess the extent of contamination, and may require the remedial action plan to be supplemented if necessary.

b. Required cleanup actions.

(1) Groundwater. The goal of groundwater cleanup is use of best available technology and best management practices as long as it is reasonable and practical to remove all contaminants, and in any event until water contamination remains below the action level for any contaminant, and the department determines that the contamination is not likely to increase and no longer presents a significant risk. Where site conditions and available technology are such that attainment of these goals would be impractical, the department may establish an alternative cleanup level or levels, including such other conditions as will adequately protect the public health, safety, environment, and quality of life.

(2) Other. Where significant amounts of contaminants are documented as being present in the soils or other environment, such that groundwater contamination is occurring or is likely, active cleanup of the contaminated soils or other environment shall be implemented to the extent reasonable and necessary to prevent or minimize release to the groundwater; passive cleanup may be allowed in extraordinary circumstances.

133.4(4) Other. Where significant risk is not currently present, the responsible person may be required to monitor the groundwater and implement reasonable management or other preventative measures to minimize further contamination.

567—133.5(455B,455E) Report to commission. Department actions taken pursuant to this chapter shall be reported to the commission.

567—133.6(455B) Compensation for damages to natural resources.

133.6(1) Applicability. This rule applies to persons who, by release of a hazardous substance to the environment, cause injury to, destruction of, or loss of natural resources held in trust by the state for the public. In most cases this would involve the destruction of aquatic life or other wildlife under the ownership of the state, as provided in Iowa Code section 481A.2. This rule relates to the compensation to the state and public for the natural resource damages and is in addition to any other legal recourse for the event or action that caused the destruction or damage.

133.6(2) Liability to the state. Persons who cause injury to, destruction of, or loss of natural resources of the state are liable to the state as provided by Iowa Code section 455B.392(1)(c). This rule establishes the methodologies and criteria for evaluating the extent and value of the damage and establishes the methods of compensation. If the person and the department cannot agree to the proper resolution of a particular case, the issues of liability, damage and compensation will be established through contested case proceedings, as provided by 567—Chapter 7.

133.6(3) Assessment. When natural resources are destroyed or damaged by an identifiable source, the degree and value of the losses shall be assessed by collecting, compiling, and analyzing relevant information, statistics, or data through prescribed methodologies to determine damages, as set forth in this rule.

a. General. Except as specified otherwise in this rule, the definitions, methodologies, and criteria in 43 CFR 11 may be used to assess natural resource damages.

b. Fish loss. Assessment of damages for fish kills shall be in accordance with the following:

(1) Normally investigators will follow the methods prescribed by AFS to determine numbers of fish killed, by species and size.

(2) During periods of ice cover, where local conditions prevent using these methods, or in other appropriate circumstances, for example when the resources are known to have been diminished by prior incidents, investigators will utilize the best information available to determine numbers of fish killed by species and size. Information may include existing or prior data on population levels in the affected water body or nearby water bodies with similar characteristics, including any historical fish kill data.

(3) The monetary valuation of fish shall be the replacement values as published in AFS for all fish lost except the following: channel catfish, flathead catfish, blue catfish, northern pike, muskellunge, northern pike/muskellunge hybrid, rainbow trout, brown trout, brook trout, white bass, yellow bass, white bass/striped bass hybrid, largemouth bass, smallmouth bass, spotted bass, crappie, rock bass, bluegill, redear sunfish, warmouth, pumpkinseed, freshwater drum, yellow perch, walleye, sauger, and walleye/sauger hybrid. The value of these fish shall be \$15 each, unless AFS establishes a higher value. Notwithstanding the above, the value of each fish classified by the department as an endangered or threatened species shall be \$1,000.

(4) The value of lost services to the public shall be the number of fishing trips lost over the period of the resource loss, as determined through local creel survey information or through interpolation from the most recent statewide creel survey. Each trip shall be valued at \$30.

(5) The cost of the investigation shall include salaries plus overhead for the time of staff, including support staff, involved in investigating the fish kill and performing the assessment; meals and lodging for

staff while they are in the field conducting the assessment; mileage, valued at the current rate established pursuant to Iowa Code section 18.117; costs borne by the department associated with containment or cleanup operations; and any other costs directly associated with the investigation and assessment.

133.6(4) Compensation. The department will extend to the responsible person the opportunity to reach voluntary agreement as to the amount of damages and the compensation method. If the person disputes liability or the damage amount, the department will make a demand for payment and the person may appeal and demand contested case procedures under 567—Chapter 7. The method of compensation shall be solely in the discretion of the department.

a. Direct monetary payment. Compensation will normally be by direct monetary payment to the department. The money received will be used to replace, restore or rehabilitate the lost or damaged resources. Resource enhancement projects, support of educational programs relating to resource protection or enhancement, or resource acquisition of equal or greater value also may be funded. If practical, such alternatives should provide similar services to the public and should be in the vicinity of the loss.

b. Indirect monetary payment. In appropriate cases, an equal or greater amount of compensation may be made by monetary payment to another government agency or private nonprofit group in the natural resource field for the same purposes as provided in paragraph “a.”

c. Direct funding of projects. With the approval and oversight of the department, the person may be allowed to contract directly for the same purposes as provided in paragraph “a.”

This rule is intended to implement Iowa Code section 455B.392.

[ARC 8470B, IAB 1/13/10, effective 2/17/10]

This chapter is intended to implement Iowa Code section 455E.5(5) and Iowa Code chapter 455B, Division III, Part 1 and Division IV, Part 4.

[Filed 6/23/89, Notice 3/22/89—published 7/12/89, effective 8/16/89]

[Filed emergency 6/25/96—published 7/17/96, effective 8/15/96]

[Filed 8/30/02, Notice 6/12/02—published 9/18/02, effective 10/23/02]

[Filed ARC 8470B (Notice ARC 8122B, IAB 9/9/09), IAB 1/13/10, effective 2/17/10]