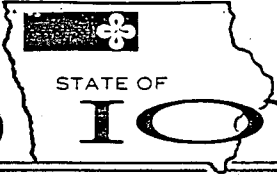


Request
6/1



STATE OF

IOWA

TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

LARRY J. WILSON, DIRECTOR

July 29, 1987

Ms. Dana Trugley
U.S. Environmental Protection Agency
Region VII, Superfund Branch
726 Minnesota Avenue
Kansas City, KS 66101

Dear Ms. Trugley:

In response to Mr. Wagoner's letter of July 1, 1987, regarding the applicable or relevant and appropriate requirements (ARARs) for the Midwest Manufacturing site in Kellogg, I have enclosed a portion of the Department's rules pertaining to surface water quality. The North Skunk River is designated as a class "B" warm water stream. If remedial actions include discharge to the stream, the acceptable levels would be based on a waste load allocation computer model. Information on the type of pollutants and discharge quantity is necessary before any discharge limits can be determined.

Regarding groundwater quality, it is the state's intent as reflected in 455E.4 that all groundwater be at least of potable water quality regardless of present use. In general, federal criteria, guidance and health advisory levels are used to define acceptable drinking water quality.

In addition, federal standards are used for air quality control and permits are required for emission sources. Permits would also be required for flood plain construction and well water withdrawals.

This letter has attempted to summarize the state's requirements which are likely to apply to remedial action at the Midwest Manufacturing site given the information provided. However, additional requirements may be identified when specific remedial actions are proposed.

If you have any questions, feel free to contact Calvin Wolter of my staff at (515) 281-4117.

Sincerely,

Handwritten signature of Allan E. Stokes

ALLAN E. STOKES, ADMINISTRATOR
ENVIRONMENTAL PROTECTION DIVISION

AES/mjt

Enclosure

RECEIVED

AUG 06 1987

REMD SECTION

30352332

Superfund

AC 12/31/86
IAC 12/3/86

567—61.3(455B) Surface water quality criteria.

61.3(1) *General water quality criteria.* The following criteria are applicable to all surface waters including those which have been designated as Class "A," "B," or "C" waters, at all places and at all times to protect livestock and wildlife watering, aquatic life, noncontact recreation, crop irrigation, and industrial, domestic, agricultural and other incidental water withdrawal uses not protected by Class "A," "B," or "C" criteria in this rule.

a. Such waters shall be free from substances attributable to point source wastewater discharges that will settle to form sludge deposits.

b. Such waters shall be free from floating debris, oil, grease, scum and other floating materials attributable to wastewater discharges or agricultural practices in amounts sufficient to create a nuisance.

c. Such waters shall be free from materials attributable to wastewater discharges or agricultural practices producing objectionable color, odor or other aesthetically objectionable conditions.

d. Such waters shall be free from substances attributable to wastewater discharges or agricultural practices in concentrations or combinations which are toxic or harmful to human, animal, or plant life.

e. Such waters shall be free from substances, attributable to wastewater discharges or agricultural practices, in quantities which would produce undesirable or nuisance aquatic life.

f. The turbidity of the receiving water shall not be increased by more than 25 Nephelometric turbidity units by any point source discharge.

g. Total dissolved solids shall not exceed 750 mg/l in any lake or impoundment or in any stream with a flow rate equal to or greater than three times the flow rate of upstream point source discharges.

h. Water which enters a sinkhole shall not exceed a fecal coliform content of 200 organisms/100 ml, except when the waters are materially affected by surface runoff; but in no case shall fecal coliform levels downstream from a discharge which may contain pathogens to humans be more than 200 organisms/100 ml higher than the background level upstream from the discharge.

61.3(2) *Class "A" waters.* Waters which are designated as Class "A" waters are to be protected for primary contact water use. The following criteria shall apply to all Class "A" waters designated in 61.3(5):

a. From April 1 through October 31 fecal coliform content shall not exceed 200 organisms/100 ml, except when the waters are materially affected by surface runoff; but in no case shall fecal coliform levels downstream from a discharge which may contain pathogens to humans be more than 200 organisms/100 ml higher than the background level upstream from the discharge.

b. The pH shall not be less than 6.5 nor greater than 9.0. The maximum change permitted as a result of a waste discharge shall not exceed 0.5 pH units.

61.3(3) *Class "B" waters.* Waters which are designated as Class "B" waters are to be protected for wildlife, fish, aquatic and semiaquatic life and secondary contact water uses. The following criteria shall apply to all Class "B" waters designated in 61.3(5).

a. *Dissolved oxygen.*

(1) The dissolved oxygen shall not be less than 5.0 mg/l during at least 16 hours of any 24-hour period and not less than 4.0 mg/l at any time during the 24-hour period.

(2) In areas designated as cold water fisheries the dissolved oxygen shall not be less than 7.0 mg/l during at least 16 hours of any 24-hour period and not less than 5.0 mg/l at any time during the 24-hour period.

b. *Chemical constituents.* The following levels shall not be exceeded at any time the flow equals or exceeds the seven-day, ten-year low flow unless the material is from uncontrollable nonpoint sources:

Arsenic	0.1	mg/l
Barium	1.0	mg/l

AC 12/1/85

Cadmium in B (W) waters	0.01	mg/l
Cadmium in B (C) waters	0.0012	mg/l
Chromium (total hexavalent)	0.05	mg/l
Copper	0.02	mg/l
Cyanide	0.005	mg/l
Lead	0.1	mg/l
Mercury	0.05	ug/l
Phenol *	0.05	mg/l
Selenium	0.1	mg/l
Total Residual Chlorine (TRC)	25	ug/l
Zinc	1.0	mg/l

*Includes all phenolic compounds

Ammonia Nitrogen (N)	Water	Uses
November 1 to March 31	B(W)	B(C)
April 1 to October 31	5 mg/l	2.5 mg/l
	2 mg/l	1 mg/l

c. All substances toxic or detrimental to aquatic life shall be limited to nontoxic or non-detrimental concentrations in the surface water.

d. Rescinded effective September 4, 1985.

e. The pH shall be not less than 6.5 nor greater than 9.0. The maximum change permitted as a result of a waste discharge shall not exceed 0.5 pH units.

f. Temperature.

(1) No heat shall be added to interior streams or the Big Sioux River that would cause an increase of more than 3°C. The rate of temperature change shall not exceed 1°C. per hour. In no case shall heat be added in excess of that amount that would raise the stream temperature above 32°C.

(2) No heat shall be added to streams designated as cold water fisheries that would cause an increase of more than 2°C. The rate of temperature change shall not exceed 1°C. per hour. In no case shall heat be added in excess of that amount that would raise the stream temperature above 20°C.

(3) No heat shall be added to lakes and reservoirs that would cause an increase of more than 2°C. The rate of temperature change shall not exceed 1°C. per hour. In no case shall heat be added in excess of that amount that would raise the temperature of the lake or reservoirs above 32°C.

(4) No heat shall be added to the Missouri river that would cause an increase of more than 3°C. The rate of temperature change shall not exceed 1°C. per hour. In no case shall heat be added that would raise the stream temperature above 32°C.

(5) No heat shall be added to the Mississippi river that would cause an increase of more than 3°C. The rate of temperature change shall not exceed 1°C. per hour. In addition, the water temperature at representative locations in the Mississippi river shall not exceed the maximum limits in the below table during more than one percent of the hours in the 12-month period ending with any month. Moreover, at no time shall the water temperature at such locations exceed the maximum limits in the below table by more than 2°C.

Zone II—Iowa-Minnesota state line to the Northern Illinois border (Mile Point 1534.6)

Zone III—Northern Illinois border (Mile Point 1534.6) to Iowa-Missouri state line.

Month	Zone II	Zone III
January	4° C	7° C
February	4° C	7° C
March	12° C	14° C

April	18° C	20° C
May	24° C	26° C
June	29° C	29° C
July	29° C	30° C
August	29° C	30° C
September	28° C	29° C
October	23° C	24° C
November	14° C	18° C
December	9° C	11° C

g. The waters shall contain no substances which will impart any undesirable tastes to fish flesh, or in any other way make fish inedible.

61.3(4) *Class "C" waters.* Waters which are designated as Class "C" waters are to be protected as a raw water source of potable water supply. The following criteria shall apply to all Class "C" waters designated in 61.3(5):

a. *Radioactive substances.*

(1) The combined radium-226 and radium-228 shall not exceed 5 picocuries per liter at the point of withdrawal.

(2) Gross alpha particle activity (including radium-226 but excluding radon and uranium) shall not exceed 15 picocuries per liter at the point of withdrawal.

(3) The average annual concentration at the point of withdrawal of beta particle and photon radioactivity from man-made radionuclides other than tritium and strontium-90 shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year.

(4) The average annual concentration of tritium shall not exceed 20,000 picocuries per liter at the point of withdrawal; the average annual concentration of strontium-90 shall not exceed 8 picocuries per liter at the point of withdrawal.

b. *Chemical constituents.* The following levels shall not be exceeded at the point of withdrawal:

Arsenic	0.05 mg/l
Barium	1.0 mg/l
Cadmium	0.01 mg/l
Chloride	250 mg/l
Chromium (total hexavalent)	0.05 mg/l
Copper	1.0 mg/l
Cyanide	0.02 mg/l
Fluoride	2.0 mg/l
Lead	0.05 mg/l
Mercury	0.002 mg/l
Nitrate (as NO ₃)	45 mg/l
Phenol*	0.05 mg/l
Selenium	0.01 mg/l
Silver	0.05 mg/l
Zinc	1.0 mg/l

*Includes all phenolic compounds

c. All substances toxic or detrimental to humans or detrimental to treatment process shall be limited to nontoxic or nondetrimental concentrations in the surface water.

d. The pH shall not be less than 6.5 nor greater than 9.0.

Low Water Quality Standards
Water Use Designations

SKUNK RIVER BASIN

(Skunk R. Tributaries, Continued)

	Water Uses					
	A	B(W)	B(C)	C	HQ	HQR
22. <u>S Skunk R.</u> Mouth (Keokuk Co.) to Hwy. 21 (S34, T75N, R13W, Keokuk Co.)		X				X
23. Hwy. 21 (Keokuk Co.) to Ames Water Works Dam (S36, T84N, R24W, Story Co.)		X				
24. At Oskaloosa				X		
25. Ames Water Works Dam (Story Co.) to S line of S23, T84N, R24W (Story Co.)	X	X				
26. S line of S23, T84N, R24W (Story Co.) to Story-Hamilton Co. line	X	X				X
27. Story-Hamilton Co. line to confluence with Drainage Ditch #71 (S11, T85N, R24W, Hamilton Co.)						X
28. <u>Indian Cr.</u> Mouth (Jasper Co.) to confluence of E Br. Indian Cr. and W Br. Indian Cr.			X			
29. <u>E Br. Indian Cr.</u> Mouth (Story Co.) to Story Co. Rd. E41 (NE quarter of Section 10, T85N, R22W, Story Co.)			X			
30. <u>Squaw Cr.</u> Mouth (Story Co.) to confluence with Story Co. D.D. 70 (S20, T84N, R24W, Story Co.)			X			
31. <u>Kelgley Br.</u> Mouth (Story Co.) to confluence with Hamilton-Story Co. D.D. 1 (S36, T85N, R24W, Story Co.)			X			
32. <u>N Skunk R.</u> Mouth (Keokuk Co.) to Poweshiek-Mahaska Co. line		X				X
33. Poweshiek-Mahaska Co. line to confluence with Snipe Cr. (Jasper Co.)		X				

HOUSE FILE 631

AN ACT

RELATING TO PUBLIC HEALTH AND SAFETY BY ESTABLISHING MEASURES TO IMPROVE AND PROTECT GROUNDWATER QUALITY AND TO MANAGE SUBSTANCES WHICH POSE HEALTH AND SAFETY HAZARDS, BY ESTABLISHING GOALS, POLICIES, FUNDING MECHANISMS, INCLUDING TAXES AND FEES, AND ADMINISTRATIVE PROVISIONS FOR THE MEASURES, BY ESTABLISHING PROGRAMS RELATING TO THE MANAGEMENT OF AGRICULTURAL ACTIVITIES, SOLID WASTE DISPOSAL, HOUSEHOLD HAZARDOUS WASTES, STORAGE TANKS, FERTILIZERS, PESTICIDES, LANDFILLS, AND WATERSHEDS, BY PROVIDING PENALTIES, ESTABLISHING EFFECTIVE DATES, MAKING APPROPRIATIONS, AND BY PROVIDING FOR OTHER PROPERLY RELATED MATTERS.

IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

PART ONE -- GENERAL PROVISIONS

Chapter 455E

GROUNDWATER PROTECTION

Section 101. NEW SECTION. 455E.1 TITLE.

This chapter shall be known and may be cited as the Groundwater Protection Act".

Sec. 102. NEW SECTION. 455E.2 DEFINITIONS.

As used in this chapter, unless the context otherwise requires:

1. "Groundwater" means any water of the state, as defined in section 455B.171, which occurs beneath the surface of the earth in a saturated geological formation of rock or soil.

2. "Department" means the department of natural resources created under section 455A.2.

3. "Director" means the director of the department.

4. "Commission" means the environmental protection commission created under section 455A.6.

5. "Contamination" means the direct or indirect introduction into groundwater of any contaminant caused in whole or in part by human activities.

6. "Contaminant" means any chemical, ion, radionuclide, synthetic organic compound, microorganism, waste, or other substance which does not occur naturally in groundwater or which naturally occurs at a lower concentration.

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

8. "Passive cleanup" means the removal or treatment of a contaminant in groundwater 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.

Sec. 103. NEW SECTION. 455E.3 FINDINGS.

The general assembly finds that:

1. Groundwater is a precious and vulnerable natural resource. The vast majority of persons in the state depend on groundwater as a drinking water source. Agriculture, commerce, and industry also depend heavily on groundwater. Historically, the majority of Iowa's groundwater has been usable for these purposes without treatment. Protection of groundwater is essential to the health, welfare, and economic prosperity of all citizens of the state.

2. Many activities of humans, including the manufacturing, storing, handling, and application to land of pesticides and fertilizers; the disposal of solid and hazardous wastes; the

storing and handling of hazardous substances; and the improper construction and the abandonment of wells and septic systems have resulted in groundwater contamination throughout the state.

3. Knowledge of the health effects of contaminants varies greatly. The long-term detriment to human health from synthetic organic compounds in particular is largely unknown but is of concern.

4. Any detectable quantity of a synthetic organic compound in groundwater is unnatural and undesirable.

5. The movement of groundwater, and the movement of contaminants in groundwater, is often difficult to ascertain or control. Decontamination is difficult and expensive to accomplish. Therefore, preventing contamination of groundwater is of paramount importance.

Sec. 104. NEW SECTION. 455E.4 GROUNDWATER PROTECTION GOAL.

The intent of the state is to prevent contamination of groundwater from point and nonpoint sources of contamination to the maximum extent practical, and if necessary to restore the groundwater to a potable state, regardless of present condition, use, or characteristics.

Sec. 105. NEW SECTION. 455E.5 GROUNDWATER PROTECTION POLICIES.

1. It is the policy of the state to prevent further contamination of groundwater from any source to the maximum extent practical.

2. The discovery of any groundwater contamination shall require appropriate actions to prevent further contamination. These actions may consist of investigation and evaluation or enforcement actions if necessary to stop further contamination as required under chapter 455B.

3. All persons in the state have the right to have their lawful use of groundwater unimpaired by the activities of any person which render the water unsafe or unpotable.

4. All persons in the state have the duty to conduct their activities so as to prevent the release of contaminants into groundwater.

5. Documentation of any contaminant which presents a significant risk to human health, the environment, or the quality of life shall result in either passive or active cleanup. In both cases, the best technology available or best management practices shall be utilized. The department shall adopt rules which specify the general guidelines for determining the cleanup actions necessary to meet the goals of the state and the general procedures for determining the parties responsible by July 1, 1989. Until the rules are adopted, the absence of rules shall not be raised as a defense to an order to clean up a source of contamination.

6. Adopting health-related groundwater standards may be of benefit in the overall groundwater protection or other regulatory efforts of the state. However, the existence of such standards, or lack of them, shall not be construed or utilized in derogation of the groundwater protection goal and protection policies of the state.

7. The department shall take actions necessary to promote and assure public confidence and public awareness. In pursuing this goal, the department shall make public the results of groundwater investigations.

8. Education of the people of the state is necessary to preserve and restore groundwater quality. The content of this groundwater protection education must assign obligations, call for sacrifice, and change some current values. Educational efforts should strive to establish a conservation ethic among Iowans and should encourage each Iowan to go beyond enlightened self-interest in the protection of groundwater quality.

Sec. 106. NEW SECTION. 455E.6 LEGAL EFFECTS.

TITLE VIII
SOLID WASTE DISPOSAL
 CHAPTER 100

SCOPE OF TITLE — DEFINITIONS — FORMS — RULES OF PRACTICE

[Prior to 12/3/86, Water, Air and Waste Management(900)]

567—100.1(455B) Scope of title. The department has jurisdiction over the disposal of solid waste disposal standards for sanitary disposal projects and by regulating the dumping of solid waste through a system of general rules and specific permits. The construction and operation of any sanitary disposal project requires a specific permit from the department. This chapter contains general definitions applicable to this title and rules of practice, including those to the public in the department's administration of the subject matter of this title.

This chapter contains the general requirements relating to solid waste disposal. Chapter 102 contains the rules which must be obtained in order to construct and operate a sanitary disposal project. Chapter 103 details the plan and operating requirements for all sanitary disposal projects. Chapter 104 details the requirements for sanitary disposal projects with special requirements. Chapter 105 sets forth the requirements for the planning and operation of sanitary disposal projects. Chapter 106 pertains to design and operating requirements for recycling centers. Chapter 107 sets forth the rules and regulations pertaining to beverage redemption centers and approval of redemption centers. Chapter 108 pertains to the reuse of waste. Chapter 109 contains the procedure for the assessment and collection of fees for waste at sanitary landfills.

567—100.2(455B) Definitions. For the purpose of this title, the following terms shall have the meanings as defined in this chapter. The definitions set out in Iowa Code section 455B.301, are hereby incorporated verbatim in these rules.

"Employee" means an employee of a sanitary disposal project who is not employed or engaged to operate the equipment used on the site.

"Commission" means the environmental protection commission.

"Composting" means the controlled, biological decomposition of selected solid organic waste materials under aerobic conditions resulting in an innocuous final product.

"Construction and demolition waste" means waste building materials including wood, metals and rubble which result from construction or demolition of structures. Such waste shall also include trees.

"Construction and demolition waste disposal site" means a sanitary landfill which accepts only construction and demolition wastes.

"Department" means the Iowa department of natural resources.

"FAA certified airport" means an airport serving air carriers certified by the Civil Aeronautics Board that has been issued an airport operating certificate from the Administrator of the Federal Aviation Administration pursuant to section 612 of the Federal Aviation Act, 49 U.S.C. §1432, and 49 C.F.R. part 139. (Note: This definition includes the municipal airports in or near Iowa as follows: Moline, Illinois; Omaha, Nebraska; and Burlington, Cedar Rapids, Des Moines, Dubuque, Fort Dodge, Mason City, Ottumwa, Sioux City, and Waterloo, Iowa.)

"Flood plain" means the area adjoining a river or stream which has been or may be hereafter covered by flood water.

"Garbage" means all solid and semisolid, putrescible animal and vegetable wastes resulting from the handling, preparing, cooking, storing, serving and consuming of food or of material intended for use as food, and all offal, excluding useful industrial byproducts, and shall include all such substances from all public and private establishments and from all residences.

"*High water table*" is the position of the water table which occurs in the spring in years of normal or above normal precipitation.

"*Incineration*" means the processing and burning of waste for the purpose of volume and weight reduction in facilities designed for such use.

"*Industrial sludge*" means any sludge produced by industrial activity.

"*Land application*" means a method through which sludge is applied to the ground surface. Land application may include subsurface injection.

"*Land pollution*" means the presence in or on the land of any solid waste in such quantity, of such nature and for such duration and under such condition as would affect injuriously any waters of the state, cause air pollution or create a nuisance.

"*Leachate*" means fluid that has percolated through solid waste and which contains contaminants consisting of dissolved or suspended materials, chemicals, or microbial waste products from the solid wastes.

"*Monitoring well*" means any well installed solely for the sampling of groundwater quality at a given location and depth and constructed in a manner approved by the department.

"*Open burning*" means any burning of combustible materials where the products of combustion are emitted into the open air without passing through a chimney or stack.

"*Open dump*" means any exposed accumulation of solid waste at a site other than a sanitary disposal project operating under a permit from the department.

"*Open dumping*" means the depositing of solid wastes on the surface of the ground or into a body or stream of water.

"*Operating area*" means the immediate portion of a sanitary disposal project used for unloading and handling of solid waste to prepare it for processing or final disposal.

"*Operator*" means an employee of the sanitary disposal project who is employed and assigned to operate the equipment used on the site.

"*Private agency*" is defined in Iowa Code section 28E.2.

"*Processing facility*" means the site and equipment for the preliminary and incomplete disposal of solid waste, including but not limited to transfer, open burning, incomplete land disposal, incineration, composting, reduction, shredding and compression.

"*Public agency*" is defined in Iowa Code section 28E.2.

"*Public water supply system*" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year. Such term includes: (1) Any collection, treatment, storage, and distribution facilities under control of the supplier of water and used primarily in connection with such system, and (2) any collection (including wells) or pretreatment storage facilities not under such control which are used primarily in connection with such supply system. A public water supply system is either a "community water system" or a "noncommunity water system".

a. "*Community water system*" means a public water supply system which serves at least fifteen (15) service connections used by year-round residents or regularly serves at least twenty-five (25) year-round residents.

b. "*Noncommunity water system*" means a public water supply system that is not a community water system.

"*Recycling*" means the reutilization of natural resources and man-made products.

"*Refuse*" means putrescible and nonputrescible wastes including but not limited to garbage, rubbish, ashes, incinerator ash, incinerator residues, street cleanings, market and industrial solid wastes and sewage treatment wastes in dry or semisolid form.

"*Refuse collection service*" means a publicly or privately operated agency, business or service engaged in the collecting and transporting of solid waste for disposal purposes.

"*Rubbish*" means nonputrescible solid waste consisting of combustible and noncombustible wastes, such as ashes, paper, cardboard, tin cans, yard clippings, wood, glass, bedding, crockery or litter of any kind.

"*Rubble*" means stone, brick or similar inorganic material.

"Salvageable material" means discarded material no longer of value for its original purpose but which has value if reclaimed.

"Salvaging" means the systematic removal of salvageable material in a formal and orderly manner as a part of the normal operating procedure of a sanitary disposal project.

"Sanitary disposal" means a method of treating solid waste so that it does not produce a hazard to the public health or safety or create a nuisance.

"Sanitary disposal project" is defined in Iowa Code section 455B.301.

"Sanitary landfill" means a method of disposing of solid waste on land by utilizing the principles of engineering to confine the solid waste to the smallest practical volume and to cover it with a layer of earth so that no nuisance or hazard to the public health is created.

"Scavenging" means the uncontrolled removal of materials from the unloading or working area of a sanitary disposal project.

"Shoreland" means land within three hundred (300) feet of the high water mark of any natural or artificial, publicly or privately owned lake or any impoundment of water used as a source of public water supply.

"Site" means any location, place or tract of land used for collection, storage, conversion, utilization, incineration or burial of solid wastes.

"Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant or air pollution control facility or any other such waste having similar characteristics and effects.

"Solid waste" is defined in Iowa Code section 455B.301.

"Solid waste collection" means the gathering of solid waste from public and private places.

"Solid waste storage" means the holding of solid waste pending intermediate or final disposal.

"Solid waste transportation" means the conveying of solid waste from one place to another by means of vehicle, rail car, water vessel, conveyor or other means.

"Stabilized sewage sludge" means sludge from wastewater treatment facilities that has been processed to a point where it has the ability to resist further change, produces minimal odor, and has achieved a substantial reduction in the pathogenic organism content. (The department recognizes principles of stabilization other than the conventional biological processes. Whether these processes produce a stabilized sludge will be evaluated on an individual basis.)

"Toxic and hazardous wastes" means waste materials, including but not limited to poisons, pesticides, herbicides, acids, caustics, pathological wastes, flammable or explosive materials and similar harmful wastes which require special handling and which must be disposed of in such a manner as to conserve the environment and protect the public health and safety.

"Transfer station" means a fixed or mobile intermediate solid waste disposal facility for transferring loads of solid waste, with or without reduction of volume, to another transportation unit.

"Trees" means trunks, limbs, stumps, or branches from trees or shrubs and untreated, uncoated, chemically unchanged wood wastes. This shall not include wood products which are part of an otherwise defined waste or have been contaminated by coatings, treatments or metals.

"Unstabilized sewage sludge" means sludge from wastewater treatment facilities which is not treated to remove pathogens.

567—100.3(17A,455B) Forms and rules of practice.

100.3(1) Applications for permits and renewals. Any private or public person or agency desiring to secure any permit or renewal of a permit provided for in Iowa Code chapter 455B, division IV, part 1, or the rules promulgated pursuant thereto, shall file a properly completed application with the program operations division of the department.

a. A properly completed application shall consist of the application form with all blanks filled in by the applicant, all signatures, and all documents and information required by the solid waste disposal rules. Application forms may be obtained from:

Administrative Support Station
Environmental Protection Division
Iowa Department of Natural Resources
Henry A. Wallace Building
900 East Grand
Des Moines, Iowa 50319

Properly completed forms should be submitted in accordance with the instructions on the form. Where not specified in the instructions, forms should be submitted to the Solid Waste Section.

b. Application for the following permits or renewals shall be made in triplicate on the forms indicated:

(1) A sanitary disposal project permit pursuant to Iowa Code section 455B.305 — Form 43. 542-3199

(2) A temporary permit pursuant to Iowa Code subsection 455B.307(1) — Form 44. 542-1012

(3) A renewal of a sanitary disposal project permit pursuant to subrule 102.2(1) — Form 45. 542-3208

c. It is strongly recommended that applicants contact the department before engineering plans are drafted, to ensure that the requirements of the rules are understood and to discuss any special problems of the proposed project.

100.3(2) *Industrial sludge and toxic and hazardous waste disposal instructions.* Requests for special waste authorizations instructions for the disposal of hazardous or toxic waste, as required by 102.14(2) shall be submitted to:

Administrative Support Station
Environmental Protection Division
Iowa Department of Natural Resources
Henry A. Wallace Building
900 East Grand
Des Moines, Iowa 50319

a. Requests shall be made by submitting Form 46 (542-3216) "Request for Special Waste Authorization" accompanied by supporting data as deemed necessary by the department. In case of emergency, instructions may be obtained by telephone by calling 515/281-8692. In those limited circumstances when the waste is unused commercial product in the original container which has attached legible labels and there is a reasonable certainty that the label accurately represents the contents of the container the owner of this waste need only submit a Waste Disposal of Commercial Products Only form, Form 47 (542-3148).

b. Requests, whether written or oral, shall include the following information: Chemical composition of the waste, physical form of the waste, volume of the waste to be disposed, any problems associated with any toxic or hazardous component of the waste, and any other information deemed necessary by the department.

[Filed emergency 6/3/83—published 6/22/83, effective 7/1/83]

[Filed 12/2/83, Notice 6/30/83—published 12/21/83, effective 1/25/84]

[Filed 5/30/86, Notice 2/12/86—published 6/18/86, effective 7/23/86]

[Filed emergency 11/14/86—published 12/3/86, effective 12/3/86]

[Filed 2/19/88, Notice 11/18/87—published 3/9/88, effective 4/13/88]

CHAPT. 101

GENERAL REQUIREMENTS RELATING TO SOLID WASTE DISPOSAL

[Prior to 7/1/83, DEQ Ch 26]

[Prior to 12/3/86, Water, Air and Waste Management (900)]

567—101.1(455B) Compliance. All solid waste shall be stored, collected, transported, utilized, processed, reclaimed or disposed of in a manner consistent with requirements of these rules.

567—101.2(455B) Variances. The director may issue, modify, or deny variances from the rules in this title. The applicant may appeal the decision of the director to the commission. This rule is intended to implement Iowa Code section 455B.303.

567—101.3(455B) General conditions of solid waste disposal. Any solid waste which may be disposed at a site other than a sanitary disposal project pursuant to Iowa Code Chapter 455B shall be disposed as provided in this rule.

101.3(1) Open dumping is prohibited except for rubble.

101.3(2) A public or private agency dumping or depositing solid waste shall do so in a manner that creates no public health hazard, nuisance or degradation of surface water or aquifers that are in actual or deemed to be of potential use as a water resource.

567—101.4(455B) Details of management plan proposals. Cities, counties and private agencies which are planning to establish or operate a sanitary disposal project other than a sanitary landfill, to modify their solid waste management practices, or to revise their existing management plan, shall file with the director a plan or revision of an existing plan before implementing it.

101.4(1) Such a plan or revision shall include the following information:

- a. Public and private agencies involved.
- b. Population densities and projections.
- c. Major waste contributors.
- d. Existing collection and disposal practices in the service area.
- e. Anticipated future industrial and commercial developments and their effects.
- f. Status of the solid waste management plan of the service area and evidence that the facility or changes contemplated are compatible with it.
- g. An evaluation of alternatives for the disposal or processing of solid waste.
- h. Evaluation of energy needs, markets and goals in any resource recovery to be provided.
- i. A description of the level of service expected.
- j. A broad assessment of the costs and benefits of the methods or processes to be used including capital cost, projected net annual operating cost, and cost of land disposal of any waste which cannot be handled or is removed from the process.
- k. A description of the methods of financing to be used.

101.4(2) Reserved.

567—101.5(455B) Contracts with permitted agencies.

101.5(1) Every city, county, and other public agency which complies with the requirements of Iowa Code chapter 455B for the disposal of solid waste by means of a contract with an agency holding a sanitary disposal project permit or by means of a contract with a hauler who has a contract with an agency holding a sanitary disposal project permit shall submit to the department a photostatic copy of that executed contract. All such agencies shall have on file at the department at all times a valid contract. When the term of the contract expires, a renewal of the contract or a new contract shall be submitted.

101.5(2) All public agencies which contract with a hauler to comply with the requirements of part 1 of division IV of chapter 455B shall include as terms of that contract that all solid waste collected by the hauler for that agency shall be disposed at a sanitary disposal project permitted by the department.

567—101.6(455B) Disruption and excavation of sanitary landfills or closed dumps. No persons shall excavate, disrupt, or remove any deposited material from any active or discontinued sanitary landfill or closed dump without having first notified the department in writing.

101.6(1) Notification shall include an operational plan stating the area involved, lines and grades defining limits of excavation, estimated number of cubic yards of material to be excavated, sanitary disposal project where excavated material is to be disposed and estimated time required for excavation procedures.

101.6(2) An excavation shall be confined to an area consistent with the number of pieces of digging equipment and trucks used for haulage.

101.6(3) Adequate measures shall be taken during excavation to control dust, odors, fires, rodents, insects, and blowing litter.

101.6(4) The disposal of all solid waste resulting from excavation shall be in conformity with chapter 455B and these rules.

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*Rules 101.4 and 101.7 rescinded, rules 101.5, 101.6 and 101.8 renumbered as 101.4 to 101.6, IAB 9/12/84.

CHAPTER 103
SANITARY LANDFILLS

[Prior to 7/1/83, DEQ Ch 28]
(Prior to 12/3/86, Water, Air and Waste Management (900))

567—103.1(455B) Scope and applicability. This chapter details the plan and operating requirements for all sanitary landfills. There are general requirements applicable to any type of sanitary landfill, and specific requirements for each of the types of sanitary landfills classified by the department. All sanitary landfills must conform with the provisions of chapter 103 of these rules, the general requirements set out in 103.2(455B), and the specific requirements set out in this chapter for the type of sanitary landfill to be established.

567—103.2(455B) General requirements for all sanitary landfills.

- 103.2(1) Plan requirements.** The plans for all sanitary landfills shall include the following:
- a. The map and aerial photograph required in 102.12(3) shall be of sufficient scale to show all homes, buildings, lakes, ponds, watercourses, wetlands, dry runs, rock outcroppings, roads and other applicable details including topography and drainage patterns. All wells shall be identified on the map or aerial photograph and a bench mark shall be indicated.
 - b. A plot drawing in appropriate scale of the site and the immediately adjacent area showing dimensions, topography with appropriate contour intervals, drainage patterns, known existing drainage tiles, locations where any geologic samples were taken, all water wells with their uses, and present and planned pertinent features including but not limited to roads, fencing, and cover stockpiles.
 - c. Detailed engineering drawing of the site showing all initial and permanent roads, buildings and equipment to be installed; unloading and holding areas; fences and gates; landscaping and screening devices; personnel and maintenance facilities; sewer and water lines.
 - d. A drawing of the scheme of development including any excavation, trenching, and fill shown progressively with time. The methods to be used to insure compliance with the scheme and to provide vertical and horizontal controls shall be described.
 - e. Cross-sectional drawings showing progressively with time the original and proposed elevation of excavating, trenching, and fill.
 - f. Evidence that the proposed plan has been reviewed by the local soil conservation district commissioner and that the technical assistance of the soil conservation district will be utilized to facilitate compliance with wind and water soil loss limit regulations provided for in Iowa Code sections 467A.42 to 467A.51.
 - g. An ultimate land use proposal, including intermediate stages, with time schedules indicating the total and complete land use. Final elevations, grades, permanent drainage structures, monitoring or treatment facilities and permanent improvements of the completed landfill shall be included. Any supporting drawings to the ultimate land use proposal shall be in appropriate scale.
 - h. Information describing:
 - (1) Source, volume, and characteristics of cover material
 - (2) Area of site in acres
 - (3) Areas to be used for salvaging and the burning of diseased trees.
 - i. A report consisting of information verifying that the portion of the site to be filled is:
 - (1) So situated as to obviate any predictable lateral movement of significant quantities of leachate from the site to standing or flowing surface water or to shallow aquifers that are in actual use or are deemed to be of potential use as a water resource.
 - (2) So situated that the base of the proposed site is at least five (5) feet above the high water table unless a greater separation is required to ensure that there will be no significant adverse effect on ground or surface waters or a lesser separation is unlikely to have a significant adverse effect on ground and surface waters.
 - (3) Outside a flood plain or shoreland, unless proper engineering and sealing of the site will render it acceptable and prior approval of the department under Title V of these rules and where necessary the U.S. Corps of Engineers is obtained.

(4) So situated to assure no adverse effect on any well within 1000 feet of the site existing at the time of application for the original permit which is being used or could be used without major renovation for human or livestock consumption or at least 1000 feet from any such well unless hydrologic conditions are such that a greater distance is required to assure there is no adverse effect on the well.

(5) So situated to assure no adverse effect on the source of any community water system in existence at the time of application for the original permit within one mile of the site or at least one mile from the source of any community water system in existence at the time of application for the original permit unless hydrologic conditions are such that a greater distance is required to assure no adverse effect on the water system.

(6) At least twenty (20) feet from the adjacent property line unless there is a written agreement with the owner of the abutting property. For new permit applications and associated report submitted after April 27, 1977, the report shall verify that the portion to be filled is at least 50 feet from the adjacent property line. The written agreement shall be filed with the county recorder and shall become a permanent record of the property.

(7) Beyond 500 feet from any existing habitable residence unless there is written agreement with the owner of the residence and the site is screened by natural objects, plantings, fences or by other appropriate means. The residence must be in existence on the date of application for the original permit from the department. The written agreement shall be filed with the county recorder and recorded for abstract of title purposes, and a copy submitted to the department.

j. Should conditions in violation of 103.2(1)"7" (1), (2), (3), (4), or (5) exist, the original plan shall detail how the site is to be engineered to provide equivalent protection to the water resources. The applicant shall have the burden of showing that equivalent protection will be provided.

k. If sewage sludge is to be disposed at the site, the characteristics of the sludge and the method of disposal shall be described. If sludge is to be disposed by land application, it shall be in conformance with chapter 121.

l. Such additional data and information as may be deemed necessary by the director to evaluate a proposed sanitary landfill.

103.2(2) *General operating requirements for all sanitary landfills.* All sanitary landfills shall be operated in conformance with this subrule. The plan submitted shall detail how the sanitary landfill will comply with these requirements.

a. Solid waste shall be unloaded at the operating area only when an operator is on duty that area. Solid waste may be deposited in storage containers inside the site under the supervision of an attendant or operator.

b. Access to the site shall be restricted and a gate shall be provided at the entrance to the site and kept locked when an attendant or operator is not on duty.

c. A copy of the permit, engineering plans and reports shall be kept at the site at all times unless, the applicant demonstrates to the department that, on the basis of the characteristics of the waste to be handled at the site and the times of operation of the site, such is unnecessary.

d. Sites not open to the public shall have a permanent sign posted at the site entrance specifying:

- (1) Name of operation.
- (2) The site permit number.
- (3) That the site is not open to the public.
- (4) The name and telephone number of the responsible official.

e. Solid waste shall not be deposited in such a manner that material or leaching therefrom may cause pollution of ground or surface waters.

f. Provision shall be made for an all-weather fill area which is accessible for solid waste disposal during all weather conditions under which solid waste is received and disposed of at the site. Such all-weather areas shall be operated at all times in accordance with Iowa Code chapter 455B and these rules.

g. Provisions shall be made to have cover material available for winter and wet weather operations.

h. Each site shall be graded and provided with drainage facilities to minimize the flow of surface water onto and into the portion of the site to be filled and to prevent soil erosion and ponding of water.

i. The finished surface of the site shall be repaired as required, covered with soil, and seeded with native grasses or other suitable vegetation immediately upon completion or promptly in the spring on areas terminated during winter conditions. If necessary, seeded slopes shall be covered with straw or similar material to prevent erosion.

j. As required by the department, monitoring wells shall be drilled and samples from these analyzed by a laboratory which is equipped and competent to perform the tests required by the department. The results shall be forwarded to the department on a stipulated schedule.

k. In the event significant leachate is detected, the department shall be so notified, and the permit holder shall submit a plan for controlling and treating the leachate. Upon approval of the plan by the department, it shall be immediately implemented.

l. Prior to completion of a site, or suspension of operations at the site, the department shall be notified in writing. An inspection shall be made by the department before earth-moving equipment is removed from the site.

m. For five (5) years following closing of the site, repairs shall be made as necessary to assure integrity of the final cover and to maintain the desired finished slopes. An annual report specifying the repairs made shall be submitted to the director.

n. A copy of the original plans and specifications, along with pertinent operational data, for any completed sanitary disposal project used for the disposal of solid waste shall be filed with the county recorder and the location of the filled area shall be recorded for abstract of title purposes. Such recording may be made by affidavit.

o. Each sanitary landfill shall be staked as necessary and inspected annually or as otherwise specified in the permit, by a professional engineer registered in Iowa. A brief report by the engineer indicating areas of conformance or nonconformance with the approved plans and specifications shall be submitted to the department by the permit holder within thirty (30) days of the inspections. In specifying alternate inspection frequencies the department shall consider the types and quantities of waste disposed of, the rate of development of the site, the degree of control over site development inherent in the design and topography of the site and the quality of prior operation.

p. If any pockets, seams or layers of sand or other highly permeable material are encountered at the sanitary landfill, the permit holder shall promptly notify the department and shall ensure that a professional engineer registered in Iowa has certified that all sands encountered were totally excavated or sealed off properly or otherwise handled as explicitly provided for in the permit before solid waste is disposed in that area of the site.

This rule is intended to implement Iowa Code section 455B.304.

567—103.3(455B) Specific requirements for a sanitary landfill proposing to accept all solid waste except toxic or hazardous waste.

103.3(1) Plan requirements. The plans for sanitary landfills proposing to accept all solid waste except toxic or hazardous waste shall include the following information in addition to that required by chapter 102 and subrule 103.2(1).

a. A description of the material underlying the proposed site including stratigraphic sections based on a number of borings adequate to accurately determine the geology of the proposed site unless the department agrees that an equivalent description may be obtained

without borings. Additional information, including supplemental borings may be required for any additional locations of specific concern to the department.

(1) The stratigraphic sections shall be described from the surface to and including at least five (5) feet of the uppermost bedrock unit or to a depth of at least fifty (50) feet unless conditions are such that a greater depth may be required or a lesser depth has been agreed to by the department.

(2) Each soil layer shall be described in terms of Atterberg limits and grain size distribution by means of field identification and laboratory sieve and hydrometer analysis, unless the department agrees that other data will provide equivalent information.

(3) Samples of sediments and rock units shall be collected at five (5)-foot intervals or when different soil layers are encountered, whichever is more frequent, unless the department agrees that other data will provide equivalent information. If samples are required, they shall be identified by location and depth. The name of the person classifying the sediments shall be indicated. One complete set of unaltered sack samples shall be submitted with the application. A drilling location plan and drilling log shall be submitted for each series of samples.

b. The general direction of groundwater flow and the number, location, and depth of monitoring wells needed to monitor groundwater quality.

c. Information indicating that the portion of the landfill site to be filled is not situated in an unconsolidated sequence that will permit more than 0.004 cubic foot of liquid per day per square foot of area downward leakage into the groundwater beneath or adjacent to the proposed site.

(1) The potential downward leakage shall be evaluated by means of the generalized Darcy's law $Q = P \frac{(h_2 - h_1)}{L} A$ where:

L

Q = feet of liquid /day/square foot of area of the interface

A = one square foot of area at the base of the landfill

P = coefficient of permeability of the unconsolidated confining unit above the high water table

h_2 = maximum final elevation of a contiguous portion of fill of the site

h_1 = lowest elevation of the top of the confining unit above the high water table

L = minimum thickness of the confining unit above the high water table

(2) Should conditions in violation of this paragraph exist, the original plan must detail how the site is to be engineered to provide equal protection to the water resources.

103.3(2) *Specific operating requirements for sanitary landfills proposing to accept all solid waste except toxic or hazardous waste.* Sanitary landfills accepting all solid waste shall be operated in conformance with chapter 102, subrule 103.2(2), and this subrule. The plan submitted shall detail how the sanitary landfill will comply with these requirements.

a. Immediately after solid waste is deposited, it shall be uniformly spread and compacted as densely as practicable in layers not exceeding two (2) feet in depth and at an operating face slope which will permit thorough compaction into cells.

b. Solid waste at the site shall be covered after each day of operation with a compacted layer of at least six (6) inches of earth. In no event shall solid waste be exposed for more than twenty-four (24) hours.

c. At least one (1) foot of intermediate cover of compacted earth shall be applied to any area of the site which will not be utilized for further disposal of solid waste for more than one (1) week.

d. At least a two (2)- foot cover of compacted earth shall be applied to any area of the site which will not be utilized for further disposal of solid waste for more than two (2) months. The cover shall be graded to allow surface water runoff.

e. The final cover shall be consistent with the proposed land use, but in no event shall be less than two (2) feet.

567—103.4(455B) Specific requirements for a sanitary landfill proposing to accept only construction and demolition waste.

103.4(1) Plan requirements. The plans for sanitary landfills proposing to accept only construction and demolition waste shall include the following information in addition to that required by chapter 102 and subrule 103.2(1).

a. A description of the material underlying the proposed site, including a stratigraphic section based on at least one boring, unless the department agrees that an equivalent description may be obtained without borings. Additional information, including supplemental borings, may be required for any additional locations of specific concern to the department.

(1) The stratigraphic section shall be described from the surface to a depth of two (2) feet below the water table or to and including at least five (5) feet of the uppermost bedrock unit.

(2) Each soil layer shall be described in terms of Atterberg limits and grain size distribution by means of field identification and laboratory sieve and hydrometer analysis, unless the department agrees that other data will provide equivalent information.

(3) Samples of sediments and rock units shall be collected at five (5)-foot intervals or when different soil layers are encountered, whichever is more frequent, unless the department agrees that other data will provide equivalent information. If samples are required, they shall be identified by location and depth. The name of the person classifying the sediments shall be indicated. One complete set of unaltered sack samples shall be submitted with the application. A drilling location plan and drilling log shall be submitted for each series of samples.

b. Information indicating that the portion of the landfill site to be filled is not situated in an unconsolidated sequence that will permit more than 0.1 cubic foot of liquid per day per square foot of area downward leakage into the groundwater beneath or adjacent to the proposed site.

(1) The potential downward leakage shall be evaluated by means of the generalized Darcy's Law $Q = P \frac{(h_2 - h_1)}{L} A$ where:

Q = feet of liquid/day/square foot of area of the interface

A = one square foot of area at the base of the landfill

P = coefficient of permeability of the unconsolidated confining unit above the high water table

h_2 = maximum final elevation of a contiguous portion of fill of the site

h_1 = lowest elevation of the top of the confining unit above the high water table

L = minimum thickness of the confining unit about the high water table.

(2) Should conditions in violation of this paragraph exist, the original plan must detail how the site is to be engineered to provide equal protection to the water resources.

103.4(2) Specific operating requirements for sanitary landfills proposing to accept only construction and demolition waste. Sanitary landfills accepting only construction and demolition waste shall be operated in conformance with chapter 102, subrule 103.2(2), and this subrule. The plan submitted shall detail how the sanitary landfill will comply with these requirements.

a. Immediately after solid waste is deposited, it shall be uniformly distributed and compacted as densely as practical.

b. The waste shall be covered with a minimum of one (1) foot of earth at least once every seven (7) days of operation. The day during which cover will be applied shall be specified in the plan.

c. At least a two (2)-foot cover of compacted earth shall be applied to any area of the sanitary landfill which will not be utilized for further disposal of solid waste for more than two (2) months. The cover shall be graded to allow surface water runoff.

d. The final cover shall be consistent with the proposed land use but in no event shall be less than two (2) feet.