State of Iowa

Iowa Administrative Code Supplement

Biweekly
January 12, 2011

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Acting Administrative Code Editor

Published by the
STATE OF IOWA
UNDER AUTHORITY OF IOWA CODE SECTION 17A.6

The Iowa Administrative Code Supplement is published biweekly pursuant to Iowa Code section 17A.6. The Supplement contains replacement chapters to be inserted in the loose-leaf Iowa Administrative Code (IAC) according to instructions included with each Supplement. The replacement chapters incorporate rule changes which have been adopted by the agencies and filed with the Administrative Rules Coordinator as provided in Iowa Code sections 7.17 and 17A.4 to 17A.6. To determine the specific changes in the rules, refer to the Iowa Administrative Bulletin bearing the same publication date.

In addition to the changes adopted by agencies, the replacement chapters may reflect objection to a rule or a portion of a rule filed by the Administrative Rules Review Committee (ARRC), the Governor, or the Attorney General pursuant to Iowa Code section 17A.4(6); an effective date delay imposed by the ARRC pursuant to section 17A.4(7) or 17A.8(9); rescission of a rule by the Governor pursuant to section 17A.4(8); or nullification of a rule by the General Assembly pursuant to Article III, section 40, of the Constitution of the State of Iowa.

The Supplement may also contain replacement pages for the IAC Index or the Uniform Rules on Agency Procedure.

INSTRUCTIONS

FOR UPDATING THE

IOWA ADMINISTRATIVE CODE

Agency names and numbers in bold below correspond to the divider tabs in the IAC binders. New and replacement chapters included in this Supplement are listed below. Carefully remove and insert chapters accordingly.

Editor's telephone (515)281-3355 or (515)242-6873

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CHAPTER 12
FEES

[Prior to 7/13/88, see Accountancy, Board of[10]]
[Prior to 5/1/02, see 193A—Chapter 14]

193A—12.1(542) Required fees. The following is a schedule of the fees for examinations, certificates, licenses, permits and renewals adopted by the board:

Initial CPA examination application:	
Paid directly to CPA examination services	not to exceed $1500
Reexamination:	
Paid directly to CPA examination services	not to exceed $1500
Original issuance of CPA certificate or LPA license by examination (fee includes wall certificate)	$100
Original issuance of CPA certificate by reciprocity or substantial equivalency	$100
CPA wall certificate or LPA license issued by reciprocity or substantial equivalency	$50
Replacement of lost or destroyed wall CPA certificate or LPA license	$50
Original issuance of attest qualification	$100
Annual renewal of CPA certificate or LPA license—active status	$100
Late renewal of CPA certificate or LPA license within 30-day grace period (July 1 to July 30)—active status	$25
Annual renewal of CPA certificate or LPA license—inactive status	$50
Late renewal of CPA certificate or LPA license within 30-day grace period (July 1 to July 30)—inactive status	$10
Penalty for failure to comply with continuing education requirements	$50 to $250
Original issuance of firm permit to practice	$100
Annual renewal of firm permit to practice	$100
Reinstatement of lapsed CPA certificate or LPA license	$100 + renewal fee + $25 per month of expired registration
Reinstatement of lapsed firm permit to practice	$100 + renewal fee + $25 per month of expired registration
Interstate Transfer Form	$25

[**ARC 7715B**, IAB 4/22/09, effective 7/1/09; **ARC 8866B**, IAB 6/30/10, effective 8/4/10; **ARC 8867B**, IAB 6/30/10, effective 8/4/10; **ARC 9040B**, IAB 9/8/10, effective 10/13/10; **ARC 9327B**, IAB 1/12/11, effective 2/16/11]

193A—12.2(542) Reinstatement.

12.2(1) *Reinstatement of a lapsed CPA certificate or LPA license.* The fee for the reinstatement of a lapsed CPA certificate or LPA license for applications filed on or after July 1, 2009, is $100 plus the renewal fee plus $25 per month of expired registration up to a maximum of $1,000.

12.2(2) *Reinstatement of lapsed firm permit to practice.* The fee for the reinstatement of a lapsed CPA or LPA firm permit to practice for applications filed on or after July 1, 2009, is $100 plus the renewal fee plus $25 per month of expired registration up to a maximum of $1,000.

12.2(3) *Applicants for reinstatement.* All applicants for reinstatement shall be assessed the $100 reinstatement fee. The $25 per month penalty fee described in subrules 12.2(1) and 12.2(2) shall not be assessed if the applicant for reinstatement did not, during the period of lapse, engage in any acts or practices for which an active CPA certificate, LPA license, or firm permit to practice as a CPA or LPA firm is required in Iowa. Falsely claiming an exemption from the monthly penalty fee is a ground for

discipline; in addition, other grounds for discipline may arise from practicing on a lapsed certificate, license or permit to practice.
[**ARC 7715B**, IAB 4/22/09, effective 7/1/09; **ARC 8867B**, IAB 6/30/10, effective 8/4/10; **ARC 9123B**, IAB 10/6/10, effective 11/10/10]

193A—12.3(542) Prorating of certain fees.

12.3(1) Fees for issuance of an original certificate or license for less than one year to the biennial renewal date as provided in rule 193A—5.1(542) may be prorated on an annual basis for the remainder of time covered by the certificate or license. For example, if a CPA certificate or LPA license holder applies for the original certificate or license and is required to renew the certificate or license in 12 months or less, the fee would be $50. If the original certificate or license is not scheduled to be renewed for more than 12 months, the fee would be $100.

12.3(2) Fees for the issuance of an original CPA certificate or LPA license, pursuant to rule 193A—5.3(542), or the issuance of an initial permit to practice to a CPA or LPA firm, pursuant to rule 193A—7.1(542), will not be prorated.
[**ARC 7715B**, IAB 4/22/09, effective 7/1/09]

These rules are intended to implement Iowa Code chapter 542.

[Filed and effective September 22, 1975 under ch 17A, C ’73]
[Filed 2/2/79, Notice 12/27/78—published 2/21/79, effective 3/28/79]
[Filed emergency 3/9/79—published 4/4/79, effective 3/9/79]
[Filed 2/12/81, Notice 10/29/80—published 3/4/81, effective 4/8/81]
[Filed 2/8/82, Notice 12/9/81—published 3/3/82, effective 4/7/82]
[Filed 6/22/88, Notice 3/9/88—published 7/13/88, effective 8/17/88]
[Filed 3/30/89, Notice 2/8/89—published 4/19/89, effective 5/24/89]
[Filed 8/1/91, Notice 5/15/91—published 8/21/91, effective 9/25/91]
[Filed 12/30/92, Notice 10/28/92—published 1/20/93, effective 2/24/93]
[Filed 12/17/93, Notice 10/13/93—published 1/5/94, effective 2/9/94]
[Filed 4/12/02, Notice 3/6/02—published 5/1/02, effective 7/1/02]
[Filed 7/18/02, Notice 6/12/02—published 8/7/02, effective 9/11/02]
[Filed 1/30/04, Notice 12/24/03—published 2/18/04, effective 3/24/04]
[Filed ARC 7715B (Notice ARC 7484B, IAB 1/14/09), IAB 4/22/09, effective 7/1/09]
[Filed ARC 8866B (Notice ARC 8616B, IAB 3/24/10), IAB 6/30/10, effective 8/4/10]
[Filed ARC 8867B (Notice ARC 8617B, IAB 3/24/10), IAB 6/30/10, effective 8/4/10]
[Filed ARC 9040B (Notice ARC 8868B, IAB 6/30/10), IAB 9/8/10, effective 10/13/10]
[Filed ARC 9123B (Notice ARC 8988B, IAB 8/11/10), IAB 10/6/10, effective 11/10/10]
[Filed ARC 9327B (Notice ARC 9202B, IAB 11/3/10), IAB 1/12/11, effective 2/16/11]

ECONOMIC DEVELOPMENT, IOWA DEPARTMENT OF[261]

[Created by 1986 Iowa Acts, chapter 1245]
[Prior to 1/14/87, see Iowa Development Commission[520] and Planning and Programming[630]]

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261—21.1(15) Mission. The mission of the community development division is to continually develop the economic well-being and quality of life of Iowans by working with local governments, community organizations, businesses and others to build the organizational, entrepreneurial and physical capacity needed for community and economic improvement.

261—21.2(15) Division responsibilities. The division's primary responsibilities are tourism, investment management, community assistance, and infrastructure (project initiative and technical assistance).

21.2(1) *Tourism office.* The tourism office assists in diversifying Iowa's economy by supporting and promoting the Iowa hospitality industry and by enhancing the image of Iowa as a place to travel and live. To carry out its purpose, the office provides the following services and functions: advertising, fulfillments, group travel, Iowa film office, promotions and partnerships, publications, public relations and communications, tourism regions, welcome centers, and research.

21.2(2) *Investment management.* Investment management staff provide compliance and monitoring activities for programs including, but not limited to, the community development block grant (CDBG) program, community development fund (CDF) program, emergency shelter grants program (ESGP), homeless shelter operation grants (HSOG) program, and revitalization assistance for community improvement (RACI).

21.2(3) *Community assistance.* Activities in the area of community assistance include, but are not limited to, staff support to the city development board; administration of the CDF program; community volunteerism and leadership, and downtown resource center—main street Iowa program; community assistance services provided by IDED consultants; and staff support to the rural development council.

21.2(4) *Infrastructure (project initiative and technical assistance).* Functions performed in this category include, but are not limited to, administration of the following programs: CDBG, community facilities and services, ESGP, and HSOG.

[**ARC 9326B**, IAB 1/12/11, effective 2/16/11]

These rules are intended to implement Iowa Code chapter 15 and section 17A.3.

[Filed emergency 12/19/86—published 1/14/87, effective 12/19/86]
[Filed 6/26/95, Notice 5/10/95—published 7/19/95, effective 8/23/95]
[Filed 1/22/99, Notice 9/9/98—published 2/10/99, effective 3/17/99]
[Filed 6/20/03, Notice 5/14/03—published 7/9/03, effective 8/13/03]
[Filed ARC 9326B (Notice ARC 9060B, IAB 9/8/10), IAB 1/12/11, effective 2/16/11]

CHAPTER 25
HOUSING FUND

261—25.1(15) Purpose. The primary purpose of the housing fund, made up of federal CDBG funds, is to retain the supply of decent and affordable housing for low- and moderate-income Iowans.
[**ARC 9326B**, IAB 1/12/11, effective 2/16/11]

261—25.2(15) Definitions. When used in this chapter, unless the context otherwise requires:

"Activity" means one or more specific owner-occupied housing rehabilitation activities, projects or programs assisted through the housing fund.

"Administrative plan" means a document that a housing fund recipient establishes that describes the operation of a funded activity in compliance with all state and federal requirements.

"CDBG" means the community development block grant non-entitlement program, the grant program authorized by Title I of the Housing and Community Development Act of 1974, for counties and cities, except those designated by HUD as entitlement areas.

"Consolidated plan" means the state's housing and community development planning document and the annual action plan update approved by HUD.

"Housing fund" means the program implemented by this chapter and funded through the state's CDBG allocation from HUD.

"HUD" means the U.S. Department of Housing and Urban Development.

"IDED" means the Iowa department of economic development.

"Iowa green communities criteria" means a set of rating factors, some optional and some mandatory, prepared by IDED and intended to promote public health, energy efficiency, water conservation, smart locations, operational savings and sustainable building practices.

"Lead hazard reduction or abatement carrying costs" means the additional costs incurred by lead professionals to ensure that target housing is lead-safe at the completion of rehabilitation. "Lead hazard reduction or abatement carrying costs" includes, but is not limited to, required notifications and reports, lead hazard or abatement evaluations, revisions to project specifications to achieve lead safety, lead hazard reduction or abatement oversight, and clearance testing and final assessment.

"Local financial support" means financial investment by the recipient through the use of the recipient's own discretionary funds that are a permanent financial contribution or commitment applied to and related to the objectives of the housing activity or project assisted through the housing fund and that are used during the same time frame as the requested housing activity or project.

"Local support" means involvement, endorsement and investment by citizens, organizations and the governing body of the local government in which the housing project is located that promote the objectives of the housing activity or projects assisted through the housing fund.

"Program income" means funds generated by a recipient or subrecipient from the use of CDBG funds.

"Recaptured funds" means housing fund moneys which are recouped by the recipient when the housing unit does not continue to be the principal residence of the assisted owner for the full affordability period required by the program.

"Recipient" means the entity under contract with IDED to receive housing funds and undertake the funded housing activity.

"Repayment" means housing fund moneys which the recipient must repay to IDED because the funds were invested in a project or activity that is terminated before completion or were invested in a project or activity which failed to comply with federal requirements.

"Single-family unit" means one dwelling unit designated or constructed to serve only one household or family as the primary residence. Single-family units include a detached single unit, condominium unit, cooperative unit, or combined manufactured housing unit and lot.

"Single parent" means an individual who (1) is unmarried or is legally separated from a spouse and (2) is pregnant or has one or more minor children for whom the individual has custody or joint custody.

"Technical services" means all services that are necessary to carry out individual, scattered site activities including but not limited to: (1) conducting initial inspections, (2) work write-up or project specification development, (3) cost estimate preparation, (4) construction supervision associated with activities that do not require an architect or engineer, (5) lead hazard reduction or lead abatement need determination and oversight, (6) lead hazard reduction or abatement carrying costs, (7) temporary relocation coordination, (8) financing costs such as security agreement preparation and recording or filing fees, (9) processing of individual applications for assistance, (10) income eligibility determination and verification, and (11) project-specific environmental clearance processes.

"Technical services provision" means the cost to provide other individual housing project-related services such as: (1) financing costs (security agreement preparation, recording and filing fees), (2) processing individual applications for assistance, (3) income eligibility determination and verification, and (4) project-specific environmental clearance.

[**ARC 9326B**, IAB 1/12/11, effective 2/16/11]

261—25.3(15) Eligible applicants. Eligible applicants shall comply with all requirements in 261—23.5(15). Eligible applicants for housing fund assistance include all non-entitlement incorporated cities and all counties within the state of Iowa.

1. Any eligible applicant may apply directly.
2. Any eligible applicant may apply individually or jointly with another eligible applicant or other eligible applicants.

[**ARC 9326B**, IAB 1/12/11, effective 2/16/11]

261—25.4(15) Eligibility and forms of assistance.

25.4(1) The only eligible activity for the housing fund is owner-occupied housing rehabilitation for low- to moderate-income households. Assisted housing shall be single-family housing designed for occupancy by homeowners as their principal residence. For owner-occupied housing rehabilitation, assisted households shall meet income limits established by federal program requirements. All single-family housing receiving rehabilitation assistance shall be rehabilitated in accordance with any locally adopted building or housing codes, standards, and ordinances. If locally adopted and enforced building or housing codes do not exist, the Iowa Minimum Housing Rehabilitation Standards shall apply.

25.4(2) Eligible forms of IDED assistance to its recipients include grants or other forms of assistance as may be approved by IDED.

25.4(3) For all single-family housing renovation projects assisting homeowners, the only form of housing fund assistance to the end beneficiary is a forgivable loan.

[**ARC 9326B**, IAB 1/12/11, effective 2/16/11]

261—25.5(15) Application review. Housing fund applications shall be reviewed through an annual competition. IDED reserves the right to withhold funding from the annual housing fund competitive cycle to compensate for insufficient numbers or quality of applications received and to reallocate de-obligated or recaptured funds. In the event that funds are withheld from the annual competitive cycle, IDED will entertain additional applications, requests for proposals, or other forms of requests as deemed appropriate by IDED.

[**ARC 9326B**, IAB 1/12/11, effective 2/16/11]

261—25.6(15) Minimum application requirements. To be considered for housing fund assistance, an application shall meet the following threshold criteria:

25.6(1) The application shall propose an owner-occupied housing rehabilitation program consistent with the housing fund purpose and eligibility requirements, sustainability and smart growth principles, and the state consolidated plan.

25.6(2) The application shall document the applicant's capacity to administer the proposed activity. Such documentation may include evidence of successful administration of prior housing activities. IDED reserves the right to deny funding to an applicant that has failed to comply with federal and state

requirements in the administration of a previous project funded by IDED. Documentation of the ability of the applicant to provide technical services and of the availability of certified lead professionals and contractors trained in safe work practices may also be required as applicable to the housing fund activity.

25.6(3) The application shall provide evidence of the need for the proposed activity, the potential impact of the proposed activity, consistency with sustainability and smart growth principles, and the feasibility of the proposed activity.

25.6(4) The application shall demonstrate local support for the proposed activity.

25.6(5) The application shall include a certification that the applicant will comply with all applicable state and federal laws and regulations.

[**ARC 8418B**, IAB 12/30/09, effective 2/3/10; **ARC 9326B**, IAB 1/12/11, effective 2/16/11]

261—25.7(15) Application review criteria. IDED shall evaluate applications and make funding decisions based on general activity criteria, need, impact, sustainability and feasibility. A workshop will be held at least 60 days prior to the application deadline to provide information, materials, and technical assistance to potential applicants.

25.7(1) As applicable, the review criteria for owner-occupied housing rehabilitation applications shall include the following:

a. General criteria.

(1) Activity objectives.

(2) Target area of benefit and reason for selection.

(3) Condition of infrastructure in the activity area served.

(4) Form of assistance to homeowners.

(5) Selection criteria for participants.

(6) Method to determine that the property is the homeowner's principal residence.

(7) Assurance of compliance with the most current version of Iowa's Minimum Housing Rehabilitation Standards.

(8) Assurance of compliance with HUD lead-safe housing regulations, as applicable.

(9) Plans for properties infeasible to rehabilitate.

(10) Activity time line.

b. Need, impact and feasibility criteria.

(1) Evidence of need for the activity.

(2) Percentage of need to be met through the activity.

(3) Number and percentage of low- and moderate-income persons in the community.

(4) Housing costs, housing supply, vacancy rate of owner-occupied units in the activity area served.

(5) Other recent or current housing improvement activities in the community.

(6) Ongoing comprehensive community development efforts in the activity area served.

(7) New businesses or industries in the past five years in the community, including startup dates.

(8) Local involvement and financial support.

(9) Condition of housing in the target area in the following criteria:

1. Number of housing units with minor deficiencies.

2. Number of housing units requiring replacement of one or two of the major components.

3. Number of housing units requiring both replacement of several major components and structural work.

4. Number of dilapidated housing units.

c. Administrative criteria.

(1) Plan for activity administration.

(2) Previous activity management experience.

(3) Budget for general administration.

(4) Budget for technical services assistance.

(5) List of prior CDBG owner-occupied rehabilitation funding and performance targets completed.

25.7(2) IDED staff may conduct site evaluations of proposed activities.

[**ARC 9326B**, IAB 1/12/11, effective 2/16/11]

261—25.8(15) Allocation of funds.

25.8(1) IDED may retain a portion of the amount provided for at rule 261—23.4(15) of the state's annual CDBG allocation from HUD for administrative costs associated with program implementation and operation.

25.8(2) IDED reserves the right to limit the amount of funds that shall be awarded.

25.8(3) The maximum per unit subsidy for all single-family activities involving rehabilitation projects is $37,500. The $37,500 per unit limit includes all applicable costs including, but not limited to, the hard costs of rehabilitation; technical services costs, including lead hazard reduction carrying costs; lead hazard reduction costs; and temporary relocation. All rehabilitation hard costs funded with housing funds are limited to $24,999. All applicable technical services costs, including any lead hazard reduction carrying costs, are limited to $4,500 per unit.

25.8(4) Recipients shall identify general administrative costs in the housing fund application. IDED reserves the right to negotiate the amount of funds provided for general administration, but in no case shall the amount for general administration exceed 10 percent of a total housing fund award.

25.8(5) IDED reserves the right to negotiate the amount and terms of a housing fund award.

[**ARC 8418B**, IAB 12/30/09, effective 2/3/10; **ARC 9326B**, IAB 1/12/11, effective 2/16/11]

261—25.9(15) Administration of awards. Applications selected to receive housing fund awards shall be notified by letter from the IDED director.

25.9(1) A contract shall be executed between the recipient and IDED. These rules, the approved housing fund application, the housing fund management guide and all applicable federal and state laws and regulations shall be part of the contract.

a. The recipient shall execute and return the contract to IDED within 45 days of transmittal of the final contract from IDED. Failure to do so may be cause for IDED to terminate the award.

b. Certain activities may require that permits or clearances be obtained from other state or local agencies before the activity may proceed. Contracts may be conditioned upon the timely completion of these requirements.

c. Awards shall be conditioned upon commitment of other sources of funds included in the application budget.

d. Release of funds shall be conditioned upon IDED's receipt of an administrative plan for the funded activity.

e. Release of funds shall be conditioned upon IDED's receipt and approval of documentation of environmental clearance.

25.9(2) Local administrative and technical services contracts.

a. Recipients awarded funds for general administration that employ the services of a third-party administrator to perform all or part of the general administrative functions for the recipient shall enter into a contractual agreement for the general administrative functions to be performed.

b. Recipients awarded funds for activities requiring technical services (e.g., inspections, work write-ups, cost estimates, construction supervision, lead hazard reduction need determination and oversight, lead hazard reduction carrying costs, and temporary relocation coordination) that employ a third-party entity to perform all or part of the technical services shall enter into a contractual agreement for the technical services to be performed.

c. Recipients that employ a third party to perform all or part of the general administration for the recipient and that also employ a third party to perform all or part of the technical services for the recipient shall conduct separate procurement transactions and shall enter into separate contractual agreements for each: one contract for general administration and one contract for technical services. Separate contracts are required even if both functions are performed by the same third-party entity.

25.9(3) Requests for funds. Recipients shall submit requests for funds in the manner and on forms prescribed by IDED. Individual requests for funds shall be made in whole dollar amounts equal to or greater than $500 per request, except for the final draw of funds.

25.9(4) Record keeping and retention.

a. CDBG-funded projects. For CDBG-funded projects, the recipient shall retain all financial records, supporting documents and all other records pertinent to the funded activity for five years after the state of Iowa has closed out the corresponding program year with HUD.

b. Representatives of IDED, HUD, the Inspector General, the General Accounting Office and the state auditor's office shall have access to all records belonging to or in use by recipients and subrecipients pertaining to a housing fund award.

25.9(5) Performance reports and reviews. Recipients shall submit performance reports to IDED in the manner and on forms prescribed by IDED. Reports shall assess the use of funds and progress of activities. IDED may perform reviews or field inspections necessary to ensure recipient performance.

25.9(6) Amendments to contracts. Any substantive change to a contract shall be considered an amendment. Changes include time extensions, budget revisions and significant alterations of the funded activities affecting the scope, location, objectives or scale of the approved activity. Amendments shall be requested in writing by the CEO of the recipient and are not considered valid until approved in writing by IDED following the procedure specified in the contract between the recipient and IDED.

25.9(7) Contract closeout. Upon the contract expiration date or work completion date, as applicable, IDED shall initiate closeout procedures. Recipients shall comply with applicable audit requirements described in the housing fund application and management guide.

25.9(8) Compliance with federal, state and local laws and regulations. Recipients shall comply with these rules, with any provisions of the Iowa Code governing activities performed under this program and with applicable federal, state and local regulations.

25.9(9) Remedies for noncompliance. At any time, IDED may, for cause, find that a recipient is not in compliance with the requirements of this program. At IDED's discretion, remedies for noncompliance may include penalties up to and including the return of program funds to IDED. Reasons for a finding of noncompliance include the recipient's use of funds for activities not described in the contract, the recipient's failure to complete funded activities in a timely manner, the recipient's failure to comply with applicable federal, state or local rules or regulations or the lack of a continuing capacity of the recipient to carry out the approved activities in a timely manner.

25.9(10) Appeals process for findings of noncompliance. Appeals will be entertained in instances where it is alleged that IDED staff participated in a decision which was unreasonable, arbitrary, or capricious or otherwise beyond the authority delegated to IDED. Appeals should be addressed to the division administrator of the division of community development. Appeals shall be in writing and submitted to IDED within 15 days of receipt of the finding of noncompliance. The appeal shall include reasons why the decision should be reconsidered. The IDED director will make the final decision on all appeals.

[**ARC 9326B**, IAB 1/12/11, effective 2/16/11]

These rules are intended to implement Iowa Code section 15.108(1)*"a."*

[Filed emergency 5/22/92 after Notice 3/18/92—published 6/10/92, effective 5/22/92]
[Filed 12/18/92, Notice 10/14/92—published 1/6/93, effective 2/10/93]
[Filed emergency 2/26/93—published 3/17/93, effective 2/26/93]
[Filed emergency 8/20/93—published 9/15/93, effective 8/20/93]
[Filed emergency 10/22/93 after Notice 8/18/93—published 11/10/93, effective 10/22/93]
[Filed emergency 10/20/95 after Notice 8/16/95—published 11/8/95, effective 10/20/95]
[Filed emergency 10/18/96 after Notice 9/11/96—published 11/6/96, effective 10/18/96]
[Filed 1/23/98, Notice 12/17/97—published 2/11/98, effective 3/18/98]
[Filed 9/17/98, Notice 8/12/98—published 10/7/98, effective 11/11/98]
[Filed 9/16/99, Notice 7/14/99—published 10/6/99, effective 11/10/99]
[Filed 4/21/00, Notice 2/9/00—published 5/17/00, effective 6/21/00]
[Filed emergency 7/20/00 after Notice 5/17/00—published 8/9/00, effective 7/20/00]
[Filed 12/22/00, Notice 10/18/00—published 1/10/01, effective 2/14/01]
[Filed emergency 11/29/01 after Notice 10/17/01—published 12/26/01, effective 11/29/01]
[Filed 8/30/02, Notice 7/10/02—published 9/18/02, effective 10/23/02]
[Filed 7/15/04, Notice 5/12/04—published 8/4/04, effective 9/8/04]

[Filed emergency 11/19/04 after Notice 10/13/04—published 12/22/04, effective 11/19/04]
[Filed emergency 11/16/06 after Notice 8/30/06—published 12/20/06, effective 11/17/06]
[Filed 8/16/07, Notice 7/4/07—published 9/12/07, effective 10/17/07]
[Filed 9/18/08, Notice 7/16/08—published 10/8/08, effective 11/12/08]
[Filed emergency 9/26/08—published 10/22/08, effective 9/26/08]
[Filed ARC 8418B (Notice ARC 8149B, IAB 9/23/09), IAB 12/30/09, effective 2/3/10]
[Filed ARC 9326B (Notice ARC 9060B, IAB 9/8/10), IAB 1/12/11, effective 2/16/11]

SCHOOL BUDGET REVIEW COMMITTEE[289]

[Prior to 12/14/88, see School Budget Review[740]]

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CHAPTER 1
ORGANIZATION AND ADMINISTRATIVE PROCEDURES

[Prior to 10/17/90, see School Budget Review, 289—1.2(442)]

289—1.1(257) School budget review committee. The school budget review committee (SBRC) is established to review and make recommendations on any rules, regulations, directives, or forms relating to budgeting and accounting in school districts and area education agencies (AEA); to confer with local school districts and make recommendations on any budgeting or accounting matters; and to grant supplemental aid or to grant a modified allowable growth in the budget year for any school district or AEA that has unusual circumstances that create a need for additional funds for operations or that must abate an environmental hazard due to a state or federal regulation. The SBRC may grant use of the unexpended general fund for facilities under certain circumstances specified in the Iowa Code. The SBRC has the authority to direct the director of the department of education or the director of the department of management to make studies and investigations of school costs in any school district.

1.1(1) *Membership.* The SBRC shall be composed of the following six members:

a. The director of the department of education who shall serve as chairperson and conduct all meetings unless another member of the committee is asked by the director of the department of education to assume this role. The director of the department of education is a nonvoting member of the committee.

b. The director of the department of management who shall serve as secretary unless another member of the committee or department of education staff or department of management staff is asked by the director of the department of management to assume this role. The designated secretary shall not be a voting member, unless the designee is a regular member of the committee.

c. Four public members who are knowledgeable in the areas of school finance or public finance issues shall be appointed by the governor to represent the public. All committee members shall perform their assigned duties until a replacement has been appointed.

d. The department of education shall employ a staff person to assist the school budget review committee.

1.1(2) *Qualifications of public members.* The four public members shall have general knowledge in the areas of Iowa school finance or public finance. At least one of the public members shall possess a master's or doctoral degree in which areas of school finance, economics or statistics are an integral component or shall have equivalent experience in an executive administrative or senior research position in the education or public administration field.

1.1(3) *Terms of office.* The public members appointed by the governor shall serve staggered three-year terms beginning and ending as provided in Iowa Code section 69.19. Members appointed by the governor are subject to senate confirmation as provided by Iowa Code section 2.32.

1.1(4) *Compensation.* The committee members representing the public are entitled to receive their necessary expenses while engaged in official duties. In addition they shall be paid a per diem at the rate specified in Iowa Code section 7E.6. Per diem and expense payments shall be made from appropriations to the department of education.

[**ARC 9320B**, IAB 1/12/11, effective 2/16/11]

289—1.2(257) Mailing address. The mailing address for all operations of the SBRC is Grimes State Office Building, 400 E. 14th Street, Des Moines, Iowa 50319-0146.

[**ARC 9320B**, IAB 1/12/11, effective 2/16/11]

289—1.3(257) Information or submissions. Information inquiries or requests for hearings, declaratory rulings, for participation in the rule-making procedures of the SBRC, and for scheduling presentations to the committee should be addressed to the director of the department of education as chairperson of the SBRC.

289—1.4(257) Hearings.

1.4(1) *Number.* The committee shall meet and hold hearings each year and shall continue in session until it has reviewed budgets of school districts and completed the other duties as found in 2009 Iowa

Code Supplement sections 257.30 and 257.31 as amended by 2010 Iowa Acts, House File 2030, and Iowa Code sections 257.32 and 260C.18B. A minimum of three sessions to hold hearings shall be scheduled each fiscal year and shall be held during the months of October, December, and March. Revisions to these regularly scheduled sessions may be made if there are scheduling conflicts, if the SBRC determines that additional sessions are necessary, or if there are not sufficient hearing requests to hold a session.

1.4(2) *Notification to legislators and others.*

a. Legislators shall be notified of hearings of the SBRC for specific school districts, area education agencies, or community colleges in their constituencies. Such notification may be written, oral, or electronic.

b. Public notice of all hearings scheduled by the SBRC shall be posted by the department of education on the department's Web site and on the public notice bulletin board on the first floor of the Grimes State Office Building, 400 E. 14th Street, Des Moines, Iowa.

1.4(3) *Hearing procedures.* The chairperson shall maintain the decorum of the hearing and may refuse to admit or may expel anyone whose conduct is disorderly.

1.4(4) *Quorum.*

a. Three voting members present shall constitute a quorum of the SBRC, and a quorum must be present to conduct a hearing at which official action is taken. Members may be present by electronic media.

b. If only three members are present, three favorable votes are necessary to pass a motion.

[**ARC 9320B**, IAB 1/12/11, effective 2/16/11]

These rules are intended to implement Iowa Code sections 257.30 and 257.31.

[Filed 3/17/78, Notice 9/21/77—published 4/5/78, effective 5/10/78]
[Filed 11/23/88, Notice 6/1/88—published 12/14/88, effective 1/18/89]
[Filed emergency 9/28/90—published 10/17/90, effective 9/28/90]
[Filed 12/21/90, Notice 10/17/90—published 1/9/91, effective 2/13/91]
[Filed ARC 9320B (Notice ARC 9122B, IAB 10/6/10), IAB 1/12/11, effective 2/16/11]

CHAPTER 6
DUTIES AND OPERATIONAL PROCEDURES

289—6.1(257) Definitions. For the purposes of this chapter, the following definitions shall be used.

"Actual enrollment" is determined on the third Friday of September in each year.

"Additional enrollment" because of special education is determined by multiplying the weighting of each category of child under Iowa Code section 256B.9 times the number of children in each category totaled for all categories.

"Allowable growth" means the amount by which state cost per pupil and district cost per pupil will increase from one budget year to the next.

"Authorized budget" is the total dollars available as the expenditure limit for a school district for a specific fiscal year. This total is the combined district cost plus miscellaneous income actually received during the fiscal year, plus the unspent balance of the previous year.

"Base year" means the school year ending during the calendar year in which a budget is certified.

"Basic enrollment for a budget year" is a school district's actual enrollment for the base year.

"Basic enrollment for the base year" is a school district's actual enrollment for the year preceding the base year.

"Budget adjustment" is an adjustment to the regular program district cost of a school district for school districts in which the regular program budget for a year would be less than its regular program budget for the previous year.

"Budget enrollment for the budget year" shall be calculated by adding together the enrollment adjustment percents generated by the enrollment matrix determined by enrollment decline in the school district's basic enrollment from one base year to the preceding base year for each of the five preceding base years, commencing with the percent of change between the basic enrollment for the budget year and the basic enrollment for the base year, adding the sum of the percents to one hundred and multiplying the total by the basic enrollment for the budget year as calculated under Iowa Code section 257.6.

"Budget year" means the school year beginning during the calendar year in which a budget is certified.

"Certified budget" is the (document) amount which has been published and certified as provided for in Iowa Code chapter 24 and contains the amount proposed to be expended during the budget year. If the authorized budget exceeds the certified budget, the certified budget must be amended to expend those excess funds.

"Combined district cost per pupil" is an amount determined by adding together the regular program district cost per pupil for a year and the special education support services cost per pupil for that year as calculated under Iowa Code section 257.10.

"Combined state cost per pupil" is a per pupil amount determined by adding together the regular program state cost per pupil for a year and the special education support services state cost per pupil for that year as calculated under Iowa Code section 257.9.

"Committee" means the school budget review committee (SBRC).

"Expenditures" means the total amounts paid from the general operating fund of a school district.

"Miscellaneous income" means the receipts deposited to the general operating fund of the school district but not including any of the following:

1. Foundation aid.
2. Revenue obtained from the foundation property tax.
3. Cash reserve levy.
4. Revenue obtained from the additional property tax under Iowa Code section 257.4.

"Property tax adjustment" means state aid distributed to those school districts in which the property tax revenues generated under Iowa Code chapter 257 would be higher than the revenues generated under Iowa Code chapter 442.

"Regular program district cost" is equal to the regular program district cost per pupil for the budget year multiplied by the budget enrollment for the budget year.

"School district" means a school corporation organized under Iowa Code chapter 274.

"Special needs adjustment" means a state grant made by the school budget review committee to school districts who have demonstrated that they have special needs for additional money.

"State percent of growth" means a percent of economic growth determined under Iowa Code chapter 257 which is based upon an averaging of state and federal growth indicators, and which is used in determining the allowable growth.

"Unexpended cash balance" is the district's cash position at any given time. (It does NOT have a direct relationship to the "unspent balance carried forward.")

"Unspent balance" is the amount of the authorized budget not expended during the budget year. (These funds are also commonly termed "unspent balance carried forward," or "carryover dollars.")

"Weighted enrollment" is the budget enrollment plus the school district's additional enrollment because of special education calculated on December 1 of the base year plus additional pupils added due to the application of the supplementary weighting.

289—6.2(257) Hearings. Rescinded IAB 1/12/11, effective 2/16/11.

289—6.3(257) Hearing procedures.

6.3(1) *Request for appearance.*

a. A school district requesting an appearance before the SBRC is required to submit a written request to the committee stating the reason for the appearance. Confirmation of each request will be sent to the school district upon receipt of the request.

b. A request must be received by the committee at least one month prior to the date of the scheduled hearing.

c. School districts with similar requests may appear and present their requests jointly.

6.3(2) *Notification to districts.*

a. School districts scheduled for hearings will be notified three weeks prior to the hearing.

b. School districts scheduled for hearings will be listed as to time and place, and notice will be sent to school officials involved not later than two weeks prior to the hearing.

c. A school district desiring to withdraw its request to appear before the SBRC should immediately inform the committee, local media, and legislators.

6.3(3) *Material for agenda.*

a. Any information requested by the committee must be provided by the school district within the timelines requested by the committee in order for the school district to be included on the agenda for a hearing. Ten copies of written material shall be submitted at least two weeks prior to the scheduled hearing. A summary not to exceed two pages of the school district's request must be submitted to the committee.

b. It shall be the responsibility of the administrative officials and board members to present information and materials in support of the school district's request to the committee.

6.3(4) *Permission to speak during the hearing.* Any person wishing to appear before the committee shall submit a request in writing prior to the hearing date. Permission may be granted to a request made at the hearing upon a majority vote of the committee members present.

6.3(5) *Decisions by the committee.*

a. A decision shall be made no later than the end of the day of the hearing to either table, deny, or grant an adjustment where a school district has made a request.

b. If the decision is made when the school district representatives are not present, the school district shall be informed of the decision by telephone the next working day following the hearing.

c. On all decisions, the school district shall receive written confirmation of the final action taken by the committee.

6.3(6) *Routine action by the committee.* School districts do not need to be represented when action under consideration is for such items as cash reserve levies, gifted and talented, drop-out programs, special education negative balances or other situations which could be considered "class action" decisions.

289—6.4(257) General duties.

6.4(1) *Review of rules, regulations, directives and forms.* The committee may recommend the revision of any rules, regulations, directives, or forms relating to school district budgeting and accounting, confer with local school boards or their representatives and make recommendations relating to any budgeting or accounting matters, and direct the director of the department of education or the director of the department of management to make studies and investigations of school costs in any school district.

6.4(2) *Report to general assembly.* The committee shall report to each session of the general assembly any recommended changes in laws relating to school districts and shall specify the number of hearings held annually, information about the amounts of property tax levied by school districts for a cash reserve, and other information the committee deems advisable.

289—6.5(257) Budgets.

6.5(1) *Generally accepted accounting principles.* All school districts shall budget on the generally accepted accounting principles (GAAP) basis of budgeting beginning with fiscal year 2006-2007. In order to effect this change in accounting/budgeting methods, the SBRC shall direct the departments of education and management to adjust calculations from the 2004-2005 certified annual report (CAR) related to the 2004-2005 unspent balances carried forward to the 2005-2006 unspent balances in order to hold districts harmless.

a. If the net amount of actual expenditures less miscellaneous income on the GAAP basis is greater than the net amount of actual expenditures less miscellaneous income on the non-GAAP basis, the SBRC shall grant modified allowable growth in an amount equal to the excess of the net amount on the GAAP basis over the net amount on the non-GAAP basis.

b. If the net amount of actual expenditures less miscellaneous income on the GAAP basis is less than or equal to the net amount of actual expenditures less miscellaneous income on the non-GAAP basis or if the district budgeted on the GAAP basis in any previous fiscal year, the district does not qualify to receive modified allowable growth under paragraph *"a."*

c. Any district that determines that the amount of modified allowable growth granted for the change in accounting/budgeting methods is not adequate may make a request for additional modified allowable growth pursuant to Iowa Code section 257.31 at the May 2006 regular meeting of the SBRC.

d. Districts shall not be required to amend their 2005-2006 certified budgets for this change in accounting/budgeting methods unless the district would have had to amend its budget without regard to the change in accounting/budgeting methods.

6.5(2) *Review of proposed and certified budgets.* The committee shall review the proposed budget and certified budget of each school district and may make recommendations for modification or change.

6.5(3) *Negative unspent balances (exceeding authorized budgets).*

a. A listing of the unspent balance as well as the unexpended cash balance of each school district for each fiscal year shall be reviewed by the committee.

b. The amount of any negative unspent balance shall be automatically subtracted from the authorized budget of a given school district during the subsequent fiscal year.

c. The state board of education shall be notified of the school districts with negative unspent balances each year. The notification shall include the amount the school district exceeded its authorized budget.

d. The board members of districts with negative unspent balances shall be notified of the amount the school district exceeded its authorized budget. The school districts shall inform the SBRC at its next official hearing of the plans that are being implemented to avoid future negative unspent balances.

6.5(4) *Cash reserve levy.*

a. Annually the school budget review committee shall review the amount of property tax levied by each school district for the cash reserve authorized in Iowa Code section 298.10.

b. If in the committee's judgment, the amount of a district's cash reserve levy is unreasonably high, the committee shall instruct the director of the department of management to reduce that school

district's tax levy computed under Iowa Code section 257.4 for the following budget year by the amount the cash reserve levy is deemed excessive.

c. Notwithstanding any other action approved by the committee, cash reserve levies for the budget year (reference lines 15.9/15.10 of the Aid & Levy Worksheet) shall not exceed 25 percent of the (SAR reference Item L, column 9, cell 602) operating fund expenditures for the year previous to the base year minus the (SAR reference Item J, column 1, cell 293) operating fund unspent cash balance for the year previous to the base year.

d. A reduction in a district's property tax levy for a budget year for cash reserve shall not affect the school district's authorized budget.

6.5(5) *Supplemental aid and modified allowable growth.* The committee may grant supplemental aid to school districts from any funds appropriated to the department of education for use of the school budget review committee or may establish a modified allowable growth for a school district by increasing its allowable growth for purposes outlined in Iowa Code subsection 257.31(5). Such aid shall be miscellaneous income and shall not be included in the combined district cost. These funds may be provided for, but not limited to, the following situations:

a. Unusual circumstances.

(1) Any unusual increase or decrease in enrollment.

(2) Unusual natural disasters.

(3) Unusual initial staffing problems.

(4) The closing of a nonpublic school, wholly or in part.

(5) Substantial reduction in miscellaneous income due to circumstances beyond the control of the district.

(6) Unusual necessity for additional funds to permit continuance of a course or program which provides substantial benefit to pupils.

(7) Unusual need for a new course or program which will provide substantial benefit to pupils, if the district establishes the need and the amount of necessary increased cost.

(8) Unusual need for additional funds for special education or compensatory education programs.

(9) Year-round or substantially year-round attendance programs which apply toward graduation requirements, including, but not limited to, trimester or four-quarter programs. Enrollment in such programs shall be adjusted to reflect equivalency to normal school year attendance.

(10) Unusual need to continue providing a program or other special assistance to non-English speaking pupils after the expiration of the three-year period specified in Iowa Code section 280.4.

(11) Circumstances caused by unusual demographic characteristics.

(12) Any unique problems of school districts.

b. Environmental hazard-asbestos. School districts may request modified allowable growth for removal, management, or abatement of environmental hazards due to state or federal requirements. Environmental hazards shall include but are not limited to the presence of asbestos, radon, or the presence of any other hazardous material dangerous to health and safety.

c. Unexpended cash balance. School districts desiring to use a portion of the unexpended cash balance to furnish, equip and contribute to the construction of a new building must submit a formal request to the committee.

d. Accounting procedures. The committee may approve or modify the initial base year district cost of any school district which changes accounting procedures.

e. Circumstances relating to open enrollment as provided by Iowa Code section 282.18.

289—6.6(257) Special needs adjustment program.

6.6(1) *Application.*

a. An application form provided by the committee must be submitted to the committee not later than December 15 of the base year in order to be eligible for consideration for any given budget year.

b. A separate application form must be submitted for each separate project for which the district is requesting funds.

6.6(2) *Qualifications for general operating fund expenditures.*

a. Instructional support program. A school district must have the instructional support program approved for the maximum amount.

b. Executive administration costs. A school district's executive administration expenditures must be equal to or less than 110 percent of the state average executive administration expenditures for the base year.

c. Basic criteria. A school district must meet at least one of the four criteria found in Iowa Code subsection 257.31(11)*"b"* in order to be eligible for consideration of funds from the special needs adjustment program.

d. Other modified allowable growth.

(1) Gifted and talented. A school district must have received maximum additional allowable growth from the committee for programs for gifted and talented children.

(2) Dropout and dropout prevention programs. A school district must have received maximum additional allowable growth from the committee for programs for dropout prevention programs.

e. Previous modified allowable growth denied/inadequate. In order to be eligible for consideration of funds from the special needs adjustment program for expenditures that would qualify for additional allowable growth under Iowa Code subsection 257.31(5), the school district must have been denied approval of such funds or been granted inadequate funds for such requests.

f. Specific needs. School districts shall list the specific reasons for which the requested funds are to be expended.

g. Line item expenditures. A detailed explanation of all proposed expenditures shall be attached to the application including all line item expenditures.

6.6(3) *Qualifications for schoolhouse fund expenditures.*

a. Physical plant and equipment levy. A school district must have the voter-approved physical plant and equipment levy approved for the maximum amount.

b. Executive administration costs. A school district's executive administration expenditures must be equal to or less than 110 percent of the state average executive administration expenditures for the base year.

c. Basic criteria. A school district must meet at least one of the four criteria found in Iowa Code subsection 257.3(11)*"b"* in order to be eligible for consideration of funds from the special needs adjustment program.

d. Other modified allowable growth.

(1) Gifted and talented. In order to be eligible for consideration of funds from the special needs adjustment program for gifted and talented projects, a school district must have received maximum additional allowable growth from the committee for programs for gifted and talented children.

(2) Dropout and dropout prevention programs. In order to be eligible for consideration of funds from the special needs adjustment program for dropout and dropout prevention programs, a school district must have received maximum additional allowable growth from the committee for programs for dropout prevention programs.

e. Previous modified allowable growth denied/inadequate. In order to be eligible for consideration of funds from the special needs adjustment program for expenditures that would qualify for additional allowable growth under Iowa Code subsection 257.31(5), the school district must have been denied approval of such funds or been granted inadequate funds for such requests.

f. Specific needs. School districts shall list the specific reasons for which the requested funds are to be expended.

g. Line item expenditures. A detailed explanation of all proposed expenditures shall be attached to the application including line item costs.

289—6.7(257) Sharing. The committee may recommend that two or more school districts jointly employ and share the services of any school personnel, or acquire and share the use of classrooms, laboratories, equipment, and facilities as specified in Iowa Code section 280.15.

289—6.8 Transportation assistance aid. Reserved.

289—6.9 Special education. Reserved.

289—6.10 Area education budget review. Reserved.

These rules are intended to implement Iowa Code section 257.30.

[Filed 3/17/78, Notice 9/21/77—published 4/5/78, effective 5/10/78]
[Filed 11/23/88, Notice 6/1/88—published 12/14/88, effective 1/18/89]
[Filed emergency 9/28/90—published 10/17/90, effective 9/28/90]
[Filed 12/21/90, Notice 10/17/90—published 1/9/91, effective 2/13/91]
[Filed 1/13/06, Notice 12/7/05—published 2/1/06, effective 3/8/06]
[Filed ARC 9322B (Notice ARC 9124B, IAB 10/6/10), IAB 1/12/11, effective 2/16/11]

CHAPTER 7
ON-TIME FUNDING FOR INCREASED ENROLLMENT
Rescinded IAB 1/12/11, effective 2/16/11

CHAPTER 8
WAIVERS OR VARIANCES FROM ADMINISTRATIVE RULES

289—8.1(17A,ExecOrd11) Definitions. For purposes of this chapter:

"Committee" means the school budget review committee.

"Person" means an individual, school corporation, government or governmental subdivision or agency, nonpublic school, partnership or association, or any legal entity.

"Waiver or variance" means action by the director which suspends in whole or in part the requirements or provisions of a rule as applied to an identified person on the basis of the particular circumstances of that person. For simplicity, the term "waiver" shall include both a "waiver" and a "variance."

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.2(17A,ExecOrd11) Scope. This chapter outlines generally applicable standards and a uniform process for the granting of individual waivers from rules in situations where no other more specifically applicable law provides for waivers. To the extent another more specific provision of law governs the issuance of a waiver from a particular rule, the more specific provision shall supersede this chapter with respect to any waiver from that rule.

289—8.3(17A,ExecOrd11) Applicability. A waiver from a rule may be granted only if the committee has jurisdiction over the rule and the requested waiver is consistent with applicable statutes, constitutional provisions, or other provisions of law. Statutory duties or requirements created by statute may not be waived.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.4(17A,ExecOrd11) Criteria for waiver. In response to a petition completed pursuant to rule 289—4.6(17A,ExecOrd11), the committee may, in the committee's sole discretion, issue an order waiving in whole or in part the requirements of a rule if the committee finds, based on clear and convincing evidence, all of the following:

1. The application of the rule to the person at issue would result in an undue hardship on the person for whom the waiver is requested;
2. The waiver from the requirement of the rule in the specific case would not prejudice the substantial legal rights of any person;
3. The provisions of the rule subject to the petition for a waiver are not specifically mandated by statute or another provision of law;
4. Substantially equal protection of public health, safety, and welfare will be afforded by a means other than that prescribed in the particular rule for which the waiver is requested; and
5. The waiver from the requirements of the rule in the specific case would not have a negative impact on the student achievement of any person affected by the waiver.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.5(17A,ExecOrd11) Filing of petition. All petitions for waiver must be submitted in writing to the School Budget Review Committee, Grimes State Office Building, 400 E. 14th Street, Des Moines, Iowa 50319-0146. If the petition relates to a pending contested case, the petition shall be filed in the contested case proceeding, using the caption of the contested case.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.6(17A,ExecOrd11) Content of petition. A petition for waiver shall include the following information where applicable and known to the requester:

1. The name, address, and telephone number of the person for whom a waiver is being requested, and the case number of any related contested case.
2. A description and citation of the specific rule from which a waiver is requested.
3. The specific waiver or variance requested, including the precise scope and duration.

4. The relevant facts that the petitioner believes would justify a waiver under each of the five criteria described in rule 289—4.4(17A,ExecOrd11). This statement shall include a signed statement from the petitioner attesting to the accuracy of the facts provided in the petition and a statement of reasons that the petitioner believes will justify a waiver.

5. A history of any prior contacts between the board, the committee and the petitioner relating to the regulated activity, license, or grant affected by the proposed waiver, including a description of each affected item held by the requester, any notices of violation, contested case hearings, or investigative reports relating to the regulated activity, license, or grant within the last five years.

6. A detailed statement of the impact on student achievement for any person affected by the granting of a waiver.

7. Any information known to the requester regarding the board's or committee's treatment of similar cases.

8. The name, address, and telephone number of any person or entity that would be adversely affected by the granting of a petition.

9. The name, address, and telephone number of any person with knowledge of the relevant facts relating to the proposed waiver.

10. Signed releases of information authorizing persons with knowledge regarding the request to furnish the committee with information relevant to the waiver.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.7(17A,ExecOrd11) Additional information. Prior to issuing an order granting or denying a waiver, the committee may request additional information from the petitioner relative to the petition and surrounding circumstances. If the petition was not filed in a contested case, the committee may, on its own motion or at the petitioner's request, schedule a telephonic or in-person meeting between the petitioner and the committee.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.8(17A,ExecOrd11) Notice. The committee shall acknowledge a petition upon receipt. The committee shall ensure that notice of the pendency of the petition and a concise summary of its contents have been provided to all persons to whom notice is required by any provision of law within 30 days of the receipt of the petition. In addition, the committee may give notice to other persons. To accomplish this notice provision, the committee may require the petitioner to serve the notice on all persons to whom notice is required by any provision of law and provide a written statement to the committee attesting that notice has been provided.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.9(17A,ExecOrd11) Hearing procedures. The provisions of Iowa Code sections 17A.10 to 17A.18A regarding contested case hearings shall apply in three situations: (1) to any petition for a waiver filed within a contested case; (2) when provided by rule or order; or (3) when required to do so by statute.

289—8.10(17A,ExecOrd11) Ruling. An order granting or denying a waiver shall be in writing and shall contain a reference to the particular person and rule or portion thereof to which the order pertains, a statement of the relevant facts and the reasons upon which the action is based, and a description of the precise scope and operative period of the waiver if one is issued.

8.10(1) *Discretion.* The final decision on whether the circumstances justify the granting of a waiver shall be made at the sole discretion of the committee, upon consideration of all relevant factors. Each petition for a waiver shall be evaluated by the committee based on the unique, individual circumstances set out in the petition.

8.10(2) *Burden of persuasion.* The burden of persuasion rests with the petitioner to demonstrate by clear and convincing evidence that the committee should exercise the committee's discretion to grant a waiver from a rule.

8.10(3) *Narrowly tailored exception.* A waiver, if granted, shall provide the narrowest exception possible to the provisions of a rule.

8.10(4) *Administrative deadlines.* When the rule from which a waiver is sought establishes administrative deadlines, the committee shall balance the special individual circumstances of the petitioner with the overall goal of uniform treatment of all similarly situated persons.

8.10(5) *Conditions.* The committee may place any condition on a waiver that the committee finds desirable to protect the public health, safety, and welfare.

8.10(6) *Time period of waiver.* A waiver shall not be permanent unless the petitioner can show that a temporary waiver would be impracticable. If a temporary waiver is granted, there is no automatic right to renewal. At the sole discretion of the committee, a waiver may be renewed if the committee finds that grounds for a waiver continue to exist.

8.10(7) *Time for ruling.* The committee shall grant or deny a petition for a waiver as soon as practicable but, in any event, shall do so within 120 days of its receipt, unless the petitioner agrees to a later date. However, if a petition is filed in a contested case, the committee shall grant or deny the petition no later than the time at which the final decision in that contested case is issued.

8.10(8) *When deemed denied.* Failure of the committee to grant or deny a petition within the required time period shall be deemed a denial of that petition by the committee. However, the committee shall remain responsible for issuing an order denying a waiver.

8.10(9) *Service of order.* Within seven days of its issuance, any order issued under this uniform rule shall be transmitted to the petitioner or the person to whom the order pertains, and to any other person entitled to such notice by any provision of law.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.11(17A,ExecOrd11) Public availability. All orders granting a waiver petition shall be indexed, filed and available for public inspection as provided in Iowa Code section 17A.3. Petitions for a waiver and orders granting or denying waiver petitions are public records under Iowa Code chapter 22. The committee may accordingly redact confidential information from petitions or orders prior to public inspection.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.12(17A,ExecOrd11) Summary reports. Semi-annually, the committee shall prepare a summary report identifying the rules for which a waiver has been granted or denied, the number of times a waiver was granted or denied for each rule, a citation to the statutory provisions implemented by those rules, and a general summary of the reasons justifying the committee's actions on waiver requests. If practicable, the report shall detail the extent to which the granting of a waiver has affected the general applicability of the rule itself. Copies of the report shall be available for public inspection and shall be provided semiannually to the administrative rules coordinator and the administrative rules review committee.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.13(17A,ExecOrd11) Cancellation. A waiver issued pursuant to this chapter may be withdrawn, canceled or modified if, after appropriate notice and hearing, the committee issues an order finding any of the following:

1. The petitioner or the person who was the subject of the waiver order withheld or misrepresented material facts relevant to the propriety or desirability of the waiver; or
2. The alternative means for ensuring that the public health, safety and welfare will be adequately protected after issuance of the waiver order have been demonstrated to be insufficient; or
3. The subject of the waiver order has failed to comply with all conditions contained in the order.

[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.14(17A,ExecOrd11) Violations. Violation of conditions in the waiver approval is the equivalent of violation of the particular rule for which the waiver is granted. As a result, the recipient of a waiver

under this chapter who violates a condition of the waiver may be subject to the same remedies or penalties as a person who violates the rule at issue.

289—8.15(17A,ExecOrd11) Defense. After the committee issues an order granting a waiver, the order is a defense within its terms and the specific facts indicated therein for the person to whom the order pertains in any proceeding in which the rule in question is sought to be invoked.
[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

289—8.16(17A,ExecOrd11) Judicial review. Judicial review of the committee's decision to grant or deny a waiver petition may be taken in accordance with Iowa Code chapter 17A.
[**ARC 9323B**, IAB 1/12/11, effective 2/16/11]

These rules are intended to implement Iowa Code section 17A.9A.

[Filed 3/15/02, Notice 2/6/02—published 4/3/02, effective 5/8/02]
[Filed ARC 9323B (Notice ARC 9126B, IAB 10/6/10), IAB 1/12/11, effective 2/16/11]

MANAGEMENT DEPARTMENT[541]

[Created by 1986 Iowa Acts, chapter 1245, section 103]
Divisions under this "umbrella" include: Appeal Board, State[543], City Finance Committee[545], and County Finance Committee[547].

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CHAPTER 9
FISCAL OVERSIGHT OF THE EARLY CHILDHOOD IOWA INITIATIVE

541—9.1(256I) Definitions. For the purpose of these rules, the following definitions apply:

"Agreement" means a contract between the area boards, state board, department of management, and state agencies to which funding is allocated.

"Department" means the Iowa department of management.

"Early childhood Iowa area board" or *"area board"* means the board for an early childhood Iowa area created in accordance with Iowa Code section 256I.7.

"Early childhood Iowa state board" or *"state board"* means the early childhood Iowa state board created in accordance with Iowa Code section 256I.3.

[**ARC 9334B**, IAB 1/12/11, effective 2/16/11]

541—9.2(256I) Purpose. This chapter sets forth the fiscal oversight measures of the department in relation to the early childhood Iowa area boards.

[**ARC 9334B**, IAB 1/12/11, effective 2/16/11]

541—9.3(256I) Scope of the rules. The rules for the department are promulgated under Iowa Code chapter 256I. No rule shall, in any way, relieve a person affected by or subject to these rules, or any person affected by or subject to the rules promulgated by the various divisions of the department, from any duty under the laws of this state.

[**ARC 9334B**, IAB 1/12/11, effective 2/16/11]

541—9.4(256I) Fiscal oversight.

9.4(1) In consultation with the state board, the department has adopted policies to oversee the fiscal responsibilities of area boards.

9.4(2) The department shall:

a. Review the internal controls of all disbursements of early childhood Iowa funding;

b. Approve the process for issuing agreements with area boards;

c. Approve and sign all agreements between the area boards and the state for the purposes of Iowa Code chapter 256I;

d. Work with state agencies to which the early childhood Iowa funding is allocated to ensure that payments are made to the area boards. The department shall, in cooperation with the agencies to which the funding is allocated, develop a policy for the disbursement of funds;

e. Require an audit, conducted by an independent agency, of the early childhood Iowa funds managed by area boards. The minimum requirements and frequency of audits for the area boards shall be determined and approved by the state board;

f. Ensure that all area boards secure liability insurance;

g. Require that area boards submit a contract-monitoring schedule for their funded programs.

[**ARC 9334B**, IAB 1/12/11, effective 2/16/11]

These rules are intended to implement Iowa Code sections 256I.1 to 256I.12.

[Filed ARC 9334B (Notice ARC 9222B, IAB 11/17/10), IAB 1/12/11, effective 2/16/11]

CHAPTER 61
WATER QUALITY STANDARDS

[Prior to 7/1/83, DEQ Ch 16]
[Prior to 12/3/86, Water, Air and Waste Management[900]]

WATER QUALITY STANDARDS

567—61.1 Rescinded, effective August 31, 1977.

567—61.2(455B) General considerations.

61.2(1) *Policy statement.* It shall be the policy of the commission to protect and enhance the quality of all the waters of the state. In the furtherance of this policy it will attempt to prevent and abate the pollution of all waters to the fullest extent possible consistent with statutory and technological limitations. This policy shall apply to all point and nonpoint sources of pollution.

These water quality standards establish selected criteria for certain present and future designated uses of the surface waters of the state. The standards establish the areas where these uses are to be protected and provide minimum criteria for waterways having nondesignated uses as well. Many surface waters are designated for more than one use. In these cases the more stringent criteria shall govern for each parameter.

Certain of the criteria are in narrative form without numeric limitations. In applying such narrative standards, decisions will be based on the U.S. Environmental Protection Agency's methodology described in "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses," (1985) and on the rationale contained in "Quality Criteria for Water," published by the U.S. Environmental Protection Agency (1977), as updated by supplemental Section 304 (of the Act) Ambient Water Quality Criteria documents. To provide human health criteria for parameters not having numerical values listed in 61.3(3) Table 1, the required criteria will be based on the rationale contained in these EPA criteria documents. The human health criterion considered will be the value associated with the consumption of fish flesh and a risk factor of 10^{-5} for carcinogenic parameters. For noncarcinogenic parameters, the recommended EPA criterion will be selected. For Class C water, the EPA criteria for fish and water consumption will be selected using the same considerations for carcinogenic and noncarcinogenic parameters as noted above.

All methods of sample collection, preservation, and analysis used in applying any of the rules in these standards shall be in accord with those prescribed in 567—Chapter 63.

61.2(2) *Antidegradation policy.* It is the policy of the state of Iowa that:

a. Tier 1 protection. Existing surface water uses and the level of water quality necessary to protect the existing uses will be maintained and protected.

b. Tier 2 protection. Where the quality of the waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the department finds, after full satisfaction of the intergovernmental coordination and public participation provisions, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the department shall ensure water quality adequate to protect existing uses fully. Further, the department shall ensure the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control before allowing any lowering of water quality.

c. Tier 2½ protection—outstanding Iowa waters. Where high quality waters constitute an outstanding state resource, such as waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

d. Tier 3 protection—outstanding national resource waters. Where high quality waters constitute an outstanding national resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected. Any proposed activity that would result in a permanent new or expanded source of pollutants in an outstanding national resource water is prohibited.

e. The four levels of protection provided by the antidegradation policy in paragraphs *"a"* through *"d"* of this subrule shall be implemented according to procedures hereby incorporated by reference and known as the "Iowa Antidegradation Implementation Procedure," effective February 17, 2010. This document may be obtained on the department's Web site at http://www.iowadnr.com/water/standards/index.html.

f. All unapproved facility plans for new or expanded construction permits, except for construction permits issued for nondischarging facilities, shall undergo an antidegradation review if degradation is likely in the receiving water or downstream waters following February 17, 2010.

g. This policy shall be applied in conjunction with water quality certification review pursuant to Section 401 of the Act. In the event that activities are specifically exempted from flood plain development permits or any other permits issued by this department in 567—Chapters 70, 71, and 72, the activity will be considered consistent with this policy. Other activities not otherwise exempted will be subject to 567—Chapters 70, 71, and 72 and this policy. United States Army Corps of Engineers (Corps) nationwide permits 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 27, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, and 50 as well as Corps regional permits 7, 27, 33, and 34 as promulgated February 16, 2011, are certified pursuant to Section 401 of the Clean Water Act subject to the following Corps regional conditions and the state water quality conditions:

(1) Side slopes of a newly constructed channel will be no steeper than 2:1 and planted to permanent, perennial, native vegetation if not armored.

(2) Nationwide permits with mitigation may require recording of the nationwide permit and pertinent drawings with the registrar of deeds or other appropriate official charged with the responsibility for maintaining records of title to, or interest in, real property and may also require the permittee to provide proof of that recording to the Corps.

(3) Mitigation shall be scheduled prior to, or concurrent with, the discharge of dredged or fill material into waters of the United States.

(4) For discharges of dredged or fill material resulting in the permanent loss of more than 1/10 acre of waters of the United States (including jurisdictional wetlands), a compensatory mitigation plan to offset those losses will be required. In addition, a preconstruction notice to the Corps of Engineers in accordance with general condition 27 will be required.

(5) For newly constructed channels through areas that are unvegetated, native grass filter strips, or a riparian buffer with native trees or shrubs a minimum of 35 feet wide from the top of the bank must be planted along both sides of the new channel. A survival rate of 80 percent of desirable species shall be achieved within three years of establishment of the buffer strip.

(6) For single-family residences authorized under nationwide permit 29, the permanent loss of waters of the United States (including jurisdictional wetlands) must not exceed 1/4 acre.

(7) For nationwide permit 46, the discharge of dredged or fill material into ditches that would sever the jurisdiction of an upstream water of the United States from a downstream water of the United States is not allowed.

(8) For projects that impact an outstanding national resource water, outstanding Iowa water, fens, bogs, seeps, or sedge meadows, an individual Section 401 Water Quality Certification will be required (Iowa Section 401 Water Quality Certification condition).

(9) For nationwide permits when the Corps' district engineer has issued a waiver to allow the permittee to exceed the limits of the nationwide permit, an individual Section 401 Water Quality Certification will be required (Iowa Section 401 Water Quality Certification condition). Written verification by the Corps or 401 certification by the state is required for activities covered by these permits as required by the nationwide permit or the Corps, and the activities are allowed subject to the terms and conditions of the nationwide and regional permits. The department will maintain and periodically update a guidance document listing special waters of concern. This document will be provided to the Corps for use in determining whether preconstruction notices should be provided to the department and other interested parties prior to taking action on applications for projects that would normally be covered by a nationwide or regional permit and not require preconstruction notice under nationwide permit conditions.

61.2(3) *Minimum treatment required.* All wastes discharged to the waters of the state must be of such quality that the discharge will not cause the narrative or numeric criteria limitations to be exceeded. Where the receiving waters provide sufficient assimilative capacity that the water quality standards are not the limiting factor, all point source wastes shall receive treatment in compliance with minimum effluent standards as adopted in rules by the department.

There are numerous parameters of water quality associated with nonpoint source runoff which are of significance to the designated water uses specified in the general and specific designations in 61.3(455B), but which are not delineated. It shall be the intent of these standards that the limits on such nonpoint source related parameters when adopted shall be those that can be achieved by best management practices as defined in the course of the continuing planning process from time to time. Existing water quality and nonpoint source runoff control technology will be evaluated in the course of the Iowa continuing planning process, and best management practices and limitations on specific water quality parameters will be reviewed and revised from time to time to ensure that the designated water uses and water quality enhancement goals are met.

61.2(4) *Regulatory mixing zones.* Mixing zones are recognized as being necessary for the initial assimilation of point source discharges which have received the required degree of treatment or control. Mixing zones shall not be used for, or considered as, a substitute for minimum treatment technology required by subrule 61.2(3). The objective of establishing mixing zones is to provide a means of control over the placement and emission of point source discharges so as to minimize environmental impacts. Waters within a mixing zone shall meet the general water quality criteria of subrule 61.3(2). Waters at and beyond mixing zone boundaries shall meet all applicable standards and the chronic and human health criteria of subrule 61.3(3), Tables 1 and 3, for that particular water body or segment. A zone of initial dilution may be established within the mixing zone beyond which the applicable standards and the acute criteria of subrule 61.3(3) will be met. For waters designated under subrule 61.3(5), any parameter not included in Tables 1, 2 and 3 of subrule 61.3(3), the chronic and human health criteria, and the acute criterion calculated following subrule 61.2(1), will be met at the mixing zone and zone of initial dilution boundaries, respectively.

a. Due to extreme variations in wastewater and receiving water characteristics, spatial dimensions of mixing zones shall be defined on a site-specific basis. These rules are not intended to define each individual mixing zone, but will set maximum limits which will satisfy most biological, chemical, physical and radiological considerations in defining a particular mixing zone. Additional details are noted in the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009, for considering unusual site-specific features such as side channels and sand bars which may influence a mixing zone. Applications for operation permits under 567—subrule 64.3(1) may be required to provide specific information related to the mixing zone characteristics below their outfall so that mixing zone boundaries can be determined.

b. For parameters included in Table 1 only (which does not include ammonia nitrogen), the dimensions of the mixing zone and the zone of initial dilution will be calculated using a mathematical model presented in the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009, or from instream studies of the mixing characteristics during low flow. In addition, the most restrictive of the following factors will be met:

(1) The stream flow in the mixing zone may not exceed the most restrictive of the following:

1. Twenty-five percent of the design low stream flows noted in subrule 61.2(5) for interior streams and rivers, and the Big Sioux and Des Moines Rivers.

2. Ten percent of the design low stream flows noted in subrule 61.2(5) for the Mississippi and Missouri Rivers.

3. The stream flow contained in the mixing zone at the most restrictive of the applicable mixing zone length criteria, noted below.

(2) The length of the mixing zone below the point of discharge shall be set by the most restrictive of the following:

1. The distance to the juncture of two perennial streams.

2. The distance to a public water supply intake.

3. The distance to the upstream limits of an established recreational area, such as public beaches, and state, county and local parks.

4. The distance to the middle of a crossover point in a stream where the main current flows from one bank across to the opposite bank.

5. The distance to another mixing zone.

6. Not to exceed a distance of 2000 feet.

7. The location where the mixing zone contained the percentages of stream flow noted in 61.2(4)*"b"*(1).

(3) The width of the mixing zone is calculated as the portion of the stream containing the allowed mixing zone stream flow. The mixing zone width will be measured perpendicular to the basic direction of stream flow at the downstream boundary of the mixing zone. This measurement will only consider the distance of continuous water surface.

(4) The width and length of the zone of initial dilution may not exceed 10 percent of the width and length of the mixing zone.

c. The stream flow used in determining wasteload allocations to ensure compliance with the maximum contaminant level (MCL), chronic and human health criteria of Table 1 will be that value contained at the boundary of the allowed mixing zone. This stream flow may not exceed the following percentages of the design low stream flow as measured at the point of discharge:

(1) Twenty-five percent for interior streams and rivers, and the Big Sioux and Des Moines Rivers.

(2) Ten percent for the Mississippi and Missouri Rivers.

The stream flow in the zone of initial dilution used in determining effluent limits to ensure compliance with the acute criteria of Table 1 may not exceed 10 percent of the calculated flow associated with the mixing zone.

d. For toxic parameters noted in Table 1, the following exceptions apply to the mixing zone requirements:

(1) No mixing zone or zone of initial dilution will be allowed for waters designated as lakes or wetlands.

(2) No zone of initial dilution will be allowed in waters designated as cold water.

(3) The use of a diffuser device to promote rapid mixing of an effluent in a receiving stream will be considered on a case-by-case basis with its usage as a means for dischargers to comply with an acute numerical criterion.

(4) A discharger to interior streams and rivers, the Big Sioux and Des Moines Rivers, and the Mississippi or Missouri Rivers may provide to the department, for consideration, instream data which technically supports the allowance of an increased percentage of the stream flow contained in the mixing zone due to rapid and complete mixing. Any allowed increase in mixing zone flow would still be governed by the mixing zone length restrictions. The submission of data should follow the guidance provided in the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009.

e. For ammonia criteria noted in Table 3, the dimensions of the mixing zone and the zone of initial dilution will be calculated using a mathematical model presented in the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009, or from instream studies of the mixing characteristics during low flow. In addition, the most restrictive of the following factors will be met:

(1) The stream flow in the mixing zone may not exceed the most restrictive of the following:

1. One hundred percent of the design low stream flows noted in subrule 61.2(5) for locations where the dilution ratio is less than or equal to 2:1.

2. Fifty percent of the design low stream flows noted in subrule 61.2(5) for locations where the dilution ratio is greater than 2:1, but less than or equal to 5:1.

3. Twenty-five percent of the design low stream flows noted in subrule 61.2(5) for locations where the dilution ratio is greater than 5:1.

4. The stream flow contained in the mixing zone at the most restrictive of the applicable mixing zone length criteria, noted below.

(2) The length of the mixing zone below the point of discharge shall be set by the most restrictive of the following:

1. The distance to the juncture of two perennial streams.
2. The distance to a public water supply intake.
3. The distance to the upstream limits of an established recreational area, such as public beaches, and state, county, and local parks.
4. The distance to the middle of a crossover point in a stream where the main current flows from one bank across to the opposite bank.
5. The distance to another mixing zone.
6. Not to exceed a distance of 2000 feet.
7. The location where the mixing zone contained the percentages of stream flow noted in 61.2(4)*"e"*(1).

(3) The width of the mixing zone is calculated as the portion of the stream containing the allowed mixing zone stream flow. The mixing zone width will be measured perpendicular to the basic direction of stream flow at the downstream boundary of the mixing zone. This measurement will only consider the distance of continuous water surface.

(4) The width and length of the zone of initial dilution may not exceed 10 percent of the width and length of the mixing zone.

f. For ammonia criteria noted in Table 3, the stream flow used in determining wasteload allocations to ensure compliance with the chronic criteria of Table 3 will be that value contained at the boundary of the allowed mixing zone. This stream flow may not exceed the percentages of the design low stream flow noted in 61.2(4)*"e"*(1) as measured at the point of discharge.

The pH and temperature values at the boundary of the mixing zone used to select the chronic ammonia criteria of Table 3 will be from one of the following sources. The source of the pH and temperature data will follow the sequence listed below, if applicable data exists from the source.

(1) Specific pH and temperature data provided by the applicant gathered at their mixing zone boundary. Procedures for obtaining this data are noted in the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009.

(2) Regional background pH and temperature data provided by the applicant gathered along the receiving stream and representative of the background conditions at the outfall. Procedures for obtaining this data are noted in the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009.

(3) The statewide average background values presented in Table IV-2 of the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009.

The stream flow in the zone of initial dilution used in determining effluent limits to ensure compliance with the acute criteria of Table 3 may not exceed 5 percent of the calculated flow associated with the mixing zone for facilities with a dilution ratio of less than or equal to 2:1, and not exceed 10 percent of the calculated flow associated with the mixing zone for facilities with a dilution ratio of greater than 2:1. The pH and temperature values at the boundary of the zone of initial dilution used to select the acute ammonia criteria of Table 3 will be from one of the following sources and follow the sequence listed below, if applicable data exists from the source.

1. Specific effluent pH and temperature data if the dilution ratio is less than or equal to 2:1.
2. If the dilution ratio is greater than 2:1, the logarithmic average pH of the effluent and the regional or statewide pH provided in 61.2(4)*"f"* will be used. In addition, the flow proportioned average temperature of the effluent and the regional or statewide temperature provided in 61.2(4)*"f"* will be used. The procedures for calculating these data are noted in the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009.

g. For ammonia criteria noted in Table 3, the following exceptions apply to the mixing zone requirements.

(1) No mixing zone or zone of initial dilution will be allowed for waters designated as lakes or wetlands.

(2) No zone of initial dilution will be allowed in waters designated as cold water.

(3) The use of a diffuser device to promote rapid mixing of an effluent in a receiving stream will be considered on a case-by-case basis with its usage as a means for dischargers to comply with an acute numerical criterion.

(4) A discharger to interior streams and rivers, the Big Sioux and Des Moines Rivers, and the Mississippi and Missouri Rivers may provide to the department, for consideration, instream data which technically supports the allowance of an increased percentage of the stream flow contained in the mixing zone due to rapid and complete mixing. Any allowed increase in mixing zone flow would still be governed by the mixing zone length restrictions. The submission of data should follow the guidance provided in the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009.

h. Temperature changes within mixing zones established for heat dissipation will not exceed the temperature criteria in 61.3(3)*"b"*(5).

i. The appropriateness of establishing a mixing zone where a substance discharged is bioaccumulative, persistent, carcinogenic, mutagenic, or teratogenic will be carefully evaluated. In such cases, effects such as potential groundwater contamination, sediment deposition, fish attraction, bioaccumulation in aquatic life, bioconcentration in the food chain, and known or predicted safe exposure levels shall be considered.

61.2(5) *Implementation strategy.* Numerical criteria specified in these water quality standards shall be met when the flow of the receiving stream equals or exceeds the design low flows noted below.

Type of Numerical Criteria	Design Low Flow Regime
Aquatic Life Protection (TOXICS)	
Acute	$1Q_{10}$
Chronic	$7Q_{10}$
Aquatic Life Protection (AMMONIA - N)	
Acute	$1Q_{10}$
Chronic	$30Q_{10}$
Human Health Protection & MCL	
Noncarcinogenic	$30Q_5$
Carcinogenic	Harmonic mean

a. The allowable 3°C temperature increase criterion for warm water interior streams, 61.3(3)*"b"*(5)"1," is based in part on the need to protect fish from cold shock due to rapid cessation of heat source and resultant return of the receiving stream temperature to natural background temperature. On low flow streams, in winter, during certain conditions of relatively cold background stream temperature and relatively warm ambient air and groundwater temperature, certain wastewater treatment plants with relatively constant flow and constant temperature discharges will cause temperature increases in the receiving stream greater than allowed in 61.3(3)*"b"*(5)"1."

b. During the period November 1 to March 31, for the purpose of applying the 3°C temperature increase criterion, the minimum protected receiving stream flow rate below such discharges may be increased to not more than three times the rate of flow of the discharge, where there is reasonable assurance that the discharge is of such constant temperature and flow rate and continuous duration as to not constitute a threat of heat cessation and not cause the receiving stream temperature to vary more than 3°C per day.

c. Site-specific water quality criteria may be allowed in lieu of the specific numerical criteria listed in Tables 1 and 3 of this chapter if adequate documentation is provided to show that the proposed criteria will protect all existing or potential uses of the surface water. Site-specific water quality criteria may be appropriate where:

(1) The types of organisms differ significantly from those used in setting the statewide criteria; or

(2) The chemical characteristics of the surface water such as pH, temperature, and hardness differ significantly from the characteristics used in setting the statewide criteria.

Development of site-specific criteria shall include an evaluation of the chemical and biological characteristics of the water resource and an evaluation of the impact of the discharge. All evaluations for site-specific criteria modification must be coordinated through the department, and be conducted using scientifically accepted procedures approved by the department. Any site-specific criterion developed under the provisions of this subrule is subject to the review and approval of the U.S. Environmental Protection Agency. All criteria approved under the provisions of this subrule will be published periodically by the department. Guidelines for establishing site-specific water quality criteria can be found in "Water Quality Standards Handbook," published by the U.S. Environmental Protection Agency, December 1983.

d. A wastewater treatment facility may submit to the department technically valid instream data which provides additional information to be used in the calculations of their wasteload allocations and effluent limitations. This information would be in association with the low flow characteristics, width, length and time of travel associated with the mixing zone or decay rates of various effluent parameters. The wasteload allocation will be calculated considering the applicable data and consistent with the provisions and restrictions in the rules.

e. The department may perform use assessment and related use attainability analyses on water bodies where uses may not be known or adequately documented. The preparation of use attainability analysis documents will consider available U.S. Environmental Protection Agency guidance or other applicable guidance. Credible data and documentation will be used to assist in the preparation of use assessments and use attainability analysis reports.

[**ARC 8214B**, IAB 10/7/09, effective 11/11/09; **ARC 8466B**, IAB 1/13/10, effective 2/17/10; **ARC 9330B**, IAB 1/12/11, effective 2/16/11]

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

61.3(1) *Surface water classification.* All waters of the state are classified for protection of beneficial uses. These classified waters include general use segments and designated use segments.

a. General use segments. These are intermittent watercourses and those watercourses which typically flow only for short periods of time following precipitation and whose channels are normally above the water table. These waters do not support a viable aquatic community during low flow and do not maintain pooled conditions during periods of no flow.

The general use segments are to be protected for livestock and wildlife watering, aquatic life, noncontact recreation, crop irrigation, and industrial, agricultural, domestic and other incidental water withdrawal uses.

b. Designated use segments. These are water bodies which maintain flow throughout the year or contain sufficient pooled areas during intermittent flow periods to maintain a viable aquatic community.

All perennial rivers and streams as identified by the U.S. Geological Survey 1:100,000 DLG Hydrography Data Map (published July 1993) or intermittent streams with perennial pools in Iowa not specifically listed in the surface water classification of 61.3(5) are designated as Class B(WW-1) waters.

All perennial rivers and streams as identified by the U.S. Geological Survey 1:100,000 DLG Hydrography Data Map (published July 1993) or intermittent streams with perennial pools in Iowa are designated as Class A1 waters.

Designated uses of segments may change based on a use attainability analysis consistent with 61.2(5)*"e."* Designated use changes will be specifically listed in the surface water classification of 61.3(5).

Designated use waters are to be protected for all uses of general use segments in addition to the specific uses assigned. Designated use segments include:

(1) Primary contact recreational use (Class "A1"). Waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risk of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but not be limited to, swimming, diving, water skiing, and water contact recreational canoeing.

(2) Secondary contact recreational use (Class "A2"). Waters in which recreational or other uses may result in contact with the water that is either incidental or accidental. During the recreational use,

the probability of ingesting appreciable quantities of water is minimal. Class A2 uses include fishing, commercial and recreational boating, any limited contact incidental to shoreline activities and activities in which users do not swim or float in the water body while on a boating activity.

(3) Children's recreational use (Class "A3"). Waters in which recreational uses by children are common. Class A3 waters are water bodies having definite banks and bed with visible evidence of the flow or occurrence of water. This type of use would primarily occur in urban or residential areas.

(4) Cold water aquatic life—Type 1 (Class "B(CW1)"). Waters in which the temperature and flow are suitable for the maintenance of a variety of cold water species, including reproducing and nonreproducing populations of trout (*Salmonidae* family) and associated aquatic communities.

(5) Cold water aquatic life—Type 2 (Class "B(CW2)"). Waters that include small, channeled streams, headwaters, and spring runs that possess natural cold water attributes of temperature and flow. These waters usually do not support consistent populations of trout (*Salmonidae* family), but may support associated vertebrate and invertebrate organisms.

(6) Warm water—Type 1 (Class "B(WW-1)"). Waters in which temperature, flow and other habitat characteristics are suitable to maintain warm water game fish populations along with a resident aquatic community that includes a variety of native nongame fish and invertebrate species. These waters generally include border rivers, large interior rivers, and the lower segments of medium-size tributary streams.

(7) Warm water—Type 2 (Class "B(WW-2)"). Waters in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.

(8) Warm water—Type 3 (Class "B(WW-3)"). Waters in which flow persists during periods when antecedent soil moisture and groundwater discharge levels are adequate; however, aquatic habitat typically consists of nonflowing pools during dry periods of the year. These waters generally include small streams of marginally perennial aquatic habitat status. Such waters support a limited variety of native fish and invertebrate species that are adapted to survive in relatively harsh aquatic conditions.

(9) Lakes and wetlands (Class "B(LW)"). These are artificial and natural impoundments with hydraulic retention times and other physical and chemical characteristics suitable to maintain a balanced community normally associated with lake-like conditions.

(10) Human health (Class "HH"). Waters in which fish are routinely harvested for human consumption or waters both designated as a drinking water supply and in which fish are routinely harvested for human consumption.

(11) Drinking water supply (Class "C"). Waters which are used as a raw water source of potable water supply.

61.3(2) *General water quality criteria.* The following criteria are applicable to all surface waters including general use and designated use waters, at all places and at all times for the uses described in 61.3(1)*"a."*

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 acutely toxic 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. Cations and anions guideline values to protect livestock watering may be found in the "Supporting Document for Iowa Water Quality Management Plans," Chapter IV, July 1976, as revised on November 11, 2009.

h. The Escherichia coli (E. coli) content of water which enters a sinkhole or losing stream segment, regardless of the water body's designated use, shall not exceed a Geometric Mean value of 126 organisms/100 ml or a sample maximum value of 235 organisms/100 ml. No new wastewater discharges will be allowed on watercourses which directly or indirectly enter sinkholes or losing stream segments.

61.3(3) *Specific water quality criteria.*

a. Class "A" waters. Waters which are designated as Class "A1," "A2," or "A3" in subrule 61.3(5) are to be protected for primary contact, secondary contact, and children's recreational uses. The general criteria of subrule 61.3(2) and the following specific criteria apply to all Class "A" waters.

(1) The Escherichia coli (E. coli) content shall not exceed the levels noted in the Bacteria Criteria Table when the Class "A1," "A2," or "A3" uses can reasonably be expected to occur.

Bacteria Criteria Table (organisms/100 ml of water)

Use or Category	Geometric Mean	Sample Maximum
Class A1		
3/15 – 11/15	126	235
11/16 – 3/14	Does not apply	Does not apply
Class A2 (Only)		
3/15 – 11/15	630	2880
11/16 – 3/14	Does not apply	Does not apply
[Class A2 and B(CW)] or OIW or ONRW		
Year-Round	630	2880
Class A3		
3/15 – 11/15	126	235
11/16 – 3/14	Does not apply	Does not apply
Class A1 - Primary Contact Recreational Use Class A2 - Secondary Contact Recreational Use Class A3 - Children's Recreational Use		

When a water body is designated for more than one of the recreational uses, the most stringent criteria for the appropriate season shall apply.

(2) 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.

b. Class "B" waters. All waters which are designated as Class B(CW1), B(CW2), B(WW-1), B(WW-2), B(WW-3) or B(LW) are to be protected for wildlife, fish, aquatic, and semiaquatic life. The following criteria shall apply to all Class "B" waters designated in subrule 61.3(5).

(1) Dissolved oxygen. Dissolved oxygen shall not be less than the values shown in Table 2 of this subrule.

(2) pH. 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.

(3) General chemical constituents. The specific numerical criteria shown in Tables 1, 2, and 3 of this subrule apply to all waters designated in subrule 61.3(5). The sole determinant of compliance with these criteria will be established by the department on a case-by-case basis. Effluent monitoring or instream monitoring, or both, will be the required approach to determine compliance.

1. The acute criteria represent the level of protection necessary to prevent acute toxicity to aquatic life. Instream concentrations above the acute criteria will be allowed only within the boundaries of the zone of initial dilution.

2. The chronic criteria represent the level of protection necessary to prevent chronic toxicity to aquatic life. Excursions above the chronic criteria will be allowed only inside of mixing zones or only for short-term periods outside of mixing zones; however, these excursions cannot exceed the acute criteria shown in Tables 1 and 3. The chronic criteria will be met as short-term average conditions at all times the flow equals or exceeds either the design flows noted in subrule 61.2(5) or any site-specific low flow established under the provisions of subrule 61.2(5).

3. Rescinded IAB 2/15/06, effective 3/22/06.

(4) Rescinded IAB 2/15/06, effective 3/22/06.

(5) 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 table below during more than 1 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 table below 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

(6) Early life stage for each use designation. The following seasons will be used in applying the early life stage present chronic criteria noted in Table 3b, "Chronic Criterion for Ammonia in Iowa Streams - Early Life Stages Present."

1. For all Class B(CW1) waters, the early life stage will be year-round.

2. For all Class B(CW2) waters, the early life stage will begin on April 1 and last through September 30.

3. For all Class B(WW-1) waters, the early life stage will begin in March and last through September, except as follows:

- For the following, the early life stage will begin in February and last through September:

—The entire length of the Mississippi and Missouri Rivers,

—The lower reach of the Des Moines River south of the Ottumwa dam, and

—The lower reach of the Iowa River below the Cedar River.

- For the following, the early life stage will begin in April and last through September:

—All Class B(WW-1) waters in the Southern Iowa River Basin,

—All of the Class B(WW-1) reach of the Skunk River, the North Skunk River and the South Skunk River south of Indian Creek (Jasper County), and the Class B(WW-1) tributaries to these reaches, and the entire Class B(WW-1) reach of the English River.

4. For all Class B(WW-2) and Class B(WW-3) waters, the early life stage will begin in April and last through September.

5. For all Class B(LW) lake and wetland waters, the early life stage will begin in March and last through September except for the Class B(LW) waters in the southern two tiers of Iowa counties which will have the early life stage of April through September.

c. Class "C" waters. Waters which are designated as Class "C" 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 subrule 61.3(5).

(1) 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.

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

(3) The pH shall not be less than 6.5 nor greater than 9.0.

d. Class "HH" waters. Waters which are designated as Class HH shall contain no substances in concentrations which will make fish or shellfish inedible due to undesirable tastes or cause a hazard to humans after consumption.

(1) The human health criteria represent the level of protection necessary, in the case of noncarcinogens, to prevent adverse health effects in humans and, in the case of carcinogens, to prevent a level of incremental cancer risk not exceeding 1 in 100,000. Instream concentrations in excess of the human health criteria will be allowed only within the boundaries of the mixing zone.

(2) Reserved.

TABLE 1. Criteria for Chemical Constituents

(all values as micrograms per liter as total recoverable unless noted otherwise)

Human health criteria for carcinogenic parameters noted below were based on the prevention of an incremental cancer risk of 1 in 100,000. For parameters not having a noted human health criterion, the U.S. Environmental Protection Agency has not developed final national human health guideline values. For noncarcinogenic parameters, the recommended EPA criterion was selected. For Class C waters, the EPA criteria for fish and water consumption were selected using the same considerations for carcinogenic and noncarcinogenic parameters as noted above. For Class C waters for which no EPA human health criteria were available, the EPA MCL value was selected.

Parameter		Use Designations							
		B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)	C	HH
Alachlor	MCL	—	—	—	—	—	—	2	—
Aldrin	Acute	—	—	3	3	3	—	—	—
	Human Health — Fish	—	—	—	—	—	—	—	.00050[e]
	Human Health + — F & W	—	—	—	—	—	—	—	.00049[f]
Aluminum	Chronic	87	—	87	87	87	748	—	—
	Acute	1106	—	750	750	750	983	—	—
Antimony	Human Health — Fish	—	—	—	—	—	—	—	640[e]
	Human Health + — F & W	—	—	—	—	—	—	—	5.6[f]
Arsenic (III)	Chronic	200	—	150	150	150	200	—	—
	Acute	360	—	340	340	340	360	—	—
	Human Health — Fish	—	—	—	—	—	—	—	50[e][g]
	Human Health — F & W	—	—	—	—	—	—	—	.18[f][g]
Asbestos	Human Health — F & W	—	—	—	—	—	—	—	7[a][f]
Atrazine	MCL	—	—	—	—	—	—	3	—
Barium	Human Health + — F & W	—	—	—	—	—	—	—	1000[f]
Benzene	Human Health — F & W	—	—	—	—	—	—	—	22[f]
	Human Health — Fish	—	—	—	—	—	—	—	510[e]
Benzo(a)Pyrene	Human Health — F & W	—	—	—	—	—	—	—	.038[f]
	Human Health — Fish	—	—	—	—	—	—	—	.18[e]
Beryllium	MCL	—	—	—	—	—	—	4	—
Bromoform	Human Health — F & W	—	—	—	—	—	—	—	43[f]
	Human Health — Fish	—	—	—	—	—	—	—	1400[e]
Cadmium	Chronic	1	—	.45[h]	.45[h]	.45[h]	1	—	—
	Acute	4	—	4.32[h]	4.32[h]	4.32[h]	4	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	168[e]
	MCL	—	—	—	—	—	—	5	—
Carbofuran	MCL	—	—	—	—	—	—	40	—
Carbon Tetrachloride	Human Health — F & W	—	—	—	—	—	—	—	2.3[f]
	Human Health — Fish	—	—	—	—	—	—	—	16[e]
Chlordane	Chronic	.004	—	.0043	.0043	.0043	.004	—	—
	Acute	2.5	—	2.4	2.4	2.4	2.5	—	—
	Human Health — Fish	—	—	—	—	—	—	—	.0081[e]
	Human Health — F & W	—	—	—	—	—	—	—	.008[f]

Parameter		Use Designations							
		B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)	C	HH
Chloride	Chronic	389(m)*	389(m)*	389(m)*	389(m)*	389(m)*	389(m)*	—	—
	Acute	629(m)*	629(m)*	629(m)*	629(m)*	629(m)*	629(m)*	—	—
	MCL	—	—	—	—	—	—	250*	—
Chlorobenzene	Human Health + — Fish	—	—	—	—	—	—	—	1.6*(e)
	Human Health + — F & W	—	—	—	—	—	—	—	130(f)
	MCL	—	—	—	—	—	—	100	—
Chlorodibromomethane	Human Health — F & W	—	—	—	—	—	—	—	4.0(f)
	Human Health — Fish	—	—	—	—	—	—	—	130(e)
Chloroform	Human Health — F & W	—	—	—	—	—	—	—	57(f)
	Human Health — Fish	—	—	—	—	—	—	—	4700(e)
Chloropyrifos	Chronic	.041	—	.041	.041	.041	.041	—	—
	Acute	.083	—	.083	.083	.083	.083	—	—
Chromium (VI)	Chronic	40	—	11	11	11	10	—	—
	Acute	60	—	16	16	16	15	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	3365(e)
	MCL	—	—	—	—	—	—	100	—
Copper	Chronic	20	—	16.9(i)	16.9(i)	16.9(i)	10	—	—
	Acute	30	—	26.9(i)	26.9(i)	26.9(i)	20	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	1000(e)
	Human Health + — F & W	—	—	—	—	—	—	—	1300(f)
Cyanide	Chronic	5	—	5.2	5.2	5.2	10	—	—
	Acute	20	—	22	22	22	45	—	—
	Human Health + — F & W	—	—	—	—	—	—	—	140(f)
	Human Health — Fish	—	—	—	—	—	—	—	140(e)
Dalapon	MCL	—	—	—	—	—	—	200	—
Dibromochloropropane	MCL	—	—	—	—	—	—	.2	—
4,4-DDT ++	Chronic	.001	—	.001	.001	.001	.001	—	—
	Acute	.9	—	1.1	1.1	1.1	.55	—	—
	Human Health — Fish	—	—	—	—	—	—	—	.0022(e)
	Human Health — F & W	—	—	—	—	—	—	—	.0022(f)
o-Dichlorobenzene	MCL	—	—	—	—	—	—	600	—
para-Dichlorobenzene	Human Health + — F & W	—	—	—	—	—	—	—	63(f)
	Human Health + — Fish	—	—	—	—	—	—	—	190(e)
3,3-Dichlorobenzidine	Human Health — Fish	—	—	—	—	—	—	—	.28(e)
	Human Health — F & W	—	—	—	—	—	—	—	.21(f)

Parameter		Use Designations							
		B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)	C	HH
Dichlorobromomethane	Human Health — F & W	—	—	—	—	—	—	—	5.5[f]
	Human Health — Fish	—	—	—	—	—	—	—	170[e]
1,2-Dichloroethane	Human Health — F & W	—	—	—	—	—	—	—	3.8[f]
	Human Health — Fish	—	—	—	—	—	—	—	370[e]
1,1-Dichloroethylene	Human Health — F & W	—	—	—	—	—	—	—	330[f]
	Human Health — Fish	—	—	—	—	—	—	—	7.1*[e]
cis-1,2-Dichloroethylene	MCL	—	—	—	—	—	—	70	—
1,2-trans-Dichlorethylene	Human Health + — F & W	—	—	—	—	—	—	—	10*[f]
	Human Health — Fish	—	—	—	—	—	—	—	140[e]
Dichloromethane	MCL	—	—	—	—	—	—	5	—
1,2-Dichloropropane	Human Health — F & W	—	—	—	—	—	—	—	5.0[f]
	Human Health — Fish	—	—	—	—	—	—	—	150[e]
Dieldrin	Chronic	.056	—	.056	.056	.056	.056	—	—
	Acute	.24	—	.24	.24	.24	.24	—	—
	Human Health — Fish	—	—	—	—	—	—	—	.00054[e]
	Human Health — F & W	—	—	—	—	—	—	—	.00052[f]
Dinoseb	MCL	—	—	—	—	—	—	7	—
2,3,7,8-TCDD (Dioxin)	Human Health — F & W	—	—	—	—	—	—	—	5.0^{-8}[f]
	Human Health — Fish	—	—	—	—	—	—	—	5.1^{-8}[e]
Diquat	MCL	—	—	—	—	—	—	20	—
2,4-D	Human Health + — F & W	—	—	—	—	—	—	—	100[f]
Endosulfan[b]	Chronic	.056	—	.056	.056	.056	.15	—	—
	Acute	.11	—	.22	.22	.22	.3	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	89[e]
	Human Health + — F & W	—	—	—	—	—	—	—	62[f]
Endothall	MCL	—	—	—	—	—	—	100	—
Endrin	Chronic	.05	—	.036	.036	.036	.036	—	—
	Acute	.12	—	.086	.086	.086	.086	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	.06[e]
	Human Health + — F & W	—	—	—	—	—	—	—	.059[f]
Ethylbenzene	Human Health + — F & W	—	—	—	—	—	—	—	530[f]
	Human Health — Fish	—	—	—	—	—	—	—	2100[e]
Ethylene dibromide	MCL	—	—	—	—	—	—	.05	—

Parameter		Use Designations							
		B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)	C	HH
Di(2-ethylhexyl)adipate	MCL	—	—	—	—	—	—	400	—
bis(2-ethylhexyl)phthalate	Human Health — F & W	—	—	—	—	—	—	—	12(f)
	Human Health — Fish	—	—	—	—	—	—	—	22(e)
Fluoride	MCL	—	—	—	—	—	—	4000	—
Glyphosate	MCL	—	—	—	—	—	—	700	—
Heptachlor	Chronic	.0038	—	.0038	.0038	.0038	.0038	—	—
	Acute	.38	—	.52	.52	.52	.38	—	—
	Human Health — Fish	—	—	—	—	—	—	—	.00079(e)
	Human Health — F & W	—	—	—	—	—	—	—	.00079(f)
Heptachlor epoxide	Chronic	.0038	—	.0038	.0038	.0038	.0038	—	—
	Acute	.52	—	.52	.52	.52	.52	—	—
	Human Health — F & W	—	—	—	—	—	—	—	.00039(f)
	Human Health — Fish	—	—	—	—	—	—	—	.00039(e)
Hexachlorobenzene	Human Health — F & W	—	—	—	—	—	—	—	.0028(f)
	Human Health — Fish	—	—	—	—	—	—	—	.0029(e)
Hexachlorocyclopentadiene	Human Health — F & W	—	—	—	—	—	—	—	40(f)
	Human Health — Fish	—	—	—	—	—	—	—	1100(e)
Lead	Chronic	3	—	7.7(j)	7.7(j)	7.7(j)	3	—	—
	Acute	80	—	197(j)	197(j)	197(j)	80	—	—
	MCL	—	—	—	—	—	—	50	—
gamma-BHC (Lindane)	Chronic	N/A	—	N/A	N/A	N/A	N/A	—	—
	Acute	.95	—	.95	.95	.95	.95	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	1.8(e)
	Human Health + — F & W	—	—	—	—	—	—	—	.98(f)
Mercury (II)	Chronic	3.5	—	.9	.9	.9	.91	—	—
	Acute	6.5	—	1.64	1.64	1.64	1.7	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	.15(e)
	Human Health + — F & W	—	—	—	—	—	—	—	.05(f)
Methoxychlor	Human Health + — F & W	—	—	—	—	—	—	—	100(f)
Nickel	Chronic	350	—	93(k)	93(k)	93(k)	150	—	—
	Acute	3250	—	843(k)	843(k)	843(k)	1400	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	4600(e)
	Human Health + — F & W	—	—	—	—	—	—	—	610(f)
Nitrate as N	MCL	—	—	—	—	—	—	10*	—
Nitrate + Nitrite as N	MCL	—	—	—	—	—	—	10*	—
Nitrite as N	MCL	—	—	—	—	—	—	1*	—

Parameter		Use Designations							
		B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)	C	HH
Oxamyl (Vydate)	MCL	—	—	—	—	—	—	200	—
Parathion	Chronic	.013	—	.013	.013	.013	.013	—	—
	Acute	.065	—	.065	.065	.065	.065	—	—
Pentachlorophenol (PCP)	Chronic	(d)	—	(d)	(d)	(d)	(d)	—	—
	Acute	(d)	—	(d)	(d)	(d)	(d)	—	—
	Human Health — Fish	—	—	—	—	—	—	—	30[e]
	Human Health — F & W	—	—	—	—	—	—	—	2.7[f]
Phenols	Chronic	50	—	50	50	50	50	—	—
	Acute	1000	—	2500	2500	2500	1000	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	1700*[e]
	Human Health + — F & W	—	—	—	—	—	—	—	21*[f]
Picloram	MCL	—	—	—	—	—	—	500	—
Polychlorinated	Chronic	.014	—	.014	.014	.014	.014	—	—
Biphenyls (PCBs)	Acute	2	—	2	2	2	2	—	—
	Human Health — Fish	—	—	—	—	—	—	—	.00064[e]
	Human Health — F & W	—	—	—	—	—	—	—	.00064[f]
Polynuclear Aromatic	Chronic	.03	—	.03	3	3	.03	—	—
Hydrocarbons (PAHs)**	Acute	30	—	30	30	30	30	—	—
	Human Health — Fish	—	—	—	—	—	—	—	.18[e]
	Human Health — F & W	—	—	—	—	—	—	—	.038[f]
Selenium	Chronic	10	—	5	5	5	70	—	—
	Acute	15	—	19.3	19.3	19.3	100	—	—
	Human Health + — F & W	—	—	—	—	—	—	—	170[f]
	Human Health + — Fish	—	—	—	—	—	—	—	4200[e]
Silver	Chronic	N/A	—	N/A	N/A	N/A	N/A	—	—
	Acute	30	—	3.8	3.8	3.8	4	—	—
	MCL	—	—	—	—	—	—	50	—
2,4,5-TP (Silvex)	MCL	—	—	—	—	—	—	10	—
Simazine	MCL	—	—	—	—	—	—	4	—
Styrene	MCL	—	—	—	—	—	—	100	—
Tetracholorethylene	Human Health — F & W	—	—	—	—	—	—	—	6.9[f]
	Human Health — Fish	—	—	—	—	—	—	—	33[e]
Thallium	Human Health + — F & W	—	—	—	—	—	—	—	.24[f]
	Human Health + — Fish	—	—	—	—	—	—	—	.47[e]

Parameter		Use Designations							
		B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)	C	HH
Toluene	Chronic	50	—	50	150	150	50	—	—
	Acute	2500	—	2500	7500	7500	2500	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	15*(e)
	Human Health + — F & W	—	—	—	—	—	—	—	1300(f)
Total Residual	Chronic	10	—	11	11	11	10	—	—
Chlorine (TRC)	Acute	35	—	19	19	19	20	—	—
Toxaphene	Chronic	.037	—	.002	.002	.002	.037	—	—
	Acute	.73	—	.73	.73	.73	.73	—	—
	Human Health — Fish	—	—	—	—	—	—	—	.0028(e)
	Human Health — F & W	—	—	—	—	—	—	—	.0028(f)
1,2,4-Trichlorobenzene	MCL	—	—	—	—	—	—	70	—
1,1,1-Trichlorethane	MCL	—	—	—	—	—	—	200	—
	Human Health + — Fish	—	—	—	—	—	—	—	173*(e)
1,1,2-Trichloroethane	Human Health — F & W	—	—	—	—	—	—	—	6(f)
Trichloroethylene (TCE)	Chronic	80	—	80	80	80	80	—	—
	Acute	4000	—	4000	4000	4000	4000	—	—
	Human Health — Fish	—	—	—	—	—	—	—	300(e)
	Human Health — F & W	—	—	—	—	—	—	—	25(f)
Trihalomethanes (total)(c)	MCL	—	—	—	—	—	—	80	—
Vinyl Chloride	Human Health — F & W	—	—	—	—	—	—	—	.25(f)
	Human Health — Fish	—	—	—	—	—	—	—	24(e)
Xylenes (Total)	MCL	—	—	—	—	—	—	10*	—
Zinc	Chronic	200	—	215(l)	215(l)	215(l)	100	—	—
	Acute	220	—	215(l)	215(l)	215(l)	110	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	26*(e)
	Human Health + — F & W	—	—	—	—	—	—	—	7.4*(f)

* units expressed as milligrams/liter

** to include the sum of known and suspected carcinogenic PAHs (includes benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene)

† expressed as nanograms/liter

\+ represents the noncarcinogenic human health parameters

++ The concentrations of 4,4-DDT or its metabolites; 4,4-DDE and 4,4-DDD, individually shall not exceed the human health criteria.

(a) units expressed as million fibers/liter (longer than 10 micrometers)

(b) includes alpha-endosulfan, beta-endosulfan, and endosulfan sulfate in combination or as individually measured

(c) The sum of the four trihalomethanes (bromoform [tribromomethane], chlorodibromomethane, chloroform [trichloromethane], and dichlorobromomethane) may not exceed the MCL.

(d) Class B numerical criteria for pentachlorophenol are a function of pH using the equation: Criterion (µg/l) = $e^{[1.005(pH) - x]}$, where e = 2.71828 and x varies according to the following table:

	B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)
Acute	3.869	—	4.869	4.869	4.869	4.869
Chronic	4.134	—	5.134	5.134	5.134	5.134

(e) This Class HH criterion would be applicable to any Class B(LW), B(CW1), B(WW-1), B(WW-2), or B(WW-3) water body that is also designated Class HH.

(f) This Class HH criterion would be applicable to any Class C water body that is also designated Class HH.

(g) inorganic form only

(h) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of 200 mg/l (as $CaCO_3$ (mg/l)). Numerical criteria (µg/l) for cadmium are a function of hardness (as $CaCO_3$ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[1.0166Ln(Hardness) - 3.924]}$	$e^{[1.0166Ln(Hardness) - 3.924]}$	$e^{[1.0166Ln(Hardness) - 3.924]}$
Chronic	$e^{[0.7409Ln(Hardness) - 4.719]}$	$e^{[0.7409Ln(Hardness) - 4.719]}$	$e^{[0.7409Ln(Hardness) - 4.719]}$

(i) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of 200 mg/l (as $CaCO_3$ (mg/l)). Numerical criteria (µg/l) for copper are a function of hardness ($CaCO_3$ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[0.9422Ln(Hardness) - 1.700]}$	$e^{[0.9422Ln(Hardness) - 1.700]}$	$e^{[0.9422Ln(Hardness) - 1.700]}$
Chronic	$e^{[0.8545Ln(Hardness) - 1.702]}$	$e^{[0.8545Ln(Hardness) - 1.702]}$	$e^{[0.8545Ln(Hardness) - 1.702]}$

(j) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of 200 mg/l (as $CaCO_3$ (mg/l)). Numerical criteria (µg/l) for lead are a function of hardness ($CaCO_3$ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[1.2731Ln(Hardness) - 1.46]}$	$e^{[1.2731Ln(Hardness) - 1.46]}$	$e^{[1.2731Ln(Hardness) - 1.46]}$
Chronic	$e^{[1.2731Ln(Hardness) - 4.705]}$	$e^{[1.2731Ln(Hardness) - 4.705]}$	$e^{[1.2731Ln(Hardness) - 4.705]}$

(k) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of 200 mg/l (as $CaCO_3$ (mg/l)). Numerical criteria (µg/l) for nickel are a function of hardness ($CaCO_3$ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[0.846Ln(Hardness) + 2.255]}$	$e^{[0.846Ln(Hardness) + 2.255]}$	$e^{[0.846Ln(Hardness) + 2.255]}$
Chronic	$e^{[0.846Ln(Hardness) + 0.0584]}$	$e^{[0.846Ln(Hardness) + 0.0584]}$	$e^{[0.846Ln(Hardness) + 0.0584]}$

(l) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of 200 mg/l (as $CaCO_3$ (mg/l)). Numerical criteria (µg/l) for zinc are a function of hardness ($CaCO_3$ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[0.8473Ln(Hardness) + 0.884]}$	$e^{[0.8473Ln(Hardness) + 0.884]}$	$e^{[0.8473Ln(Hardness) + 0.884]}$
Chronic	$e^{[0.8473Ln(Hardness) + 0.884]}$	$e^{[0.8473Ln(Hardness) + 0.884]}$	$e^{[0.8473Ln(Hardness) + 0.884]}$

(m) Acute and chronic criteria listed in main table are based on a hardness of 200 mg/l (as $CaCO_3$ (mg/l)) and a sulfate concentration of 63 mg/l. Numerical criteria (µg/l) for chloride are a function of hardness ($CaCO_3$ (mg/l)) and sulfate (mg/l) using the equation for each use according to the following table:

	B(CW1), B(CW2), B(WW-1), B(WW-2). B(WW-3), B(LW)
Acute	$287.8(Hardness)^{0.205797}(Sulfate)^{-0.07452}$
Chronic	$177.87(Hardness)^{0.205797}(Sulfate)^{-0.07452}$

TABLE 2. Criteria for Dissolved Oxygen

(all values expressed in milligrams per liter)

	B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)
Minimum value for at least 16 hours of every 24-hour period	7.0	7.0	5.0	5.0	5.0	5.0*
Minimum value at any time during every 24-hour period	5.0	5.0	5.0	4.0	4.0	5.0*

**applies only to the upper layer of stratification in lakes*

TABLE 3a. Acute Criterion for Ammonia in Iowa Streams

Acute Criterion, mg/l as N (or Criterion Maximum Concentration, CMC)		
pH	Class B(WW-1), B(WW-2), B(WW-3) & B(LW)	Class B(CW1) & B(CW2)
6.5	48.8	32.6
6.6	46.8	31.3
6.7	44.6	29.8
6.8	42.0	28.0
6.9	39.1	26.1
7.0	36.1	24.1
7.1	32.8	21.9
7.2	29.5	19.7
7.3	26.2	17.5
7.4	23.0	15.3
7.5	19.9	13.3
7.6	17.0	11.4
7.7	14.4	9.64
7.8	12.1	8.11
7.9	10.1	6.77
8.0	8.40	5.62
8.1	6.95	4.64
8.2	5.72	3.83
8.3	4.71	3.15
8.4	3.88	2.59
8.5	3.20	2.14
8.6	2.65	1.77
8.7	2.20	1.47
8.8	1.84	1.23
8.9	1.56	1.04
9.0	1.32	0.885

TABLE 3b. Chronic Criterion for Ammonia in Iowa Streams - Early Life Stages Present

Chronic Criterion - Early Life Stages Present, mg/l as N (or Criterion Continuous Concentration, CCC)										
pH	Temperature, °C									
	0	14	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.8	2.8	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

TABLE 3c. Chronic Criterion for Ammonia in Iowa Streams - Early Life Stages Absent

Chronic Criterion - Early Life Stages Absent, mg/l as N (or Criterion Continuous Concentration, CCC)										
pH	Temperature, °C									
	0-7	8	9	10	11	12	13	14	15*	16*
6.5	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06
6.6	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97
6.7	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86
6.8	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72
6.9	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56
7.0	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37
7.1	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15
7.2	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90
7.3	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61
7.4	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30
7.5	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97

Chronic Criterion - Early Life Stages Absent, mg/l as N (or Criterion Continuous Concentration, CCC)										
pH	Temperature, °C									
	0-7	8	9	10	11	12	13	14	15*	16*
7.6	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85	3.61
7.7	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25
7.8	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89
7.9	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54
8.0	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36	2.21
8.1	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91
8.2	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63
8.3	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39
8.4	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17
8.5	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.99
8.6	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836
8.7	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707
8.8	1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684	0.641	0.601
8.9	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513
9.0	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442

*At 15°C and above, the criterion for fish early life stage (ELS) absent is the same as the criterion for fish ELS present.

TABLE 4. Aquatic Life Criteria for Sulfate for Class B Waters

(all values expressed in milligrams per liter)

	Chloride		
Hardness mg/l as $CaCO_3$	Cl^- < 5 mg/l	5 < = Cl^- < 25	25 < = $C1^-$ < = 500
H < 100 mg/l	500	500	500
100 < = H < = 500	500	[–57.478 + 5.79 (hardness) + 54.163 (chloride)] × 0.65	[1276.7 + 5.508 (hardness) –1.457 (chloride)] × 0.65
H > 500	500	2,000	2,000

61.3(4) *Class "C" waters.* Rescinded IAB 4/18/90, effective 5/23/90.

61.3(5) *Surface water classification.* The department hereby incorporates by reference "Surface Water Classification," effective December 22, 2010. This document may be obtained on the department's Web site at http://www.iowadnr.com/water/standards/index.html.

61.3(6) *Cold water use designation assessment protocol.* The department hereby incorporates by reference "Cold Water Use Designation Assessment Protocol," effective December 15, 2004. This document may be obtained on the department's Web site at http://www.iowadnr.com/water/standards/index.html.

61.3(7) *Warm water stream use assessment and attainability analysis protocol.* The department hereby incorporates by reference "Warm Water Stream Use Assessment and Attainability Analysis Protocol," effective March 22, 2006. This document may be obtained on the departments Web site at http://www.iowadnr.com/water/standards/index.html.

61.3(8) *Recreational use assessment and attainability analysis protocol.* The department hereby incorporates by reference "Recreational Use Assessment and Attainability Analysis Protocol," effective March 19, 2008. This document may be obtained on the department's Web site.

This rule is intended to implement Iowa Code chapter 455B, division I, and division III, part 1.

[**ARC 8039B**, IAB 8/12/09, effective 9/16/09; **ARC 8214B**, IAB 10/7/09, effective 11/11/09; **ARC 8226B**, IAB 10/7/09, effective 11/11/09; **ARC 8466B**, IAB 1/13/10, effective 2/17/10; **ARC 9223B**, IAB 11/17/10, effective 12/22/10]

567—61.4 to **61.9** Reserved.

VOLUNTEER MONITORING DATA REQUIREMENTS

567—61.10(455B) Purpose. The department uses water quality monitoring data for a number of purposes, including determining compliance with effluent limits for operation permits issued under 567—Chapter 64. The department also uses water quality monitoring data to determine the relative health of a water body by comparing monitoring data to the appropriate water quality standards established in 567—Chapter 61, a process known as water body assessments. Water body assessments are performed to prepare the biennial water quality report required under Section 305(b) of the Act and the list of impaired waters under Section 303(d) of the Act.

Iowa Code sections 455B.193 to 455B.195 require that credible data, as defined in Iowa Code section 455B.171, be used for the purpose of preparing Section 303(d) lists and other water quality program functions. Data provided by a volunteer are not considered credible data unless provided by a qualified volunteer. The purpose of this chapter is to establish minimum requirements for data produced by volunteers to meet the credible data and qualified volunteer requirements.

567—61.11(455B) Monitoring plan required. Volunteer water quality monitoring data submitted to the department must have been produced in accordance with a department-approved volunteer water quality monitoring plan before the data may be used for any of the purposes listed in Iowa Code section 455B.194. Approval of a plan will establish qualified volunteer status for the personnel identified in the plan for those monitoring activities covered under the plan.

61.11(1) *Submittal of the plan.* Prior to initiation of volunteer water quality monitoring activities intended to produce credible data, a water quality monitoring plan must be submitted to the department for review and approval. The plan must be submitted to the Volunteer Monitoring Coordinator, Department of Natural Resources, Wallace State Office Building, Des Moines, Iowa 50319, a minimum of 90 days before planned initiation of volunteer monitoring activities. A letter transmitting the plan must specifically request formal review and approval of the plan and identify a contact person. Volunteer monitors are encouraged to communicate with the department and to attend volunteer monitoring training sessions prior to formal submittal of a plan.

61.11(2) *Content of the plan.* A volunteer monitoring plan must contain, at a minimum, the following to be considered an acceptable volunteer monitoring plan:

a. A statement of the intent of the monitoring effort.

b. The name(s) of the person or persons that will be involved in data collection or analysis, the specific responsibilities of each person or group of people, and the general qualifications of the volunteers to carry out those responsibilities. For groups, such as educational institutions, it will be acceptable to identify the persons involved by general description (e.g., tenth grade biology class) with the exception of persons in responsible charge.

c. The name(s) of the person or persons that will oversee the monitoring plan, ensure that quality assurance and control objectives are being met, and certify the data. The person or persons in responsible charge must have training commensurate with the level of expertise to ensure that credible data is being generated.

d. The duration of the volunteer monitoring effort. In general, the department will not approve plans of greater than three years' duration unless a longer duration is justified.

e. Location and frequency of sample collection.

f. Methods of data collection and analysis.

g. Record keeping and data reporting procedures.

61.11(3) *Department review of the plan.* The department will review monitoring plans and normally approve or disapprove the plan within 90 days of receipt. The department will work with the contact person identified in the plan to make any necessary changes prior to taking formal action. The department will use guidelines contained in the publications EPA Requirements for Quality Assurance Project Plans (EPA QA/R-5, 2001) and Volunteer Monitor's Guide to Quality Assurance Project Plans (1966, EPA

841-B-96-003) or equivalent updates to determine if the plans provide adequate quality assurance and quality control measures. Approval or disapproval of the plan will be in the form of a letter and approval may include conditions or limitations.

61.11(4) *Changes in monitoring plans.* The department must approve any changes to an approved monitoring plan. Data collected under a modified plan will not be considered credible data until such time as the department has approved the modifications. Modifications to an approved plan should be submitted at the earliest possible time to avoid interruptions in data collection and to ensure continuity of data.

61.11(5) *Appeal of disapproval.* If a monitoring plan submitted for approval is disapproved, the decision may be appealed by filing an appeal with the director within 30 days of disapproval. The form of the notice of appeal and appeal procedures are governed by 567—Chapter 7.

567—61.12(455B) Use of volunteer monitoring data. Data produced under an approved water quality monitoring plan will be considered credible data for the purposes listed in Iowa Code section 455B.194 if the following conditions are met.

61.12(1) *Data submittal.* A qualified volunteer monitor or qualified volunteer monitoring group must specifically request that data produced under an approved volunteer monitoring plan be considered credible data. A letter identifying the specific data must be submitted along with a certification from the volunteer or the person in responsible charge for volunteer groups that the data, to the best of the volunteer's or responsible person's knowledge, was produced in accordance with the approved volunteer monitoring plan. The department shall provide a standard format on the IOWATER Web site for submittal of qualified volunteer data and related information. The department encourages volunteers to enter monitoring data on the IOWATER volunteer monitoring database maintained by the department, but doing so does not constitute submittal to or acceptance of the data by the department for uses requiring credible data. Volunteer data shall be labeled as such in any departmental reports, Web sites, or databases.

61.12(2) *Department review of submitted data.* The department must review and approve the submitted data. The person submitting the data will be informed of the department's decision either to accept or reject the data. The department will attempt to resolve any apparent inconsistencies or questionable values in the submitted data prior to making a final decision.

567—61.13(455B) Department audits of volunteer monitoring activities. The department shall conduct field audits of a statistically valid and representative sample of volunteer data collection and analysis procedures to ensure compliance with an approved plan and may conduct confirmatory monitoring tests. Volunteers shall be informed of any audit results and be provided with an opportunity to address any concerns to the extent possible. The department reserves the right to rescind approval of an approved plan if it finds substantial problems that cannot be addressed in a timely manner to ensure the quality of the data being produced.

These rules are intended to implement Iowa Code chapter 455B, division III, part 1.

[Filed March 15, 1966; amended March 20, 1967, October 14, 1969, June 8, 1971, June 26, 1972, July 12, 1972, February 13, 1974]
[Filed 6/28/76, Notice 5/3/76—published 7/12/76, effective 8/16/76]
[Filed 7/1/77, Notice 2/23/77—published 7/27/77, effective 8/31/77]
[Filed without Notice 7/28/77—published 8/24/77, effective 9/28/77]
[Filed 7/27/78, Notice 5/3/78—published 8/23/78, effective 9/27/78]
[Filed 2/2/79, Notice 11/1/78—published 2/21/79, effective 3/28/79]
[Filed 10/26/79, Notice 6/27/79—published 11/14/79, effective 12/19/79]
[Filed 8/29/80, Notice 6/25/80—published 9/17/80, effective 10/22/80]
[3/25/83, Notice 1/5/83—published 4/13/83, effective 5/18/83]
[Filed emergency 6/3/83—published 6/22/83, effective 7/1/83]
[Filed 12/2/83, Notice 6/22/83—published 12/21/83, effective 1/25/84]
[Filed 10/19/84, Notice 7/18/84—published 11/7/84, effective 12/12/84]

[Filed 7/12/85, Notice 3/13/85—published 7/31/85, effective 9/4/85]
[Filed 8/7/86, Notice 4/9/86—published 8/27/86, effective 10/1/86]
[Filed emergency 11/14/86—published 12/3/86, effective 12/3/86]
[Filed 3/30/90, Notice 8/9/89—published 4/18/90, effective 5/23/90]
[Filed 8/31/90, Notice 6/13/90—published 9/19/90, effective 10/24/90]
[Filed 10/26/90, Notice 7/11/90—published 11/14/90, effective 12/19/90]
[Filed 11/26/90, Notice 9/19/90—published 12/12/90, effective 1/16/91]
[Filed 7/19/91, Notice 2/20/91—published 8/7/91, effective 9/11/91]
[Filed 1/31/92, Notice 7/10/91—published 2/19/92, effective 3/25/92]
[Filed 2/28/92, Notice 11/13/91—published 3/18/92, effective 4/22/92]
[Filed 5/22/92, Notice 4/1/92—published 6/10/92, effective 7/15/92]
[Filed 7/31/92, Notice 5/13/92—published 8/19/92, effective 9/23/92]
[Filed 10/23/92, Notice 9/2/92—published 11/11/92, effective 12/16/92]
[Filed 5/21/93, Notice 2/17/93—published 6/9/93, effective 7/14/93]
[Filed 7/2/93, Notice 2/17/93—published 7/21/93, effective 8/25/93]
[Filed 10/22/93, Notice 8/18/93—published 11/10/93, effective 12/15/93]
[Filed 7/29/94, Notice 5/11/94—published 8/17/94, effective 9/21/94]
[Filed 5/19/95, Notice 2/15/95—published 6/7/95, effective 8/9/95]
[Filed 8/25/95, Notice 6/7/95—published 9/13/95, effective 10/18/95]
[Filed 2/23/96, Notice 12/20/95—published 3/13/96, effective 4/17/96]
[Filed 5/31/96, Notice 3/13/96—published 6/19/96, effective 7/24/96]
[Filed 1/24/97, Notice 10/9/96—published 2/12/97, effective 3/19/97]
[Filed 5/26/00, Notice 11/17/99—published 6/14/00, effective 7/19/00]
[Filed 9/29/00, Notice 5/17/00—published 10/18/00, effective 11/24/00]
[Filed 8/31/01, Notice 2/7/01—published 9/19/01, effective 10/24/01]
[Filed 5/24/02, Notice 1/9/02—published 6/12/02, effective 7/17/02]
[Filed 6/18/02, Notice 2/6/02—published 7/10/02, effective 8/14/02]
[Filed 5/22/03, Notice 1/8/03—published 6/11/03, effective 7/16/03]
[Filed 3/18/04, Notice 9/17/03—published 4/14/04, effective 5/19/04]
[Filed 4/23/04, Notice 9/17/03—published 5/12/04, effective 6/16/04]
[Filed 10/22/04, Notice 4/14/04—published 11/10/04, effective 12/15/04]
[Filed 1/27/06, Notice 9/14/05—published 2/15/06, effective 3/22/06][◊]
[Filed 4/6/07, Notice 12/6/06—published 4/25/07, effective 5/30/07]
[Filed 10/4/07, Notice 5/23/07—published 10/24/07, effective 11/28/07]
[Filed 1/23/08, Notice 9/26/07—published 2/13/08, effective 3/19/08]
[Filed 4/18/08, Notice 10/24/07—published 5/7/08, effective 6/11/08]
[Filed 9/15/08, Notice 7/30/08—published 10/8/08, effective 11/12/08]
[Filed ARC 8039B (Notice ARC 7624B, IAB 3/11/09), IAB 8/12/09, effective 9/16/09]
[Filed ARC 8226B (Notice ARC 7624B, IAB 3/11/09), IAB 10/7/09, effective 11/11/09]
[Filed ARC 8214B (Notice ARC 7853B, IAB 6/17/09), IAB 10/7/09, effective 11/11/09]
[Filed ARC 8466B (Amended Notice ARC 8038B, IAB 8/12/09; Notice ARC 7368B, IAB 11/19/08), IAB 1/13/10, effective 2/17/10]
[Filed ARC 9223B (Amended Notice ARC 8978B, IAB 7/28/10; Notice ARC 8599B, IAB 3/10/10), IAB 11/17/10, effective 12/22/10]
[Filed ARC 9330B (Notice ARC 9153B, IAB 10/20/10), IAB 1/12/11, effective 2/16/11]

◊ Two or more ARCs

CHAPTER 135
TECHNICAL STANDARDS AND CORRECTIVE ACTION REQUIREMENTS FOR OWNERS AND OPERATORS OF UNDERGROUND STORAGE TANKS

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

567—135.1(455B) Authority, purpose and applicability.

135.1(1) *Authority.* Iowa Code chapter 455B, division IV, part 8, authorizes the department to regulate underground tanks used for storage of regulated substances, and to adopt rules relating to detection, prevention and correction of releases of regulated substances from such tanks, maintenance of financial responsibility by owners or operators of such tanks, new tank performance standards, notice and reporting requirements, and designation of regulated substances.

135.1(2) *Purpose.* The purpose of these rules is to protect the public health and safety and the natural resources of Iowa by timely and appropriate detection, prevention and correction of releases of regulated substances from underground storage tanks (UST).

135.1(3) *Applicability.*

a. The requirements of this chapter apply to all owners and operators of a UST system as defined in 135.2(455B) except as otherwise provided in paragraphs *"b," "c,"* and *"d"* of this subrule. Any UST system listed in paragraph *"c"* of this subrule must meet the requirements of 135.1(4).

b. The following UST systems are excluded from the requirements of this chapter:

(1) Any UST system holding hazardous wastes listed or identified under Subtitle C of the Solid Waste Disposal Act, or a mixture of such hazardous waste and other regulated substances.

(2) Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under Section 402 or 307(b) of the federal Clean Water Act.

(3) Equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks.

(4) Any UST system whose capacity is 110 gallons or less.

(5) Any UST system that contains a de minimus concentration of regulated substances.

(6) Any emergency spill or overflow containment UST system that is expeditiously emptied after use.

c. Deferrals. Rules 567—135.3(455B), 567—135.4(455B), 567—135.5(455B), 567—135.6(455B) and 567—135.9(455B) do not apply to any of the following types of UST systems:

(1) Wastewater treatment tank systems;

(2) Any UST systems containing radioactive material that are regulated under the federal Atomic Energy Act of 1954 (42 U.S.C. 2011 and following);

(3) Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR 50 Appendix A;

(4) Airport hydrant fuel distribution systems; and

(5) UST systems with field-constructed tanks.

d. Deferrals. Rule 567—135.5(455B) does not apply to any UST system that stores fuel solely for use by emergency power generators. All new and replacement UST systems for emergency power generators must meet the secondary containment requirements in subrule 135.3(9) and the leak detection and delivery prohibition requirements in subrule 135.3(8).

e. Nonpetroleum underground storage tank systems. Rules 567—135.8(455B) to 567—135.12(455B) do not apply to any nonpetroleum underground storage tank system except as otherwise provided for by the department.

135.1(4) *Interim prohibition for deferred UST systems.*

a. No person may install a UST system listed in 135.1(3)*"c"* for the purpose of storing regulated substances unless the UST system (whether of single- or double-wall construction):

(1) Will prevent releases due to corrosion or structural failure for the operational life of the UST system;

(2) Is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of any stored substance; and

(3) Is constructed or lined with material that is compatible with the stored substance.

b. Notwithstanding paragraph *"a"* of this subrule, a UST system without corrosion protection may be installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life. Owners and operators must maintain records that demonstrate compliance with the requirements of this paragraph for the remaining life of the tank.

NOTE: The National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," may be used as guidance for complying with 135.1(4)*"b."*

567—135.2(455B) Definitions.

"Aboveground release" means any release to the surface of the land or to surface water. This includes, but is not limited to, releases from the aboveground portion of a UST system and aboveground releases associated with overfills and transfer operations as the regulated substance moves to or from a UST system.

"Active remediation" means corrective action undertaken to reduce contaminant concentrations by other than passive remediation or monitoring.

"Ancillary equipment" means any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from a UST.

"Appurtenances" means devices such as piping, fittings, flanges, valves, dispensers and pumps used to distribute, meter, or control the flow of regulated substances to or from an underground storage tank.

"Asbestos-cement pipe" (AC refers to asbestos-cement) means a pipe or conduit constructed of asbestos fiber, Portland cement, and water, which can be used to transport water.

"ASTM" means the American Society of Testing and Materials.

"Backflow preventer" means a check valve used to ensure water flows in one direction and designed to prevent contamination from an end user, such as a home, from getting into the general water supply. An approved backflow preventer shall be a reduced-pressure backflow preventer or an antisiphon device which complies with the standards of the American Water Works Association and has been approved by the Foundation for Cross-Connection Control and Hydraulic Research.

"Bedrock" means the rock, usually solid, underlying soil or any other unconsolidated surficial cover.

"Below-ground release" means any release to the subsurface of the land and to groundwater. This includes, but is not limited to, releases from the below-ground portions of an underground storage tank system and below-ground releases associated with overfills and transfer operations as the regulated substance moves to or from an underground storage tank.

"Beneath the surface of the ground" means beneath the ground surface or otherwise covered with earthen materials.

"Best available technology" means those practices which most appropriately remove, treat, or isolate contaminants from groundwater, soil or associated environment, as determined through professional judgment considering actual equipment or techniques currently in use, published technical articles, site hydrogeology and research results, engineering and groundwater professional reference materials, consultation with experts in the field, capital and operating costs, and guidelines or rules of other regulatory agencies.

"Best management practices" means maintenance procedures, schedule of activities, prohibition of practices, and other management practices, or a combination thereof, which, after problem assessment, is determined to be the most effective means of monitoring and preventing additional contamination of the groundwater and soil.

"Carcinogenic risk" means the incremental risk of a person developing cancer over a lifetime as a result of exposure to a chemical, expressed as a probability such as one in a million (10^{-6}). For

carcinogenic chemicals of concern, probability is derived from application of certain designated exposure assumptions and a slope factor.

"Cast iron pipe" means a pipe or conduit used as a pressure pipe for transmission of water, gas, or sewage or as a water drainage pipe. It comprises predominantly a gray cast iron tube historically used uncoated, with newer types having various coatings and linings to reduce corrosion and improve hydraulics.

"Cathodic protection" is a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, a tank system can be cathodically protected through the application of either galvanic anodes or impressed current.

"Cathodic protection tester" means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. At a minimum, such persons must have education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of buried metal piping and tank systems.

"CERCLA" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

"Certified groundwater professional" means a person certified pursuant to 1995 Iowa Code section 455G.18 and 567—Chapter 134.

"Change-in-service" means changing the use of a tank system from a regulated to a nonregulated use.

"Chemicals of concern" means the compounds derived from petroleum-regulated substances which are subject to evaluation for purposes of applying risk-based corrective action decision making. These compounds are benzene, ethylbenzene, toluene, and xylenes (BTEX) and naphthalene, benzo(a)pyrene, benz(a)anthracene, and chrysene. (NOTE: Measurement of these last four constituents may be done by a conversion method from total extractable hydrocarbons, see subrule 135.8(3).)

"Class A operator" means a person responsible for managing resources and personnel to achieve and maintain compliance with regulatory requirements under this chapter. This includes ensuring appropriate individuals are trained in the proper operation and maintenance of the underground storage tank system, the maintenance of all required records, the procedures for response to emergencies caused by releases or spills, and assuring financial responsibility and documentation to the department or its representatives as required.

"Class B operator" means a person who implements applicable underground storage tank regulatory requirements and standards. This includes implementing the day-to-day aspects of operating, maintaining, and record keeping for underground storage tanks at one or more facilities. A Class B operator typically monitors, maintains and ensures that release detection methods, record-keeping, and reporting requirements are met; release prevention equipment, record-keeping, and reporting requirements are met; all relevant equipment complies with performance standards; and appropriate individuals are trained to properly respond to emergencies caused by releases and spills.

"Class C operator" means an on-site employee who typically controls or monitors the dispensing or sale of regulated substances and who is the first line of response to events indicating emergency conditions.

"Compatible" means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST.

"Conduit" means underground structures which act as pathways and receptors for chemicals of concern, including but not limited to gravity drain lines and sanitary or storm sewers.

"Connected piping" means all underground piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system through which regulated substances flow. For the purpose of determining how much piping is connected to any individual UST system, the piping that joins two UST systems should be allocated equally between them.

"Consumptive use" with respect to heating oil means consumed on the premises.

"Corrective action" means an action taken to reduce, minimize, eliminate, clean up, control or monitor a release to protect the public health and safety or the environment. Corrective action includes, but is not limited to, excavation of an underground storage tank for the purpose of repairing a leak or removal of a tank, removal of contaminated soil, disposal or processing of contaminated soil, cleansing of groundwaters or surface waters, natural biodegradation, institutional controls, technological controls and site management practices. Corrective action does not include replacement of an underground storage tank. Corrective action specifically excludes third-party liability.

"Corrective action meeting process" means a series of meetings organized by department staff with owners or operators and other interested parties such as certified groundwater professionals, funding source representatives, and affected property owners. The purpose of the meeting process is to develop and agree on a corrective action plan and the terms for implementation of the plan.

"Corrective action plan" means a plan which specifies the corrective action to be undertaken by the owner or operator in order to comply with requirements in this chapter and which is incorporated into a memorandum of agreement or other written agreement between the department and the owner or operator. The plan may include but is not limited to provisions for additional site assessment, site monitoring, Tier 2 revisions, Tier 3 assessment, excavation, and other soil and groundwater remedial action.

"Corrosion expert" means a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be accredited or certified as being qualified by the National Association of Corrosion Engineers or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.

"Department" means Iowa department of natural resources.

"Dielectric material" means a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST systems (e.g., tank from piping).

"Dispenser" means equipment that is used to transfer a regulated substance from underground piping through a rigid or flexible hose or piping located aboveground to a point of use outside the underground storage tank system, such as a motor vehicle.

"Drinking water well" means any groundwater well used as a source for drinking water by humans and groundwater wells used primarily for the final production of food or medicine for human consumption in facilities routinely characterized with the Standard Industrial Codes (SIC) group 283 for drugs and 20 for foods.

"Ductile iron pipe" means a pipe or conduit commonly used for potable water distribution and for the pumping of sewage. The predominant wall material is ductile iron, a spheroidized graphite cast iron, and commonly has an internal cement mortar lining to inhibit corrosion from the carried water and various types of external coatings to inhibit corrosion from the environment.

"Electrical equipment" means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

"Enclosed space" means space which can act as a receptor or pathway capable of creating a risk of explosion or inhalation hazard to humans and includes "explosive receptors" and "confined spaces." Explosive receptors means those receptors designated in these rules which are evaluated for explosive risk. Confined spaces means those receptors designated in these rules for evaluation of vapor inhalation risks.

"Excavation zone" means the volume containing the tank system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.

"Existing tank system" means a tank system used to contain an accumulation of regulated substances or for which installation has commenced on or before January 14, 1987. Installation is considered to have commenced if:

The owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system; and if,

1. Either a continuous on-site physical construction or installation program has begun; or,

2. The owner or operator has entered into contractual obligations, which cannot be canceled or modified without substantial loss, for physical construction at the site or installation of the tank system to be completed within a reasonable time.

"Farm tank" is a tank located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. A farm tank must be located on the farm property. "Farm" includes fish hatcheries, rangeland and nurseries with growing operations.

"Flow-through process tank" is a tank that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or by-products from the production process.

"Free product" refers to a regulated substance that is present as a nonaqueous phase liquid (e.g., liquid not dissolved in water).

"Gasket" means any type of pipe seals made of a variety of rubbers including but not necessarily limited to styrene-butadiene rubber (SBR), nitrile-butadiene rubber (NBR or nitrile), ethylene propylene diene monomer (EPDM), neoprene (CR), and fluoroelastomer rubber (FKM), which are used to seal pipe connections.

"Gathering lines" means any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.

"Groundwater ingestion pathway" means a pathway through groundwater by which chemicals of concern may result in exposure to a human receptor as specified in rules applicable to Tier 1, Tier 2 and Tier 3.

"Groundwater plume" means the extent of groundwater impacted by the release of chemicals of concern.

"Groundwater to water line pathway" means a pathway through groundwater which leads to a water line.

"Groundwater vapor to enclosed space pathway" means a pathway through groundwater by which vapors from chemicals of concern may lead to a receptor creating an inhalation or explosive risk hazard.

"Hazardous substance UST system" means an underground storage tank system that contains a hazardous substance defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (but not including any substance regulated as a hazardous waste under subtitle C) or any mixture of such substances and petroleum, and which is not a petroleum UST system.

"Hazard quotient" means the ratio of the level of exposure of a chemical of concern over a specified time period to a reference dose for that chemical of concern derived for a similar exposure period. Unless otherwise specified, the hazard quotient designated in these rules is one.

"Heating oil" means petroleum that is No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.

"Highly permeable soils" means for the purpose of UST closures: fractured bedrock, any soils with a hydraulic conductivity rate greater than 0.3 meters per day, or any soil material classified by the Unified Soil Classification System as published by the United States Department of the Interior or ASTM designation as (1) GW - well graded gravel, gravel-sand mixtures, little or no fines, (2) GP - poorly graded gravel, gravel-sand mixtures, little or no fines, (3) SW - well graded sands, gravelly sands, little or no fines, or (4) SP - poorly graded sands, gravelly sands, little or no fines.

"Hydraulic conductivity" means the rate of water movement through the soil measured in meters per day (m/d) as determined by the following methods. For a saturated soil, the Bouwer-Rice method or its equivalent shall be used. For unsaturated soil, use a Guelph permeameter or an equivalent in situ

constant-head permeameter in a boring finished above the water table. If an in situ method cannot be used for unsaturated soil because of depth, or if the soil is homogeneous and lacks flow-conducting channels, fractures, cavities, etc., laboratory measurement of hydraulic conductivity is acceptable.

If laboratory methods are used, collect undisturbed soil samples using a thin-walled tube sampler in accordance with American Society of Testing and Materials (ASTM) Standard D1587. Samples shall be clearly marked, preserved and transported to the laboratory. The laboratory shall measure hydraulic conductivity using a constant-head permeameter in accordance with ASTM Standard D2434 or a falling-head permeameter in accordance with accepted methodology.

"Hydraulic lift tank" means a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.

"Institutional controls" means the restriction on use or access (for example, fences, deed restrictions, restrictive zoning) to a site or facility to eliminate or minimize potential exposure to a chemical(s) of concern. Institutional controls include any of the following:

1. A law of the United States or the state;
2. A regulation issued pursuant to federal or state laws;
3. An ordinance or regulation of a political subdivision in which real estate subject to the institutional control is located;
4. A restriction on the use of or activities occurring at real estate which are embodied in a covenant running with the land which:

- Contains a legal description of the real estate in a manner which satisfies Iowa Code section 558.1 et seq.;
- Is properly executed, in a manner which satisfies Iowa Code section 558.1 et seq.;
- Is recorded in the appropriate office of the county in which the real estate is located;
- Adequately and accurately describes the institutional control; and
- Is in the form of a covenant as set out in Appendix C or in such a manner reasonably acceptable to the department.

5. Any other institutional control the owner or operator can reasonably demonstrate to the department which will reduce the risk from a release throughout the period necessary to ensure that no applicable target risk is likely to be exceeded.

"Liquid trap" means sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.

"Maintenance" means the normal operational upkeep to prevent an underground storage tank system from releasing product.

"MCLs" means the drinking water primary maximum contaminant levels set out in 567—41.3(455B).

"Memorandum of agreement" means a written agreement between the department and the owner or operator which specifies the corrective action that will be undertaken by the owner or operator in order to comply with requirements in this chapter and the terms for implementation of the plan. The plan may include but is not limited to provisions for additional site assessment, site monitoring, Tier 2 revisions, Tier 3 assessment, excavation, and other soil and groundwater remedial action.

"Motor fuel" means petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine.

"New tank system" means a tank system that will be used to contain an accumulation of regulated substances and for which installation has commenced after January 14, 1987. (See also "Existing Tank System.")

"Noncarcinogenic risk" means the potential for adverse systemic or toxic effects caused by exposure to noncarcinogenic chemicals of concern, expressed as the hazard quotient.

"Noncommercial purposes" with respect to motor fuel means not for resale.

"Non-drinking water well" means any groundwater well (except an extraction well used as part of a remediation system) not defined as a drinking water well including a groundwater well which is not properly plugged in accordance with department rules in 567—Chapters 39 and 49.

"Nonresidential area" means land which is not currently used as a residential area and which is zoned for nonresidential uses.

"On the premises where stored" with respect to heating oil means UST systems located on the same property where the stored heating oil is used.

"Operational life" refers to the period beginning when installation of the tank system has commenced until the time the tank system is properly closed under rule 567—135.15(455B).

"Operator" means any person in control of, or having responsibility for, the daily operation of the UST system.

"Overfill release" is a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment.

"Owner" means:

1. In the case of a UST system in use on July 1, 1985, or brought into use after that date, any person who owns a UST system used for storage, use, or dispensing of regulated substances; and
2. In the case of any UST system in use before July 1, 1985, but no longer in use on that date, any person who owned such UST immediately before the discontinuation of its use.

"Owner" does not include a person, who, without participating in the management or operation of the underground storage tank or the tank site, holds indicia of ownership primarily to protect that person's security interest in the underground storage tank or the tank site property, prior to obtaining ownership or control through debt enforcement, debt settlement, or otherwise.

"Pathway" means a transport mechanism by which chemicals of concern may reach a receptor(s) or the location(s) of a potential receptor.

"Permanent closure" means removing all regulated substances from the tank system, assessing the site for contamination, and permanently removing tank and piping from the ground or filling the tank in place with a solid inert material and plugging all piping. Permanent closure also includes partial closure of a tank system such as removal or replacement of tanks or piping only.

"Person" means an individual, trust, firm, joint stock company, federal agency, corporation, state, municipality, commission, political subdivision of a state, or any interstate body. "Person" also includes a consortium, a joint venture, a commercial entity, and the United States government.

"Person who conveys or deposits a regulated substance" means a person who sells or supplies the owner or operator with the regulated substance and the person who transports or actually deposits the regulated substance in the underground tank.

"Petroleum UST system" means an underground storage tank system that contains petroleum or a mixture of petroleum with de minimus quantities of other regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

"Pipe" or *"piping"* means a hollow cylinder or tubular conduit that is constructed of nonearthen materials and that routinely contains and conveys regulated substances from the underground tank(s) to the dispenser(s) or other end-use equipment. Such piping includes any elbows, couplings, unions, valves, or other in-line fixtures that contain and convey regulated substances from the underground tank(s) to the dispenser(s). This definition does not include vent, vapor recovery, or fill lines.

"Pipeline facilities (including gathering lines)" are new and existing pipe rights-of-way and any associated equipment, facilities, or buildings.

"Point of compliance" means the location(s) at the source(s) of contamination or at the location(s) between the source(s) and the point(s) of exposure where concentrations of chemicals of concern must meet applicable risk-based screening levels at Tier 1 or other target level(s) at Tier 2 or Tier 3.

"Point of exposure" means the location(s) at which an actual or potential receptor may be exposed to chemicals of concern via a pathway.

"Polybutylene pipe" (PB refers to polybutylene) means a water supply pipe comprised of a form of plastic resin that was used extensively from 1978 until 1995. The piping systems were used for

underground water mains and as interior water distribution piping. Polybutylene mains are usually blue in color, but may be gray, black, or white. The pipe is usually ½ inch or 1 inch in diameter, and it may be found entering a residence through the basement wall or floor, concrete slab or through the crawlspace; frequently it enters the residence near the water heater.

"Polyethylene pipe" (PE refers to polyethylene) means a water supply pipe comprised of thermoplastic material produced from the polymerization of ethylene. PE pipe is manufactured by extrusion in sizes ranging from ½ inch to 63 inches. PE pipe is available in rolled coils of various lengths or in straight lengths of up to 40 feet. PE pipe is available in many forms and colors, including single-extrusion colored or black pipe, black pipe with co-extruded color striping, and black or natural pipe with a co-extruded colored layer. PE pipe has been demonstrated to be very permeable to petroleum while still retaining its flexible structure.

"Polyvinyl chloride pipe" (PVC refers to polyvinyl chloride) means a pipe made from a plastic and vinyl combination material. The pipes are durable, hard to damage, and long-lasting. A PVC pipe is very resistant and does not rust, nor is it likely to rot or wear over time. PVC piping is most commonly used in water systems, underground wiring, and sewer lines.

"Portland cement" means hydraulic cement (cement that not only hardens by reacting with water but also forms a water-resistant product) and is produced by pulverizing clinkers consisting essentially of hydraulic calcium silicates, usually containing one or more forms of calcium sulfate as an inter ground addition.

"Potential receptor" means a receptor not in existence at the time a Tier 1, Tier 2 or Tier 3 site assessment is prepared, but which could reasonably be expected to exist within 20 years of the preparation of the Tier 1, Tier 2 or Tier 3 site assessment or as otherwise specified in these rules.

"Preferential pathway" means conditions which act as a pathway permitting contamination to migrate through soils and to groundwater at a faster rate than would be expected through naturally occurring undisturbed soils or unfractured bedrock including but not limited to wells, cisterns, tile lines, drainage systems, utility lines and envelopes, and conduits.

"Protected groundwater source" means a saturated bed, formation, or group of formations which has a hydraulic conductivity of at least 0.44 meters per day (m/d) and a total dissolved solids of less than 2,500 milligrams per liter (mg/l) or a bedrock aquifer with total dissolved solids of less than 2,500 milligrams per liter (mg/l) if bedrock is encountered before groundwater.

"Public water supply well" means a well connected to a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

"Receptor" means enclosed spaces, conduits, protected groundwater sources, drinking and non-drinking water wells, surface water bodies, and public water systems which when impacted by chemicals of concern may result in exposure to humans and aquatic life, explosive conditions or other adverse effects on health, safety and the environment as specified in these rules.

"Reference dose" means a designated toxicity value established in these rules for evaluating potential noncarcinogenic effects in humans resulting from exposure to a chemical(s) of concern. Reference doses are designated in Appendix A.

"Regulated substance" means an element, compound, mixture, solution or substance which, when released into the environment, may present substantial danger to the public health or welfare or the environment. Regulated substance includes:

1. Substances designated in Table 302.4 of 40 CFR Part 302 (September 13, 1988),
2. Substances which exhibit the characteristics identified in 40 CFR 261.20 through 261.24 (May 10, 1984) and which are not excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (May 10, 1984),
3. Any substance defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (but not including any substance regulated as a hazardous waste under subtitle C), and
4. Petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute). The term

"regulated substance" includes but is not limited to petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons derived from crude oil through processes of separation, conversion, upgrading, and finishing, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

"Release" means any spilling, leaking, emitting, discharging, escaping, leaching or disposing of a regulated substance, including petroleum, from a UST into groundwater, surface water or subsurface soils.

"Release detection" means determining whether a release of a regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it.

"Repair" means to restore a tank or UST system component that has caused a release of product from the UST system.

"Replace" or *"replacement"* means the installation of a new underground tank system or component, including dispensers, in substantially the same location as an existing tank system or component in lieu of that tank system or component.

"Residential area" means land used as a permanent residence or domicile, such as a house, apartment, nursing home, school, child care facility or prison, land zoned for such uses, or land where no zoning is in place.

"Residential tank" is a tank located on property used primarily for dwelling purposes.

"Risk-based screening level (RBSL)" means the risk-based concentration level for chemicals of concern developed for a Tier 1 analysis to be met at the point(s) of compliance and incorporated in the Tier 1 Look-up Table in Appendix A.

"SARA" means the federal Superfund Amendments and Reauthorization Act of 1986.

"Secondary containment tank" or *"secondary containment piping"* means a tank or piping which is designed with an inner primary shell and a liquid-tight outer secondary shell or jacket which extends around the entire inner shell, and which is designed to contain any leak through the primary shell from any part of the tank or piping that routinely contains product, and which also allows for monitoring of the interstitial space between the shells and the detection of any leak.

"Septic tank" is a watertight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.

"Service line" means a pipe connected to a business or residence from a water main, typically of a size not exceeding 6 inches in diameter, and including its gaskets and other appurtenances. For purposes of this chapter, service lines refer to pipes specifically used for drinking water transmission.

"Site assessment investigation" means an investigation conducted by a registered groundwater professional to determine relevant site historical data, the types, amounts, and sources of petroleum contaminants present, hydrogeological characteristics of the site, full vertical and horizontal extent of the contamination in soils and groundwater, direction and rate of flow of the contamination, ranges of concentration of the contaminants by analysis of soils and groundwater, the vertical and horizontal extent of the contamination exceeding department standards, and the actual or potential threat to public health and safety and the environment.

"Site cleanup report" means the report required to be submitted by these rules and in accordance with department guidance which may include the results of Tier 2 or Tier 3 assessment and analysis.

"Site-specific target level (SSTL)" means the risk-based target level(s) for chemicals of concern developed as the result of a Tier 2 or Tier 3 assessment which must be achieved at applicable point(s) of compliance at the source to meet the target level(s) at the point(s) of exposure.

"Soil leaching to groundwater pathway" means a pathway through soil by which chemicals of concern may leach to groundwater and through a groundwater transport pathway impact an actual or potential receptor.

"Soil plume" means the vertical and horizontal extent of soil impacted by the release of chemicals of concern.

"Soil to water line pathway" means a pathway which leads from soil to a water line.

"Soil vapor to enclosed space pathway" means a pathway through soil by which vapors from chemicals of concern may lead to a receptor creating an inhalation or explosive risk hazard.

"Storm water or wastewater collection system" means piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water run-off resulting from precipitation, or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of storm water and wastewater does not include treatment except where incidental to conveyance.

"Surface impoundment" is a natural topographic depression, constructed excavation, or diked area formed primarily of earthen materials (although it may be lined with manufactured materials) that is not an injection well.

"Surface water body" means general use segments as provided in 567—paragraph 61.3(1)*"a"* and designated use segments of water bodies as provided in 567—paragraph 61.3(1)*"b"* and 567—subrule 61.3(5).

"Surface water criteria" means, for chemicals of concern, the Criteria for Chemical Constituents in Table 1 of rule 567—61.3(455B), except that "1,000 ug/L" will be substituted for the chronic levels for toluene for Class B designated use segments.

"Surface water pathway" means a pathway which leads to a surface water body.

"Tank" is a stationary device designed to contain an accumulation of regulated substances and constructed of nonearthen materials (e.g., concrete, steel, plastic) that provide structural support.

"Target level" means the allowable concentrations of chemicals of concern established to achieve an applicable target risk which must be met at the point(s) of compliance as specified in these rules.

"Target risk" refers to an applicable carcinogenic and noncarcinogenic risk factor designated in these rules and used in determining target levels (for carcinogenic risk assessment, target risk is a separate factor, different from exposure factors, both of which are used in determining target levels).

"Technological controls" means a physical action which does not involve source removal or reduction, but severs or reduces exposure to a receptor, such as caps, containment, carbon filters, point of use water treatment, etc.

"Tier 1 level" means the groundwater and soil levels in the Tier 1 Look-up Table set out in rule 135.9(455B) and Appendix A.

"Tier 1 site assessment" means the evaluation of limited site-specific data compared to the Tier 1 levels established in these rules for the purpose of determining which pathways do not require assessment and evaluation at Tier 2 and which sites warrant a no further action required classification without further assessment and evaluation.

"Tier 2 site assessment" means the process of assessing risk to actual and potential receptors by using site-specific field data and designated Tier 2 exposure and fate and transport models to determine the applicable target level(s).

"Tier 3 site assessment" means a site-specific risk assessment utilizing more sophisticated data or analytic techniques than a Tier 2 site assessment.

"Under-dispenser containment (UDC)" means containment underneath a dispenser that will prevent leaks from the dispenser from reaching soil or groundwater. Such containment must:

- Be intact and liquid-tight on its sides and bottom and at any penetrations;
- Be compatible with the substance conveyed by the piping; and
- Allow for visual inspection and monitoring and access to the components in the containment system.

"Underground area" means an underground room, such as a basement, cellar, shaft or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.

"Underground release" means any below-ground release.

"Underground storage tank" or *"UST"* means any one or combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of regulated substances,

and the volume of which (including the volume of underground pipes connected thereto) is 10 percent or more beneath the surface of the ground. This term does not include any:

a. Farm or residential tank of 1100 gallons or less capacity used for storing motor fuel for noncommercial purposes. Iowa Code section 455B.471 requires those tanks existing prior to July 1, 1987, to be registered. Tanks installed on or after July 1, 1987, must comply with all 567—Chapter 135 rules;

b. Tank used for storing heating oil for consumptive use on the premises where stored;

c. Septic tank;

d. Pipeline facility (including gathering lines) regulated under:

(1) The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, et seq.), or

(2) The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, et seq.), or

(3) Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to in *"d"*(1) or *"d"*(2) of this definition;

e. Surface impoundment, pit, pond, or lagoon;

f. Storm-water or wastewater collection system;

g. Flow-through process tank;

h. Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations; or

i. Storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

The term "underground storage tank" or "UST" does not include any pipes connected to any tank which is described in paragraphs *"a"* through *"j"* of this definition.

"Underground utility vault" means any constructed space accessible for inspection and maintenance associated with subsurface utilities.

"Unreasonable risk to public health and safety or the environment" means the Tier 1 levels for a Tier 1 site assessment, the applicable target level for a Tier 2 site assessment, and the applicable target level for a Tier 3 site assessment.

"Upgrade" means the addition or retrofit of some systems such as cathodic protection, lining, or spill and overfill controls to improve the ability of an underground storage tank system to prevent the release of product.

"UST system" or *"tank system"* means an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any.

"Utility envelope" means the backfill and trench used for any subsurface utility line, drainage system and tile line.

"Wastewater treatment tank" means a tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

"Water line" means a hollow cylinder or tubular conduit that routinely contains and conveys potable water and is constructed of nonearthen materials, including but not limited to asbestos-cement, copper, high-density polyethylene (HDPE), polybutylene, polyethylene, and wood. Such piping includes any elbows, couplings, unions, valves, or other in-line fixtures, as well as the gaskets, which contain and convey potable water.

"Water main pipe" means a main line to the water distribution system with feeder lines or service lines connected to it and which typically is 6 inches or greater in diameter, and includes its gaskets and other appurtenances.

[**ARC 7621B**, IAB 3/11/09, effective 4/15/09; **ARC 8124B**, IAB 9/9/09, effective 10/14/09; **ARC 9011B**, IAB 8/25/10, effective 9/29/10]

567—135.3(455B) UST systems—design, construction, installation and notification.

135.3(1) *Performance standards for new UST systems.* In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all owners and operators of new UST systems must meet the following requirements.

a. Tanks. Each tank must be properly designed and constructed, and any portion underground that routinely contains product must be protected from corrosion, in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:

(1) The tank is constructed of fiberglass-reinforced plastic; or

NOTE: The following industry codes may be used to comply with 135.3(1)*"a"*(1): Underwriters Laboratories Standard 1316, "Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products"; Underwriters Laboratories of Canada CAN4-S615-M83, "Standard for Reinforced Plastic Underground Tanks for Petroleum Products"; or American Society of Testing and Materials Standard D4021-86, "Standard Specification for Glass-Fiber-Reinforced Polyester Underground Petroleum Storage Tanks."

(2) The tank is constructed of steel and cathodically protected in the following manner:

1. The tank is coated with a suitable dielectric material;
2. Field-installed cathodic protection systems are designed by a corrosion expert;
3. Impressed current systems are designed to allow determination of current operating status as required in 135.4(2)*"c"*; and
4. Cathodic protection systems are operated and maintained in accordance with 135.4(2) or according to guidelines established by the department; or

NOTE: The following codes and standards may be used to comply with 135.3(1)*"a"*(2): Steel Tank Institute "Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks"; Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks"; Underwriters Laboratories of Canada CAN4-S603-M85, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," and CAN4-GO3.1-M85, "Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids," and CAN4-S631-M84, "Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems"; or National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and Underwriters Laboratories Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids."

(3) The tank is constructed of a steel-fiberglass-reinforced plastic composite; or

NOTE: The following industry codes may be used to comply with 135.3(1)*"a"*(3): Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks," or the Association for Composite Tanks ACT-100, "Specification for the Fabrication of FRP Clad Underground Storage Tanks."

(4) The tank is constructed of metal without additional corrosion protection measures provided that:

1. The tank is installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life; and
2. Owners and operators maintain records that demonstrate compliance with the requirements of 135.3(1)*"a"*(4)"1" for the remaining life of the tank; or

(5) The tank construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than 135.3(1)*"a"*(1) to (4).

b. Piping. The piping that routinely contains regulated substances and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:

(1) The piping is constructed of fiberglass-reinforced plastic; or

NOTE: The following codes and standards may be used to comply with 135.3(1)*"b"*(1): Underwriters Laboratories Subject 971, "UL Listed Non-Metal Pipe"; Underwriters Laboratories Standard 567, "Pipe Connectors for Flammable and Combustible and LP Gas"; Underwriters Laboratories of Canada Guide ULC-107, "Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids"; and Underwriters Laboratories of Canada Standard CAN 4-S633-M81, "Flexible Underground Hose Connectors."

(2) The piping is constructed of steel and cathodically protected in the following manner:

1. The piping is coated with a suitable dielectric material;

2. Field-installed cathodic protection systems are designed by a corrosion expert;

3. Impressed current systems are designed to allow determination of current operating status as required in 135.4(2)*"c"*; and

4. Cathodic protection systems are operated and maintained in accordance with 135.4(2) or guidelines established by the department; or

NOTE: The following codes and standards may be used to comply with 135.3(1)*"b"*(2): National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code"; American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage Systems"; American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems"; and National Association of Corrosion Engineers Standard RP-01-69, "Control of External Corrosion on Submerged Metallic Piping Systems."

(3) The piping is constructed of metal without additional corrosion protection measures provided that:

1. The piping is installed at a site that is determined by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operating life; and

2. Owners and operators maintain records that demonstrate compliance with the requirements of 135.3(1)*"b"*(3)"1" for the remaining life of the piping; or

NOTE: National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code"; and National Association of Corrosion Engineers Standard RP-01-69, "Control of External Corrosion on Submerged Metallic Piping Systems," may be used to comply with 135.3(1)*"b"*(3).

(4) The piping construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in 135.3(1)*"b"*(1) to (3).

c. Spill and overfill prevention equipment.

(1) Except as provided in subparagraph (2), to prevent spilling and overfilling associated with product transfer to the UST system, owners and operators must use the following spill and overfill prevention equipment:

1. Spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin); and

2. Overfill prevention equipment that will:

Automatically shut off flow into the tank when the tank is no more than 95 percent full; or

Alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level alarm; or

Restrict flow 30 minutes prior to overfilling, alert the operator with a high-level alarm one minute before overfilling, or automatically shut off the flow into the tank so that none of the fittings located on top of the tank are exposed to product due to overfilling.

(2) Owners and operators are not required to use the spill and overfill prevention equipment specified in subparagraph (1) if:

1. Alternative equipment is used that is determined by the department to be no less protective of human health and the environment than the equipment specified in subparagraph (1)"1" or "2" of this paragraph; or

2. The UST system is filled by transfers of no more than 25 gallons at one time.

d. Installation. All tanks and piping must be properly installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and in accordance with the manufacturer's instructions.

NOTE: Tank and piping system installation practices and procedures described in the following codes may be used to comply with the requirements of 135.3(1)*"d"*: American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage System"; Petroleum Equipment Institute Publication RP100, "Recommended Practices for Installation of Underground Liquid Storage Systems"; or American National Standards Institute Standard 831.3, "Petroleum Refinery Piping,"

and American National Standards Institute Standard 831.4, "Liquid Petroleum Transportation Piping System."

e. Certification of installation. All owners and operators must ensure that one or more of the following methods of certification, testing, or inspection is used to demonstrate compliance with paragraph *"d"* of this subrule by providing a certification of compliance on the UST notification form in accordance with 135.3(3).

(1) The installer has been certified by the tank and piping manufacturers; or

(2) The installer has been certified or licensed by the department as provided in 567—Chapter 134, Part C; or

(3) The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation; or

(4) The installation has been inspected and approved by an inspector certified or licensed by the Iowa comprehensive petroleum underground storage tank fund board; or

(5) All work listed in the manufacturer's installation checklists has been completed; or

(6) The owner and operator have complied with another method for ensuring compliance with paragraph *"d"* that is determined by the department to be no less protective of human health and the environment.

135.3(2) *Upgrading of existing UST systems.*

a. Alternatives allowed. Not later than December 22, 1998, all existing UST systems must comply with one of the following requirements:

(1) New UST system performance standards under 135.3(1);

(2) The upgrading requirements in paragraphs *"b"* through *"d"* below; or

(3) Closure requirements under rule 567—135.15(455B), including applicable requirements for corrective action under rules 567—135.7(455B) to 567—135.12(455B).

Replacement or upgrade of a tank system on a petroleum contaminated site classified as a high or low risk in accordance with subrule 135.12(455B) shall be a double wall tank or a tank equipped with a secondary containment system with monitoring of the space between the primary and secondary containment structures in accordance with 135.5(4)*"g"* or other approved tank system or methodology approved by the Iowa comprehensive petroleum underground storage tank fund board.

b. Tank upgrading requirements. Steel tanks must be upgraded to meet one of the following requirements in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory:

(1) *Interior lining.* A tank may be upgraded by internal lining if:

1. The lining is installed in accordance with the requirements of 135.4(4), and

2. Within ten years after lining, and every five years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.

(2) *Cathodic protection.* A tank may be upgraded by cathodic protection if the cathodic protection system meets the requirements of 135.3(1)*"a"*(2)"2," "3," and "4" and the integrity of the tank is ensured using one of the following methods:

1. The tank is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic protection system; or

2. The tank has been installed for less than ten years and is monitored monthly for releases in accordance with 135.5(4)*"d"* through *"h"*; or

3. The tank has been installed for less than ten years and is assessed for corrosion holes by conducting two tightness tests that meet the requirements of 135.5(4)*"c."* The first tightness test must be conducted prior to installing the cathodic protection system. The second tightness test must be conducted between three and six months following the first operation of the cathodic protection system; or

4. The tank is assessed for corrosion holes by a method that is determined by the department to prevent releases in a manner that is no less protective of human health and the environment than 135.3(2)*"b"*(2)"1" to "3."

(3) *Internal lining combined with cathodic protection.* A tank may be upgraded by both internal lining and cathodic protection if:

1. The lining is installed in accordance with the requirements of 135.4(4); and
2. The cathodic protection system meets the requirements of 135.3(1)*"a"*(2)"2," "3," and "4."

NOTE: The following codes and standards may be used to comply with subrule 135.3(2): American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks"; National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10-Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection"; National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems"; and American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems."

c. Piping upgrading requirements. Metal piping that routinely contains regulated substances and is in contact with the ground must be cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and must meet the requirements of 135.3(1)*"b"*(2)"2," "3," and "4."

NOTE: The codes and standards listed in the note following 135.3(1)*"b"*(2) may be used to comply with this requirement.

d. Spill and overfill prevention equipment. To prevent spilling and overfilling associated with product transfer to the UST system, all existing UST systems must comply with new UST system spill and overfill prevention equipment requirements specified in 135.3(1)*"c."*

135.3(3) *Notification requirements.*

a. Except as provided in 135.3(3)*"b,"* the owner of an underground storage tank existing on or before July 1, 1985, shall complete and submit to the department a copy of the notification form provided by the department by May 1, 1986.

b. The owner of an underground storage tank taken out of operation between January 1, 1974, and July 1, 1985, shall complete and submit to the department a copy of the notification form provided by the department by May 8, 1986, unless the owner knows the tank has been removed from the ground. For purposes of this subrule, "owner" means the person who owned the tank immediately before the discontinuation of the tank's use.

c. An owner or operator who brings into use an underground storage tank after July 1, 1985, shall complete and submit to the department a copy of the notification form provided by the department within 30 days of installing the tank in the ground. The owner or operator shall not allow the deposit of any regulated substance into the tank without prior approval of the department or until the tank has been issued a tank registration tag and is covered by an approved financial responsibility mechanism in accordance with 567—Chapter 136.

d. All owners and operators of new UST systems must certify in the notification form compliance with the following requirements:

(1) Installation of tanks and piping under 135.3(1)*"e"*;
(2) Cathodic protection of steel tanks and piping under 135.3(1)*"a"* and *"b"*;
(3) Financial responsibility under 567—Chapter 136, Iowa Administrative Code;
(4) Release detection under 135.5(2) and 135.5(3).

e. All owners and operators of new UST systems must ensure that the installer certifies in the notification form that the methods used to install the tanks and piping comply with the requirements in 135.3(1)*"d."*

f. Exemption from reporting requirement. Paragraphs *"a"* to *"c"* do not apply to an underground storage tank for which notice was given pursuant to Section 103, Subsection c, of the Comprehensive Environmental Response, Compensation and Liabilities Act of 1980. (42 U.S.C. Subsection 9603(c))

g. Reporting fee. The notice by the owner to the department under paragraphs *"a"* to *"c"* shall be accompanied by a fee of $10 for each tank included in the notice.

h. Notification requirement for installing a tank. A person installing an underground storage tank and the owner or operator of the underground storage tank must notify the department of their intent to install the tank 30 days prior to installation. Notification shall be on a form provided by the department.

i. Notification requirements for a person who sells, installs, modifies or repairs a tank. A person who sells, installs, modifies, or repairs a tank used or intended to be used in Iowa shall notify, in writing, the purchaser and the owner or operator of the tank of the obligations specified in paragraphs 135.3(3)*"c"* and *"j"* and the financial assurance requirements in 567—Chapter 136. The notification must include the prohibition on depositing a regulated substance into tanks which have not been registered and issued tags by the department. A standard notification form supplied by the department may be used to satisfy this requirement.

j. It is unlawful for a person to deposit or accept a regulated substance in an underground storage tank that has not been registered and issued permanent or annual tank management tags in accordance with rule 567—135.3(455B). It is unlawful for a person to deposit or accept a regulated substance into an underground storage tank if the person has received notice from the department that the underground storage tank is subject to a delivery prohibition or if there is a "red tag" attached to the UST fill pipe or fill pipe cap as provided in subrule 135.3(8).

(1) The department may provide written authorization to receive a regulated substance when there is a delay in receiving tank tags or at new tank installations to allow for testing the tank system.

(2) The department may provide known depositors of regulated substances lists of underground storage tank sites that have been issued tank tags, those that have not been issued tank tags, and those subject to a delivery prohibition pursuant to subrule 135.3(8). These lists do not remove the requirement for depositors to verify that current tank tags are affixed to the fill pipe prior to delivering product. Regulated substances cannot be delivered to underground storage tanks without current tank tags or those displaying a delivery prohibition "red tag" as provided in subrule 135.3(8).

(3) A person shall not deposit a regulated substance in an underground storage tank after receiving written or oral notice from the department that the tank is not covered by an approved form of financial responsibility in accordance with 567—Chapter 136.

k. If an owner or operator fails to register an underground storage tank within 30 days after installation or obtain annual renewal tags by April 1, the owner or operator shall pay an additional $250 upon registration of the tank or application for tank tag renewal. The imposition of this fee does not preclude the department from assessing an additional administrative penalty in accordance with Iowa Code section 455B.476.

135.3(4) *Farm and residential tanks.*

a. The owner or operator of a farm or residential tank of 1100 gallons or less capacity used for storing motor fuel for noncommercial purposes is subject to the requirements of this subrule.

b. Farm and residential tanks, installed before July 1, 1987, shall be reported on a notification form by July 1, 1989, but owners or operators are not required to pay a registration fee.

c. Farm and residential tanks that were installed on or after July 1, 1987, shall be in compliance with all the underground storage tank regulations.

135.3(5) *Registration tags and annual management fee.*

a. Tanks of 1100 gallons or less capacity that have registered with the department will be issued a permanent registration tag.

b. The owner or operator of tanks over 1100-gallon capacity must submit a tank management fee of $65 per tank by January 15 of each year. The owner or operator must also submit written proof that the tanks are covered by an approved form of financial responsibility in accordance with 567—Chapter 136. Upon proper payment of the fee and acceptable proof of financial responsibility, a one-year registration tag will then be issued for the period from April 1 to March 31. The department shall refund a tank management fee if the tank is permanently closed prior to the effective date of April 1 for that year.

c. The owner or operator shall affix the tag to the fill pipe of the underground storage tank where it will be readily visible.

d. A person who conveys or deposits a regulated substance shall inspect the underground storage tank to determine the existence or absence of a current registration tag, a current annual tank management

fee tag, or a delivery prohibition "red tag" as provided in subrule 135.3(8). If the tag is not affixed to the fill pipe or fill pipe cap or if a delivery prohibition "red tag" is displayed, the person shall not deposit the substance in the tank.

e. The owner or operator must return the tank tags upon request of the department for failure to meet the requirements of rules 567—135.3(455B) to 567—135.5(455B) or the financial responsibility rules in 567—Chapter 136 after permanent tank closure or when tanks are temporarily closed for over 12 months, or when the tank system is suspected to be leaking and the responsible party fails to respond as required in subrule 135.8(1). The department will not return the tags until the tank system is in full compliance with the technical requirements of this chapter and financial responsibility requirements of 567—Chapter 136.

135.3(6) *Petroleum underground storage tank registration amnesty program.*

a. A petroleum underground storage tank required to be registered under 135.3(3) and 135.3(4), which has not been registered prior to July 1, 1988, may be registered under the following conditions:

(1) The tank registration fee under 135.3(3)*"g"* shall accompany the registration.

(2) The storage tank management fee under 135.3(5) shall be paid for past years in which the tank should have been registered.

b. If a tank is registered under this subrule on or prior to October 1, 1989, penalties under Iowa Code section 455B.477 shall be waived.

135.3(7) *Exemption certificates from the environmental charge on petroleum diminution.*

a. An owner or operator of a petroleum underground storage tank that is exempt, deferred, or excluded from regulation under Iowa Code sections 455G.1 to 455G.17, can apply for an exemption certificate from the department to exempt a tank from the environmental charge on petroleum diminution. Exempted tanks include those listed in 135.1(3)*"b"* and *"c"* and those excluded in the definition of "underground storage tank" in 567—135.2(455B). Application for the exemption certificate shall be made on the form provided by the department.

b. An exemption certificate is not required for those classes of tanks that the Iowa comprehensive petroleum underground storage tank fund board has waived from the exemption certificate requirement.

c. The department shall revoke and require the return of the exemption certificate if the petroleum underground storage tank becomes subject to Iowa Code sections 455G.1 to 455G.17.

135.3(8) *Delivery prohibition process.*

a. Identifying sites subject to delivery response prohibition action.

(1) Annual registration tag and tank management fee process. Owners and operators shall certify to the following on a form prepared by the department when applying for annual tank tags pursuant to subrule 135.3(5):

1. Installation and performance of an approved UST and piping release detection method as provided in rule 567—135.5(455B), including an annual line tightness test and a line leak detector test if applicable.

2. Installation of an approved overfill and spill protection system as provided in paragraph 135.3(1)*"c."*

3. Installation of an approved corrosion protection system as provided in paragraphs 135.3(1)*"a"* and *"b."*

4. If the UST system has been out of operation for more than three months, that the UST system has been temporarily closed in accordance with rule 567—135.15(455B) and a certification of temporary closure has been submitted to the department.

5. If the UST system has been removed or filled in place within the last 12 months, the date of removal or filling in place and whether a closure report has been submitted as provided in rule 567—135.15(455B).

(2) Sites with provisional status. If the UST system has been classified as operating under provisional status as provided in paragraph 135.3(8)*"c,"* owners and operators when applying for annual tank tags pursuant to subrule 135.3(5) must certify on a form prepared by the department that the owners and operators are in compliance with an approved provisional status remedial plan as provided in paragraph 135.3(8)*"c."*

(3) Compliance inspections. The department may initiate a delivery prohibition response action based on: (1) a finding resulting from a third-party compliance inspection conducted pursuant to rule 567—135.20(455B); (2) a department investigation and inspection conducted pursuant to Iowa Code section 455B.475; or (3) review of a UST system check or other documentation submitted in response to a suspected release under rule 567—135.6(455B) or in response to a confirmed release under rule 567—135.7(455B).

b. Delivery prohibition eligibility criteria. A delivery prohibition response action may be initiated upon a finding that the UST system is out of compliance with department rules and meets the eligibility criteria as specified below. Reinstatement criteria define the standards and process for owners and operators to document that they have taken corrective action sufficient to authorize resumption of fuel to the USTs. Prior to initiation of the delivery prohibition, owners and operators are afforded a minimum level of procedural due process such as prior notice and the opportunity to present facts to dispute the finding. Where notice and the opportunity to take corrective action prior to initiation of a delivery prohibition response action are required, notice by the department or by a certified compliance inspector as provided in rule 567—135.20(455B) shall be sufficient.

If the department finds that any one of the following criteria has been satisfied, the department may initiate a delivery prohibition response action following the notice procedures outlined in paragraph *"e"* of this subrule. After initiation of the delivery prohibition response action, the department will offer the owner or operator an opportunity to establish reinstatement criteria by written documentation and, if requested, an in-person meeting.

(1) An approved release detection method for USTs or UST piping is not installed, such as automatic tank gauging, groundwater monitoring wells and line leak detectors, and there is no record that an approved method such as inventory control, statistical inventory reconciliation, or interstitial space monitoring has been employed during the previous three months. If the owner or operator claims to have documentation that an approved release detection method has been conducted, the owner or operator will be given two business days to produce the documentation.

REINSTATEMENT CRITERIA: The owner or operator must submit results of a passing UST system precision tightness test at the 0.1 gallon-per-hour leak rate in paragraphs 135.5(4)*"c"* and 135.5(5)*"b."* The owner or operator must also document installation and operation of an approved release detection system. This may include proof that a contract has been signed with a qualified statistical inventory reconciliation provider or that a qualified inventory control method has been implemented and training has been provided to onsite supervisory personnel.

(2) No documentation of a required annual line tightness test or line leak detector test has been provided, and the owner or operator has failed to conduct the required testing within 14 days of written notice by the department or a certified compliance inspector as provided in rule 567—135.20(455B).

REINSTATEMENT CRITERIA: The owner or operator must provide documentation of a passing line precision tightness test at the 0.1 gallon-per-hour leak rate in paragraph 135.5(5)*"b"* and a line leak detector test as provided in paragraph 135.5(5)*"a."*

(3) Overfill and spill protection is not installed.

REINSTATEMENT CRITERION: The owner or operator must provide documentation that overfill and spill protection equipment has been installed.

(4) A corrosion protection system is not installed or there is no record that an impressed current corrosion protection system has been in operation for the prior six months.

REINSTATEMENT CRITERIA: A manned entry tank integrity inspection must be completed prior to installation of a corrosion protection system, and the owner or operator must submit results of a passing UST system precision tightness test at the 0.1 gallon-per-hour leak rate in paragraphs 135.5(4)*"c"* and 135.5(5)*"b."* A corrosion protection analysis must be completed and approved by the department.

(5) The owner or operator has failed to provide proof of financial responsibility in accordance with 567—Chapter 136.

REINSTATEMENT CRITERION: The owner or operator must submit acceptable proof of financial responsibility in accordance with 567—Chapter 136.

(6) A qualified UST system release detection method is installed and is being used but the documentation or the absence of documentation is sufficient to question the reliability of the release detection over the past 12-month period. The owner or operator shall be notified of the deficiencies, shall be given at least two business days to produce documentation of compliance and, if necessary, shall be required to conduct a leak detection system analysis and a system tightness test within 14 days. If the owner or operator fails to produce documentation of compliance or to conduct the system analysis and the UST system precision tightness test at the 0.1 gallon-per-hour leak rate in paragraphs 135.5(4)*"c"* and 135.5(5)*"b,"* the department may initiate a delivery prohibition response action. Notice by the department or a compliance inspector as provided in rule 567—135.20(455B) shall be sufficient to initiate a delivery prohibition response action.

REINSTATEMENT CRITERIA: The owner or operator must submit documentation that the leak detection method analysis sufficiently documents compliance and explains the reasons for the accuracy and reliability concerns. If necessary, the owner or operator must submit passing results of a UST system precision tightness test at the 0.1 gallon-per-hour leak rate in paragraphs 135.5(4)*"c"* and 135.5(5)*"b."*

(7) The owner or operator has failed to document completion of a three-year corrosion protection test or to repair defective corrosion protection equipment within 30 days after notice of the violation by the department or a certified compliance inspector as provided in rule 567—135.20(455B).

REINSTATEMENT CRITERION: The owner or operator must submit documentation of a three-year corrosion protection test as provided in rule 567—135.3(455B).

(8) The owner or operator has failed to complete a compliance inspection required by rule 567—135.20(455B) within 60 days after written notice of the violation by the department.

REINSTATEMENT CRITERION: The owner or operator must submit a compliance inspection report as provided in rule 567—135.20(455B).

(9) The owner or operator has failed to take necessary abatement action in response to a confirmed release as provided in subrules 135.7(2) and 135.7(3).

REINSTATEMENT CRITERION: The owner or operator must document compliance with the abatement provisions in subrules 135.7(2) and 135.7(3).

(10) The owner or operator has failed to undertake and document release investigation and confirmation steps within seven days in response to a suspected release as provided in paragraph 135.6(3)*"a."*

REINSTATEMENT CRITERION: The owner or operator must document release confirmation and system check as provided in paragraph 135.6(3)*"a."*

c. Provisional status. The department may classify a UST system as operating under a provisional status when the department documents a pattern of UST operation and maintenance violations under rules 567—135.3(455B) through 567—135.5(455B) and suspected release and confirmed release response actions under rules 567—135.6(455B) and 567—135.7(455B). The department shall provide the owner or operator with a notice specifying the basis for the proposed classification and a proposed remedial action plan. The objective of the remedial action plan is to provide the owner and operator an opportunity to undertake certain remedial actions sufficient to establish a reasonable likelihood that future regulatory compliance will be achieved.

The remedial action plan may include but is not limited to provisions for owner/operator training, development of a facility-specific compliance manual, more frequent third-party compliance inspections than otherwise required under rule 567—135.20(455B), monthly reporting, and retention of a third-party compliance manager/consultant. If the owner or operator and the department cannot reach agreement on a remedial action plan, the department may initiate enforcement action by issuance of an administrative order pursuant to 567—Chapter 10. This provision does not grant the owner or operator an entitlement to this procedure, and the department reserves all discretion to undertake an enforcement action and assess penalties as provided in Iowa Code sections 455B.476 and 455B.477.

d. Administrative orders. The department may impose a delivery prohibition as a remedy for violations of the operation and maintenance provisions in rules 567—135.3(455B) through 567—135.5(455B) and the suspected and confirmed release response actions in rules 567—135.6(455B)

and 567—135.7(455B). This remedy may be in addition to the assessment of penalties as provided in Iowa Code section 455B.476 and other appropriate injunctive relief necessary to correct violations.

e. Due process prior to initiation of a delivery prohibition response action.

(1) Prior to imposing a delivery prohibition response action under paragraph 135.3(8)*"b"* above, the department will provide notice to the owner or operator or, if notice to the owner or operator cannot be confirmed, to a person in charge at the UST facility of the basis for the finding and the intent to initiate a delivery prohibition response action. Notice may be by verbal contact, by facsimile, or by regular or certified mail to the UST facility address or the owner's or operator's last-known address. The owner and operator will be given a minimum of one business day to provide documentation that the finding is inaccurate or that reinstatement criteria in subparagraphs 135.3(8)*"b"*(1) through (5) have been satisfied. Additional days and the opportunity for a telephone or in-person conference may be provided the owner and operator to contest the factual basis for a finding under subparagraphs 135.3(8)*"b"*(6) through (10). Additional procedural due process may be afforded the owner and operator on a case-by-case basis sufficient to satisfy Constitutional due process standards.

If insufficient information is submitted to change the finding, the department will notify the owner or operator and a person in charge at the UST facility of the final decision to impose the delivery prohibition response action.

(2) Provisional status. Upon a finding that an owner or operator under provisional status has failed to comply with the terms of a remedial action plan as provided above, the department may initiate a delivery prohibition response action by giving actual notice to the owner or operator of the basis for the finding of noncompliance and the department's intent to initiate a delivery prohibition response action. The delivery prohibition response action shall not be imposed without providing the owner or operator the opportunity for an evidentiary hearing consistent with the provisions for suspension and revocation of licenses under 567—Chapter 7.

f. Delivery prohibition procedure. Upon oral or written notice that the delivery prohibition response action has been imposed, the owner or operator and any person in charge of the UST facility shall be notified that they are not authorized to receive any further delivery of regulated substances until conditions for reinstatement of eligibility are satisfied. Owners and operators are required to immediately remove and return to the department the current annual tank management fee tags or the tank registration tags if there are no tank management fee tags. Owners and operators are required to provide the department with names and contact information for all persons who convey or deposit regulated substances to the USTs. The department will attempt to notify known persons who convey or deposit regulated substances to the USTs that they are not authorized to deliver to the USTs until further notice by the department as provided in paragraph 135.3(3)*"j"* and subrule 135.3(5).

If the tank tags are not returned within three business days, the department shall visit the site, remove the tags, and affix a "red tag" to the fill pipes or fill pipe caps of all affected USTs. It is unlawful for any person to deposit or accept a regulated substance into a UST that has a "red tag" affixed to the fill pipe or fill pipe cap. The department may allow the owner and operator to dispense and sell the remainder of existing fuel unless the department determines there is an immediate risk of a release or other risk to human health, safety or the environment. The department shall confirm in writing the basis for the delivery prohibition response action, contacts made prior to the action, and steps the owner or operator must take to reinstate fuel delivery.

135.3(9) *Secondary containment requirements for new and replacement UST system installations.* All new and replacement underground storage tank systems and appurtenances used for the storage and dispensing of petroleum products installed after November 28, 2007, shall have secondary containment in accordance with this subrule. The secondary containment provision includes the installation of turbine sumps, transition or intermediate sumps and under-dispenser containment (UDC).

a. The secondary containment may be manufactured as an integral part of the primary containment or constructed as a separate containment system.

b. Installation of any new or replacement turbine pumps involving the direct connection to the tank shall have secondary containment.

c. Any replacement of ten feet or more of piping shall have secondary containment.

d. All piping replacements requiring secondary containment shall be constructed with transition or intermediate containment sumps.

e. The design and construction of all primary and secondary containment shall meet the performance standards in subrule 135.3(1) and paragraphs 135.5(3)*"b"* and 135.5(4)*"g."* At a minimum, the secondary containment must:

(1) Contain regulated substances released from the tank system until detected and removed;

(2) Prevent the release of regulated substances into the environment at any time during the operational life of the underground storage tank system; and

(3) Be checked for evidence of a release at least every 30 days as provided in paragraph 135.5(2)*"a."*

f. Secondary containment with interstitial monitoring in accordance with paragraphs 135.5(3)*"b,"*135.5(4)*"g"* and 135.5(5)*"d"* shall become the primary method of leak detection for all new and replacement tanks and piping installed after November 28, 2007.

g. Testing and inspection. Secondary containment systems shall be liquid-tight and must be inspected and tested every two years. The sensing devices must be tested every two years.

(1) Inspections for secondary containment sumps (spill catchment basins, turbine sumps, transition or intermediate sumps, and under-dispenser containment) shall:

1. Consist of a visual inspection by an Iowa-licensed installer or Iowa-certified inspector every two years. Sumps must be intact (no cracks or perforations) and liquid-tight, including sides and bottom.

2. Sumps must be maintained and kept free of debris, liquid and ice at all times.

3. Regulated substances spilled into any spill catchment basin, turbine sump, transition/intermediate sump or under-dispenser containment shall be immediately removed.

(2) Sensing devices used to monitor the interstitial space shall be tested at least every two years for proper function.

h. Under-dispenser containment. When installing a new motor fuel dispenser or replacing a motor fuel dispenser, a UDC shall be installed whenever:

(1) A motor fuel dispenser is installed at a location where there previously was no dispenser (new UST system or new dispenser location at an existing UST system); or

(2) An existing motor fuel dispenser is removed and replaced with another dispenser and the equipment used to connect the dispenser to the underground storage tank system is replaced. This equipment includes flexible connectors or risers or other transitional components that are beneath the dispenser and connect the dispenser to the piping. A UDC is not required when only the emergency shutoff or shear valves or check valves are replaced.

(3) A UDC shall also be installed beneath the motor fuel dispenser whenever ten feet or more of piping is repaired or replaced within ten feet of a motor fuel dispenser.

i. Exceptions from secondary containment standards. A tank owner or operator may request an exception from the secondary containment standard if the location of the UST system is greater than 1,000 feet from a community water system or potable drinking water well. A community water system includes the distribution piping.

(1) "Community water system (CWS)" means a public water system which has at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. "Public water supply system" means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Such term includes: any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Such term does not include any "special irrigation district." A "public water supply system" is either a "community water system" or a "noncommunity water system."

(2) "Potable drinking water well" means any hole (dug, driven, drilled, or bored) that extends into the earth until it meets groundwater and that supplies water for a noncommunity public water

system or supplies water for household use (consisting of drinking, bathing, and cooking or other similar uses). Such wells may provide water to entities such as a single-family residence, a group of residences, businesses, schools, parks, campgrounds, and other permanent or seasonal communities. A "noncommunity water system" is defined in rule 567—40.2(455B) as a public water system that is not a community water system. A "noncommunity water system" is either a "transient noncommunity water system (TNC)" or a "nontransient noncommunity water system (NTNC)."

(3) To determine if a new or replacement underground storage tank, piping, or motor fuel dispenser system is within 1,000 feet of an existing community water system or an existing potable drinking water well, at a minimum the distance must be measured from the closest part of the new or replacement underground storage tank or piping or the motor fuel dispenser system to:

1. The closest part of the nearest existing community water system, including:

- The location of the wellhead(s) for groundwater and the location of the intake point(s) for surface water;
- Water lines, processing tanks, and water storage tanks; and
- Water distribution/service lines under the control of the community water system operator.

2. The wellhead of the nearest existing potable drinking water well.

(4) If a new or replacement underground storage tank, piping, or motor fuel dispenser that is not within 1,000 feet of an existing community water system will be installed, and a community water system that will be within 1,000 feet of the UST system is planned or a permit application has been submitted to the department under 567—Chapter 40, secondary containment and under-dispenser containment are required unless the permit is denied.

(5) If a new or replacement underground storage tank, piping, or motor fuel dispenser that is not within 1,000 feet of an existing potable drinking water well will be installed and the owner will be installing a potable drinking water well at the new facility, or a private water well permit has been submitted pursuant to 567—Chapter 38 and pursuant to applicable county and municipal ordinances for a potable drinking water well that will be within 1,000 feet of the UST system, secondary containment and under-dispenser containment are required unless the permit is denied.

j. Documentation for exception from secondary containment. The following documentation must be provided by the tank owner or operator when requesting an exception from the UST system secondary containment requirement.

(1) A statement from the manager of the local community water system that the community water system is not located or planned within 1,000 feet of the UST system location. This would include rural water systems.

(2) A map showing homes and businesses within 1,000 feet of the UST system location.

(3) Identification of the source of water for the business at the UST system location.

(4) The results of an on-foot search around businesses and homes within a 1,000-foot radius for possible potable drinking water wells. Documentation that there are no pending nonpublic water well permit applications within 1,000 feet of the UST system from any applicable municipal permitting authority, county department of health with department-delegated authority, or the department if there is not delegated permitting authority.

(5) Search results from the Geographic Information System (GIS) well mapping for well locations available from the Iowa Geological Survey.

(6) Documentation that the department's water supply section has no pending applications for a public water supply construction permit within 1,000 feet of a proposed UST system installation or replacement or motor fuel dispenser installation or replacement.

567—135.4(455B) General operating requirements.

135.4(1) *Spill and overfill control.*

a. Owners and operators must ensure that releases due to spilling or overfilling do not occur. The owner and operator must ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.

NOTE: The transfer procedures described in National Fire Protection Association Publication 385 may be used to comply with 135.4(1)*"a."* Further guidance on spill and overfill prevention appears in American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," and National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code."

b. The owner and operator must report, investigate, and clean up any spills and overfills in accordance with 135.6(4).

135.4(2) *Operation and maintenance of corrosion protection.* All owners and operators of steel UST systems with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented for as long as the UST system is used to store regulated substances:

a. All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain regulated substances and are in contact with the ground.

b. All UST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirements:

(1) *Frequency.* All cathodic protection systems must be tested within six months of installation and at least every three years thereafter or according to another reasonable time frame established by the department; and

(2) *Inspection criteria.* The criteria that are used to determine that cathodic protection is adequate as required by this subrule must be in accordance with a code of practice developed by a nationally recognized association.

NOTE: National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," may be used to comply with 135.4(2)*"b"*(2).

c. UST systems with impressed current cathodic protection systems must also be inspected every 60 days to ensure the equipment is running properly.

d. For UST systems using cathodic protection, records of the operation of the cathodic protection must be maintained (in accordance with 135.4(5)) to demonstrate compliance with the performance standards in this subrule. These records must provide the following:

(1) The results of the last three inspections required in paragraph *"c"*; and

(2) The results of testing from the last two inspections required in paragraph *"b."*

135.4(3) *Compatibility.* Owners and operators must use a UST system made of or lined with materials that are compatible with the substance stored in the UST system.

NOTE: Owners and operators storing alcohol blends may use the following codes to comply with the requirements of subrule 135.4(3): American Petroleum Institute Publication 1626, "Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations"; and American Petroleum Institute Publication 1627, "Storage and Handling of Gasoline-Methanol/Cosolvent Blends at Distribution Terminals and Service Stations."

135.4(4) *Repairs allowed.* Owners and operators of UST systems must ensure that repairs will prevent releases due to structural failure or corrosion as long as the UST system is used to store regulated substances. The repairs must meet the following requirements:

a. Repairs to UST systems must be properly conducted in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.

NOTE: The following codes and standards may be used to comply with 135.4(4)*"a"*: National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code"; American Petroleum Institute Publication 2200, "Repairing Crude Oil, Liquified Petroleum Gas, and Product Pipelines"; American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks"; and National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection."

b. Repairs to fiberglass-reinforced plastic tanks may be made by the manufacturer's authorized representatives or in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.

c. Metal pipe sections and fittings that have released product as a result of corrosion or other damage must be replaced. Fiberglass pipes and fittings may be repaired in accordance with the manufacturer's specifications.

d. Repaired tanks and piping must be tightness tested in accordance with 135.5(4)*"c"* and 135.5(5)*"b"* within 30 days following the date of the completion of the repair except as provided in subparagraphs (1) to (3) below:

(1) The repaired tank is internally inspected in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory; or

(2) The repaired portion of the UST system is monitored monthly for releases in accordance with a method specified in 135.5(4)*"d"* through *"h"*; or

(3) Another test method is used that is determined by the department to be no less protective of human health and the environment than those listed above.

e. Within six months following the repair of any cathodically protected UST system, the cathodic protection system must be tested in accordance with 135.4(2)*"b"* and *"c"* to ensure that it is operating properly.

f. UST system owners and operators must maintain records of each repair for the remaining operating life of the UST system that demonstrate compliance with the requirements of this subrule.

135.4(5) *Reporting and record keeping.* Owners and operators of UST systems must cooperate fully with inspections, monitoring and testing conducted by the department, as well as requests for document submission, testing, and monitoring by the owner or operator pursuant to Section 9005 of Subtitle I of the Resource Conservation and Recovery Act, as amended.

a. Reporting. Owners and operators must submit the following information to the department:

(1) Notification for all UST systems (135.3(3)), which includes certification of installation for new UST systems (135.3(1)*"e"*);

(2) Reports of all releases including suspected releases (135.6(1)), spills and overfills (135.6(4)), and confirmed releases (135.7(2));

(3) Corrective actions planned or taken including initial abatement measures (135.7(3)), initial site characterization (567—135.9(455B)), free product removal (135.7(5)), investigation of soil and groundwater cleanup and corrective action plan (567—135.8(455B) to 567—135.12(455B)); and

(4) A notification before permanent closure or change-in-service (135.15(2)).

b. Record keeping. Owners and operators must maintain the following information:

(1) A corrosion expert's analysis of site corrosion potential if corrosion protection equipment is not used (135.3(1)*"a"*(4); (135.3(1)*"b"*(3)).

(2) Documentation of operation of corrosion protection equipment (135.4(2));

(3) Documentation of UST system repairs (135.4(4)*"f"*);

(4) Recent compliance with release detection requirements (135.5(6)); and

(5) Results of the site investigation conducted at permanent closure (135.15(5)).

c. Availability and maintenance of records. Owners and operators must keep the records required either:

(1) At the UST site and immediately available for inspection by the department; or

(2) At a readily available alternative site and be provided for inspection to the department upon request.

NOTE: In the case of permanent closure records required under 135.15(5), owners and operators are also provided with the additional alternative of mailing closure records to the department if they cannot be kept at the site or an alternative site as indicated above.

135.4(6) *Training required for UST operators.*

a. An owner or operator shall designate Class A, Class B, and Class C operators for each underground storage tank system or facility that has underground storage tanks regulated by the department, except for unstaffed facilities, which may designate only Class A and Class B operators.

b. A facility may not operate after December 31, 2011, unless operators have been designated and trained as required in this rule, or unless otherwise agreed upon by the department based on a finding of good cause for failure to meet this requirement and a plan for designation and training at the earliest practicable date.

c. Trained operators must be readily available to respond to suspected or confirmed releases, equipment shut-offs or failures, and other unusual operating conditions.

d. A Class A or Class B operator should be immediately available for telephone consultation with the Class C operator when a facility is in operation. Class A or Class B operators should be able to be on site at the storage tank facility within four hours.

e. For staffed facilities, a Class C operator must be on site whenever the UST facility is in operation.

f. For unstaffed facilities, a Class B operator must be geographically located such that the person can be on site within two hours of being contacted by the public, the owner or operator of the facility, or the department. Emergency contact information and emergency procedures must be prominently displayed at the site. An unstaffed facility shall have an emergency shutoff device as provided in 135.5(1) and a sign posted in a conspicuous place that includes the name and telephone number of the facility owner, an emergency response telephone number to contact the Class B operator, and information on local emergency responders.

g. Designated operators must successfully complete required training under subrule 135.4(9) no later than December 31, 2011.

h. A person may be designated for more than one class of operator.

i. When a facility is found to be out of compliance, the department may require the owner and operator to retrain the designated UST system Class A, B, or C operator under a plan approved by the department. The retraining must occur within 60 days from departmental notice for Class A and Class B operators and within 15 days for Class C operators.

135.4(7) *UST operator responsibilities.*

a. Class A operator.

(1) Class A operators have the primary responsibility to operate and maintain the underground storage tank system and facility. The Class A operator's responsibilities include managing resources and personnel to achieve and maintain compliance with regulatory requirements under this chapter in the following ways:

1. Class A operators assist the owner by ensuring that underground storage tank systems are properly installed and expeditiously repaired and inspected; financial responsibility is maintained; and records of system installation, modification, inspection and repair are retained and made available to the department and licensed compliance inspectors. The Class A operator shall properly respond to and report emergencies caused by releases or spills from UST systems, ensure that the annual tank management fees are paid, and ensure that Class B and Class C operators are properly trained.

2. Class A operators shall be familiar with training requirements for each class of operator and may provide required training for Class C operators.

3. Class A operators shall provide site drawings that indicate equipment locations for Class B and Class C operators.

(2) Department-licensed installers, installation inspectors, and compliance inspectors may perform Class A operator duties when employed or contracted by the tank owner to perform these functions so long as they are properly trained and designated as Class A operators pursuant to subrules 135.4(9) through 135.4(11). Class A operators who are also licensed compliance inspectors under 567—Chapter 134, Part C, may perform in-house facility inspections of the UST system, but shall not perform department-mandated compliance inspections pursuant to rule 567—135.20(455B). Compliance inspections of a UST facility required by rule 567—135.20(455B) must be completed by a third-party compliance inspector licensed under 567—Chapter 134, Part B.

(3) When there is a change in ownership or operator status, the new owner or operator is responsible for designating a Class A operator prior to bringing the UST system into operation. The Class A operator is responsible for ensuring that all necessary documentation for change of ownership is completed and

submitted to the department and that all compliance requirements of this chapter are satisfied prior to bringing the UST system into operation. The compliance requirements may be provided to the owner or operator using the department's checklist.

If the UST system was temporarily closed, the designated Class A operator must ensure the department's checklist for returning a UST into service is followed, all compliance requirements of this chapter have been met, and the necessary documentation is submitted to the department.

(4) When there is a change in UST ownership, property ownership or operator status, the designated Class A operator for the current owner and operator is responsible for notifying the department when the change is final and, if possible, prior to the new owner or operator taking possession of the site.

b. Class B operator.

(1) A Class B operator implements applicable underground storage tank regulatory requirements and standards in the field or at the tank facility. A Class B operator oversees and implements the day-to-day aspects of operation, maintenance, and record keeping for the underground storage tanks at facilities within four hours of travel time from the Class B operator's principal place of business. A Class B operator's responsibilities include, but are not limited to:

1. Performing mandated system tests at required intervals and making sure spill prevention, overfill control equipment, and corrosion protection equipment are properly functioning.
2. Assisting the owner by ensuring that release detection equipment is operational, release detection monitoring and tests are performed at the proper intervals, and release detection records are retained and made available to the department and compliance inspectors.
3. Making sure record-keeping and reporting requirements are met and that relevant equipment manufacturers' or third-party performance standards are available and followed.
4. Properly responding to, investigating, and reporting emergencies caused by releases or spills from USTs.
5. Performing UST release detection in accordance with rule 567—135.5(455B).
6. Monitoring the status of UST release detection.
7. Meeting spill prevention, overfill prevention, and corrosion protection requirements.
8. Reporting suspected and confirmed releases and taking release prevention and response actions according to the requirements of rule 567—135.6(455B).
9. Training and documenting Class C operators to make sure at least one Class C operator is on site during operating hours. Class B operators shall be familiar with Class C operator responsibilities and may provide required training for Class C operators.

(2) Department-licensed installers, installation inspectors, and compliance inspectors may perform Class B operator duties when employed or contracted by the tank owner to perform these functions so long as they are properly trained and designated as Class B operators under subrules 135.4(9) through 135.4(11). Class B operators who are also licensed compliance inspectors under 567—Chapter 134, Part C, may perform in-house facility inspections of the UST system, but cannot perform department-mandated compliance inspections pursuant to rule 567—135.20(455B). Compliance inspections of a UST facility pursuant to rule 567—135.20(455B) must be completed by a third-party compliance inspector licensed under 567—Chapter 134, Part B.

(3) The owner or operator of a site undergoing a change in ownership shall designate a Class B operator prior to bringing the UST system into operation. The Class B operator must conduct an inspection using the department's inspection checklist and submit the completed checklist along with the change of ownership form prior to operation. If a UST system was temporarily closed, the Class B operator shall ensure that the department's checklist for returning a UST to service is followed and that the necessary documentation is submitted to the department prior to operation of the UST system.

c. Class C operator. A Class C operator is an on-site employee who typically controls or monitors the dispensing or sale of regulated substances and is the first to respond to events indicating emergency conditions. A Class C operator must be present at the facility at all times during normal operating hours. A Class C operator monitors product transfer operations to ensure that spills and overfills do not occur. The Class C operator must know how to properly respond to spills, overfills and alarms when they do

occur. In the event of a spill, overfill or alarm, a Class C operator shall notify the Class A and Class B operators, as well as the department and appropriate local emergency authorities as required by rule.

(1) Within six months after October 14, 2009, written basic operating instructions, emergency contact names and telephone numbers, and basic procedures specific to the facility shall be provided to all Class C operators and readily available on site.

(2) There may be more than one Class C operator at a storage tank facility, but not all employees of a facility need be Class C operators.

135.4(8) *UST operator training course requirements.* Individuals must attend a department-approved training course covering material designated for each operator class. Individuals must attend every session of the training, take the examination, and attend examination review.

a. Class A operators. To be certified as a Class A operator, the applicant must successfully complete a department-approved training course that covers underground storage tank system requirements as outlined in 567—Chapters 134 to 136. The course must also provide a general overview of the department's UST program, purpose, groundwater protection goals, public safety and administrative requirements. The training must include, but is not limited to, the following:

(1) Components and materials of underground storage tank systems.

(2) A general discussion of the content of PEI/RP900-08, Recommended Practices for the Inspection and Maintenance of UST Systems, and PEI/RP500, Recommended Practices for Inspection and Maintenance of Motor Fuel Dispensing Equipment.

(3) Spill and overfill prevention, to include the American Petroleum Institute (API) Publication RP1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," and National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code."

(4) Ensuring product delivery to the correct tank by using color-symbol codes in the API Standard RP1637, "Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Service Stations and Distribution Terminals."

(5) Proper fuel ordering and delivery, including procedures in API RP1007, "Loading and Unloading of MC/DOT 406 Cargo Tank Motor Vehicles."

(6) Release detection methods and related reporting requirements.

(7) Corrosion protection and inspection requirements, including the requirement to have a department-licensed cathodic protection tester.

(8) Discussion of the benefits of monthly or frequent inspections and content and use of inspection checklists. Training materials for operators shall include the department's "Iowa UST Operator Inspection Checklist" or a checklist template similar to the department's document.

(9) Requirement and content of third-party compliance inspections.

(10) How to properly respond to an emergency, including hazardous conditions.

(11) Product and equipment compatibility, including the department's ethanol compatibility guidance and certification.

(12) Financial responsibility, including detailed explanation of liability, notice and claim procedures, and the six-month window to check for and report a release prior to insurance termination to maintain coverage for corrective action.

(13) Notification of installation and storage tank registration requirements.

(14) Requirement to use department-licensed companies and individuals for UST installation, testing, lining, and removal.

(15) Temporary and permanent closure procedures and requirements.

(16) NESHAP vapor recovery requirements.

(17) Conditions under which the department may stop fuel delivery and take enforcement action.

(18) Ensuring that annual tank management fees are paid.

(19) Ensuring that suspected and confirmed releases are investigated and reported according to subrule 135.6(1).

b. Class B operators. To be certified as a Class B operator, the individual must successfully complete a department-approved training course that provides in-depth understanding of UST system regulations applicable to this class. Training must also provide a general overview of the department's

UST program, purpose, groundwater protection goals, public safety and administrative requirements. Training shall cover the operation and maintenance requirements set forth in this chapter, including, but not limited to, the following:

(1) A general discussion of the content of PEI/RP900-08, Recommended Practices for the Inspection and Maintenance of UST Systems, and PEI/RP500, Recommended Practices for Inspection and Maintenance of Motor Fuel Dispensing Equipment.

(2) Components and materials of underground storage tank systems.

(3) Spill and overfill prevention.

(4) Ensuring product delivery to the correct tank by using color-symbol codes in the API Standard RP1637.

(5) Proper fuel ordering and delivery, including procedures from API RP1007.

(6) Methods of release detection and related reporting requirements.

(7) Corrosion protection and related testing.

(8) Discussion of the benefits of monthly or frequent inspections and content and use of inspection checklists. Training materials for operators shall include the department's "Iowa UST Operator Inspection Checklist" or a checklist template similar to the department's document.

(9) Requirement and content of third-party compliance inspections.

(10) Emergency response, reporting and investigating releases.

(11) Product and equipment compatibility, including the department's ethanol compatibility guidance and certification.

(12) Financial responsibility, including detailed explanation of liability, notice and claim procedures, and the six-month window to check for and report a release prior to insurance termination to maintain coverage for corrective action.

(13) Notification of installation and storage tank registration requirements.

(14) Requirement to use department-licensed companies and individuals for UST installation, testing, lining, and removal.

(15) Reporting and record-keeping requirements.

(16) Overview of Class C operator training requirements.

(17) NESHAP vapor recovery requirements.

(18) Conditions under which the department may stop fuel delivery and take enforcement action.

c. Class C operators. To be certified as a Class C operator, an individual must complete a department-approved training course that covers, at a minimum, a general overview of the department's UST program and purpose; groundwater protection goals; public safety and administrative requirements; and action to be taken in response to an emergency condition due to a spill or release from a UST system. Training must include written procedures for the Class C operator, including notification instructions necessary in the event of emergency conditions. The written instructions and procedures must be readily available on site. A Class A or Class B operator may provide Class C training.

135.4(9) *Examination and review requirement.* Class A and Class B operators must complete the department-approved training course and take an examination to verify their understanding and knowledge. The examination may include both written and practical (hands-on) testing activities. The trainer must follow up the examination with a review of missed test questions with the class or individual to ensure understanding of problem areas. Upon successful completion of the training course, the applicant will receive a certificate verifying the applicant's status as a Class A, Class B, or Class C operator.

a. Reciprocity. The department may waive the training course for operators upon a showing of successful completion of a training course and examination approved by another state or regulatory agency that the department determines are substantially equivalent to the UST requirements contained in this chapter.

b. Transferability to another UST site. Class A and Class B operators may transfer to other UST facilities in Iowa provided the operator is properly designated by the facility owner as a Class A or Class B operator according to 567—subrule 134.4(13). Class A and Class B operators transferring from other

states shall seek prior approval of training qualifications, unless the department has preapproved the out-of-state program as substantially equivalent to the requirements of this chapter.

135.4(10) *Timing of UST operator training.*

a. An owner shall ensure that Class A, Class B, and Class C operators are trained as soon as practicable after October 14, 2009, contingent upon availability of approved training providers, but not later than December 31, 2011, except as provided in paragraph 135.4(6)*"b."*

b. When a Class A or Class B operator is replaced, a new operator must be trained prior to assuming duties for that class of operator.

c. Class C operators must be trained before assuming the duties of a Class C operator. Within six months after October 14, 2009, written basic operating instructions, emergency contact names and telephone numbers, and basic procedures specific to the facility shall be provided to all Class C operators and readily available on site. A Class C operator may be briefed on these procedures concurrent with annual safety training required under Occupational Safety and Health Administration regulations, 29 CFR, Part 1910.

135.4(11) *Documentation of operator training.*

a. The owner of an underground storage tank facility shall maintain a list of designated operators. The list shall be made available to the department in accordance with subrule 135.4(5). The list shall represent the current Class A, Class B and Class C operators for the UST facility and must include:

(1) The name of each operator and the operator's class(es); contact information for Class A and Class B operators; the date each operator successfully completed initial training and refresher training, if any; the name of the company providing the training; and the name of the trainer.

(2) For all classes of operators, the site(s) for which an operator is responsible if more than one site.

b. A copy of the certificates of training for Class A and Class B operators shall be on file and readily available for inspection in accordance with subrule 135.4(5).

c. A copy of the certificates of training for Class B and Class C operators shall be available at each facility for which the operator is responsible.

d. Class A and Class B operator contact information, including names and telephone numbers and any emergency information, shall be conspicuously posted at unstaffed facilities near the dispensers and the station building.

[**ARC 8124B**, IAB 9/9/09, effective 10/14/09]

567—135.5(455B) Release detection.

135.5(1) *General requirements for all UST systems.*

a. Owners and operators of new and existing UST systems must provide a method, or combination of methods, of release detection that:

(1) Can detect a release from any portion of the tank and the connected underground piping that routinely contains product;

(2) Is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition; and

(3) Meets the performance requirements in 135.5(4) or 135.5(5), with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. In addition, methods conducted in accordance with 135.5(4)*"b," "c,"* and *"d"* and 135.5(5)*"b"* after December 22, 1990, and 135.5(5)*"a"* after September 22, 1991, except for methods permanently installed prior to those dates, must be capable of detecting the leak rate or quantity specified for that method with a probability of detection of 0.95 and a probability of false alarm of 0.05.

b. When a release detection method operated in accordance with the performance standards in 135.5(4) and 135.5(5) indicates a release may have occurred, owners and operators must notify the department in accordance with rule 567—135.6(455B).

c. Owners and operators of all UST systems must comply with the release detection requirements of this rule by December 22 of the year listed in the following table:

Scheduled for Phase-in of Release Detection					
Year System Was Installed	Year When Release Detection is Required (by December 22 of the Year Indicated)				
	1989	1990	1991	1992	1993
Before 1965 or Date Unknown	RD	P			
1965-1969		P/RD			
1970-1974		P	RD		
1975-1979		P		RD	
1980-1988		P			RD
New Tanks	Immediately upon installation				

P = Must begin release detection for all pressurized piping in accordance with 135.5(2)*"b"*(1).

RD = Must begin release detection for tanks and suction piping in accordance with 135.5(2)*"a,"* 135.5(2)*"b"*(2), and 135.5(3).

d. Any existing UST system that cannot apply a method of release detection that complies with the requirements of this rule must complete the closure procedures in rule 567—135.15(455B) by the date on which release detection is required for that UST system under paragraph *"c."*

e. **[See Objection at end of chapter]** UST systems using pressurized piping that operate with no on-site personnel shall comply with the following requirements:

(1) Whenever an in-line leak detector is installed or replaced, it must be capable of shutting down the submersible pump.

(2) Existing sites with an in-line leak detection system in place on February 17, 2010, may continue operation provided that, by January 1, 2013, either of the following UST system modifications is made:

1. An in-line leak detector capable of shutting off the submersible pump is installed; or

2. The UST system is equipped with a device that immediately alerts the Class B operator or designee when a leak is detected. The Class B operator or designee shall be on site within two hours of notification and shut down the submersible pump. The UST system cannot be returned to service until the problem that caused the release response is resolved.

3. A temporary extension of time to meet these upgrade requirements may be granted if it can be shown that there is no reasonable alternative fueling source in the vicinity or fueling is needed to satisfy emergency or public safety considerations. The request for temporary extension must include documentation and a plan for upgrading prior to January 1, 2013.

(3) At sites with secondary containment sumps and continuous automatic sump sensors for leak detection monitoring, the continuous automatic sump sensors must shut off product flow when a leak is detected. If it is determined that a malfunction of the leak detection system is the cause of the shutdown, the UST system must be immediately repaired but may continue to be operated while the repairs are made.

135.5(2) *Requirements for petroleum UST systems.* Owners and operators of petroleum UST systems must provide release detection for tanks and piping as follows:

a. Tanks. Tanks must be monitored at least every 30 days for releases using one of the methods listed in 135.5(4)*"d"* to *"h"* except that:

(1) UST systems that meet the performance standards in 135.3(1) or 135.3(2), and the monthly inventory control requirements in 135.5(4)*"a"* or *"b,"* may use tank tightness testing (conducted in accordance with 135.5(4)*"c"*) at least every five years until December 22, 1998, or until ten years after the tank is installed or upgraded under 135.3(2)*"b,"* whichever is later;

(2) UST systems that do not meet the performance standards in 135.3(1) or 135.3(2) may use monthly inventory controls (conducted in accordance with 135.5(4)*"a"* or *"b"*) and annual tank tightness testing (conducted in accordance with 135.5(4)*"c"*) until December 22, 1998, when the tank must be upgraded under 135.3(2) or permanently closed under 135.15(2); and

(3) Tanks with capacity of 550 gallons or less may use weekly tank gauging (conducted in accordance with 135.5(4)*"b"*).

b. *Piping.* Underground piping that routinely contains regulated substances must be monitored for releases in a manner that meets one of the following requirements:

(1) *Pressurized piping.* Underground piping that conveys regulated substances under pressure must:

1. Be equipped with an automatic line leak detector conducted in accordance with 135.5(5)*"a"*; and

2. Have an annual line tightness test conducted in accordance with 135.5(5)*"b"* or have monthly monitoring conducted in accordance with 135.5(5)*"c."*

(2) *Suction piping.* Underground piping that conveys regulated substances under suction must either have a line tightness test conducted at least every three years and in accordance with 135.5(5)*"b,"* or use a monthly monitoring method conducted in accordance with 135.5(5)*"c."* No release detection is required for suction piping that is designed and constructed to meet the following standards:

1. The below-grade piping operates at less than atmospheric pressure;

2. The below-grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;

3. Only one check valve is included in each suction line;

4. The check valve is located directly below and as close as practical to the suction pump; and

5. A method is provided that allows compliance with "2" through "4" to be readily determined.

135.5(3) *Requirements for hazardous substance UST systems.* Owners and operators of hazardous substance UST systems must provide release detection that meets the following requirements:

a. Release detection at existing UST systems must meet the requirements for petroleum UST systems in 135.5(2). By December 22, 1998, all existing hazardous substance UST systems must meet the release detection requirements for new systems in paragraph *"b"* below.

b. Release detection at new hazardous substance UST systems must meet the following requirements:

(1) Secondary containment systems must be designed, constructed and installed to:

1. Contain regulated substances released from the tank system until they are detected and removed;

2. Prevent the release of regulated substances to the environment at any time during the operational life of the UST system; and

3. Be checked for evidence of a release at least every 30 days.

NOTE: The provisions of 40 CFR 265.193, Containment and Detection of Releases, as of September 13, 1988, may be used to comply with these requirements.

(2) Double-walled tanks must be designed, constructed, and installed to:

1. Contain a release from any portion of the inner tank within the outer wall; and

2. Detect the failure of the inner wall.

(3) External liners (including vaults) must be designed, constructed, and installed to:

1. Contain 100 percent of the capacity of the largest tank within its boundary;

2. Prevent the interference of precipitation or groundwater intrusion with the ability to contain or detect a release of regulated substances; and

3. Surround the tank completely (i.e., it is capable of preventing lateral as well as vertical migration of regulated substances).

(4) Underground piping must be equipped with secondary containment that satisfies the requirements of 135.5(3)*"b"*(1) above (e.g., trench liners, jacketing of double-walled pipe). In addition, underground piping that conveys regulated substances under pressure must be equipped with an automatic line leak detector in accordance with 135.5(5)*"a"*;

(5) Other methods of release detection may be used if owners and operators:

1. Demonstrate to the department that an alternate method can detect a release of the stored substance as effectively as any of the methods allowed in 135.5(4)*"b"* to *"h"* can detect a release of petroleum;

2. Provide information to the department on effective corrective action technologies, health risks, and chemical and physical properties of the stored substance, and the characteristics of the UST site; and

3. Obtain approval from the department to use the alternate release detection method before the installation and operation of the new UST system.

135.5(4) *Methods of release detection for tanks.* Each method of release detection for tanks used to meet the requirements of 135.5(2) must be conducted in accordance with the following:

a. Inventory control. Product inventory control (or another test of equivalent performance) must be conducted monthly to detect a release of at least 1.0 percent of flow-through plus 130 gallons on a monthly basis in the following manner:

(1) Inventory volume measurements for regulated substance inputs, withdrawals, and the amount still remaining in the tank are recorded each operating day;

(2) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest 1/8 of an inch;

(3) The regulated substance inputs are reconciled with delivery receipts by measurement of the tank inventory volume before and after delivery;

(4) Deliveries are made through a drop tube that extends to within 1 foot of the tank bottom;

(5) Product dispensing is metered and recorded within the local standards for meter calibration or an accuracy of 6 cubic inches for every 5 gallons of product withdrawn; and

(6) The measurement of any water level in the bottom of the tank is made to the nearest 1/8 of an inch at least once a month.

NOTE: Practices described in the American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," may be used, where applicable, as guidance in meeting the requirements of subrule 135.5(4), paragraph *"a,"* subparagraphs (1) to (6).

b. Manual tank gauging. Manual tank gauging must meet the following requirements:

(1) Tank liquid level measurements are taken at the beginning and ending of a period of at least 36 hours during which no liquid is added to or removed from the tank;

(2) Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period;

(3) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest 1/8 of an inch;

(4) A leak is suspected and subject to the requirements of rule 567—135.6(455B) if the variation between beginning and ending measurements exceeds the weekly or monthly standards in the following table:

Nominal Tank Capacity	Weekly Standard (one test)	Monthly Standard (average of four tests)
550 gallons or less	10 gallons	5 gallons
551-1,000 gallons	13 gallons	7 gallons
1,001-2,000 gallons	26 gallons	13 gallons

(5) Only tanks of 550 gallons or less nominal capacity may use this as the sole method of release detection. Tanks of 551 to 2000 gallons may use the method in place of manual inventory control in 135.5(4)*"a."* Tanks of greater than 2000 gallons nominal capacity may not use this method to meet the requirements of this rule.

c. Tank tightness testing. Tank tightness testing (or another test of equivalent performance) must be capable of detecting a 0.1 gallon-per-hour leak rate from any portion of the tank that routinely contains product while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

d. Automatic tank gauging. Equipment for automatic tank gauging that tests for the loss of product and conducts inventory control must meet the following requirements:

(1) The automatic product level monitor test can detect a 0.2 gallon-per-hour leak rate from any portion of the tank that routinely contains product; and

(2) Inventory control (or another test of equivalent performance) is conducted in accordance with the requirements of 135.5(4)*"a."*

e. Vapor monitoring. Testing or monitoring for vapors within the soil gas of the excavation zone must meet the following requirements:

(1) The materials used as backfill are sufficiently porous (e.g., gravel, sand, crushed rock) to readily allow diffusion of vapors from releases into the excavation area;

(2) The stored regulated substance, or a tracer compound placed in the tank system, is sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;

(3) The measurement of vapors by the monitoring device is not rendered inoperative by the groundwater, rainfall, or soil moisture or other known interferences so that a release could go undetected for more than 30 days;

(4) The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank;

(5) The vapor monitors are designed and operated to detect any significant increase in concentration above background of the regulated substance stored in the tank system, a component or components of that substance, or a tracer compound placed in the tank system;

(6) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in 135.5(4)*"e"*(1) to (4) and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains product; and

(7) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

f. Groundwater monitoring. Testing or monitoring for liquids on the groundwater must meet the following requirements:

(1) The regulated substance stored is immiscible in water and has a specific gravity of less than 1;

(2) Groundwater is never more than 20 feet from the ground surface and the hydraulic conductivity of the soil(s) between the UST system and the monitoring wells or devices is not less than 0.01 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials);

(3) The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow entry of regulated substance on the water table into the well under both high and low groundwater conditions;

(4) Monitoring wells shall be sealed from the ground surface to the top of the filter pack;

(5) Monitoring wells or devices intercept the excavation zone or are as close to it as is technically feasible;

(6) The continuous monitoring devices or manual methods used can detect the presence of at least 1/8 of an inch of free product on top of the groundwater in the monitoring wells;

(7) Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in 135.5(4)*"f"*(1) to (5) and to establish the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains product; and

(8) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

g. Interstitial monitoring. Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains product and also meets one of the following requirements:

(1) For secondary containment systems, the sampling or testing method must be able to detect a release through the inner wall in any portion of the tank that routinely contains product:

1. Continuously, by means of an automatic leak sensing device that signals to the operator the presence of any regulated substance in the interstitial space; or

2. Monthly, by means of a procedure capable of detecting the presence of any regulated substance in the interstitial space.

3. The interstitial space shall be maintained and kept free of liquid, debris or anything that could interfere with leak detection capabilities.

NOTE: The provisions outlined in the Steel Tank Institute's "Standard for Dual Wall Underground Storage Tanks" may be used as guidance for aspects of the design and construction of underground steel double-walled tanks.

(2) For UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the UST system and the secondary barrier:

1. The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least 10^{-6} cm/sec for the regulated substance stored) to direct a release to the monitoring point and permit its detection;

2. The barrier is compatible with the regulated substance stored so that a release from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected;

3. For cathodically protected tanks, the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system;

4. The groundwater, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days;

5. The site is assessed to ensure that the secondary barrier is always above the groundwater and not in a 25-year flood plain, unless the barrier and monitoring designs are for use under such conditions; and

6. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(3) For tanks with an internally fitted liner, an automated device can detect a release between the inner wall of the tank and the liner, and the liner is compatible with the substance stored.

h. Other methods. Any other type of release detection method, or combination of methods, can be used if:

(1) It can detect a 0.2 gallon-per-hour leak rate or a release of 150 gallons within a month with a probability of detection of 0.95 and a probability of false alarm of 0.05; or

(2) The department may approve another method if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in paragraphs *"c"* to *"h."* In comparing methods, the department shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method is approved, the owner and operator must comply with any conditions imposed by the department on its use to ensure the protection of human health and the environment.

135.5(5) *Methods of release detection for piping.* Each method of release detection for piping used to meet the requirements of 135.5(2) must be conducted in accordance with the following:

a. Automatic line leak detectors. Methods which alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm may be used only if they detect leaks of 3 gallons per hour at 10 pounds per square inch line pressure within one hour. An annual test of the operation of the leak detector must be conducted in accordance with the manufacturer's requirements.

b. Line tightness testing. A periodic test of piping may be conducted only if it can detect a 0.1 gallon-per-hour leak rate at one and one-half times the operating pressure.

c. Applicable tank methods. Any of the methods in 135.5(4)*"e"* through *"h"* may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances.

d. Interstitial monitoring of secondary containment. Interstitial monitoring may be used for any piping with secondary containment designed for and capable of interstitial monitoring.

(1) Leak detection shall be conducted:

1. Continously, by means of an automatic leak sensing device that signals to the operator the presence of any regulated substance in the interstitial space or containment sump; or

2. Monthly, by means of a procedure capable of detecting the presence of any regulated substance in the interstitial space or containment sump, such as visual inspection.

(2) The interstitial space or sump shall be maintained and kept free of water, debris or anything that could interfere with leak detection capabilities.

(3) At least every two years, any sump shall be visually inspected for integrity of sides and floor and tightness of piping penetration seals. Any automatic sensing device shall be tested for proper function.

135.5(6) *Release detection record keeping.* All UST system owners and operators must maintain records in accordance with 135.4(5) demonstrating compliance with all applicable requirements of this rule. These records must include the following:

a. All written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, must be maintained for five years, or for another reasonable period of time determined by the department, from the date of installation;

b. The results of any sampling, testing, or monitoring must be maintained for at least one year, or for another reasonable period of time determined by the department, except that the results of tank tightness testing conducted in accordance with 135.5(4)*"c"* must be retained until the next test is conducted; and

c. Written documentation of all calibration, maintenance, and repair of release detection equipment permanently located on-site must be maintained for at least one year after the servicing work is completed, or for another reasonable time period determined by the department. Any schedules of required calibration and maintenance provided by the release detection equipment manufacturer must be retained for five years from the date of installation.

[**ARC 8469B**, IAB 1/13/10, effective 2/17/10 (See Delay note at end of chapter)]

567—135.6(455B) Release reporting, investigation, and confirmation.

135.6(1) *Reporting of suspected releases.* Owners and operators of UST systems must report to the department within 24 hours, or within 6 hours in accordance with 567—Chapter 131 if a hazardous condition exists as defined in 567—131.1(455B), or another reasonable time period specified by the department, and follow the procedures in 135.8(1) for any of the following conditions:

a. The discovery by owners and operators or others of released regulated substances at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water);

b. Unusual operating conditions observed by owners and operators (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST system, or an unexplained presence of water in the tank), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced; and

c. Monitoring results from a release detection method required under 135.5(2) and 135.5(3) that indicate a release may have occurred unless:

(1) The monitoring device is found to be defective, and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result; or

(2) In the case of inventory control, a second month of data does not confirm the initial result.

135.6(2) *Investigation due to off-site impacts.* When required by the department, owners and operators of UST systems must follow the procedures in 135.6(3) to determine if the UST system is the source of off-site impacts. These impacts include the discovery of regulated substances (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface and drinking waters) that has been observed by the department or brought to its attention by another party.

135.6(3) *Release investigation and confirmation steps.* Owners and operators must immediately investigate and confirm all suspected releases of regulated substances requiring reporting under 135.6(1) within seven days, or another reasonable time period specified by the department, using either the following steps or another procedure approved by the department:

a. System test. Owners and operators must conduct tests (according to the requirements for tightness testing in 135.5(4)*"c"* and 135.5(5)*"b"*) that determine whether a leak exists in that portion of the tank that routinely contains product, or the attached delivery piping or both.

(1) Owners and operators must repair, replace or upgrade the UST system and begin corrective action in accordance with rule 567—135.9(455B) if the test results for the system, tank, or delivery piping indicate a leak exists.

(2) Further investigation is not required if the test results for the system, tank, and delivery piping do not indicate a leak exists and if environmental contamination is not the basis for suspecting a release.

(3) Owners and operators must conduct a site check as described in paragraph *"b"* of this subrule if the test results for the system, tank, and delivery piping do not indicate a leak exists but environmental contamination is the basis for suspecting a release.

b. Site check. A certified groundwater professional must conduct a site check in accordance with the tank closure in place procedures as provided in 135.15(3) or they may conduct a Tier 1 assessment in accordance with subrule 135.9(3). Under either procedure, the certified groundwater professional must follow the policies and procedures applicable to sites where bedrock is encountered before groundwater as provided in 135.8(5) to avoid creating a preferential pathway for soil or groundwater contamination to reach a bedrock aquifer. The certified groundwater professional must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, the certified groundwater professional must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, the type of backfill, the depth of groundwater, and other factors appropriate for identifying the presence and source of the release.

(1) If the test results of the site check indicate action levels in 567—135.14(455B) have been exceeded, owners and operators must begin corrective action in accordance with rules 567—135.7(455B) to 567—135.12(455B).

(2) If the test results for the excavation zone or the UST site do not indicate a release has occurred, further investigation is not required.

135.6(4) *Reporting and cleanup of spills and overfills.*

a. Reportable releases. Owners and operators of UST systems must contain and immediately clean up a spill, overfill or any aboveground release, and report to the department within 24 hours, or within 6 hours in accordance with 567—Chapter 131 if a hazardous condition exists as defined in rule 567—131.1(455B) and begin corrective action in accordance with rules 567—135.7(455B) to 567—135.12(455B) in the following cases:

(1) Spill, overfill or any aboveground release of petroleum that results in a release to the environment that exceeds 25 gallons, causes a sheen on nearby surface water, impacts adjacent property, or contaminates groundwater; and

(2) Spill, overfill or any aboveground release of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under CERCLA (40 CFR 302) as of September 13, 1988.

b. Nonreportable releases. Owners and operators of UST systems must contain and immediately clean up a spill, overfill or any aboveground release of petroleum that is less than 25 gallons and a spill, overfill or any aboveground release of a hazardous substance that is less than the reportable quantity. If cleanup cannot be accomplished within 24 hours, owners and operators must immediately notify the department.

NOTE: Any spill or overfill that results in a hazardous condition as defined in rule 567—131.1(455B) must be reported within 6 hours. This includes the transporter of the product. A release of a hazardous substance equal to or in excess of its reportable quantity must also be reported immediately (rather than within 24 hours) to the National Response Center under Sections 102 and 103 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and to appropriate state and local authorities under Title III of the Superfund Amendments and Reauthorization Act of 1986.

567—135.7(455B) Release response and corrective action for UST systems containing petroleum or hazardous substances.

135.7(1) *General.* Owners and operators of petroleum or hazardous substance UST systems must, in response to a confirmed release from the UST system, comply with the requirements of this rule except

for USTs excluded under 135.1(3)*"b"* and UST systems subject to RCRA Subtitle C corrective action requirements under Section 3004(u) of the Resource Conservation and Recovery Act, as amended.

135.7(2) *Initial response.* Upon confirmation of a release in accordance with 135.6(3) or after a release from the UST system is identified in any other manner, owners and operators must perform the following initial response actions within 24 hours of a release or within another reasonable period of time specified by the department:

a. Report the release to the department (e.g., by telephone or electronic mail);

b. Take immediate action to prevent any further release of the regulated substance into the environment; and

c. Identify and mitigate fire, explosion, and vapor hazards.

135.7(3) *Initial abatement measures and site check.*

a. Unless directed to do otherwise by the department, owners and operators must perform the following abatement measures:

(1) Remove as much of the regulated substance from the UST system as is necessary to prevent further release to the environment;

(2) Visually inspect any aboveground releases or exposed below-ground releases and prevent further migration of the released substance into surrounding soils and groundwater;

(3) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the UST excavation zone and entered into subsurface structures (such as sewers or basements);

(4) Remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner and operator must comply with applicable state and local requirements;

(5) Rescinded IAB 7/17/96, effective 8/15/96.

(6) Investigate to determine the possible presence of free product, and begin free product removal as soon as practicable and in accordance with 135.7(5).

b. Within 20 days after release confirmation, or within another reasonable period of time determined by the department, owners and operators must submit a report to the department summarizing the initial abatement steps taken under paragraph *"a"* and any resulting information or data.

135.7(4) *Initial site characterization.* Rescinded IAB 7/17/96, effective 8/15/96.

135.7(5) *Free product assessment and removal.* At sites where investigations under 135.7(3)*"a"*(6) indicate 0.01 ft. or more of free product, owners and operators must immediately initiate a free product recovery assessment and submit a report in accordance with paragraph *"d"* and initiate interim free product removal while continuing, as necessary, any actions initiated under 135.7(2) to 135.7(4), or preparing for actions required under 567—135.8(455B) to 567—135.12(455B). Owners and operators must immediately begin interim free product removal by bailing or by installation and maintenance of passive skimming equipment until an alternative removal method is required by or approved by the department. A certified groundwater professional must initially determine the frequency of bailing and proper installation and maintenance of the skimming equipment based on a determination of the recharge rate of the free product. The department may approve implementation of this interim removal process by persons not certified as groundwater professionals. For approval a certified groundwater professional must submit (1) sufficient documentation establishing that the bailing or skimming system has been adequately designed and tested, and (2) a written plan for regular maintenance, reporting and supervision by a certified groundwater professional. Interim free product recovery reports must be submitted to the department on a monthly basis and on forms provided by the department. In meeting the requirements of this subrule, owners and operators must:

a. Conduct free product removal at a frequency determined by the recharge rate of the product and in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery by-products in compliance with applicable local,

state and federal regulations. Unless approved by the department, free product assessment and recovery activities must be conducted by a certified groundwater professional. Owners and operators must report the results of free product removal activities on forms designated by the department;

b. Use abatement of free product migration as a minimum objective for the design of the free product removal system. Free product recovery systems must be designed to remove free product to the maximum extent practicable;

c. Handle any flammable products in a safe and competent manner to prevent fires or explosions; and

d. Free product recovery assessment and report. Unless directed to do otherwise by the department, prepare and submit to the department, within 45 days after confirming a release, a free product recovery assessment report and a proposal for subsequent free product removal activities. The free product recovery assessment report and removal proposal must contain at least the following information:

(1) The name of the person(s) responsible for implementing the free product removal measures;

(2) The estimated quantity, type and thickness of free product observed or measured in monitoring wells, boreholes, and excavations, the recharge rate in all affected monitoring wells and a detailed description of the procedures used to determine the recharge rate;

(3) A detailed justification for the free product removal technology proposed for the site. Base the justification narrative on professional judgment considering the characteristics of the free product plume (i.e., estimated volume, type of product, thickness, extent), an assessment of cost effectiveness based on recovery costs compared to alternative methods, site hydrology and geology, when the release event occurred, testing conducted to verify design assumptions and the potential for petroleum vapors or explosive conditions to occur in enclosed spaces. Proposals for removal systems other than hand bailing or passive skimming systems must be completed and submitted on a format consistent with the department's corrective action design report.

(4) A schematic and narrative description of the free product recovery system used;

(5) Whether any discharge will take place on site or off site during the recovery operation and where this discharge will be located;

(6) A schematic and narrative description of the treatment system, and the effluent quality expected from any discharge;

(7) The steps that have been or are being taken to obtain necessary permits for any discharge;

(8) The disposition of the recovered free product;

(9) Free product plume definition and map. The extent of free product in groundwater must be assessed. The number and location of wells and separation distance between the wells used to define the free product plume must be based on the receptors present and the site hydrology and geology. A minimum of five monitoring wells are required to construct the plume map. If the groundwater professional can adequately define the plume using other technology as specified in department guidance, fewer than five wells may be used. The boundary of the plume may be determined by linear interpolation consistent with the methods described in 135.10(2)*"f"*(3); and

(10) The estimated volume of free product present, how the volume was calculated, recoverable volume and estimated recovery time.

e. The department will review the free product assessment report; and, if approved, the owner or operator must implement the installation of the approved recovery system within 60 days or other time period approved by the department.

f. Termination of free product recovery activities. Owners and operators may propose to the department to terminate free product recovery activities when significant amounts of hydrocarbons are not being recovered. The department will consider proposals to terminate free product recovery when the amount of product collected from a monitoring well is equal to or less than 0.1 gallon each month for a year unless another plan is approved by the department. When free product activities have been terminated, owners and operators must inspect the monitoring wells monthly for at least a year. The department must be notified and free product recovery activities reinitiated if during the monthly well

inspections it is determined the product thickness in a monitoring well exceeds 0.02 foot. The monthly well inspection records must be kept available for review by the department.

g. Unless directed to do otherwise by the department, prepare and submit to the department within 180 days after confirming a release, a Tier 2 site cleanup report.

567—135.8(455B) Risk-based corrective action.

135.8(1) *General.* The objective of risk-based corrective action is to effectively evaluate the risks posed by contamination to human health, safety and the environment using a progressively more site-specific, three-tiered approach to site assessment and data analysis. Based on the tiered assessment, a corrective action response is determined sufficient to remove or minimize risks to acceptable levels. Corrective action response includes a broad range of options including reduction of contaminant concentrations through active or passive methods, monitoring of contamination, use of technological controls or institutional controls.

a. Tier 1. The purpose of a Tier 1 assessment is to identify sites which do not pose an unreasonable risk to public health and safety or the environment based on limited site data. The objective is to determine maximum concentrations of chemicals of concern at the source of a release(s) in soil and groundwater. The Tier 1 assessment assumes worst-case scenarios in which actual or potential receptors could be exposed to these chemicals at maximum concentrations through certain soil and groundwater pathways. The point of exposure is assumed to be the source showing maximum concentrations. Risk-based screening levels (Tier 1 levels) contained in the Tier 1 Look-Up Table have been derived from models which use conservative assumptions to predict exposure to actual and potential receptors. (These models and default assumptions are contained in Appendix A.) If Tier 1 levels are not exceeded for a pathway, that pathway may not require further assessment. If the maximum concentrations exceed a Tier 1 level, the options are to conduct a more extensive Tier 2 assessment, apply an institutional control, or in limited circumstances excavate contaminated soil to below Tier 1 levels. If all pathways clear the Tier 1 levels, it is possible for the site to obtain a no action required classification.

b. Tier 2. The purpose of a Tier 2 assessment is to use site-specific data to assess the risk from chemicals of concern to existing receptors and potential receptors using fate and transport models in accordance with 567—135.10(455B). See 135.10(2)*"a."*

c. Tier 3. Where site conditions may not be adequately addressed by Tier 2 procedures, a Tier 3 assessment may provide more accurate risk assessment. The purpose of Tier 3 is to identify reasonable exposure levels of chemicals of concern and to assess the risk of exposure to existing and potential receptors based on additional site assessment information, probabilistic evaluations, or sophisticated chemical fate and transport models in accordance with 567—135.11(455B).

d. Notification. Whenever the department requires a tiered site assessment and a public water supply well is within 2,500 feet of a leaking underground storage tank site, the department will notify the public water supply operator.

e. Pathway reevaluation. Prior to issuance of a no further action certificate in accordance with 135.12(10) and Iowa Code section 455B.474(1)*"h"*(3), if it is determined that the conditions for an individual pathway that has been classified as "no action required" no longer exist, or the site presents an unreasonable risk to a public water supply well and the model used to obtain the pathway clearance underpredicts the actual contaminant plume, the individual pathway shall be further assessed consistent with the risk-based corrective action provisions in rules 567—135.8(455B) through 567—135.12(455B).

135.8(2) *Certified groundwater professional.* All assessment, corrective action, data analysis and report development required under rules 567—135.6(455B) to 567—135.12(455B) must be conducted by or under the supervision of a certified groundwater professional in accordance with these rules and department guidance as specified.

135.8(3) *Chemicals of concern.* Soil and groundwater samples from releases of petroleum regulated substances must always be analyzed for the presence of benzene, ethylbenzene, toluene, and xylenes. In addition, if the release is suspected to include any petroleum regulated substance other than gasoline or gasoline blends, or if the source of the release is unknown, the samples must be tested for the presence of Total Extractable Hydrocarbons (TEH). Appendices A and B and department Tier 2 guidance define

a method for converting TEH values to a default concentration for naphthalene, benzo(a)pyrene, benz(a)anthracene and chrysene and conversion back to a representative TEH value. These default values must be used in order to apply Tier 2 modeling to these constituents in the absence of accurate laboratory analysis. At Tier 2 and Tier 3, owners and operators have the option of analyzing for these specific constituents and applying them to the specific target levels in Appendices A and B instead of using the TEH conversion method if an approved laboratory and laboratory technique are used.

135.8(4) *Boring depth for sampling.* When drilling for the placement of groundwater monitoring wells, if groundwater is encountered, drilling must continue to the maximum of 10 feet below the first encountered groundwater or to the bottom of soil contamination as estimated by field screening. If groundwater is not encountered, drilling must continue to the deeper of 10 feet below the soil contamination as estimated by field screening or 75 feet from the ground surface.

135.8(5) *Bedrock aquifer assessment.* Prior to conducting any groundwater drilling, a groundwater professional must determine if there is a potential to encounter bedrock before groundwater. These potential areas include (1) areas where karst features or outcrops exist in the vicinity and (2) areas with bedrock less than 50 feet from the surface as illustrated in Tier 1 and Tier 2 guidance. The purpose of this determination is to prevent drilling through contaminated subsurface areas thereby creating a preferential pathway to a bedrock aquifer. If the first encountered groundwater is above bedrock but near the bedrock surface or fluctuates above and below bedrock, the groundwater professional should evaluate the subsurface geology and aquifer characteristics to determine the potential for creating a preferential pathway. If it is determined that the aquifer acts like a nongranular aquifer as provided in 135.10(3)*"a"* or bedrock is encountered before groundwater, the groundwater professional must conduct a Tier 2 assessment for all pathways under 567—135.10(455B), including the specified bedrock procedures under 135.10(3).

If the first encountered groundwater is above bedrock with sufficient separation and aquifer characteristics to establish that it acts as a granular aquifer, site assessment may proceed under the site check procedure in 567—135.6(455B), the Tier 1 procedure in 567—135.9(455B) or the Tier 2 procedure in 567—135.10(455B) as would be customary regardless of the bedrock designation. However, even under this condition, drilling through bedrock should be avoided in contaminated areas.
[**ARC 7621B**, IAB 3/11/09, effective 4/15/09]

567—135.9(455B) Tier 1 site assessment policy and procedure.

135.9(1) *General.* The main objective of a Tier 1 site assessment is to reasonably determine the highest concentrations of chemicals of concern which would be associated with any suspected or confirmed release and an accurate identification of applicable receptors. In addition, the placement and depth of borings and the construction of monitoring wells must be sufficient to determine the sources of all releases, the vertical extent of contamination, an accurate description of site stratigraphy, and a reliable determination of groundwater flow direction.

a. Pathway assessment. The pathways to be evaluated at Tier 1 are the groundwater ingestion pathway, soil leaching to groundwater pathway, groundwater vapor to enclosed space pathway, soil vapor to enclosed space pathway, soil to water line pathway, groundwater to water line pathway and the surface water pathway. Assessment requires a determination of whether a pathway is complete, an evaluation of actual and potential receptors, and a determination of whether conditions are satisfied for obtaining no further action clearance for individual pathways or for obtaining a complete site classification of "no action required." A pathway is considered complete if a chemical of concern has a route which could be followed to reach an actual or potential receptor.

b. Pathway clearance. If field data for an individual pathway does not exceed the applicable Tier 1 levels or if a pathway is incomplete, no further action is required to evaluate the pathway unless otherwise specified in these rules. If the field data for a pathway exceeds the applicable Tier 1 level(s) in the "Iowa Tier 1 Look-up Table," the response is to conduct further assessment under Tier 2 or Tier 3 unless an effective institutional control is approved. In limited circumstances excavation of contaminated soils may be used as an option to obtain pathway clearance. If further site assessment indicates site data exceeds an applicable Tier 1 level(s) for a previously cleared pathway or the conditions justifying a

determination of pathway incompleteness change, that pathway must be reevaluated as part of a Tier 2 or Tier 3 assessment.

c. Chemical group clearance. If field data for all chemicals of concern within a designated group of chemicals is below the Tier 1 levels, no further action is required as to the group of chemicals unless otherwise specified in these rules. Group one consists of benzene, ethylbenzene, toluene, and xylenes (BTEX). Group two consists of naphthalene, benzo(a)pyrene, benz(a)anthracene and chrysene; TEH default values are incorporated into the Iowa Tier 1 Look-Up Table and Appendix A for group two chemicals.

d. Site classification. A site can be classified as no action required only after all pathways have met the conditions for pathway clearance as provided in this rule.

e. Groundwater sampling procedure. Groundwater sampling and field screening must be conducted in accordance with department Tier 1 guidance. A minimum of three properly constructed groundwater monitoring wells must be installed, subject to the limitations on maximum drilling depths, for the purpose of identifying maximum concentrations of groundwater contamination, suspected sources of releases, and groundwater flow direction.

(1) Field screening must be used to locate suspected releases and to determine locations with the greatest concentrations of contamination. Field screening is required as per department guidance at each former and current tank basin, each former and current pump island, along the piping, and at any other areas of actual or suspected releases. In placing monitoring wells, the following must be considered: field screening data, available current and historical information regarding the releases, tank and piping layout, site conditions, and drilling data available from sites in the vicinity. At least one well must be placed at each suspected source of release which shall include at a minimum: the pump island with the greatest field screening level, each current and former underground storage tank basin, and if field screening shows greater levels than at the pump islands or tank basins, at other suspected sources of releases. As a general rule, wells should be installed outside of the tank basin through native soils but as close to the tank basin as feasible. A well must be installed in a presumed downgradient direction and within 30 feet of the sample with the greatest field screening level. Three of the wells must be placed in a triangular arrangement to determine groundwater flow direction.

(2) Where the circumstances which prompt a Tier 1 assessment identify a discrete source and cause of a release, and the groundwater professional is able to rule out other suspected sources or contributing sources such as pump islands, piping runs and tank basins, the application of field screening and groundwater well placement may be limited to the known source.

f. Soil sampling procedure. The objective of soil sampling is to identify the maximum concentrations of soil contamination in the vadose and saturated zones and to identify sources of releases. The same principles stated above apply to soil sampling. Soil samples must be taken from borings with the greatest field screening levels even if the boring will not be converted to a monitoring well. At a minimum, soil and groundwater samples must be collected for analysis from all borings which are converted to monitoring wells.

Iowa Tier 1 Look-Up Table

Media	Exposure Pathway	Receptor	Group 1				Group 2: TEH	
			Benzene	Toluene	Ethylbenzene	Xylenes	Diesel*	Waste Oil
Groundwater (µg/L)	Groundwater Ingestion	Actual	5	1,000	700	10,000	1,200	400
		Potential	290	7,300	3,700	73,000	75,000	40,000
	Groundwater Vapor to Enclosed Space	All	1,540	20,190	46,000	NA	2,200,000	NA
	Groundwater to Water Line	PVC or Gasketed Mains	7,500	6,250	40,000	48,000	75,000	40,000
		PVC or Gasketed Service Lines	3,750	3,120	20,000	24,000	75,000	40,000
		PE/PB/AC Mains or Service Lines	200	3,120	3,400	19,000	75,000	40,000
	Surface Water	All	290	1,000	3,700	73,000	75,000	40,000
Soil (mg/kg)	Soil Leaching to Groundwater	All	0.54	42	15	NA	3,800	NA
	Soil Vapor to Enclosed Space	All	1.16	48	79	NA	47,500	NA
	Soil to Water Line	All	2.0	3.2	45	52	10,500	NA

NA: Not applicable. There are no limits for the chemical for the pathway, because for groundwater pathways the concentration for the designated risk would be greater than the solubility of the pure chemical in water, and for soil pathways the concentration for the designated risk would be greater than the soil concentration if pure chemical were present in the soil.

TEH: Total Extractable Hydrocarbons. The TEH value is based on risks from naphthalene, benzo(a)pyrene, benz(a)anthracene, and chrysene. Refer to Appendix B for further details.

Diesel*: Standards in the Diesel column apply to all low volatile petroleum hydrocarbons except waste oil.

135.9(2) *Conditions requiring Tier 1 site assessment.* Unless owners and operators choose to conduct a Tier 2 assessment, the presence of bedrock requires a Tier 2 assessment as provided in 135.8(5), or these rules otherwise require preparation of a Tier 2 site assessment, a Tier 1 site assessment must be completed in response to release confirmation as provided in rule 567—135.6(455B), or tank closure investigation under 567—135.15(455B), or other reliable laboratory analysis which confirms the presence of contamination above the action levels in 567—135.14(455B).

135.9(3) *Tier 1 assessment report.* Unless directed to do otherwise by the department or the owners or operators choose to prepare a Tier 2 site cleanup report, owners and operators must assemble information about the site and the nature of the release in accordance with the department Tier 1 guidance, including information gained while confirming the release under 567—135.6(455B), tank closure under 567—135.15(455B) or completing the initial abatement measures in 135.7(1) and 135.7(2). This information must include, but is not necessarily limited to, the following:

a. Data on the nature and estimated quantity of release.

b. Results of any release investigation and confirmation actions required by subrule 135.6(3).

c. Results of the free product investigations required under 135.7(3)*"a"*(6), to be used by owners and operators to determine whether free product must be recovered under 135.7(5).

d. Chronology of property ownership and underground storage tank ownership, identification of the person(s) having control of, or having responsibility for the daily operation of the underground storage tanks and the operational history of the underground storage tank system. The operational history shall include, but is not limited to, a description of or suspected known subsurface or aboveground releases, past remediation or other corrective action, type of petroleum product stored, recent tank and

piping tightness test results, any underground storage tank system repairs, upgrades or replacements and the underground storage tank and piping leak detection method being utilized. The operational history shall confirm that current release detection methods and record keeping comply with the requirements of 567—135.5(455B), that all release detection records have been reviewed and report any evidence that a release detection standard has been exceeded as provided in 135.5(4) and 135.5(5).

e. Appropriate diagrams of the site and the underground storage tank system and surrounding land use, identifying site boundaries and existing structures and uses such as residential properties, schools, hospitals, child care facilities and a general description of relevant land use restrictions and known future land use.

f. Current proof of financial responsibility as required by 567—136.19(455B) and 567—136.20(455B) and the status of coverage for corrective action under any applicable financial assurance mechanism or other financial assistance program.

g. A receptor survey including but not limited to the following: existing buildings, enclosed spaces (basements, crawl spaces, utility vaults, etc.), conduits (gravity drain lines, sanitary and storm sewer mains and service lines), water lines and other utilities within 500 feet of the source. For conduits and enclosed spaces, there must be a description of construction material, conduit backfill material, slope of conduit and trenches (include flow direction of sewers), burial depth of utilities or subsurface enclosed spaces, and the relationship to groundwater elevations.

h. An explosive vapor survey of enclosed spaces where there may be the potential for buildup of explosive vapors. The groundwater professional must provide a specific justification for not conducting an explosive vapor survey.

i. A survey of all surface water bodies within 200 feet of the source.

j. A survey of all active, abandoned and plugged groundwater wells within 1,000 feet of the source with a description of construction and present or future use.

k. Accurate and legible site maps showing the location of all groundwater monitoring wells, soil borings, field screening locations and screening values, and monitoring well and soil boring construction logs.

l. A tabulation of all laboratory analytical results for chemicals of concern and copies of the laboratory analytical reports.

m. Results of hydraulic conductivity testing and description of the procedures utilized.

n. A Tier 1 site assessment in accordance with the department's Tier 1 guidance. The Tier 1 report shall be submitted on forms and in a format prescribed by this guidance. The Tier 1 data analysis shall be performed by using computer software developed by the department or by using the computer software's hard-copy version.

135.9(4) *Groundwater ingestion pathway assessment.* The groundwater ingestion pathway addresses the potential for human ingestion of petroleum-regulated substances from existing groundwater wells or potential drinking water wells.

a. Pathway completeness. This pathway is considered complete if: (1) there is a drinking or non-drinking water well within 1,000 feet of the source(s) exhibiting the maximum concentrations of the chemicals of concern; or (2) the first encountered groundwater is a protected groundwater source.

b. Receptor evaluation. A drinking or non-drinking water well within 1,000 feet of the source(s) is an actual receptor. The Tier 1 levels for actual receptors apply to drinking water wells and the Tier 1 levels for potential receptors apply to non-drinking water wells. Potential receptor points of exposure exist if the first encountered groundwater is a protected groundwater source but no actual receptors presently exist within 1,000 feet of the source.

c. Pathway clearance. If the pathway is incomplete, no further action is required for this pathway. If the Tier 1 level for actual or potential receptors is not exceeded, no further action is required for this pathway. Groundwater wells that are actual or potential receptors may be plugged in accordance with 567—Chapter 39 and 567—Chapter 49 and may result in no further action clearance if the groundwater is not a protected groundwater source and the pathway is thereby incomplete.

d. Corrective action response. If maximum concentrations exceed the applicable Tier 1 levels for either actual or potential receptors, a Tier 2 assessment must be conducted unless effective institutional

controls are implemented as provided below. Technological controls are not acceptable at Tier 1 for this pathway. Abandonment and plugging of drinking and non-drinking water wells in accordance with 567—Chapters 39 and 49 is an acceptable corrective action response.

e. Use of institutional controls. To apply an effective institutional control, if drinking or non-drinking water wells are present within 1,000 feet of the source, and the applicable Tier 1 level is exceeded, the well(s) for which there is an exceedence must be properly plugged. If the groundwater is a protected groundwater source and the maximum concentrations do not exceed the Tier 1 level for potential receptors but do exceed the Tier 1 level for actual receptors, the owner or operator must provide notification of site conditions on a department form to the department water supply section, or if a county has delegated authority, then the designated county authority responsible for issuing private water supply construction permits or regulating non-public water well construction as provided in 567—Chapters 38 and 49.

If the groundwater is a protected source and the maximum concentrations exceed the Tier 1 level for potential receptors, the owner or operator must (1) implement an institutional control prohibiting the use of the groundwater for installation of drinking and non-drinking water wells within 1,000 feet of the source; and (2) provide notification as provided above. If an effective institutional control is not feasible, a Tier 2 assessment must be performed for this pathway in accordance with rule 567—135.10(455B).

f. Receptor evaluation for public water supply wells. Rescinded IAB 3/11/09, effective 4/15/09.

135.9(5) *Soil leaching to groundwater pathway assessment.* This pathway addresses the potential for soil contamination to leach to groundwater creating a risk of human exposure through the groundwater ingestion pathway.

a. Pathway completeness. If the groundwater ingestion pathway is complete, the soil leaching to groundwater pathway is considered complete.

b. Receptor evaluation. There is a single receptor type for this pathway and one applicable Tier 1 level.

c. Pathway clearance. If the pathway is incomplete or the pathway is complete and the maximum concentrations of chemicals of concern do not exceed the Tier 1 levels, no further action is required for assessment of this pathway.

d. Corrective action response. If the Tier 1 levels are exceeded for this pathway, a Tier 2 assessment must be conducted or alternatively, institutional controls or soil excavation may be undertaken in accordance with 135.9(7)*"h."*

e. Use of institutional controls. Institutional controls must satisfy the conditions applicable to the groundwater ingestion pathway as provided in 135.9(4)*"e."*

135.9(6) *Groundwater vapor to enclosed space pathway assessment.* This pathway addresses the potential for vapors from contaminated groundwater to migrate to enclosed spaces where humans could inhale chemicals of concern at unacceptable levels. This pathway assessment assumes the health-based Tier 1 levels will adequately protect against any associated short- and long-term explosive risks.

a. Pathway completeness. This pathway is always considered complete for purposes of Tier 1 and must be evaluated.

b. Explosive vapor survey. An explosive vapor survey must be conducted in accordance with procedures outlined in the department Tier 1 guidance. If potentially explosive levels are detected, the groundwater professional must notify the owner or operator with instructions to report the condition in accordance with 567—Chapter 131. The owner or operator must begin immediate response and abatement procedures in accordance with 567—135.7(455B) and 567—Chapter 133.

c. Receptor evaluation. For purposes of Tier 1, there is one receptor type for this pathway and the Tier 1 level applies regardless of the existence of actual or potential receptors.

d. Pathway clearance. No further action is required for this pathway, if the maximum groundwater concentrations do not exceed the Tier 1 levels for this pathway.

e. Corrective action response. If the maximum concentrations exceed the Tier 1 levels for this pathway, a Tier 2 assessment of this pathway must be conducted unless institutional controls are implemented. Technological controls are not acceptable at Tier 1 for this pathway.

f. Use of institutional controls. An institutional control must be effective to prohibit the placement of enclosed space receptors within 500 feet of the source.

135.9(7) *Soil vapor to enclosed space pathway assessment.* This pathway addresses the potential for vapors from contaminated soils to migrate to enclosed spaces where humans could inhale chemicals of concern at unacceptable levels. This pathway assessment assumes health-based screening levels at Tier 1 will adequately protect against short- and long-term explosive risks.

a. Pathway completeness. This pathway is always considered complete for purposes of Tier 1 and must be evaluated.

b. Explosive vapor survey. An explosive vapor survey must be conducted in accordance with procedures outlined in the department Tier 1 guidance. If potentially explosive levels are detected, the groundwater professional must notify the owner or operator with instructions to report the condition in accordance with 567—Chapter 131. The owner or operator must begin immediate response and abatement procedures in accordance with 567—135.7(455B) and 567—Chapter 133.

c. Receptor evaluation. For purposes of Tier 1, there is one receptor type for this pathway, and the Tier 1 level applies regardless of existing or potential receptors.

d. Pathway clearance. No further action is required for this pathway, if the maximum soil concentrations do not exceed the Tier 1 levels for this pathway. If the Tier 1 levels are exceeded, soil gas measurements may be taken in accordance with the Tier 2 guidance at the area(s) of maximum concentration. Subject to confirmation sampling, if the soil gas measurements do not exceed the target levels in 135.10(7)*"f,"* no further action is required for this pathway. If the Tier 1 level is not exceeded but the soil gas measurement exceeds the target level, further action is required for the pathway.

e. Soil gas samples. To establish that the soil gas measurement is representative of the highest expected levels, a groundwater professional must obtain two soil gas samples taken at least two weeks apart. One of the samples must be taken below the typical frostline depth during a seasonal period of lowest groundwater elevation.

f. Corrective action response. If the maximum concentrations exceed the Tier 1 levels and the soil gas measurements exceed target levels for this pathway, or if no soil gas measurement was taken, a Tier 2 assessment of this pathway must be conducted unless institutional controls are implemented or soil excavation is conducted as provided below. Technological controls are not acceptable at Tier 1 for this pathway.

g. Use of institutional controls. An institutional control must be effective to eliminate the placement of enclosed space receptors within 500 feet of the source.

h. Soil excavation. Excavation of contaminated soils for the purpose of removing soils contaminated above the Tier 1 levels is permissible as an alternative to conducting a Tier 2 assessment. Adequate field screening methods must be used to identify maximum concentrations during excavation. At a minimum, one soil sample must be taken for field screening every 100 square feet of the base and each sidewall. Soil samples must be taken for laboratory analysis at least every 400 square feet of the base and each sidewall of the excavated area to confirm that remaining concentrations are below Tier 1 levels. If the excavation is less than 400 square feet, a minimum of one sample must be analyzed for each sidewall and the base.

135.9(8) *Groundwater to water line pathway assessment.* This pathway addresses the potential for creating a drinking water ingestion risk due to contact with water lines and causing infusion to the drinking water.

a. Pathway completeness and receptor evaluation.

(1) Actual receptors. This pathway is considered complete for an actual receptor if there is an existing water line within 200 feet of the source and the first encountered groundwater is less than 20 feet below ground surface.

(2) Potential receptors. This pathway is considered complete for a potential receptor if the first encountered groundwater is less than 20 feet below ground surface.

b. Pathway clearance. If the pathway is not complete, no further action is required for this pathway. If the pathway is complete and the maximum concentrations of all chemicals of concern do not exceed the Tier 1 levels for this pathway, no further action is required for this pathway.

c. Utility company notification. The utility company which supplies water service to the area must be notified of all actual and potential water line impacts as soon as knowledge of a potential risk is determined.

d. Corrective action response.

(1) For actual receptors, if the Tier 1 levels are exceeded for this pathway, all water lines within 200 feet must be replaced with water line materials and gasket materials of appropriate construction in accordance with current department standards set forth in 567—Chapter 43 and with no less than nitrile or FKM gaskets or as otherwise approved by the department, or the water lines must be relocated beyond the 200-foot distance from the source. A Tier 2 assessment must be conducted for this pathway if lines are not replaced or relocated.

(2) For potential receptors, upon utility company notification, no further action will be required for this pathway.

135.9(9) *Soil to water line pathway assessment.* This pathway addresses the potential for creating a drinking water ingestion risk due to contact with water lines and infusion into the drinking water.

a. Pathway completeness and receptor evaluation.

(1) Actual receptors. This pathway is considered complete for an actual receptor if a water line exists within 200 feet of the source.

(2) Potential receptors. This pathway is always considered complete for potential receptors.

b. Pathway clearance. If the pathway is not complete for actual receptors, no further action is required for this pathway. If the pathway is complete for actual receptors and the maximum concentrations of all chemicals of concern do not exceed Tier 1 levels for this pathway, no further action is required. For potential receptors, upon utility company notification, no further action will be required for this pathway for potential receptors.

c. Utility company notification. The utility company which supplies water service to the area must be notified of all actual and potential water line impacts as soon as knowledge of a potential risk is determined.

d. Corrective action response. For actual receptors, if the Tier 1 levels are exceeded for this pathway, all water lines within 200 feet must be replaced with water line materials and gasket materials of appropriate construction in accordance with current department standards set forth in 567—Chapter 43 and with no less than nitrile or FKM gaskets or as otherwise approved by the department, or the water lines must be relocated beyond the 200-foot distance from the source. Excavation of soils to below Tier 1 levels may be undertaken in accordance with 135.9(7)*"h."* If none of these options is implemented, a Tier 2 assessment must be conducted for this pathway.

135.9(10) *Surface water pathway assessment.* This pathway addresses the potential for contaminated groundwater to impact surface water bodies creating risks to human health and aquatic life.

a. Pathway completeness. This pathway is considered complete if a surface water body is present within 200 feet of the source. For purposes of Tier 1, surface water bodies include both general use segments and designated use segments as provided in 567—subrule 61.3(1).

b. Receptor evaluation. The Tier 1 levels for this pathway only apply to designated use segments of surface water bodies as provided in 567—subrules 61.3(1) and 61.3(5). The point of compliance is the source with the highest concentrations of chemicals of concern. General use segments of surface water bodies as provided in 567—paragraph 61.3(1)*"a"* are only subject to the visual inspection criteria.

c. Visual inspection requirements. A visual inspection of all surface water bodies within 200 feet of the source must be conducted to determine if there is evidence of a sheen on the water or there is evidence of petroleum residue along the bank. If a sheen or residue is evident or has been reported to be present, the groundwater professional must make a sufficient investigation to reasonably determine its source. If in the opinion of the groundwater professional, the sheen is not associated with the underground storage tank site, the professional must report and reasonably justify this opinion. If in the opinion of the groundwater professional the sheen is not a petroleum-regulated substance, a sample must be laboratory tested in accordance with 567—135.16(455B) to confirm it is not a petroleum-regulated substance.

d. Pathway clearance. If the pathway is not complete or it is complete and the maximum concentrations of all chemicals of concern at the point of compliance do not exceed the Tier 1 levels and there is no petroleum sheen or residue attributable to the site, no further action is required for assessment of this pathway.

e. Corrective action response. If a Tier 1 level is exceeded for any chemical of concern for a designated use segment within 200 feet of the source, or the groundwater professional determines the presence of a petroleum-regulated substance sheen or residue, a Tier 2 assessment of this pathway must be conducted.

135.9(11) *Tier 1 submission and review procedures.*

a. Within 90 calendar days of release confirmation or another reasonable period of time determined by the department, owners and operators must submit to the department a Tier 1 report in a format prescribed by the department and in accordance with these rules and the department Tier 1 guidance.

b. If the owner or operator elects to prepare a Tier 2 site cleanup report instead of a Tier 1 assessment, the department must be notified in writing prior to the expiration of the Tier 1 submission deadline. The Tier 2 site cleanup report must be submitted to the department in accordance with rule 567—135.10(455B) within 180 calendar days of release confirmation or another reasonable period of time determined by the department.

c. Tier 1 report completeness and accuracy. A Tier 1 report is considered to be complete if it contains all the information and data required by this rule and the department Tier 1 guidance. The report is accurate if the information and data is reasonably reliable based first on application of the standards in these rules and department guidance and second, generally accepted industry standards.

d. The certified groundwater professional shall include the following certification with the Tier 1 site assessment report:

I, _____, Groundwater Professional Certification No. _____, am familiar with all applicable requirements of Iowa Code section 455B.474 and all rules and procedures adopted thereunder including, but not limited to, 567—Chapter 135 and the Department of Natural Resources Tier 1 guidance. Based on my knowledge of those documents and information I have prepared and reviewed regarding this site, UST Registration No. _____, LUST No._____ I certify that this document is complete and accurate as provided in 567 IAC 135.9(11)*"c"* and meets the applicable requirements of the Tier 1 site assessment.

Signature:

Date:

e. Upon receipt of the groundwater professional's certified Tier 1 report, the groundwater professional's proposed site classification for the site shall be determinative unless, within 90 days of receipt, the department identifies material information in the report that is inaccurate or incomplete. Material information may be data found to be inaccurate or incomplete or a report that lacks information which, if correct and complete, would result in a different site classification than proposed by the certified groundwater professional. If the department determines that the site cleanup report is inaccurate or incomplete, the department shall notify the groundwater professional of the inaccurate or incomplete information within 90 days of receipt of the report and shall work with the groundwater professional and the party responsible for cleanup to obtain correct information or additional information necessary to appropriately classify the site. If the groundwater professional recommends proceeding to Tier 2, or a Tier 2 site cleanup report is required pursuant to 135.7(5)*"g,"* 135.8(5), or 567—135.9(455B), the groundwater professional's site classification and pathway classification recommendations shall not be considered determinative until the Tier 2 report is submitted for review as provided in 135.10(11).

f. If a "no action required" site classification is proposed, the department shall review the report in accordance with 135.12(6) and the review standards in paragraph 135.9(11)*"e."*

g. From July 1, 2010, through June 30, 2011, the department shall have 120 days rather than 90 days as provided in paragraphs 135.9(11)*"e"* and *"f"* to review and respond to the report.

135.9(12) *Tier 1 site classification and corrective action response.*

a. No action required site classification. At Tier 1, a site is only eligible for a "no action required" classification. To be classified as no action required, each pathway must meet the requirements for

pathway clearance as specified in this rule. If the department determines a no action required site classification is appropriate, a no further action certificate will be issued as provided in 135.12(10).

b. Where an individual pathway or a chemical group meets the requirements for clearance but the site is not entitled to a no action required classification, only those pathways and chemical groups which do not meet the no further action requirements must be evaluated as part of a Tier 2 assessment as provided in rule 567—135.10(455B).

c. Compliance monitoring and confirmation sampling. Compliance monitoring is not an acceptable corrective action at Tier 1. Except for soil gas sampling under 135.9(7), confirmation sampling to verify a sample does not exceed a Tier 1 level is not required. However, the department retains the authority to require confirmation sampling from existing groundwater monitoring wells if a no action required classification is being proposed at Tier 1 and the department has a reasonable basis to question the representative validity of the samples based on, for example, the seasonal bias of the sampling, evidence of multiple sources of releases, marginal groundwater monitoring well locations and analytical variability.

d. Expedited corrective action. Expedited corrective action is permissible in accordance with 135.12(11).

[**ARC 7621B**, IAB 3/11/09, effective 4/15/09; **ARC 9011B**, IAB 8/25/10, effective 9/29/10; **ARC 9331B**, IAB 1/12/11, effective 2/16/11]

567—135.10(455B) Tier 2 site assessment policy and procedure.

135.10(1) *General conditions.* A Tier 2 site assessment must be conducted and a site cleanup report submitted for all sites which have not obtained a no action required site classification and for all pathways and chemicals of concern groups that have not obtained no further action clearance as provided in 567—135.9(455B). If in the course of conducting a Tier 2 assessment, data indicates the conditions for pathway clearance under Tier 1 no longer exist, the pathway shall be further assessed under this rule. The Tier 2 assessment and report must be completed whenever free product is discovered as provided in 567—135.7(455B). If the owner or operator elects to complete the Tier 2 site assessment without doing a Tier 1 assessment, all the Tier 1 requirements as provided in 135.9(455B) must be met in addition to requirements under this rule.

a. Guidance. The Tier 2 site assessment shall be conducted in accordance with the department's "Tier 2 Site Assessment Guidance" and these rules. The site cleanup report shall be submitted on forms and in a format prescribed by this guidance. The Tier 2 data analysis shall be performed by using computer software developed by the department or by using the computer software's hard-copy version.

b. Classification. At Tier 2, individual pathways may be classified as high risk or low risk or no action required and separate classification criteria may apply to actual and potential receptors for any pathway. A single pathway may have multiple classifications based on actual or potential receptor evaluations. A pathway must meet both the criteria for actual and potential receptors for the pathway to obtain a classification of no action required. Sites may have multiple pathway classifications. For a site to obtain a no action required classification, all pathways must meet the individual pathway criteria for no action required classification.

c. Public right-of-way. As a general rule, public right-of-way will not be considered an area of potential receptor exposure except for potential sanitary sewer evaluation under the soil and groundwater vapor pathways, subrules 135.10(6) and 135.10(7).

135.10(2) *General Tier 2 assessment procedures.*

a. Objectives. The objective of a Tier 2 assessment is to collect site-specific data and with the use of Tier 2 modeling determine what actual or potential receptors could be impacted by chemicals of concern and what concentrations at the source are predicted to achieve protection of these receptors. Both Tier 1 and Tier 2 are based on achieving similar levels of protection of human health, safety and the environment.

b. Groundwater modeling. Tier 2 uses fate and transport models to predict the maximum distance groundwater contamination is expected to move and the distribution of concentrations of chemicals of concern within this area. The model is used for two basic purposes. One, it is used to predict at what

levels of concentration contamination would be expected to impact actual and potential receptors. Two, it is used to determine a concentration at the source which if achieved, and after dispersion and degradation, would protect actual and potential receptors at the point of exposure. In predicting the transport of contaminants, the models assume the contaminant plume is at "steady state" such that concentrations throughout the plume have reached a maximum level and are steady or decreasing. The Tier 2 models are only designed to predict transport in a direct line between the source and downgradient to a receptor. In order to more reasonably define a modeled plume in all directions, paragraph *"i"* defines a method of decreasing modeled concentrations as a percentage of their distance in degrees from the downgradient direction.

c. Soil vapor models. The soil vapor models are vertical transport models and do not use modeling to predict soil contaminant transport horizontally to receptors.

d. Soil leaching to groundwater modeling. The soil leaching to groundwater model is a model that predicts the maximum concentrations of chemicals of concern that would be expected in groundwater due to vertical leaching from the area of maximum soil concentrations and then incorporates the groundwater transport models to predict contaminant transport through groundwater pathways.

e. Modeling default parameters. The Tier 2 model formulas and applicable parameters are designated in Appendix B and must be followed unless otherwise specified in these rules. Unless otherwise specified, target levels at a point of exposure may be the Tier 1 level(s) or may be determined using site-specific parameters. The target level at a point of exposure is calculated using the Tier 1 formulas in Appendix A and either site-specific measurements or the default values for those parameters identified as "optional" and "site-specific" in Appendix B.

f. Source width. The source width and source length are variables used in modeling and must be determined by the following criteria and as specified in the department's Tier 2 guidance. The following are not to be used as criteria for defining the extent of the contaminant plumes.

(1) Source width (equals S_w in models) for groundwater transport modeling. The sum of group one chemical (benzene, toluene, ethylbenzene, xylenes or "BTEX") concentrations for each groundwater sample is determined and the location of the sample with the maximum total BTEX is identified. Linear interpolation is used to estimate the area where groundwater concentrations would be expected to exceed 50 percent of the maximum BTEX value, and this area is considered for the source width measurement. The same procedure is used to determine source width for group two chemicals, using TEH in groundwater. The width of the groundwater contamination perpendicular to estimated groundwater flow direction (S_w) is determined, and the larger of either group one or group two chemicals is used in the groundwater transport model.

(2) Source width (S_w) and source length (equals W in models) for soil leaching to groundwater transport modeling. Both the source width perpendicular to the estimated groundwater flow direction (S_w) and the source length parallel to the estimated groundwater flow direction (W) are used in the soil leaching to groundwater model. The sum of BTEX concentrations for each soil sample is determined and the location of the sample with the maximum total BTEX is identified. Concentrations from both the vadose zone and the saturated zone must be considered when determining the maximum. Linear interpolation is used to estimate the area where soil concentrations would be expected to exceed 50 percent of the maximum BTEX value, and this area is considered for the source width and source length measurements. The same procedure is used to determine source width for group 2 chemicals, using TEH in soil. Source width and source length measurements for BTEX in groundwater are also taken following the same linear interpolation criteria in *"f"*(1) above. The source width value used in the model is the greatest of either the soil source width measurements or the groundwater source width measurement. The source length value used in the model is the greatest of either of the soil source length measurements or the groundwater length measurement.

(3) Estimating source width when free product is present. Groundwater from wells with free product must be analyzed for BTEX and the source width and source length are estimated using the criteria in 135.10(2)*"f"*(1) and 135.10(2)*"f"*(2) above. For those sites with approved site cleanup reports and free product present in wells but actual BTEX values are not available, source width and source length may be estimated in accordance with 135.10(2)*"f"*(1) and 135.10(2)*"f"*(2) using the

default BTEX values for groundwater in 135.18(4) or estimated by using the area representing half the distance between wells with free product and wells without free product, whichever method is greater.

g. Modeled simulation line. The simulation line represents the predicted maximum extent of groundwater contamination and distribution of contaminant concentrations between the source(s) and actual or potential receptor locations. The model calculates the simulation line using maximum concentrations at the source(s) and predicting the amount of dispersion and degradation. Modeled data in the simulation line are compared with actual field data to verify the predictive validity of the model and to make risk classification decisions.

h. Modeled site-specific target level (SSTL) line. The modeled SSTL line represents acceptable levels of contaminant concentrations at points between and including the source(s) and an applicable point(s) of exposure or other point(s) of compliance (ex. a potential receptor point of exposure). The SSTL line is calculated by assuming an applicable target level concentration at the point(s) of exposure or point(s) of compliance and modeling back to the source to determine the maximum concentrations at the source (SSTL) that must be achieved to meet the target level at the point of exposure or compliance. Comparison of field data to this SSTL line is used to determine a risk classification and determine appropriate corrective action response.

i. Crossgradient and upgradient modeling. In determining the SSTL line and the simulation line in directions other than downgradient, the modeled contaminant concentrations are applied to reduced distances, as specified in the "Tier 2 Guidance." The modeled results are applied to 100 percent of the distance within an angle of 30 degrees on either side of the range of downgradient directions, as specified in Tier 2 guidance. The modeled results are applied to 20 percent of the distance in the upgradient direction and directly proportional distances between these two outer limits. If the groundwater gradient is less than 0.005 or the groundwater contaminant plume shows no definitive direction or shows directional reversals, the modeled concentrations are applied to 100 percent of the distance in all directions from the source. As the downgradient velocity increases, the upgradient modeled distance is reduced to less than 20 percent of the downgradient modeled distance.

j. Plume definition. The purpose of plume definition at Tier 2 is to obtain sufficient data to determine the impact on actual and potential receptors, to determine and confirm the highest levels of contamination, to verify the validity of the models, and to determine groundwater flow direction. The number and location of borings and monitoring wells and the specificity of plume definition will depend on the pathway or pathways being assessed and the actual or potential receptors of concern. Unless otherwise specified, groundwater and soil contamination shall be defined to Tier 1 levels for the applicable pathways. Linear interpolation between two known concentrations must be used to delineate plume extent. Samples with no concentrations detected shall be considered one-half the detection limit for interpolation purposes.

k. Pathway completeness. Unless a pathway has obtained clearance under Tier 1, each pathway must be evaluated at Tier 2. Pathways are generally considered complete (unless otherwise specified) and receptors affected if actual receptors or potential receptor points of exposure exist within the modeled contaminant plume using the modeled simulation line calculated to the applicable target level at a point of exposure. If the actual contaminant plume exceeds the modeled plume, the pathway is complete and must be evaluated if actual or potential points of exposure exist within a distance extending 10 percent beyond the edge of the defined plume.

l. Points of exposure and compliance. For actual receptors, the point(s) of exposure is the receptor. For potential receptors, the potential receptor point(s) of exposure is determined by using actual plume definition or the modeled simulation line to determine all points which exceed the target level(s) for potential receptors. The potential receptor point(s) of exposure is the location(s) closest to the source where a receptor could reasonably exist and which is not subject to an institutional control; for example, the source is the potential receptor point of exposure if not subject to an institutional control or an adjoining property boundary line if that property is not subject to an institutional control. At Tier 2, the point(s) of exposure or potential receptor point(s) of exposure is a point of compliance unless otherwise specified. Other points of compliance are specified by rules and will generally include all points along the SSTL line for purposes of pathway and site classification and corrective action response.

m. Group two chemicals. At Tier 2, chemical-specific values for the four chemicals may be used or the largest of the four TEH default values. (Refer to Appendix B and department Tier 2 guidance for using the TEH conversion method for modeling.) If chemical-specific values are used, the analytical method must be approved by the department prior to its use.

135.10(3) *Bedrock assessment.*

a. General. As provided in 135.8(5), if bedrock is encountered before groundwater, special assessment procedures under this subrule apply. The Tier 2 assessment procedures apply to the extent they are not inconsistent with this subrule. The objectives of these special procedures are to avoid creating a preferential pathway for contamination through a confining layer to a bedrock aquifer; to avoid creating a preferential pathway to a fractured system, and to determine whether groundwater transport modeling can be used and, if not, what alternative procedures are required. The owner or operator may choose to conduct a Tier 3 assessment under 567—135.11(455B) as an alternative to proceeding under this subrule. For sites where bedrock is encountered before groundwater, there are three general categories of site conditions which determine the assessment procedures that apply:

(1) Nongranular bedrock. Nongranular bedrock is bedrock which is determined to not act as a granular aquifer as provided in subparagraph (2). Nongranular bedrock generally has some type of fractured system where groundwater transport modeling cannot be applied and which makes it difficult to define the extent of contamination.

(2) Granular bedrock. Granular bedrock is bedrock which is determined to act as a granular aquifer and for which monitoring wells do not exist at the source as of August 15, 1996. For purposes of this rule, a granular aquifer is one that shows no extraordinary variations or inconsistencies in groundwater elevations across the site, groundwater flow, hydraulic conductivities, or total dissolved solid concentrations among monitoring wells. Although the extent of contamination can be defined in granular bedrock, groundwater transport modeling cannot be used because there are no monitoring wells at the source.

(3) Exempt granular bedrock. Exempt granular bedrock is bedrock which is determined to act as a granular aquifer as provided in subparagraph (2) and for which monitoring wells exist at the source as of August 15, 1996. Sites in exempt granular bedrock shall be evaluated using the normal Tier 1 or Tier 2 procedures in this rule. Nongranular bedrock is not exempt from this subrule even if groundwater monitoring wells exist at the source.

b. Exempt soil pathways. The soil vapor to enclosed space pathway and the soil to plastic water lines pathway shall be assessed under the normal Tier 2 procedures in subrules 135.10(7) and 135.10(9) respectively. In all cases, the normal assessment must comply with the policy of avoiding a preferential pathway to groundwater consistent with 135.8(5) and this subrule.

c. Soil and groundwater assessment. The vertical and horizontal extent of soil contamination shall first be defined to Tier 1 levels for the soil leaching to groundwater pathway without drilling into bedrock. A minimum of three groundwater monitoring wells shall be located and installed between 50 to 100 feet beyond the soil contamination Tier 1 levels to avoid creating a preferential pathway. Analytical data as normally required by these rules and guidance must be obtained.

d. Soil contamination remediation. For all sites where soil contamination exceeds the soil leaching to groundwater Tier 1 levels, soil excavation or other active soil remediation technology must be conducted in accordance with department guidance to reduce concentrations to below this Tier 1 level. Soil remediation monitoring must be conducted in accordance with 567—135.12(455B).

e. Groundwater plume definition. If it is determined the groundwater acts in a manner consistent with a granular aquifer as provided in subparagraph *"a"*(2) and guidance but does not meet the criteria for exemption under subparagraph *"a"*(3), the plume must be defined. The policy of avoiding the creation of a preferential pathway to the bedrock aquifer in accordance with 135.8(5) must be followed.

f. Soil leaching to groundwater ingestion pathway. Under this subrule, the soil leaching to groundwater pathway only need be evaluated in combination with the groundwater ingestion pathway. Because of the policies requiring soil remediation to the soil leaching to groundwater Tier 1 levels under paragraphs *"d"* and *"k,"* the soil leaching pathway target levels applicable to other groundwater

transport pathways and other soil pathways would not be exceeded. If a soil leaching to groundwater Tier 1 level is exceeded, the pathway is high risk.

g. Special procedures for the groundwater ingestion pathway.

(1) A protected groundwater source is assumed without measurements of hydraulic conductivity for all sites designated as granular or nongranular bedrock.

(2) Groundwater well receptor evaluation for granular and nongranular bedrock designations. All drinking and non-drinking water wells within 1,000 feet of the source must be identified and tested for chemicals of concern. All public water supply systems within one mile of the source must be identified and raw water tested for chemicals of concern. If no drinking water wells are located within 1,000 feet of the source, all the area within 1,000 feet is considered a potential receptor point of exposure.

(3) Target levels. The following target levels apply regardless of granular aquifer designation. If drinking water wells are within 1,000 feet of the source, the applicable target level is the groundwater ingestion pathway Tier 1 level for actual receptors. If non-drinking water wells are within 1,000 feet of the source, the applicable target level is the groundwater ingestion pathway Tier 1 level for potential receptors. For potential wells, the applicable target level is the groundwater ingestion pathway Tier 1 level for potential receptors.

(4) Sentry well. If the Tier 1 level for actual receptors is exceeded at sites designated as granular bedrock and the receptor has not yet been impacted, a monitoring well shall be placed between the source and an actual receptor, outside the defined plume and approximately 200 feet from the actual receptor. For alternative well placement, the certified groundwater professional must provide justification and obtain department approval. This monitoring well is to be used for monitoring potential groundwater contamination of the receptor.

(5) High risk classification. A site where bedrock is encountered before groundwater shall be classified high risk for this pathway if any of the following conditions exist regardless of granular aquifer determination: The target level at any actual receptor is exceeded; drinking water well receptors are present within 1,000 feet and groundwater concentrations in any monitoring well exceed the groundwater ingestion Tier 1 level for actual receptors; non-drinking water wells are within 1,000 feet and groundwater concentrations in any monitoring well exceed the groundwater ingestion pathway Tier 1 level for potential receptors; or for sites designated nongranular bedrock, if groundwater concentrations for chemicals of concern from any public water system well within one mile of the source exceed 40 percent of the Tier 1 level for actual receptors, and groundwater concentrations in any monitoring well exceed the groundwater ingestion Tier 1 level for actual receptors. Corrective action shall be undertaken as provided in paragraph *"k."*

(6) Low risk classification. Sites without an actual receptor within 1,000 feet shall be classified as low risk for this pathway if no high risk conditions exist, and the Tier 1 level for potential receptors is exceeded. The site is subject to monitoring as provided in paragraph *"l."* If an actual receptor exists within 1,000 feet, a site designated as granular or nongranular bedrock shall be classified low risk for this pathway when soil contamination has been removed or remediated to below the soil leaching to groundwater Tier 1 levels, and all groundwater monitoring wells are non-detect or below the applicable target level for actual and potential receptors. A site may be reclassified to no action required for this pathway after all monitoring wells meet the exit monitoring criteria as specified in paragraph *"l."* (NOTE: Exit monitoring is required because groundwater monitoring wells are not located at the source or if they are, the data is highly unreliable given the nature of bedrock.) If actual receptors do not exist or have been properly plugged and concentrations exceed the Tier 1 level for potential receptors, institutional controls and notification to permitting authorities may be employed in accordance with 135.10(4)*"i."* The institutional control must prohibit use of groundwater for 1,000 feet.

h. Special procedures for the groundwater vapor to enclosed space pathway.

(1) Soil gas plume. Soil gas measurements must be taken regardless of granular aquifer determination and in accordance with Tier 2 guidance to determine a soil gas plume. Soil gas where practical should be measured at the soil-bedrock interface. At a minimum, soil gas must be measured at the suspected area of maximum contamination and near the three monitoring wells with the highest concentrations that exceed the Tier 1 level for the groundwater to enclosed space pathway. Where the

plume has been defined, soil gas measurements should be taken near wells exceeding the Tier 1 level. Other soil gas measurements must be taken as needed to define the extent of contamination where soil gas measurements exceed the soil gas vapor target levels.

(2) The soil gas target levels are those defined in 135.10(7)*"f."*

(3) High risk classification. A site designated as granular or nongranular bedrock shall be classified high risk for this pathway if an actual confined space receptor exists within 50 feet of the soil gas plume based on the soil gas target level as defined in 135.10(6).

(4) Low risk classification. A site designated as granular or nongranular bedrock shall be classified as low risk for this pathway if the soil gas exceeds the vapor target level at any point and no actual confined space receptors exist within 50 feet of the soil gas contaminant plume.

i. Special procedure for the groundwater to water line pathway.

(1) Target level. The applicable target level is the Tier 1 level for the specific type of water line.

(2) High risk classification. A site designated as granular or nongranular bedrock shall be classified high risk for this pathway if the highest groundwater elevation is higher than three feet below the bottom of a water line as provided in 135.10(8)*"a"*(1), risk classification cannot be determined as provided in 567—135.12(455B) due to limitations on placement of monitoring wells, and water lines exist within 200 feet of a monitoring well which exceeds the Tier 1 level.

j. Special procedures for the surface water pathway. Any surface water body within 200 feet of the source must be evaluated under the following for sites designated as granular or nongranular bedrock. The provisions of 135.10(10) apply to the extent they are not inconsistent with the following, including the visual inspection requirements.

(1) Point of compliance. The monitoring well closest to the surface water body must be used as the point of compliance to evaluate impacts to designated use segments as described in 135.10(10) and for general use segments that fail the visual inspection criteria of 135.10(10)*"b."* If the surface water criteria is exceeded for a designated use segment, an allowable discharge concentration must be calculated and met at the point of compliance. For general use segments failing the visual inspection criteria, the acutely toxic target level must be met at the point of compliance.

(2) High risk classification. A site designated as granular or nongranular bedrock shall be classified high risk for this pathway if the surface water body is within 200 feet of the source, risk classification cannot be determined as per 567—135.12(455B) due to limitations on placement of monitoring wells, and the monitoring well closest to the designated use segment exceeds the allowable discharge concentration. A general use segment failing the visual inspection criteria is high risk if, after the sheen is removed, the monitoring well closest to the general use segment exceeds the acutely toxic target level.

(3) Low risk classification. If the allowable discharge concentration is not exceeded at the point of compliance, the site shall be classified as low risk for this pathway and subject to monitoring under paragraph *"l."* The monitoring well closest to the receptor shall serve as the sentry well for monitoring purposes.

k. High risk corrective action response. Owners and operators have the option to conduct a Tier 3 assessment in accordance with 567—135.11(455B).

(1) Groundwater ingestion pathway. For high risk sites, where soil exceeds the soil leaching to groundwater Tier 1 level for actual receptors, soil excavation or other active remediation of soils must be conducted in accordance with department guidance to reduce soil concentrations below the soil leaching Tier 1 level. Corrective action other than monitoring of groundwater is required at sites designated as nongranular bedrock if the actual receptor has been or is likely to be impacted. Corrective action other than monitoring of groundwater is required at sites designated as granular bedrock if the actual receptor has been impacted or the sentry well required by 135.10(3)*"g"*(4) has been impacted above Tier 1 levels. Acceptable corrective action for impacted or vulnerable groundwater wells may include active remediation, technological controls, institutional controls, well plugging, relocation, and well reinstallation with construction measures sufficient to prevent contaminant infiltration to the well and to prevent formation of a preferential pathway.

(2) Groundwater ingestion pathway high risk monitoring. For high risk sites designated as nongranular or granular bedrock, if the soil concentrations do not exceed the soil leaching to groundwater Tier 1 levels or have been reduced to this level by corrective action, and corrective action of groundwater is not required as in subparagraph (1), these sites shall be subject to groundwater monitoring as provided in paragraph *"l."* Corrective action other than monitoring of groundwater is required at sites designated as granular bedrock if groundwater concentrations exceed the applicable target level less than 200 feet from an actual receptor. Reevaluation of the potential for impact to actual receptors is required at sites designated as nongranular bedrock if concentrations from monitoring wells increases more than 20 percent of the previous samples.

(3) For water line pathways. For high risk sites, active remediation must be conducted to reduce concentrations below the applicable target levels, or water lines and gaskets must be replaced or relocated, including the use of institutional and technological controls. If lines are polybutylene, polyethylene, or asbestos-cement, the lines must be removed or relocated. All water lines that are replaced must be replaced with water line materials and gasket materials of appropriate construction in accordance with current department standards set forth in 567—Chapter 43 and with no less than nitrile or FKM gaskets or as otherwise approved by the department.

(4) Other pathways. For high risk sites other than groundwater ingestion and water lines, active remediation must be conducted to reduce concentrations below the applicable target levels including the use of institutional and technological controls.

l. Monitoring. For high and low risk sites, annual monitoring at a minimum is required as specified below, and potential receptor status for low risk sites must be confirmed. Annual monitoring may be used to meet the exit requirements for no action required classification in accordance with paragraph *"m."*

(1) Groundwater in nongranular bedrock designations. All groundwater monitoring wells must be monitored at least annually.

(2) Groundwater in granular bedrock designations. The following monitoring wells must be monitored at least annually: a well with detected levels of contamination closest to the leading edge of the groundwater plume between the source and the receptor, and a sentry well with concentrations below the applicable target level consistent with subparagraph *"g"*(4) and paragraph *"j."*

(3) Soil gas. For sites where the soil gas target level is exceeded, annual monitoring of soil gas is required at the suspected area of maximum contamination and between the soil gas plume and any actual receptors within 100 feet of the soil gas plume.

m. No action required classification. A site may be given a no action required classification after conducting a Tier 2 assessment as provided in this subrule if maximum soil concentrations do not exceed the Tier 1 levels for the soil leaching pathway, and if groundwater exit monitoring criteria and soil gas confirmation sampling are met as specified below.

(1) Groundwater in nongranular bedrock designations. Exit monitoring requires that samples from all groundwater monitoring wells must not exceed the applicable target levels for annual sampling for three consecutive years.

(2) Groundwater in granular bedrock designations. Exit monitoring must be met in two ways: A monitoring well between the source and the receptor must not exceed applicable target levels for three sampling events, and samples must be separated by at least six months; and the three most recent consecutive groundwater samples from a monitoring well between the source and the receptor with detected levels of contamination must show a steady or declining trend and meet the following criteria: The first of the three samples must be more than detection limits, concentrations cannot increase more than 20 percent from the first of the three samples to the third sample; concentrations cannot increase more than 20 percent of the previous sample; and samples must be separated by at least six months.

(3) Soil gas. Confirmation sampling for soil gas must be conducted as specified in 135.12(6)*"c."*

n. After receiving a no action required classification, all monitoring wells must be properly plugged in accordance with 567—Chapters 39 and 49.

135.10(4) *Groundwater ingestion pathway assessment.*

a. Pathway completeness. Unless cleared at Tier 1, this pathway is complete and must be evaluated under any of the following conditions: (1) the first encountered groundwater is a protected groundwater source; or (2) there is a drinking water well or a non-drinking water well within the modeled groundwater plume or the actual plume as provided in 135.10(2)*"j"* and 135.10(2)*"k."*

b. Receptor evaluation. All drinking and non-drinking water wells located within 100 feet of the largest actual plume (defined to the appropriate target level for the receptor type) must be tested, at a minimum, for chemicals of concern as part of the receptor evaluation. Actual plumes refer to groundwater plumes for all chemicals of concern. Untreated or raw water must be collected for analysis unless it is determined to be infeasible or impracticable.

All existing drinking water wells and non-drinking water wells within the modeled plume or the actual plume as provided in paragraph *"a"* must be evaluated as actual receptors. Potential receptors only exist if the groundwater is a protected groundwater source. Potential receptor points of exposure are those points within the modeled plume or actual plume that exceed the potential point of exposure target level. The point(s) of compliance for actual receptor(s) is the receptor. The point(s) of compliance for potential receptor(s) is the potential receptor point of exposure as provided in 135.10(2)*"j"* and 135.10(2)*"k."*

c. Target levels. For drinking water wells, the target level at the point(s) of exposure is the Tier 1 level for actual receptors. For non-drinking water wells, the target level at the point(s) of exposure is the Tier 1levels for potential receptors. For potential receptors, the target level at the potential receptor point(s) of exposure is the Tier 1 level for potential receptors.

d. The soil leaching to groundwater pathway must be evaluated in accordance with 135.9(5) if this pathway is complete.

e. Modeling. At Tier 2, the groundwater well located within the modeled plume is assumed to be drawing from the contaminated aquifer, and the groundwater transport model is designed to predict horizontal movement to the well. If the groundwater professional determines that assessment of the vertical movement of contamination is advisable to determine the potential or actual impact to the well source, a Tier 3 assessment of this vertical pathway may be conducted. The groundwater professional shall submit a work plan to the department specifying the assessment methods and objectives for approval in accordance with 135.11(455B). Factors which should be addressed include, but are not limited to, well depth and construction, radius of influence, hydrogeologic separation of aquifer, preferential pathways, and differing water quality characteristics.

f. Public water supply well assessment. Rescinded IAB 3/11/09, effective 4/15/09.

g. Plume definition. The groundwater plume shall be defined to the applicable Tier 1 level for actual receptors except, where there are no actual receptors and the groundwater is a protected groundwater source, the plume shall be defined to the Tier 1 level for potential receptors.

h. Pathway classification. This pathway shall be classified as high risk, low risk or no action required in accordance with 567—135.12(455B).

i. Corrective action response. Corrective action must be conducted in accordance with 567—135.12(455B). Abandonment and plugging of wells in accordance with 567—Chapters 39 and 49 is an acceptable corrective action response.

j. Use of institutional controls. The use of institutional controls may be used to obtain no action required pathway classification. If the pathway is complete and the concentrations exceed the applicable Tier 1 level(s) for actual receptors, the drinking or non-drinking water well must be properly plugged in accordance with 567—Chapters 39 and 49 and the institutional control must prohibit the use of a protected groundwater source (if one exists) within the actual or modeled plume as provided in 135.10(2)*"j"* and 135.10(2)*"k."* If the Tier 1 level is exceeded for potential receptors, the institutional control must prohibit the use of a protected groundwater source within the actual or modeled plume, whichever is greater. If concentrations exceed the Tier 1 level for drinking water wells and the groundwater is a protected groundwater source, the owner or operator must provide notification of the site conditions on a department form to the department water supply section, or if a county has delegated

authority, then the designated county authority responsible for issuing private water supply construction permits or regulating non-public water well construction as provided in 567—Chapters 38 and 49.

k. Notification of well owners. Upon receipt of a Tier 2 site cleanup report and as soon as practicable, the department shall notify the owner of any public water supply well identified within the Tier 2 site cleanup report that a leaking underground storage tank site is within 2,500 feet and an assessment has been performed.

135.10(5) *Soil leaching to groundwater pathway assessment.*

a. General. The soil leaching to groundwater pathway is evaluated using a one-dimensional model which predicts vertical movement of contamination through soil to groundwater and transported by the groundwater to a receptor. The model is used to predict the maximum concentrations of chemicals of concern that would be present in groundwater beneath a source which is representative of residual soil contamination and maximum soil concentrations. The predicted groundwater concentrations then must be used as a groundwater source concentration to evaluate its impact on other groundwater transport pathways, including the groundwater ingestion pathway, the groundwater vapor pathway, the groundwater water line pathway and the surface water pathway.

b. Pathway completeness. This pathway is complete whenever a groundwater transport pathway is complete as provided in this rule.

c. Plume definition. The soil plume shall be defined to the Tier 1 levels for the soil leaching to groundwater pathway.

d. Receptor evaluation. Receptors for this pathway are the same as the receptors for each complete groundwater transport pathway.

e. Modeling and target levels. The soil and groundwater parameters shall be measured as provided in 135.10(2).

The soil leaching to groundwater model shall be used to calculate the predicted groundwater source concentration. Each applicable groundwater transport pathway model shall then be used in accordance with the rules for that pathway to predict potential impact to actual receptors, the location of potential receptor points of exposure and the site-specific target level (SSTL) in groundwater at the source. This SSTL then is used to calculate a SSTL for soil at the source. If the soil concentrations exceed the SSTL for soil, corrective action response shall be evaluated.

f. Corrective action response. If the maximum soil concentration at the source exceeds the SSTL for soil for actual or potential receptors, corrective action must be taken in accordance with 567—135.12(455B).

135.10(6) *Groundwater vapor to enclosed space pathway assessment.*

a. Pathway completeness. Unless cleared at Tier 1, this pathway is always considered complete for purposes of Tier 2.

b. Explosive vapor survey. If an explosive vapor survey has not been conducted as part of a Tier 1 assessment, an explosive vapor survey of enclosed spaces must be conducted during the Tier 2 assessment in accordance with 135.9(6)*"b"* and procedures outlined in the department's Tier 1 guidance.

c. Confined space receptor evaluation. Actual and potential receptors are evaluated at Tier 2 for this pathway.

(1) Actual receptors. An existing confined space within the modeled groundwater plume or the actual groundwater plume as provided in 135.10(2)*"j"* and 135.10(2)*"k"* is an actual receptor. For the purpose of Tier 2, a confined space is a basement in a building occupied by humans. Buildings constructed with a concrete slab on grade or buildings constructed without a concrete slab, but with a crawl space are not considered confined spaces. Sanitary sewers are considered confined space receptors and preferential pathways if an occupied building exists within 200 feet of where the sewer line crosses over or through actual or modeled groundwater contamination which exceeds the target levels calculated for sewers. The sanitary sewer includes its utility envelope. The point of exposure is the receptor and points of compliance include the locations where target level measurements may be taken as provided in paragraphs *"f"* and *"g."*

(2) Potential receptors. Potential receptors are confined spaces that do not presently exist but could exist in the future. Areas within the actual groundwater plume perimeter or modeled groundwater plume

perimeter are considered potential receptor points of exposure. Potential receptors are evaluated and target levels established based on the current zoning as provided in paragraph *"f."* The potential receptor point of exposure is a point of compliance.

d. Owners and operators may be required to address vapor inhalation hazards in occupied spaces other than confined spaces as defined in these rules when evidence arises which would give the department a reasonable basis to believe vapor hazards are present or may occur.

e. Plume definition.

(1) The soil plume must be defined in accordance with 135.10(2)*"f"* for the purposes of estimating source width and source length used in soil leaching to groundwater and groundwater transport models.

(2) The groundwater plume must be defined to the target levels derived from site-specific data as provided in paragraph *"f."*

f. Target levels. Target levels can be based on groundwater concentrations, soil gas measurements, and indoor vapor measurements as provided below.

(1) For actual receptors and potential receptors, groundwater modeling as provided in 135.10(2) is used to calculate the groundwater concentration target level at the point of exposure. Default residential exposure factors, default residential building parameters, and a target risk of 10^{-4} are used to determine target levels for actual receptors and potential receptor points of exposure in residential areas and areas with no zoning. Default nonresidential exposure factors, default nonresidential building parameters, and a target risk of 10^{-4} are used to determine target levels for actual receptors and potential receptor points of exposure in nonresidential areas. Default values are provided in Appendices A and B.

(2) For actual receptors, the indoor vapor target levels are designated in 135.10(7)*"f."* For actual and potential receptors, the soil gas target levels are designated in 135.10(7)*"f."*

(3) Sanitary sewers are treated as human health receptors, and groundwater concentration target levels at the point of exposure are based on the application of a target risk of 2×10^{-4} for carcinogens and a hazard quotient of 2 for noncarcinogens.

g. Pathway evaluation and classification. Upon completion of analysis of field data and modeled data, the pathway must be classified high risk, low risk or no further action as provided in 567—135.12(455B).

(1) Actual receptors. If it can be demonstrated that the groundwater plume has reached steady state concentrations under a confined space, indoor vapor measurements at the point(s) of exposure and soil gas measurements at an alternative point(s) of compliance may be used for the pathway evaluation. When assessing sanitary sewers for pathway clearance, soil gas measurements may be evaluated against the soil gas target levels; however, indoor vapor cannot be used as criteria for pathway clearance. Soil gas measurements shall be taken and analyzed in accordance with 135.16(5) and the department's Tier 2 guidance, and at locations in the plume where measured groundwater concentrations exceed the levels which are projected by modeling to exist beneath the actual receptor. If measured groundwater concentrations beneath the actual receptor exceed the levels projected from modeling, then the soil gas measurements may be taken either adjacent to the actual receptor in areas expected to exhibit the greatest soil gas measurements or at an alternative point of compliance between the source and receptor where the actual groundwater concentrations exceed the groundwater concentrations which exist beneath the confined space. If the soil gas measurements and confirmation samples taken in accordance with 135.12(6)*"c"* do not exceed the soil gas target levels, the pathway as to actual receptors shall be classified no action required. If the soil gas target levels are exceeded, either the pathway shall be classified high risk, or indoor vapor measurements may be taken in accordance with the department's Tier 2 guidance. If indoor vapor measurements and confirmation samples do not exceed the indoor vapor target levels, the pathway as to actual confined space receptors shall be classified no action required. If the Tier 1 indoor vapor target levels are exceeded, the pathway shall be classified high risk.

(2) Potential receptors. If the potential receptor groundwater concentration target level(s) is exceeded at any potential receptor point of exposure based on actual data or modeling, the pathway shall be classified low risk. However, if soil gas measurements taken at the potential receptor point(s) of exposure and alternate point(s) of compliance and confirmation samples do not exceed the target levels in 135.10(7)*"f,"* the pathway, as to potential receptors, shall be classified no action required. If

the target level(s) for potential sanitary sewer receptors is exceeded, the pathway shall be classified as low risk. Where the area of potential receptor exposure includes public right-of-way, the pathway may be classified as no action required if the owner or operator provides sufficient documentation to establish that there are no foreseeable plans for construction of sanitary sewers through the area of potential receptor exposure. The municipal authority must acknowledge consent to the no action required classification whenever target levels are exceeded. If the municipal authority reports that it has confirmed plans for construction of sanitary sewers through the area of potential receptor exposure, the pathway shall be reevaluated as an actual receptor.

h. Corrective action response. Unless the pathway is classified as no action required, corrective action for this pathway must be conducted as provided in 567—135.12(455B). Actual receptors are subject to corrective actions which: (1) reduce groundwater concentrations beneath the enclosed space to below the target level; (2) reduce the measured soil gas levels to below the soil gas target levels; (3) reduce the indoor vapor concentrations to below the indoor vapor target level; or (4) reduce the vapor level to below 10 percent of the lower explosive limit (LEL), if applicable. Potential receptors are subject to the monitoring requirements in 135.12(5). Soil vapor monitoring may be conducted in lieu of groundwater monitoring for this pathway. Institutional or technological controls as provided in 567—135.12(455B) may be used.

i. Municipal authority notification for potential sewer receptors. The municipal authority responsible for sewer construction must be notified of the environmental conditions whenever target level(s) is exceeded for potential sanitary sewers. The notification must show the area where groundwater concentrations and soil gas samples exceed target levels. The owner or operator must acknowledge what plans, if any, exist for construction of sanitary sewers through the area of potential receptor exposure.

135.10(7) *Soil vapor to enclosed space pathway assessment.*

a. Pathway completeness. Unless cleared at Tier 1, this pathway is always considered complete for purposes of Tier 2.

b. Explosive vapor survey. If an explosive vapor survey has not been conducted as part of a Tier 1 assessment, an explosive vapor survey of enclosed spaces must be conducted during the Tier 2 assessment in accordance with 135.9(6)*"b"* and procedures outlined in the department's Tier 1 guidance.

c. Confined space receptor evaluation. Actual and potential receptors are evaluated at Tier 2 for this pathway.

(1) Actual receptors. An existing confined space within 50 feet of the edge of the plume is an actual receptor. For the purpose of Tier 2, a confined space is a basement in a building occupied by humans. Buildings constructed with a concrete slab on grade or buildings constructed without a concrete slab, but with a crawl space are not considered receptors. Sanitary sewers are considered confined space receptors and preferential pathways if an occupied building exists within 200 feet of where the sewer line crosses over or through soil contamination which exceeds the target levels calculated for sewers. The sanitary sewer includes its utility envelope. The point of exposure is the receptor and points of compliance include the locations where target level measurements may be taken as provided in paragraphs *"f"* and *"g."*

(2) Potential receptors. Potential receptors are confined spaces that do not presently exist but could exist in the future. Areas where soil concentrations are greater than the Tier 1 level applicable to residential areas or alternative target levels for nonresidential areas as specified in paragraph *"f"* are considered potential receptor points of exposure. Potential receptors are evaluated and target levels established based on the current zoning. An area with no zoning is considered residential. The potential receptor point of exposure is a point of compliance.

d. Owners and operators may be required to address vapor inhalation hazards in occupied spaces other than confined spaces as defined in these rules when evidence arises which would give the department a reasonable basis to believe vapor hazards are present or may occur.

e. Plume definition. The soil plume must be defined to the Tier 1 level for this pathway unless vapor measurements taken at the area(s) with the maximum levels of soil contamination do not exceed the soil gas target level in 135.10(7)*"f."* If soil gas measurements taken from the area(s) of maximum

soil concentration do not exceed target levels, confirmation sampling must be conducted in accordance with 135.12(6)*"c"* prior to proposing a no action pathway classification.

f. Target levels. Target levels can be based on soil concentrations, soil gas measurements, and indoor vapor measurements as provided below:

(1) For actual receptors, the soil concentration target level is the Tier 1 level. For potential receptors, the soil concentration target level for residential areas and areas with no zoning is the Tier 1 level. For areas zoned nonresidential, the target level is calculated using the default nonresidential exposure factors and building parameters from Appendix A and a target risk of 10^{-4}.

(2) The following indoor vapor target levels apply to actual receptors other than sanitary sewers and the soil gas target levels apply to all actual and potential receptors. These levels were derived from the ASTM indoor air inhalation and the soil vapor to enclosed space models designated in Appendix A.

	Indoor Vapor ($\mu g/m^3_{air}$)	**Soil Gas ($\mu g/m^3$)**
Benzene	39.2	600,000
Toluene	555	9,250,000

(3) Sanitary sewers are treated as human health receptors, and soil concentration target levels at the point of exposure are based on application of a target risk of 2×10^{-4} for carcinogens and hazard quotient of 2 for noncarcinogens.

g. Pathway evaluation and classification.

(1) Actual receptors. Confined space receptors may be evaluated using soil gas measurements and indoor vapor measurements. When assessing sanitary sewers for pathway clearance, soil gas measurements may be evaluated against the soil gas target levels, however, indoor vapor cannot be used as criteria for pathway clearance. Soil gas measurements shall be taken adjacent to the actual receptor or at an alternative point of compliance between the source and receptor such as the property boundary, and in accordance with 135.16(5) and the department's Tier 2 guidance. If the soil gas measurements and confirmation samples taken in accordance with 135.12(6)*"c"* do not exceed the soil gas target levels, the pathway as to actual receptors shall be classified no action required. If the soil gas target levels are exceeded, either the pathway shall be classified high risk, or indoor vapor measurements may be taken in accordance with the department's Tier 2 guidance. If indoor vapor measurements and confirmation samples do not exceed the indoor vapor target levels, the pathway as to actual receptors shall be classified no action required. If the indoor vapor target levels are exceeded, the pathway shall be classified high risk.

(2) Potential receptors. If the potential receptor target level(s) based on soil concentrations is exceeded at any potential receptor point of exposure, the pathway shall be classified low risk. However, if soil gas measurements taken at the potential receptor point(s) of exposure and alternate point(s) of compliance and confirmation samples do not exceed the target levels in paragraph *"f,"* the pathway shall be classified no action required as to potential receptors. If the target level(s) for potential sanitary sewer receptors is exceeded, the pathway shall be classified as low risk. Where the area of potential receptor exposure includes public right-of-way, the pathway may be classified as no action required if the owner or operator provides sufficient documentation to establish that there are no foreseeable plans for construction of sanitary sewers through the area of potential receptor exposure. The municipal authority must acknowledge consent to the no action required classification whenever target levels are exceeded. If the municipal authority reports that it has confirmed plans for construction of sanitary sewers through the area of potential receptor exposure, the pathway shall be reevaluated as an actual receptor.

h. Corrective action response. Unless the pathway is classified as no action required, corrective action for this pathway must be conducted as provided in 567—135.12(455B) and in accordance with department Tier 2 guidance. Actual receptors are subject to corrective actions which: (1) reduce the indoor vapor concentrations to below the target level; (2) reduce measured soil gas levels to below the soil gas target levels; and (3) if applicable, reduce the vapor level to below 10 percent of the

lower explosive limit (LEL). Potential receptors are subject to monitoring requirements as provided in 135.12(5). Soil vapor monitoring may be conducted in lieu of soil monitoring for this pathway. Institutional or technological controls as provided in 567—135.12(455B) may be used.

i. Municipal authority notification for potential sewer receptors. The municipal authority responsible for sewer construction must be notified of the environmental conditions whenever target level(s) is exceeded for potential sanitary sewers. The notification must show the area where soil concentrations and soil gas samples exceed target levels. The owner or operator must acknowledge what plans, if any, exist for construction of sanitary sewers through the area of potential receptor exposure.

135.10(8) *Groundwater to water line pathway assessment.*

a. Pathway completeness and receptor evaluation.

(1) Actual receptors include all water lines where the highest groundwater elevation is higher than three feet below the bottom of the water line at the measured or predicted points of exposure. The highest groundwater elevation is the estimated average of the highest measured groundwater elevations for each year. All water lines must be evaluated for this pathway regardless of distance from the source and regardless of the Tier 1 evaluation, if the lines are in areas with actual data above the applicable Tier 1 level and modeled data above the SSTL line. If actual data exceeds modeled data, then all water lines are considered actual receptors if they are within a distance extending 10 percent beyond the edge of the contaminant plume defined by the actual data.

(2) Potential receptors include all areas where the first encountered groundwater is less than 20 feet deep and where actual data or modeled data are above Tier 1 levels.

(3) The point(s) of exposure is the water line, and the points of compliance are monitoring wells between the source and the water line which would be effective in monitoring whether the line has been or may be impacted by chemicals of concern.

b. Plume definition. If this pathway is complete for an actual receptor, the groundwater plume must be defined to the Tier 1 levels, with an emphasis between the source and any actual water lines. The water inside the water lines shall be analyzed for all chemicals of concern.

c. Target levels. Groundwater modeling as provided in 135.10(2) must be used to calculate the projected concentrations of chemicals of concern and site-specific target levels. The soil leaching to groundwater pathway must be evaluated to ensure contaminated soil will not cause future groundwater concentrations to exceed site-specific target levels. The target level at the point(s) of exposure is the Tier 1 level.

d. Pathway classification. Upon completion of analysis of field data and modeled data, the pathway must be classified high risk, low risk or no further action as provided in 567—135.12(455B). The water quality inside the water lines is not a criterion for clearance of this pathway.

e. Utility company notification. The utility company which supplies water service to the area must be notified of all actual and potential water line impacts as soon as knowledge of a potential risk is determined. If the extent of contamination has been defined, this information must be included in utility company notification, and any previous notification made at Tier 1 must be amended to include this information.

f. Corrective action response.

(1) For actual receptors, unless the pathway is classified as no further action, corrective action for this pathway must be conducted as provided in 567—135.12(455B). If the concentrations of chemicals of concern in a water line exceed the Tier 1 levels for actual receptors for the groundwater ingestion pathway, immediate corrective action must be conducted to eliminate exposure to the water, including but not limited to replacement of the line with an approved material.

(2) For potential receptors, upon utility company notification, no further action will be required for this pathway for potential receptors.

135.10(9) *Soil to water line pathway assessment.*

a. Pathway completeness and receptor evaluation.

(1) Actual receptors include all water lines within ten feet of the soil plume defined to the Tier 1 level. All water lines must be evaluated for this pathway regardless of distance from the source if the lines are in areas where Tier 1 levels are exceeded.

(2) Potential receptors include all areas where Tier 1 levels are exceeded.

b. Plume definition. The extent of soil contamination must be defined to Tier 1 levels for the chemicals of concern.

c. Target level. The point(s) of exposure includes all areas within ten feet of the water line. The target level at the point(s) of exposure is the Tier 1 level.

d. Pathway classification. Upon completion of analysis of field data, the pathway must be classified high risk, low risk or no further action as provided in 567—135.12(455B). Measurements of water quality inside the water lines may be required, but are not allowed as criteria to clear this pathway.

e. Utility company notification. The utility company which supplies water service to the area must be notified of all actual and potential water line impacts as soon as knowledge of the potential risk is determined. If the extent of contamination has been defined, this information must be included in utility company notification, and any previous notification made at Tier 1 must be amended to include this information.

f. Corrective action response.

(1) For actual receptors, unless the pathway is classified as no further action, corrective action for this pathway must be conducted as provided in 567—135.12(455B).

(2) For potential receptors, upon utility company notification, no further action will be required for this pathway for potential receptors.

135.10(10) *Surface water pathway assessment.*

a. Pathway completeness. Unless maximum concentrations are less than the applicable Tier 1 levels, this pathway is complete and must be evaluated under any of the following conditions: (1) there is a designated use surface water within the modeled groundwater plume or the actual plume as provided in 135.10(2)*"f"* and 135.10(2)*"g"*; or (2) any surface water body which failed the Tier 1 visual inspection as provided in 135.9(10).

b. Visual inspection. A visual inspection must be conducted according to 135.9(10)*"c."* If a sheen or residue from a petroleum-regulated substance is present, soil and groundwater sampling must be conducted to identify the source of the release and to define the extent of the contaminant plume to the levels acutely toxic to aquatic life as provided in 567—subrule 61.3(2).

c. Receptor evaluation.

(1) Surface water criteria apply only to designated use segments of surface water bodies as provided in 567—subrules 61.3(1) and 61.3(5). If the surface water body is a designated use segment and if maximum groundwater concentrations exceed applicable surface water criteria, the extent of contamination must be defined as provided in paragraph *"d."* The point of compliance for measuring chemicals of concern at the point of exposure is the groundwater adjacent to the surface water body because surface water must be protected for low flow conditions. In-stream measurements of concentrations are not allowed as a basis for no further action.

(2) If the visual inspection indicates the presence of a petroleum sheen in a general use segment within 200 feet of the source, as defined in 567—paragraph 61.3(1)*"a,"* the segment must be evaluated as an actual receptor. The point of compliance for measuring chemicals of concern at the point of exposure is the groundwater adjacent to the general use segment.

d. Plume definition. The groundwater plume must be defined to the surface water criteria levels for designated use segment receptors and to the acutely toxic levels for general use segment receptors, with an emphasis between the source and the surface water body.

e. Target levels. Determining target levels for this pathway involves a two-step process.

(1) Groundwater modeling as provided in 135.10(2) must be used to calculate the projected concentrations of chemicals of concern at the point of compliance. If the modeled concentrations or field data at the point of compliance exceed surface water criteria for designated use segments, an allowable discharge concentration must be calculated. If the projected concentrations and field data at the point of compliance do not exceed surface water criteria, no further action is required to assess this pathway.

(2) The department water quality section will calculate the allowable discharge concentration using information provided by the certified groundwater professional on a department form. Required information includes, at a minimum, the site location and a discharge flow rate calculated according to

the department's Tier 2 guidance. The allowable discharge concentration is the target level which must be met adjacent to the surface water body which is the point of compliance.

(3) The target level at the point of exposure/compliance for general use segments subject to evaluation is the acutely toxic levels established by the department under 567—Chapter 61 and 567—subrule 62.8(2). If the modeled concentrations of field data at the point of exposure/compliance exceed the acutely toxic levels, modeling must be used to determine site classifications and corrective action in accordance with 567—135.12(455B).

f. Pathway classification. Upon completion of analysis of field data and modeled data, the pathway must be classified high risk, low risk or no further action as provided in 567—135.12(455B).

(1) For general use segments, as defined in 567—subrule 61.3(1), if the groundwater professional determines there is no sheen or residue present or if the site is not the source of the sheen or residue or if the sheen does not consist of petroleum-regulated substances, no further action is required for assessment of this pathway. If a petroleum-regulated substance sheen is present, the pathway is high risk and subject to classification in accordance with 567—135.12(455B).

(2) For designated use segments, as provided in 567—subrules 61.3(1) and 61.3(5), if projected concentrations of chemicals of concern and field data at the point of compliance do not exceed the target level adjacent to the surface water, and the groundwater professional determines there is no sheen or residue present, no further action is required for assessment of this pathway.

g. Corrective action response. Unless the pathway is classified as no further action, corrective action for this pathway must be conducted as provided in 567—135.12(455B). For surface water bodies failing the visual inspection criteria, corrective action must eliminate the sheen and reduce concentrations to below the site specific target level in accordance with 567—135.12(455B).

135.10(11) *Tier 2 submission and review procedures.*

a. Owners and operators must submit a Tier 2 site cleanup report within 180 days of the date the department approves or is deemed to approve a Tier 1 assessment report under 135.9(12). If the owner or operator has elected to conduct a Tier 2 assessment instead of a Tier 1, or a Tier 2 assessment is required due to the presence of free product under 135.7(5), the Tier 2 site cleanup report must be submitted within 180 days of the date the release was confirmed. The department may establish an alternative schedule for submittal.

b. Site cleanup report completeness and accuracy. A Tier 2 site cleanup report is considered to be complete if it contains all the information and data required by this rule and the department's Tier 2 guidance. The report is considered accurate if the information and data are reasonably reliable based first on the standards in these rules and department guidance, and second, on generally accepted industry standards.

c. The certified groundwater professional responsible for completion of the Tier 2 site assessment and preparation of the report must accompany each Tier 2 site cleanup report with a certification as set out below:

I, _____, groundwater professional certification number _____, am familiar with all applicable requirements of Iowa Code section 455B.474 and all rules and procedures adopted thereunder including, but not limited to, the Department of Natural Resources' Tier 2 guidance. Based on my knowledge of those documents and the information I have prepared and reviewed regarding this site, UST registration number _____, LUST No._____, I certify that this document is complete and accurate as provided in 135.10(11) and meets the applicable requirements of the Tier 2 site cleanup report.

Signature

Date

d. Upon receipt of the groundwater professional's certified Tier 2 report, the groundwater professional's proposed site classification for the site shall be determinative unless, within 90 days of receipt, the department identifies material information in the report that is inaccurate or incomplete. Material information may be data found to be inaccurate or incomplete or a report that lacks information which, if accurate and complete, would result in a different site or pathway classification than proposed by the certified groundwater professional. If the department determines that the site cleanup

report is inaccurate or incomplete, the department shall notify the groundwater professional of the inaccurate or incomplete information within 90 days of receipt of the report and shall work with the groundwater professional and the party responsible for cleanup to obtain correct information or additional information necessary to appropriately classify the site. If the groundwater professional recommends proceeding to Tier 3, the groundwater professional's site classification and any pathway classification recommendations subject to or influenced by a Tier 3 assessment shall not be considered determinative until the Tier 3 report is submitted for review as provided in 567—135.11(455B).

e. If a "no action required" site classification is proposed, the department shall review the report in accordance with 135.12(6) and the review standards in paragraph 135.10(11)*"d."*

f. From July 1, 2010, through June 30, 2011, the department shall have 120 days rather than 90 days as provided in paragraph 135.10(11)*"d"* to review and respond to the report.

g. The department may, in the interest of minimizing environmental or public health risks and promoting a more effective cleanup, require owners and operators to begin cleanup of soil and groundwater before the Tier 2 site cleanup report is approved.

h. Review of the public water supply receptor risk assessment. Rescinded IAB 3/11/09, effective 4/15/09.

[**ARC 7621B**, IAB 3/11/09, effective 4/15/09; **ARC 9011B**, IAB 8/25/10, effective 9/29/10; **ARC 9331B**, IAB 1/12/11, effective 2/16/11]

567—135.11(455B) Tier 3 site assessment policy and procedure.

135.11(1) *General.* Tier 3 site assessment. Unless specifically limited by rule or an imminent hazard exists, an owner or operator may choose to prepare a Tier 3 site assessment as an alternative to completion of a Tier 2 assessment under 567—135.10(455B) or as an alternative to completion of a corrective action design report under 567—135.12(455B). Prior to conducting a Tier 3 site assessment, a groundwater professional must submit a work plan to the department for approval. The work plan must contain an evaluation of the specific site conditions which justify the use of a Tier 3 assessment, an outline of the proposed Tier 3 assessment procedures and reporting format and a method for determining a risk classification consistent with the policies underlying the risk classification system in 567—135.12(455B). Upon approval, the groundwater professional may implement the assessment plan and submit a report within a reasonable time designated by the department.

135.11(2) *Tier 3 site assessment.* A Tier 3 assessment may include but is not limited to the use of more site-specific or multidimensional models and assessment data, methods for calibrating Tier 2 models to make them more predictive of actual site conditions, and more extensive assessment of receptor construction and vulnerability to contaminant impacts. If use of Tier 2 models is proposed with substitution of other site-specific data (as opposed to the Tier 2 default parameters), the groundwater professional must adequately justify how site-specific data is to be measured and why it is necessary. The groundwater professional must demonstrate that the proposal has a proven applicability to underground storage tank sites or similar conditions or has a strong theoretical basis for applicability and is not biased toward underestimating assessment results. The Tier 3 assessment report shall make a recommendation for site classification as high risk, low risk or no action required, at least two corrective action response technologies and provide justification consistent with the standards and policies underlying risk classification and corrective action response under 567—135.12(455B) and Iowa Code chapter 455B, Division 4, Part 8.

135.11(3) *Review and submittal.* The department will review the Tier 3 assessment for compliance with the terms of the approved work plan and based on principles consistent with these rules and Iowa Code chapter 455B, Division IV, Part 8. Upon approval of the Tier 3 assessment, the department may require corrective action in accordance with 567—135.12(455B).

567—135.12(455B) Tier 2 and 3 site classification and corrective action response.

135.12(1) *General.* 1995 Iowa Code section 455B.474(1)*"d"*(2) provides that sites shall be classified as high risk, low risk and no action required. Risk classification is accomplished by comparing actual field data to the concentrations that are predicted by the use of models. Field data must be compared to the simulation model which uses the maximum concentrations at a source and predicts

at what levels actual or potential receptors could be impacted in the future. Field data must also be compared to the site-specific target level line which assumes a target level concentration at the point of exposure and is used to predict the reduction in concentration that must be achieved at the source in order to meet the applicable target level at the point of exposure. These models not only predict concentrations at points of exposure or a point of compliance at a source but also predict a distribution of concentrations between the source and the point of exposure which may also be points of compliance. The comparison of field data with these distribution curves primarily is considered for purposes of judging whether the modeled data is reasonably predictive and what measures such as monitoring are prudent to determine the reliability of modeled data and actual field data.

For the soil vapor to enclosed space and soil to water line pathways, there are no horizontal transport models to use for predicting future impacts. Therefore, for these pathways, sites are classified as high risk, low risk or no action required based on specified criteria below and in 567—135.10(455B).

135.12(2) *High risk classification.* Except as provided below, sites shall be classified as high risk if, for any pathway, any actual field data exceeds the site-specific target level line at any point for an actual receptor.

a. For the soil vapor to enclosed space and soil to water line pathways, sites shall be classified as high risk if the target levels for actual receptors are exceeded as provided in 135.10(7) and 135.10(9).

b. For the soil vapor or groundwater vapor to enclosed space pathways, sites shall be classified as high risk if the explosivity levels at applicable points of compliance are exceeded as provided in 135.10(6) and 135.10(7).

c. Generally, sites are classified as low risk if only potential receptor points of compliance are exceeded. The following is an exception. For the soil leaching to groundwater ingestion pathway for potential receptor conditions, the site shall be classified as high risk if the groundwater concentration(s) exceeds the groundwater Tier 1 level for potential receptor and the soil concentration exceeds the soil leaching site-specific target level at the source.

135.12(3) *High risk corrective action response.*

a. Objectives. The primary objectives of corrective action in response to a high risk classification are both short- term and long-term. The short-term goal is to eliminate or reduce the risk of exposure at actual receptors which have been or are imminently threatened with exposure above target levels. The longer term goal is to prevent exposure to actual receptors which are not currently impacted or are not imminently threatened with exposure. To achieve these objectives, it is the intent of these rules that concentrations of applicable chemicals of concern be reduced by active remediation to levels below the site-specific target level line at all points between the source(s) and the point(s) of exposure as well as to undertake such interim corrective action as necessary to eliminate or prevent exposure until concentrations below the SSTL line are achieved. If it is shown that concentrations at all applicable points have been reduced to below the SSTL line, the secondary objective is to establish that the field data can be reasonably relied upon to predict future conditions at points of exposure rather than reliance on the modeled data. Reliance on field data is achieved by establishing through monitoring that concentrations within the contaminant plume are steady or declining. Use of institutional control and technological controls may be used to sever pathways or control the risk of receptor impacts.

b. For the groundwater to water line and soil to water line receptors, these objectives are achieved by active remediation, replacement or relocation of water line receptors from areas within the actual plume plus some added site-specific distance to provide a safety factor to areas outside the site-specific target level line. In areas of free product, all water lines regardless of construction material must be relocated unless there is no other option and the department has approved an alternate plan of construction. If water lines and gaskets are replaced in an area of contamination, they must be replaced with water line materials and gasket materials of appropriate construction in accordance with current department standards set forth in 567—Chapter 43 and with no less than nitrile or FKM gaskets or as otherwise approved by the department. If a service line is replaced and remains in a contaminated area, a backflow preventer shall be installed to prevent impacts to the larger water distribution system.

c. For the soil vapor pathway, these objectives are achieved by active remediation of soil contamination below the target level at the point(s) of exposure or other designated point(s) of

compliance using the same measurement methods for receptor evaluation under 135.10(7) and 135.10(9).

d. For a site classified as high risk or reclassified as high risk for the soil leaching to groundwater ingestion pathway, these objectives are achieved by active remediation of soil contamination to reduce the soil concentration to below the site-specific target level at the source.

e. A corrective action design report (CADR) must be submitted by a certified groundwater professional for all high risk sites unless the terms of a corrective action plan are formalized in a memorandum of agreement within a reasonable time frame specified by the department. The CADR must be submitted on a form provided by the department and in accordance with department CADR guidance within 60 days of site classification approval as provided in 135.10(11). The CADR must identify at least two principally applicable corrective action options designed to meet the objectives in 135.12(3), an outline of the projected timetable and critical performance benchmarks, and a specific monitoring proposal designed to verify its effectiveness and must provide sufficient supporting documentation consistent with industry standards that the technology is effective to accomplish site-specific objectives. The CADR must contain an analysis of its cost-effectiveness in relation to other options. The department will review the CADR in accordance with 135.12(9).

f. Interim monitoring. From the time a Tier 2 site cleanup report is submitted and until the department determines a site is classified as no action required, interim monitoring is required at least annually for all sites classified as high risk. Groundwater samples must be taken: (1) from a monitoring well at the maximum source concentration; (2) from a transition well, meaning a monitoring well with detected levels of contamination closest to the leading edge of the groundwater plume as defined to the pathway-specific target level, and between the source(s) and the point(s) of exposure; and (3) from a guard well, meaning a monitoring well between the source(s) and the point(s) of exposure with concentrations below the SSTL line. If a receptor is located within an actual plume contoured to the applicable target level for that receptor, the point of exposure must be monitored. If concentrations at the receptor already exceed the applicable target level for that receptor, corrective actions must be implemented as soon as practicable. Monitoring conducted as part of remediation or as a condition of establishing a no action required classification may be used to the extent it meets these criteria. Soil monitoring is required at least annually for all applicable pathways in accordance with 135.12(5)*"d."* All drinking water wells and non-drinking water wells within 100 feet of the largest actual plume (defined to the appropriate target level for the receptor type) must be tested annually for chemicals of concern. Actual plumes refer to groundwater plumes for all chemicals of concern.

g. Remediation monitoring. Remediation monitoring during operation of a remediation system is required at least four times each year to evaluate effectiveness of the system. A remediation monitoring schedule and plan must be specified in the corrective action design report and approved by the department.

h. Technological controls. The purpose of a technological control is to effectively sever a pathway by use of technologies such that an applicable receptor could not be exposed to chemicals of concern above an applicable target risk level. Technological controls are an acceptable corrective action response either alone or in combination with other remediation systems. The purpose of technological controls may be to control plume migration through use of containment technologies, barriers, etc., both as an interim or permanent corrective action response or to permanently sever a pathway to a receptor. Controls may also be appropriate to treat or control contamination at the point of exposure. Any technological control proposed as a permanent corrective action option without meeting the reduction in contaminant concentrations objectives must establish that the pathway to a receptor will be permanently severed or controlled. The effectiveness of a technological control must be monitored under a department approved plan until concentrations fall below the site-specific target level line or its effectiveness as a permanent response is established, and no adverse effects are created.

i. Following completion of corrective action, the site must meet exit monitoring criteria to be reclassified as no action required as specified in 135.12(6)*"c."* At any point where an institutional or technological control is implemented and approved by the department, the site may be reclassified as no action required consistent with 135.12(6).

135.12(4) *Low risk classification.* A site shall be classified as low risk if none of the pathways are high risk and if any of the pathways are low risk. A pathway shall be classified low risk if it meets one of the following conditions:

a. For actual and potential receptors, if the modeled data and the actual field data are less than the site-specific target level line, and any of the field data is greater than the simulation line.

b. For potential receptors, if any actual field data exceeds the site-specific target level line at any point.

c. For the soil leaching to groundwater ingestion pathway where modeling predicts that the Tier 1 levels for potential receptors would be exceeded in groundwater at applicable potential receptor points of compliance and the soil concentration exceeds the soil leaching to groundwater site-specific target level but groundwater concentrations are currently below the Tier 1 level for potential receptors, the site shall be initially classified as low risk and subject to monitoring under 135.12(5)*"d"*(2). If at any time during the three-year monitoring period, groundwater concentrations exceed the Tier 1 level for potential receptors, the site shall be classified as high risk requiring soil remediation in accordance with 135.12(3)*"c."*

135.12(5) *Low risk corrective action response.*

a. Purpose. For sites or pathways classified as low risk, the purpose of monitoring is to determine if concentrations are decreasing such that reclassification to no action required may be appropriate or if the contaminant plume is stable such that reclassification to no action required can be achieved with implementation of an institutional control in accordance with 135.12(8), or if concentrations are increasing above the site-specific target level line such that reclassification to high risk is appropriate. Monitoring is necessary to evaluate impacts to actual receptors and assess the continued status of potential receptor conditions. Low risk monitoring shall be conducted and reported by a certified groundwater professional.

b. For sites or pathways classified as low risk, provide a best management practices plan. The plan must include maintenance procedures, schedule of activities, prohibition of practices, and other management practices, or a combination thereof, which, after problem assessment, are determined to be the most effective means of monitoring and preventing additional contamination of the groundwater and soil. The plan will also contain a contamination monitoring proposal containing sufficient sampling points to ensure the detection of any significant movement of or increase in contaminant concentration.

c. Groundwater monitoring. For groundwater pathways, samples must be taken at a minimum of once per year: (1) from a monitoring well at the maximum source concentration; (2) a transitional well meaning a well with detected levels of contamination closest to the leading edge of the groundwater plume as defined to the pathway-specific target level and between the source and the receptor; and (3) a guard well meaning a monitoring well between the source and the point of exposure with concentrations below the SSTL line. (NOTE: Monitoring under this provision may be used to satisfy exit monitoring if it otherwise meets the criteria in 135.12(6).)

d. Soil monitoring.

(1) For the soil vapor to enclosed space pathway potential receptors, soil gas samples must be taken at a minimum of once per year in the area(s) of expected maximum vapor concentrations where an institutional control is not in place.

(2) For the soil leaching to groundwater pathway potential receptors, annual groundwater monitoring is required for a minimum of three years as provided in *"c"* above. If groundwater concentrations are below the applicable SSTL line for all three years, no further action is required. If groundwater concentrations exceed the applicable SSTL line in any of the three years, corrective action is required to reduce soil concentrations to below the Tier 1 levels for soil leaching to groundwater. Therefore, annual monitoring of soil is not applicable.

(3) For the soil to water line pathway potential receptors, notification of the utility company is required. Notification will result in reclassification to no action required. Therefore, annual monitoring of soil is not applicable.

e. Receptors must be evaluated at least annually to ensure no actual or modeled data are above the site-specific target level line for any actual receptors. Potential receptor areas of concern must be

evaluated at least annually and the presence of no actual receptors confirmed. If actual receptors are present or reasonably expected to be brought into existence, the owner or operator must report this fact to the department as soon as practicable. Annual monitoring which also meets the exit criteria under 135.12(6) may be used for that purpose.

f. The site or pathway must meet exit monitoring criteria to be reclassified as no action required as specified in 135.12(6)*"b."* If concentrations for actual receptors increase above the site-specific target level line or potential receptor status changes to actual receptor status, the site must be reclassified as high risk and further corrective action required in accordance with 135.12(3).

135.12(6) *No action required classification.* A site shall be classified as no action required if all of the pathways are classified as no action required as provided below:

a. Soil pathways shall be classified as no action required if samples are less than the applicable target levels as defined for each pathway and confirmational sampling requirements have been met.

b. For initial classification, groundwater pathways shall be classified as no action required if the field data is below the site-specific target level line and all field data is at or less than the simulation line, and confirmation monitoring has been completed successfully. Confirmation sampling for groundwater is a second sample which confirms the no action required criteria.

c. A groundwater pathway shall be reclassified from high risk to no action required if all field data is below the site-specific target level and if exit monitoring criteria have been met. Exit monitoring criteria means that the three most recent consecutive groundwater samples from all monitoring wells must show a steady or declining trend and the most recent samples are below the site-specific target level. Other criteria include the following: The first of the three samples for the source well and transition well must be more than detection limits; concentrations cannot increase more than 20 percent from the first of the three samples to the third sample; concentrations cannot increase more than 20 percent of the previous sample; and samples must be separated by at least six months.

d. A low risk site shall be reclassified as "no action required" if field data is below the site-specific target level and if exit monitoring criteria have been met pursuant to 135.12(6)*"c"* or if the site has maintained less than the applicable target level for four consecutive sampling events separated by at least six months as defined in the monitoring plan regardless of exit monitoring criteria and guidance.

e. Confirmation sampling for soil gas and indoor vapor. For the enclosed space pathways, confirmation sampling is required to reasonably establish that the soil gas and indoor vapor samples represent the highest expected levels. A groundwater professional must obtain two samples taken at least two weeks apart. One of the samples must be taken during a seasonal period of lowest groundwater elevation and soil gas samples must be taken below the frost line.

f. As a condition of obtaining site classification as no action required, all groundwater monitoring wells must be properly plugged in accordance with 567—Chapters 39 and 49 unless the department requires selected wells to be maintained or a written request with justification and a plan for properly maintaining the wells are submitted to the department for approval. Approval to maintain wells shall be deemed granted if not disapproved with reason within 30 days of request.

g. Prior to acceptance of a request to classify the site as no action required, and in the event there is a question of validity of the data or sampling methods, laboratory analysis procedures, indication of plume movement, or the department obtains information about new conditions at the site, the department may conduct or require the owner to conduct confirmation sampling of the soil, groundwater, soil gas, or indoor vapor to confirm that the no action required criteria have been met.

h. The department may waive, at its discretion, the exit monitoring criteria based on a certified groundwater professional's written justification to support a no action required classification for the site based on a reasoned assessment of data, trends, receptor status, and corrective actions performed. One example is when steady and declining criteria have not been met due solely to variations among a laboratory's lowest achievable detection limits.

135.12(7) *Reclassification.* Any site or pathway which is classified as high risk may be reclassified to low risk if in the course of corrective action the criteria for low risk classification are established. Any site or pathway which is classified as low risk may be reclassified to high risk if in the course of monitoring the conditions for high risk classification are established. Sites subject to department-approved institutional

or technological controls are classified as no action required if all other criteria for no action required classification are satisfied.

135.12(8) *Use of institutional and technological controls.*

a. Purpose. The purpose of an institutional control is to restrict access to or use of property such that an applicable receptor could not be exposed to chemicals of concern for as long as the target level is exceeded at applicable points of exposure and compliance. Institutional controls include:

1. A law of the United States or the state;
2. A regulation issued pursuant to federal or state laws;
3. An ordinance or regulation of a political subdivision in which real estate subject to the institutional control is located;
4. An environmental covenant as provided in 2005 Iowa Code Supplement section 455B.474(1)*"f"*(4)(f) and in accordance with the provisions of 2005 Iowa Code Supplement chapter 455I and 567—Chapter 14;
5. Any other institutional control the owner or operator can reasonably demonstrate to the department will reduce the risk from a release throughout the period necessary to ensure that no applicable target level is likely to be exceeded.

b. Modification or termination of institutional and technological controls. At a point when the department determines that an institutional or technological control has been removed or is no longer effective for the purpose intended, regardless of the issuance of a no further action certification or previous site classification, it may require owners and operators to undertake such reevaluation of the site conditions as necessary to determine an appropriate site classification and corrective action response. If the owner or operator is in control of the affected property, the department may require reimplementation of the institutional or technological control or may require a Tier 2 assessment of the affected pathway(s) be conducted to reevaluate the site conditions and determine alternative corrective action response. An owner or operator subject to an institutional or technological control may request modification or termination of the control by conducting a Tier 2 assessment of the affected pathway or conduct such other assessment as required by the department to establish that the control is no longer required given current site conditions.

c. If the owner or operator is not in control of the affected property or cannot obtain control and the party in control refuses to continue implementation of an institutional control, the department may require the owner or operator to take such legal action as available to enforce institution of the control or may require the owner or operator to undertake a Tier 2 assessment to determine site classification and an alternative corrective action response. If a person in control of the affected property appears to be contractually obligated to maintain an institutional or technological control, the department may, but is not required to, attempt enforcement of the contractual obligation as an alternative to requiring corrective action by the owner or operator.

d. If a site is classified no action required, subject to the existence of an institutional control or technological control, the holder of the fee interest in the real estate subject to the institutional control or technological control may request, at any time, that the department terminate the institutional control or technological control requirement. The department shall terminate the requirement for an institutional control if the holder demonstrates by completion of a Tier 2 assessment of the applicable pathway or other assessment as required by the department that the site conditions warranting the control no longer exist and that the site or pathway has met exit criteria for no action required classification under 135.12(6).

135.12(9) *Corrective action design report submission and review procedures.*

a. Owners and operators must submit a corrective action design report (CADR) within 60 days of the date the department approves or is deemed to approve a Tier 2 assessment report under 135.10(11) or a Tier 3 assessment is to be conducted. The department may establish an alternative schedule for submittal. As an alternative to submitting a CADR, owners or operators may participate in a corrective action meeting process to develop a corrective action plan which would be incorporated into a memorandum of agreement or other written agreement approved by the department. Owners or operators shall implement the terms of an approved CADR, memorandum of agreement or other corrective action plan agreement.

b. Corrective action design report completeness and accuracy. A CADR is considered to be complete if it contains all the information and data required by this rule and the department's guidance. The report is considered accurate if the information and data are reasonably reliable based first on the standards in these rules and department guidance, and second, on generally accepted industry standards.

c. The certified groundwater professional responsible for completion of the CADR must provide the following certification with the CADR:

I, _____, groundwater professional certification number _____, am familiar with all applicable requirements of Iowa Code section 455B.474 and all rules and procedures adopted thereunder including, but not limited to, the Department of Natural Resources' guidance and specifications for corrective action design reports. Based on my knowledge of those documents and the information I have prepared and reviewed regarding this site, UST registration number _____, LUST No._____, I certify that this document is complete and accurate as provided in 135.12(9) and meets the applicable requirements of the corrective action design report, and that the recommended corrective action can reasonably be expected to meet its stated objectives.

Signature

Date

d. Review. A CADR submitted by a groundwater professional shall be accepted by the department and shall be primarily relied upon by the department to determine the corrective action response requirements of the site. However, if within 90 days of receipt of a CADR, the department identifies material information in the CADR that is inaccurate or incomplete, and if based upon information in the report the appropriate corrective action response cannot be reasonably determined by the department based on industry standards, the department may reject the report and require modifications. If the department does not reject the report within 90 days of receipt, the report shall be deemed approved as submitted unless changes to the report are requested by the groundwater professional. The department shall work with the groundwater professional and the owner or operator to correct any materially inaccurate information or to obtain the additional information necessary to determine the appropriate corrective action response as soon as practicable. However, from July 1, 2010, through June 30, 2011, the department shall have 120 days to notify the certified groundwater professional when a report is not accepted based on material information that is found to be inaccurate or incomplete.

e. Memorandums of agreement. Owners or operators that fail to implement the actions or meet the activity schedule in a memorandum of agreement resulting from a corrective action meeting or other written corrective action plan agreement or that fail to implement the actions or meet the schedule outlined in an approved CADR are subject to legal action.

135.12(10) *Monitoring certificates and no further action certificates.*

a. Monitoring certificate. The department of natural resources will issue a monitoring certificate to the owner or operator of an underground storage tank from which a release has occurred, the current property owner, or other responsible party who has undertaken the corrective action warranting issuance of the certificate. Sites classified as low risk or sites classified as high risk/monitoring shall be eligible for a monitoring certificate. The monitoring certificate will be valid until the site is reclassified to a high risk requiring active remediation or no action required site. A site which has been issued a monitoring certificate shall not be eligible to receive a certificate evidencing completion of remediation until the site is reclassified as no action required. The monitoring certificate will be invalidated and the site reclassified to high risk if it is determined by the department that the owner of the site is not in compliance with the requirements specified in the monitoring certificate.

b. No further action certificate. When the no action required site classification has been determined based on a recommendation of the certified groundwater professional as provided in 135.9(11), 135.10(11) and 135.12(12) (see also 2009 Iowa Code Supplement section 455B.474(1)*"h"*(1) and (3) as amended by 2010 Iowa Acts, House File 2531, section 174), the department shall issue a no further action certificate.

The department will issue a no further action certificate to an owner or operator of an underground storage tank from which a release has occurred, the current property owner, or other responsible party who has undertaken the corrective action warranting classification of the site as no action required. Prior to the issuance of a no further action certificate, an accurate legal description of the property on which the underground storage tanks are or were formerly located shall be submitted to the department. The following conditions apply:

(1) If free product is present, the department shall not issue a no further action certificate until the department has approved termination of all free product assessment and recovery in accordance with 135.7(5).

(2) The site has been determined by a certified groundwater professional not to present an unreasonable risk to the public health and safety or the environment.

(3) A person issued the certificate or a subsequent purchaser of the site cannot be required to perform further corrective action because action standards are changed at a later date. Action standards refer to applicable standards under this rule.

(4) The certified groundwater professional has certified that all groundwater monitoring wells have been permanently closed in accordance with 135.12(6)*"f"* with the exception of wells that are allowed to be maintained pursuant to 135.12(6)*"f."* Wells not properly maintained shall be referred to the water supply section of the department that enforces 567—Chapter 39 and 567—Chapter 49.

(5) The certificate shall not prevent the department from ordering remediation of a release identified subsequent to the release for which the no further action certificate was issued. The certificate shall not prevent the department from requiring corrective action of a release of a regulated substance from an unregulated tank.

(6) The certificate will not constitute a warranty of any kind to any person as to the condition, marketability or value of the described property.

(7) The certificate shall reflect any institutional control utilized to ensure compliance with any applicable Tier 2 level; and may include a notation that the classification is based on the fact that designated potential receptors are not in existence.

(8) The certificate shall be in a form which is recordable in accordance with Iowa Code section 558.1 et seq., and substantially in the form as provided in Appendix C.

(9) The owner or operator or other persons conducting corrective action shall be responsible for recording the no further action certificate with the county recorder and return a file-stamped copy to the department within 30 days of the issue date. At its discretion, the department may record the no further action certificate with the appropriate county recorder as authorized in 2009 Iowa Code Supplement section 455B.474(1)*"h"*(3) as amended by 2010 Iowa Acts, House File 2531, section 174.

c. The department shall modify any issued no further action certificates containing institutional controls once the owner, operator or their successor or assign has demonstrated that the institutional control is no longer necessary to meet the applicable Tier 2 level as provided in 135.12(10).

135.12(11) *Expedited corrective action.* An owner, operator or responsible party of a site at which a release of regulated substance is suspected to have occurred may carry out corrective actions at the site so long as the department receives notice of the expedited cleanup activities within 30 calendar days of their commencement; the owner, operator, or responsible party complies with the provisions of these rules; and the corrective action does not include active treatment of groundwater other than:

a. As previously approved by the department; or

b. Free product recovery pursuant to subrule 135.7(5).

c. Soil excavation. When undertaking excavation of contaminated soils, adequate field screening methods must be used to identify maximum concentrations during excavation. At a minimum one soil sample must be taken for field screening every 100 square feet of the base and each sidewall. Soil samples must be taken for laboratory analysis at least every 400 square feet of the base and each sidewall of the excavated area to confirm remaining concentrations are below Tier 1 levels. If the excavation is less than 400 square feet, a minimum of one sample must be analyzed for each sidewall and the base. The

owner or operator must maintain adequate records of the excavation area to document compliance with this procedure unless submitted to the department and must provide it to the department upon request.
[**ARC 9011B**, IAB 8/25/10, effective 9/29/10; **ARC 9331B**, IAB 1/12/11, effective 2/16/11]

567—135.13(455B) Public participation.

135.13(1) For each confirmed release that is classified as high or low risk, the department must provide notice to the public by means designated to reach those members of the public directly affected by the release and the recommended corrective action response. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households, or personal contacts by the staff.

135.13(2) The department must ensure site release information and decisions concerning the Tier 1 assessment report, Tier 2 and Tier 3 site cleanup reports are made available to the public for inspection upon request.

135.13(3) Before approving the Tier 2 or Tier 3 site cleanup report, the department may hold a public meeting to consider comments on the proposed corrective action response if there is sufficient public interest, or for any other reason.

135.13(4) The department must give a public notice that complies with subrule 135.13(1) above if the implementation of the approved Tier 2 or Tier 3 site cleanup report does not achieve the established cleanup levels in the report and the termination of that report is under consideration by the department.

567—135.14(455B) Action levels. The following corrective action levels apply to petroleum-regulated substances as regulated by this chapter. These action levels shall be used to determine if further corrective action under 567—135.6(455B) through 567—135.12(455B) or 567—135.15(455B) is required as the result of tank closure sampling under 135.15(3) or other analytical results submitted to the department. The contaminant concentrations must be determined by laboratory analysis as stated in 567—135.16(455B). Final cleanup determination is not limited to these contaminants. The contamination corrective action levels are:

	Soil (mg/kg)	**Groundwater (ug/L)**
Benzene	0.54	5
Toluene	3.2	1,000
Ethylbenzene	15	700
Xylenes	52	10,000
Total Extractable Hydrocarbons	3,800	1,200

[**ARC 9011B**, IAB 8/25/10, effective 9/29/10]

567—135.15(455B) Out-of-service UST systems and closure.

135.15(1) *Temporary closure.*

a. When a UST system is temporarily closed, owners and operators must continue operation and maintenance of corrosion protection in accordance with 135.4(2), any release detection in accordance with rule 567—135.5(455B), and financial responsibility in accordance with 567—Chapter 136. Rules 567—135.6(455B) to 567—135.12(455B) must be complied with if a release is suspected or confirmed. However, release detection is not required as long as the UST system is empty. The UST system is empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (1 inch) of residue, or 0.3 percent by weight of the total capacity of the UST system, remain in the system.

b. When a UST system is temporarily closed for three months or more, owners and operators must notify the department in writing of the temporary closure and comply with the following requirements:

(1) Leave vent lines open and functioning; and

(2) Cap and secure all other lines, pumps, accesses, and ancillary equipment.

c. When a UST system is temporarily closed for more than 12 months, owners and operators must return the tank tags and permanently close the UST system if it does not meet either the performance standards in 135.3(1) for new UST systems or the upgrading requirements in 135.3(2), except that the spill and overfill equipment requirements do not have to be met. Owners and operators must permanently close the substandard UST systems at the end of this 12-month period in accordance with 135.15(2) to 135.15(5), unless the department provides an extension of the 12-month temporary closure period. Owners and operators must complete a site assessment in accordance with 135.15(3) before such an extension can be applied for.

135.15(2) *Permanent closure and changes-in-service.*

a. At least 30 days before beginning either permanent closure or a change-in-service under paragraphs *"b"* and *"c"* below, owners and operators must notify the department of their intent to permanently close or make the change-in-service. An owner or operator must seek prior approval to permanently close a tank in a time frame shorter than the 30-day notice. The required assessment of the excavation zone under 135.15(3) must be performed after notifying the department but before completion of the permanent closure or a change-in-service.

b. To permanently close a tank or piping, owners and operators must empty and clean them by removing all liquids and accumulated sludge. All tanks taken out of service permanently must also be either removed from the ground or filled with an inert solid material. Piping must either be removed from the ground or have the ends plugged with an inert solid material.

When permanently closing a tank by filling with inert solid material, the tank may not be filled until a closure report is approved by the department. The tank must be filled within 30 days after department approval. The owner and operator must notify the department within 15 days after filling the tank with inert solid material.

c. Continued use of a UST system to store a nonregulated substance is considered a change-in-service. Before a change-in-service, owners and operators must empty and clean the tank by removing all liquid and accumulated sludge and conduct a site assessment in accordance with 135.15(3).

d. Permanent closure procedures must be followed in the replacement of tanks or piping. Notification must be made using DNR Form 542-1308, "Notification of Tank Closure or Change-in-Service." The form must include the date scheduled for the closure. Oral confirmation of the closure date must be given to the DNR field office 24 hours prior to the actual closure. The required assessment of the excavation zone under 139.15(3) must be performed after notifying the department but before completion of the permanent closure or change-in-service.

NOTE: The following cleaning and closure procedures may be used to comply with subrule 135.15(2): American Petroleum Institute Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks"; American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks"; American Petroleum Institute Recommended Practice 1631, "Interior Lining of Underground Storage Tanks," may be used as guidance for compliance with this subrule; and the National Institute for Occupational Safety and Health "Criteria for a Recommended Standard . . . Working in Confined Space" may be used as guidance for conducting safe closure procedures at some hazardous substance tanks.

135.15(3) *Assessing the site at closure or change-in-service.*

a. Before permanent closure or a change-in-service is completed, owners or operators must measure for the presence of a release where contamination is most likely to be present at the UST site. This soil and groundwater closure investigation must be conducted or supervised by a groundwater professional certified under 567—Chapter 134, Part A, unless the department in its discretion grants an exemption and provides direct supervision of the closure investigation. In selecting the sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release.

At UST sites with a history of petroleum storage, soil and groundwater samples shall in every case be analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) with each compound reported separately in accordance with 567—135.16(455B). If there has been a history or suspected history of

petroleum storage other than gasoline or gasoline blends (i.e., all grades of diesel fuels, fuel oil, kerosene, oil and mineral spirits), or such storage history is unknown or uncertain, soil and groundwater samples shall also be analyzed for total extractable hydrocarbons in accordance with 567—135.16(455B).

All such samples shall be collected separately and shipped to a laboratory certified under 567—Chapter 42, Part C, within 72 hours of collection. Samples shall be refrigerated and protected from freezing during shipment to the laboratory.

When a UST is removed from an area of confirmed contamination, the department may waive closure sampling if written documentation is submitted with the closure notification. Documentation should include laboratory analytical reports and a site map showing tank and piping locations along with contamination plume and sampling locations.

b. For all permanent tank and piping closures or changes-in-service, at least one water sample must be taken from the first saturated groundwater zone via a monitoring well or borehole except as provided in paragraph *"g."* The well or borehole must be located downgradient from and as close as possible to the excavation but no farther away than 20 feet.

If, however, the first saturated groundwater zone is not encountered within 10 feet below the lowest elevation of the tank excavation, the requirement for groundwater sampling shall not apply unless:

(1) Sands or highly permeable soils are encountered within 10 feet below the lowest level of the tank excavation which together with the underlying geology would, in the judgment of the department, pose the reasonable possibility that contamination may have reached groundwaters deeper than 10 feet below the lowest level of the tank excavation. The method of determining highly permeable soil is found in the departmental guidance documents entitled "Underground Storage Tank Closure Procedures for Tank and Piping Removal" and "Underground Storage Tank Closure for Filling in Place."

(2) Indications of potential groundwater contamination, including petroleum products in utility lines, petroleum products in private wells, petroleum product vapors in basements or other structures, occur in the area of the tank installation undergoing closure or change-in-service.

c. For permanent closure by tank removal, the departmental guidance document entitled "Underground Storage Tank Closure Procedures for Tank and Piping Removal" must be followed. The minimum number of soil samples that must be taken depends on the tank size and length of product piping. Samples must be taken at a depth of 1 to 2 feet beneath the tank fill area below the base of the tank along the tank's centerline. Soil samples must also be taken at least every 10 feet along the product piping at a depth of 1 to 2 feet beneath the piping fill area below the piping.

If sands or other highly permeable soils are encountered, alternative sampling methods may be required.

If contamination is suspected or found in any area within the excavation (i.e., sidewall or bottom), a soil sample must be taken at that location.

The numbers of samples required for tanks are as follows:

Nominal Tank Capacity (gallons)	Number of Samples	Location on Centerline
1,000 or less	1	center of tank
1,001 - 8,000	2	1/3 from ends
8,001 - 30,000	3	5 feet from ends and at center of tank
30,001 - 40,000	4	5 and 15 feet from ends
40,001 and more	5	5 and 15 feet from ends and at center of tank

d. For closing a tank in place by filling with an inert solid material or for a change-in-service, the departmental guidance document entitled "Underground Storage Tank Closure for Filling in Place" must be followed. The minimum number of soil borings required for sampling depends on the size of the tank and the length of the product piping. Soil samples must be taken within 5 feet of the sides and ends of the tank at a depth of 2 to 4 feet below the base of the tank, but outside the backfill material, at equal intervals around the tank. Soil samples must also be taken at least every 10 feet along the product piping

at a depth of 1 to 2 feet beneath the piping fill area below the piping. If sands or other highly permeable soils are encountered, alternative sampling methods may be required.

The minimum numbers of soil borings and samples required are as follows:

Nominal Tank Capacity (gallons)	Number of Samples	Location of Samples
6,000 or less	4	1 each end and each side
6,001 - 12,000	6	1 each end and 2 each side
12,001 or more	8	1 each end and 3 each side

e. A closure report must be submitted to the department within 45 days of the tank removal or sampling for a closure in place. The report must include all laboratory analytical reports, soil boring and well or borehole construction details and stratigraphic logs, and a dimensional drawing showing location and depth of all tanks, piping, sampling, and wells or boreholes, and contaminated soil encountered. The tank tags must be returned with the closure report.

f. The requirements of this subrule are satisfied if one of the external release detection methods allowed in 135.5(4)*"e"* and *"f"* is operating in accordance with the requirements in 135.5(4) at the time of closure and indicates no release has occurred.

g. If contaminated soils, contaminated groundwater, or free product as a liquid or vapor is discovered during the site assessment or by any other manner, contact the department in accordance with 135.6(1). Normal closure procedures no longer apply. Owners and operators must begin corrective action in accordance with rules 567—135.7(455B) to 567—135.12(455B).

Identification of free product requires immediate response in accordance with 135.7(5). If contamination appears extensive or the groundwater is known to be contaminated, a full assessment of the contamination will be required. When a full assessment is required or anticipated, collection of the required closure samples is not required. If contamination appears limited to soils, overexcavation of the contaminated soils in accordance with 135.15(4) may be allowed at the time of closure.

135.15(4) *Overexcavation of contaminated soils at closure.*

a. If contaminated soils are discovered while assessing a site at closure in accordance with 135.15(3), owners and operators may overexcavate up to one foot of the contaminated soils surrounding the tank pit. The contamination and overexcavation must be reported to the department in accordance with the requirements of 135.6(4)*"a"* prior to backfilling the excavation. If excavation is limited to one foot of contaminated soils, a soil sample shall be taken and laboratory analyzed in accordance with 567—135.16(455B) from the area showing the greatest contamination. Any overexcavation of contaminated soils beyond one foot of contaminated soils is considered expedited corrective action and must be conducted by a certified groundwater professional in accordance with the procedures in 135.12(11).

b. Excavated contaminated soils must be properly disposed in accordance with 567—Chapters 100, 101, 102, 120, and 121, Iowa Administrative Code.

c. A report must be submitted to the department within 30 days of completion of the laboratory analysis. The report must include the requirements of 135.15(3)*"e"* and a dimensional drawing showing the depth and area of the excavation prior to and after overexcavation. The area of contamination must be shown.

135.15(5) *Applicability to previously closed UST systems.* When directed by the department, the owner and operator of a UST system permanently closed before October 24, 1988, must assess the excavation zone and close the UST system in accordance with this rule if releases from the UST may, in the judgment of the department, pose a current or potential threat to human health and the environment.

135.15(6) *Closure records.* Owners and operators must maintain records in accordance with 135.4(5) that are capable of demonstrating compliance with closure requirements under this rule. The results of the excavation zone assessment required in 135.15(3) must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

a. By the owners and operators who took the UST system out of service;

b. By the current owners and operators of the UST system site; or

c. By mailing these records to the department if they cannot be maintained at the closed facility.

135.15(7) *Applicability to pre-1974 USTs.* The closure provisions of rule 567—135.15(455B) are not applicable to USTs which have been out of operation as of January 1, 1974. For purposes of this subrule, out of operation means that no regulated substance has been deposited into or dispensed from the tanks and that the tanks do not currently contain an accumulation of regulated substances other than a de minimus amount as provided in 135.15(1)*"a."*

Owners and operators or other interested parties are not required to submit documentation that USTs meet the exemption conditions and may rely on this subrule as guidance. However, should a question arise as to whether USTs meet the exemption, or owners and operators or other interested parties request acknowledgment by the department that USTs are exempt, they must submit an affidavit on a form provided by the department. The affiant must certify that based on a reasonable investigation and to the best of the affiant's knowledge, the USTs were taken out of operation prior to January 1, 1974, the USTs have not contained a regulated substance since January 1, 1974, and the USTs do not currently contain an accumulation of regulated substances.

If the department has a reasonable basis to suspect a release has occurred, the release investigation and confirmation steps of subrule 135.8(1) and the corrective action requirements as provided in 567—135.7(455B) to 567—135.8(455B) shall apply.

[**ARC 8124B**, IAB 9/9/09, effective 10/14/09]

567—135.16(455B) Laboratory analytical methods for petroleum contamination of soil and water.

135.16(1) *General.* When having soil or water analyzed for petroleum or hazardous substances, owners and operators of UST systems must use a laboratory certified under 567—Chapter 83. In addition they must ensure that all soil and groundwater samples are properly preserved and shipped within 72 hours of collection to a laboratory certified under 567—Chapter 83, for UST petroleum analyses. This rule provides acceptable analytical procedures for petroleum substances and required information that must be provided in all laboratory reports.

135.16(2) *Laboratory report.* All laboratory reports must contain the following information:

a. Laboratory name, address, telephone number and Iowa laboratory certification number. If analytical work is subcontracted to another laboratory, the analytical report from the certified lab which analyzed the sample must be submitted and include the information required in this subrule.

b. Medium sampled (soil, water).

c. Client submitting sample (name, address, telephone number).

d. Sample collector (name, telephone number).

e. UST site address.

f. Clients sample location identifier.

g. Date sample was collected.

h. Date sample was received at laboratory.

i. Date sample was analyzed.

j. Results of analyses and units of measure.

k. Detection limits.

l. Methods used in sample analyses (preparation method, sample detection method, and quantitative method).

m. Laboratory sample number.

n. Analyst name.

o. Signature of analyst's supervisor.

p. Condition in which the sample was received at the laboratory and whether it was properly sealed and preserved.

q. Note that analytical results are questionable if a sample exceeded an established holding time or was improperly preserved. (The recommended holding time for properly cooled and sealed petroleum contaminated samples is 14 days, except for water samples containing volatile organic compounds which have a 7-day holding time unless acid-preserved.)

r. Laboratory reports required by this chapter for tank closure investigations under 567—135.15(455B) and site checks under 135.6(3) or Tier 1 or Tier 2 assessments under 567—135.9(455B) to 567—135.11(455B) must include a copy of the chromatograms and associated quantitation reports for the waste oil, diesel and gasoline standard used by the laboratory in analyzing submitted samples. The laboratory analytical report for each sample must state whether the sample tested matches the laboratory standard for waste oil, diesel or gasoline or that the sample cannot be reliably matched with any of these standards. A copy of the chromatograms and associated quantitation reports for only the soil and groundwater samples with the maximum concentrations of BTEX and TEH must be included.

135.16(3) *Analysis of soil and water for high volatile petroleum compounds (i.e., gasoline, benzene, ethylbenzene, toluene, xylene).* Sample preparation and analysis shall be by Method OA-1, "Method for Determination of Volatile Petroleum Hydrocarbons (gasoline)," revision 7/27/93, University Hygienic Laboratory, Iowa City, Iowa. This method is based on U.S. EPA methods 5030, 8000, and 8015, SW-846, "Test Methods for Evaluating Solid Waste," 3rd Edition. Copies of Method OA-1 are available from the department.

135.16(4) *Analysis of soil and water for low volatile petroleum hydrocarbon contamination (i.e., all grades of diesel fuel, fuel oil, kerosene, oil, and mineral spirits).* Sample preparation and analysis shall be by Method OA-2, "Determination of Extractable Petroleum Products (and Related Low Volatility Organic Compounds)," revision 7/27/93, University Hygienic Laboratory, Iowa City, Iowa. This method is based on U.S. EPA methods 3500, 3510, 3520, 3540, 3550, 8000, and 8100, SW-846, "Test Methods for Evaluating Solid Waste," 3rd Edition. Copies of Method OA-2 are available from the department.

135.16(5) *Analysis of soil gas for volatile petroleum hydrocarbons.* Analysis of soil gas for volatile petroleum hydrocarbons shall be conducted in accordance with the National Institute for Occupational Safety and Health (NIOSH) Method 1501, or a department-approved equivalent method.

567—135.17(455B) Evaluation of ability to pay.

135.17(1) General. The ability to pay guidance procedures referenced in this rule will be used by the department when an owner or operator of an underground storage tank (UST) claims to be financially unable to comply with corrective action requirements under 567—135.7(455B) to 567—135.12(455B) or closure investigation requirements under 567—135.15(455B). If an owner or operator of a regulated UST claims to be financially unable to meet these departmental requirements, that responsible party must provide documentation of the party's finances on forms provided by the department in order for the department to act on the claim of financial inability. The department may request additional financial documentation to verify or supplement reported information.

135.17(2) Individual claims. The financial ability of individual owners and operators of USTs, with or without an active business (including but not limited to sole proprietorships and general partnerships), shall be evaluated using the "Individual Ability to Pay Guidance" document dated June 19, 1992, and generally accepted principles of financial analysis. This guidance is only one tool the department may use in evaluating claims of financial inability.

135.17(3) Corporate claims. The financial ability of corporate owners and operators of USTs shall be evaluated using the June 1992 version of "ABEL" developed by the U.S. Environmental Protection Agency and generally accepted principles of financial analysis. This guidance is only one tool the department may use in evaluating claims of financial inability.

135.17(4) Federal LUST Trust Fund. The financial ability of owners and operators of USTs shall be evaluated for the purpose of determining if the department is authorized to use Federal LUST Trust Fund moneys as provided in the current cooperative agreement with the U.S. Environmental Protection Agency, Region VII. A determination of financial inability does not create an entitlement or any expectation interest on behalf of an owner or operator that Federal LUST Trust Fund moneys will be used for corrective action at any individual site.

135.17(5) The evaluation of financial ability will also be used by the department in making other administrative planning decisions including but not limited to decisions as to whether to pursue and when to pursue administrative or judicial enforcement of regulatory and statutory duties and

the assessment of penalties. A determination of financial inability does not create an entitlement or expectation interest that enforcement actions will be deferred or suspended. The evaluation of this factor is only one of many affecting the department's fully discretionary decisions regarding enforcement options and program planning.

135.17(6) An evaluation of financial inability as provided in this rule does not relieve any owner or operator of legal liability to comply with department rules or Iowa Code chapter 455B or provide a defense to any legal actions to establish liability or enforce compliance.

567—135.18(455B) Transitional rules.

135.18(1) *Transitional rules.* Guidance for implementing these transitional rules is contained in the department's guidance entitled "Transition Policy Statement" dated June 6, 1996.

135.18(2) *Site cleanup reports and corrective action design reports accepted before August 15, 1996.* Any owner or operator who had a site cleanup report or corrective action design report approved by the department before August 15, 1996, may elect to submit a Tier 1 Site Assessment or Tier 2 Site Cleanup Report to the department. If the owner, operator, or responsible party so elects, the site shall be assessed, classified, and, if necessary, remediated, in accordance with the rules of the department as of August 15, 1996. To the extent that data collected for the site cleanup report does not include all information necessary for the Tier 1 Site Assessment or Tier 2 Site Cleanup Report, the owner or operator shall utilize the default parameters set out in subrule 135.18(4) or provide site-specific parameters.

135.18(3) *Site cleanup reports in the process of preparation or review prior to August 15, 1996.* The department will complete a Tier 1 or a Tier 2 risk analysis for any site cleanup report received but not approved by the department by November 15, 1996. To the extent that data collected for the site cleanup report does not include all information necessary for the Tier 2 site cleanup report and the owner or operator elects to not complete a Tier 2 site cleanup report the department shall utilize the default parameters set out in subrule 135.18(4). If the owner or operator wishes that site-specific data, rather than any default parameter, be used, the owner or operator shall notify the department by October 15, 1996, or in accordance with a schedule specified by the department. Following notification, the owner or operator shall be responsible for preparation of the Tier 1 site assessment or Tier 2 site cleanup report.

135.18(4) *Default parameters for use in converting a site cleanup report to a Tier 2 site cleanup report.*

a. As to sites for which the owner or operator has collected and submitted only TPH ("total petroleum hydrocarbons") data regarding soil contamination, TPH levels shall be converted to a risk associated factor by using: (1) previously acquired data regarding benzene, toluene, ethyl benzene, and xylenes data for the samples; (2) newly collected benzene, toluene, ethylbenzene, and xylenes data for the site; or (3) the assumptions that 1 percent of the total petroleum hydrocarbon (TPH) is benzene, 7 percent of the TPH is toluene, 2 percent of the TPH is ethylbenzene, and 8 percent of the TPH is xylenes.

b. As to sites for which the owner or operator has, to date, submitted only TEH ("total extractable hydrocarbons") data regarding soil contamination, TEH levels should be converted to a risk-associated factor by using: (1) previously acquired benzene, toluene, ethylbenzene and xylenes data for the samples; (2) newly collected benzene, toluene, ethylbenzene and xylenes data for the site; or (3) the assumption that 0.004 percent of the TEH is benzene, 0.05 percent of the TEH is toluene, 0.03 percent of the TEH is ethylbenzene and 0.3 percent of the TEH is xylenes. In addition, TEH levels should be compared to the TEH default levels in the Tier 1 Table. If, as of August 15, 1996, only TEH data for soil is available, and it does not exceed Tier 1 levels, additional sampling for TEH in groundwater is not required. Otherwise, groundwater samples must be collected and analyzed for TEH in accordance with 135.8(3).

c. Data required for preparing a Tier 2 site cleanup report shall be taken from the site cleanup report. If the site cleanup report lacks any of the data, site-specific data subsequently obtained may be used. The following assumptions shall be used if no site cleanup report or site-specific data is provided:

(1) If the site cleanup report is unclear as to neighboring land use, assume the land residential land use;

(2) Use the larger resulting default if both TPH and TEH data are available.

(3) For sites with free product gasoline range constituents, the default values in groundwater are 17,500 ug/l for benzene, 3,040 ug/l for ethylbenzene, 37,450 ug/l for toluene and 15,840 ug/l for xylenes. For sites with free product consisting of diesel range constituents, the default values are 370 ug/l benzene, 640 ug/l toluene, 140 ug/l ethylbenzene, 580 ug/l xylenes, and 260 ug/l naphthalene or 130,000 ug/l TEH.

135.18(5) *Risk-based corrective action assessment reports, corrective action plans, and corrective action design reports accepted before August 6, 2008.* Any owner or operator who had a Tier 2 site cleanup report, Tier 3 report, or corrective action design report approved by the department before August 6, 2008, may elect to submit a Tier 2 site cleanup report using the Appendix B revised model, department-developed software and rules in effect as of August 6, 2008. The owner or operator shall notify the department that the owner or operator wishes to evaluate the leaking underground storage tank site with the Appendix B revised model, software and rules. If the owner or operator so elects, the site shall be assessed, classified, and, if necessary, remediated, in accordance with the rules of the department as of August 6, 2008. If the leaking underground storage tank site is undergoing active remediation, the remediation system shall remain operating until the reevaluation is completed and accepted or as otherwise approved by the department. Once a site has been evaluated using the Appendix B revised model, software and rules in effect as of August 6, 2008, it can no longer be evaluated with the Appendix B-1 old model and software and rules in effect prior to August 6, 2008.

135.18(6) *Risk-based corrective action assessment reports, corrective action plans, and corrective action design reports in the process of preparation with a submittal schedule established prior to August 6, 2008.* The owner or operator shall notify the department that the owner or operator wishes to use the Appendix B revised model and department software and rules in effect as of August 6, 2008, to evaluate the leaking underground storage tank site before submitting the next report, and prior to expiration of the previously established submittal schedule. Once a site has been evaluated using the Appendix B revised model, software and rules in effect as of August 6, 2008, it can no longer be evaluated with the Appendix B-1 old model, software and rules existing just prior to August 6, 2008.

135.18(7) *Risk-based corrective action assessment reports, corrective action plans, and corrective action design reports received by the department but not yet reviewed.* The owner or operator will notify the department within 60 days of August 6, 2008, whether the owner or operator is electing to complete a risk-based corrective action assessment using Appendix B revised model, department software and rules effective as of August 6, 2008, or proceeding with the risk-based corrective action assessment using Appendix B-1 old model and department software and rules existing prior to August 6, 2008. Once a site has been evaluated using the Appendix B revised model, software and rules it can no longer be evaluated with the previous Appendix B-1 old model, software and rules.

567—135.19(455B) Analyzing for methyl tertiary-butyl ether (MTBE) in soil and groundwater samples.

135.19(1) *General.* The objective of analyzing for MTBE is to determine its presence in soil and water samples collected as part of investigation and remediation of contamination at underground storage tank facilities.

135.19(2) *Required MTBE testing.* Soil and water samples must be analyzed for MTBE when collected for risk-based corrective action as required in rules 567—135.8(455B) through 567—135.12(455B). These sampling requirements include but are not limited to:

a. Risk-based corrective action (RBCA) evaluations required for Tier 1, Tier 2, and Tier 3 assessments and corrective action design reports.

b. Site monitoring.

c. Site remediation monitoring.

135.19(3) *MTBE testing not required.* Soil and water samples for the following actions are not required to be analyzed for MTBE:

a. Closure sampling under rule 567—135.15(455B) unless Tier 1 or Tier 2 sampling is being performed.

b. Site checks under subrule 135.7(3) unless Tier 1 or Tier 2 sampling is being performed.

c. If prior analysis at a site under 135.19(2) has not shown MTBE present in soil or groundwater.

d. If the department determines MTBE analysis is no longer needed at a site.

135.19(4) *Reporting.* The analytical data must be submitted in a format prescribed by the department.

135.19(5) *Analytical methods for methyl tertiary-butyl ether (MTBE).* When having soil or water analyzed for MTBE from contamination caused by petroleum or hazardous substances, owners and operators of UST systems must use a laboratory certified under 567—Chapter 83 for petroleum analyses. In addition, the owners and operators must ensure all soil and water samples are properly preserved and shipped within 72 hours of collection to a laboratory certified under 567—Chapter 83 for petroleum analyses.

a. Sample preparation and analysis shall be by:

(1) GC/MS version of OA-1, "Method for Determination of Volatile Petroleum Hydrocarbons (gasoline)," revision 7/27/93, University Hygienic Laboratory, Iowa City, Iowa; or

(2) U.S. Environmental Protection Agency Method 8260B, SW-846, "Test Methods for Evaluating Solid Waste," Third Edition.

b. Laboratories performing the analyses must run standards for MTBE on a routine basis, and standards for other possible compounds like ethyl tertiary-butyl ether (ETBE), tertiary-amyl methyl ether (TAME), diisopropyl ether (DIPE), and tertiary-butyl alcohol (TBA) to be certain of their identification should they be detected.

c. Laboratories must run a method detection limit study and an initial demonstration of capability for MTBE. These records must be kept on file.

d. The minimum detection level for MTBE in soil is 15 ug/kg. The minimum detection level for MTBE in water is 15 ug/l.

567—135.20(455B) Compliance inspection of UST system.

135.20(1) The owner or operator must have the UST system inspected and an inspection report submitted to the department by a UST compliance inspector certified by the department under 567—Chapter 134. An initial compliance site inspection shall be conducted no later than December 31, 2007. All subsequent compliance site inspections conducted after the compliance site inspection for the 2008-2009 biennial period shall be conducted within 24 months of the prior compliance site inspection. Compliance site inspections must be separated by at least six months.

135.20(2) Compliance inspection requirements. The owner or operator is responsible to ensure the department receives ten days' prior notice by the compliance inspector of the date of a site inspection and the name of the inspector as provided in 567—134.14(455B). The owner and operator must comply with the following as part of the inspection process.

a. Review and respond to the inspection report provided by the certified compliance inspector and complete the corrective actions specified in the compliance inspection report within the specified time frames.

b. Provide all records and documentation required by the certified compliance inspector and this chapter.

c. Upon notification of a suspected release by the certified compliance inspector pursuant to 567—subrule 134.14(1), report the condition to the department and undertake steps to investigate and confirm the suspected release as provided in 567—135.6(455B).

d. Ensure that the compliance inspector completes and submits an electronic inspection form in accordance with 567—134.14(455B).

135.20(3) The owner and operator shall do the following upon receipt of a compliance inspection report as provided in 567—subrule 134.14(1) which finds violations of the department's rules:

a. Take all actions necessary to correct any compliance violations or deficiencies in accordance with this chapter. Corrective action must be taken within the time frame established by rule or, if no time frames are established by rule, within 60 days of receipt of the inspector's report or another reasonable time period approved by the department. The granting of time to remedy a violation does not preclude the department from exercising its discretion to assess penalties for the violation.

b. Within 60 days of receipt of the inspector's report, provide documentation to the compliance inspector that the violation or deficiencies have been corrected.

c. Conduct a follow-up inspection in instances where there are serious problems or a history of repeated violations when required by the department.

135.20(4) Conflict of interest. A compliance site inspection must be conducted by a certified compliance inspector who is not the owner or operator of the UST system being inspected, an employee of the owner or operator of the UST system being inspected, or a person having daily on-site responsibility for the operation and maintenance of the UST system.

[**ARC 8124B**, IAB 9/9/09, effective 10/14/09]

Appendix A - Tier 1 Table, Assumptions, Equations and Parameter Values

Iowa Tier 1 Look-Up Table

Media	Exposure Pathway	Receptor	Group 1				Group 2: TEH	
			Benzene	Toluene	Ethylbenzene	Xylenes	Diesel*	Waste Oil
Groundwater (µg/L)	Groundwater Ingestion	Actual	5	1,000	700	10,000	1,200	400
		Potential	290	7,300	3,700	73,000	75,000	40,000
	Groundwater Vapor to Enclosed Space	All	1,540	20,190	46,000	NA	2,200,000	NA
	Groundwater to Water Line	PVC or Gasketed Mains	7,500	6,250	40,000	48,000	75,000	40,000
		PVC or Gasketed Service Lines	3,750	3,120	20,000	24,000	75,000	40,000
		PE/PB/AC Mains or Service Lines	200	3,120	3,400	19,000	75,000	40,000
	Surface Water	All	290	1,000	3,700	73,000	75,000	40,000
Soil (mg/kg)	Soil Leaching to Groundwater	All	0.54	42	15	NA	3,800	NA
	Soil Vapor to Enclosed Space	All	1.16	48	79	NA	47,500	NA
	Soil to Water Line	All	2.0	3.2	45	52	10,500	NA

NA: Not applicable. There are no limits for the chemical for the pathway, because for groundwater pathways the concentration for the designated risk would be greater than the solubility of the pure chemical in water, and for soil pathways the concentration for the designated risk would be greater than the soil concentration if pure chemical were present in the soil.

TEH: Total Extractable Hydrocarbons. The TEH value is based on risks from naphthalene, benzo(a)pyrene, benz(a)anthracene, and chrysene. Refer to Appendix B for further details.

Diesel*: Standards in the Diesel column apply to all low volatile petroleum hydorcarbons except waste oil.

Assumptions Used for Iowa Tier 1 Look-Up Table Generation

1. Groundwater ingestion pathway. The maximum contaminant levels (MCLs) were used for Group 1 chemicals. The target risk for carcinogens for actual receptors is 10^{-6} and for potential receptors is 10^{-4}. A hazard quotient of one, and residential exposure and building parameters are assumed.

2. Groundwater vapor to enclosed space pathway. Residential exposure and residential building parameters are assumed; no inhalation reference dose is used for benzene; the capillary fringe is assumed to be the source of groundwater vapor; and the hazard quotient is 1 and target risk for carcinogens is $1x10^{-4}$.

3. Groundwater to water line. This pathway uses the same assumptions as the groundwater ingestion pathway for potential receptors, including a target risk for carcinogens of 10^{-4}.

4. Surface water. This pathway uses the same assumptions as the groundwater ingestion pathway for potential receptors, including a target risk for carcinogens of 10^{-4}, except for toluene which has a chronic level for aquatic life of 1,000 as in the definition for surface water criteria in 567—135.2(455B).

5. Soil leaching to groundwater. This pathway assumes the groundwater will be protected to the same levels as the groundwater ingestion pathway for potential receptors, using residential exposure and a target risk for carcinogens of 10^{-4}.

6. Soil vapor to enclosed space pathway. The target risk for carcinogens is $1x10^{-4}$; the hazard quotient is 1; no inhalation reference dose is used for benzene; residential exposure factors are assumed; and the average of the residential and nonresidential building parameters is assumed.

7. Soil to water line pathway. This pathway uses the soil leaching to groundwater model with nonresidential exposure and a target risk for carcinogens of 10^{-4}.

In addition to these assumptions, the equations and parameter values used to generate the Iowa Tier 1 Look-Up Table are described below.

Groundwater Ingestion Equations

Carcinogens:

$$RBSL_w \left[\frac{mg}{L - H_2O}\right] = \frac{TR \times BW \times AT_c \times \frac{365\ days}{year}}{SF_o \times IR_w \times EF \times ED}$$

Noncarcinogens:

$$RBSL_w \left[\frac{mg}{L - H_2O}\right] = \frac{THQ \times RfD_o \times BW \times AT_n \times \frac{365\ days}{year}}{IR_w \times EF \times ED}$$

Soil Leaching to Groundwater Equations

$$RBSL_{sl}\left[\frac{mg}{kg - soil}\right] = \frac{RBSL_w\left[\frac{mg}{L - H_2O}\right]}{LF}$$

$$LF\left[\frac{mg/L - H_2O}{mg/kg - soil}\right] = \frac{\rho_s}{(\theta_{ws} + k_s\rho_s + H\theta_{as})\left(1 + \frac{U\delta}{IW}\right)}$$

Soil Vapor to Enclosed Space Equations

$$RBSL_{sv}\left[\frac{mg}{kg - soil}\right] = \frac{RBSL_{air}\left[\frac{\mu g}{m^3 - air}\right]}{VF_{sv}}\left(\frac{mg}{1000\ \mu g}\right)$$

$$VF_{sv}\left[\frac{(mg/m^3 - air)}{(mg/kg - soil)}\right] = \frac{\frac{H\rho_s}{(\theta_{ws} + k_s\rho_s + H\theta_{as})}\left[\frac{D_s^{eff}/L_s}{ER\ L_B}\right]}{1 + \left[\frac{D_s^{eff}/L_s}{ER\ L_B}\right] + \left[\frac{D_s^{eff}/L_s}{\left(D_{crack}^{eff}/L_{crack}\right)\eta}\right]}\left(10^3\ \frac{cm^3 - kg}{m^3 - g}\right)$$

$$D_{crack}^{eff}\left[\frac{cm^2}{s}\right] = D^{air}\ \frac{\theta_{acrack}^{3.33}}{\theta_T^2} + D^{wat}\frac{1}{H}\frac{\theta_{wcrack}^{3.33}}{\theta_T^2}$$

$$D_s^{eff}\left[\frac{cm^2}{s}\right] = D^{air}\ \frac{\theta_{as}^{3.33}}{\theta_T^2} + D^{wat}\frac{1}{H}\frac{\theta_{ws}^{3.33}}{\theta_T^2}$$

Indoor Air Inhalation Equations

Carcinogens:

$$RBSL_{air}\left[\frac{\mu g}{m^3 - air}\right] = \frac{TR \times BW \times AT_c \times \frac{365\ days}{year} \times \frac{1000\ \mu g}{mg}}{SF_i \times IR_{air} \times EF \times ED}$$

Noncarcinogens:

$$RBSL_{air}\left[\frac{\mu g}{m^3 - air}\right] = \frac{THQ \times RfD_i \times BW \times AT_n \times \frac{365}{kdays} \times \frac{1000\ \mu g}{mg}}{IR_{air} \times EF \times ED}$$

Groundwater Vapor to Enclosed Space Equations

$$RBSL_{gw}\left[\frac{mg}{L - H_2O}\right] = \frac{RBSL_{air}\left[\frac{\mu g}{m^3 - air}\right]}{VF_{gw}}\left(\frac{mg}{1000\ \mu g}\right)$$

$$VF_{gw}\left[\frac{(mg/m^3 - air)}{(mg/L - H_2O)}\right] = \frac{H\left[\frac{D_s^{eff}/L_{gw}}{ER\ L_B}\right]}{1 + \left[\frac{D_s^{eff}/L_{gw}}{ER\ L_B}\right] + \left[\frac{D_s^{eff}/L_{gw}}{\left(D_{crack}^{eff}/L_{crack}\right)\eta}\right]}\left(\frac{10^3 L}{m^3}\right)$$

Variable Definitions

δ	groundwater mixing zone thickness (cm)
η	areal fraction of cracks in foundation/wall (cm^2-cracks/cm^2-area)
ρ_s	soil bulk density (g/cm^3)
θ_{acrack}	volumetric air content in foundation/wall cracks (cm^3-air/cm^3-soil)
θ_{as}	volumetric air content in vadose zone (cm^3-air/cm^3-soil)
θ_T	total soil porosity (cm^3-voids/cm^3-soil)
θ_{wcrack}	volumetric water content in foundation/wall cracks (cm^3-H_2O/cm^3-soil)
θ_{ws}	volumetric water content in vadose zone (cm^3-H_2O/cm^3-soil)
AT_c	averaging time for carcinogens (years)
AT_n	averaging time for noncarcinogens (years)
BW	body weight (kg)
D^{air}	chemical diffusion coefficient in air (cm^2/s)
D^{wat}	chemical diffusion coefficient in water (cm^2/s)
D^{eff}_{crack}	effective diffusion coefficient through foundation cracks (cm^2/s)
D^{eff}_{s}	effective diffusion coefficient in soil based on vapor-phase concentration (cm^2/s)
ED	exposure duration (years)
EF	exposure frequency (days/year)
ER	enclosed space air exchange rate (s^{-1})
f_{oc}	fraction organic carbon in the soil (kg-C/kg-soil)
H	henry's law constant (L-H_2O)/(L-air)
i	groundwater head gradient (cm/cm)
I	infiltration rate of water through soil (cm/year)
IR_{air}	daily indoor inhalation rate (m^3/day)
IR_w	daily water ingestion rate (L/day)
K	hydraulic conductivity (cm/year)
K_{oc}	carbon-water sorption coefficient (L-H_2O/kg-C)
k_s	soil-water sorption coefficient (L-H_2O/kg-soil), f_{oc} x K_{oc}
L_B	enclosed space volume/infiltration area ratio (cm)
L_{crack}	enclosed space foundation or wall thickness (cm)
LF	leaching factor from soil to groundwater ((mg/L-H_2O)/(mg/kg-soil))
L_{gw}	depth to groundwater from the enclosed space foundation (cm)
L_s	depth to subsurface soil sources from the enclosed space foundation (cm)
$RBSL_{air}$	Risk-Based Screening Level for indoor air ($\mu g/m^3$-air)
$RBSL_{gw}$	Risk-Based Screening Level for vapor from groundwater to enclosed space air inhalation (mg/L-H_2O)
$RBSL_{sl}$	Risk-Based Screening Level for soil leaching to groundwater (mg/kg-soil)
$RBSLs_v$	Risk-Based Screening Level for vapors from soil to enclosed space air inhalation (mg/kg-soil)
$RBSL_w$	Risk-Based Screening Level for groundwater ingestion (mg/L-H_2O)
RfD_i	inhalation chronic reference dose ((mg/(kg-day))
RfD_o	oral chronic reference dose ((mg/(kg-day))
SF_i	inhalation cancer slope factor ((kg-day)/mg)
SF_o	oral cancer slope factor ((kg-day)/mg)
THQ	target hazard quotient for individual constituents (unitless)
TR	target excess individual lifetime cancer risk (unitless)
U	groundwater Darcy velocity (cm/year), U=Ki
VF_{gw}	volatilization factor for vapors from groundwater to enclosed space ((mg/m^3-air)/(mg/L-H_2O))
VF_{sv}	volatilization factor for vapors from soil to enclosed space ((mg/m^3-air)/(mg/kg-soil))
W	width of soil source area parallel to groundwater flow direction (cm)

Soil and Groundwater Parameter Values Used for Iowa Tier 1 Table Generation

Parameter		Iowa Tier 1 Table Value
K	hydraulic conductivity	16060 cm/year
i	groundwater head gradient	0.01 cm/cm
W	width of soil source area parallel to groundwater flow direction	1500 cm
I	infiltration rate of water through soil	7 cm/year
δ	groundwater mixing zone thickness	200 cm
ρ_s	soil bulk density	1.86 g/cm^3
θ_{as}	volumetric air content in vadose zone	0.2 cm^3-air/cm^3-soil
θ_{ws}	volumetric water content in vadose zone	0.1 cm^3-H_2O/cm^3-soil
θ_{acrack}	volumetric air content in foundation/wall cracks	0.2 cm^3-air/cm^3-soil
θ_{wcrack}	volumetric water content in foundation/wall cracks	0.1 cm^3-H_2O/cm^3-soil
θ_T	total soil porosity	0.3 cm^3-voids/cm^3-soil
f_{oc}	fraction organic carbon in the soil	0.01 kg-C/kg-soil
L_s	depth to subsurface soil sources from the enclosed space foundation	1 cm
L_{gw}	depth to groundwater from the enclosed space foundation	1 cm

Exposure Factors Used in Iowa Tier 1 Table Generation

Parameter		Residential	Nonresidential
AT_c (years)	averaging time for carcinogens	70	70
AT_n (years)	averaging time for noncarcinogens	30	25
BW (kg)	body weight	70	70
ED (years)	exposure duration	30	25
EF (days/year)	exposure frequency	350	250
IR_{air} (m^3/day)	daily indoor inhalation rate	15	20
IR_w (L/day)	daily water ingestion rate	2	1
THQ (unitless)	target hazard quotient for individual constituents	1.0	1.0

Building Parameters Used in Iowa Tier 1 Table Generation

Parameter		Residential	Nonresidential
ER (s^{-1})	enclosed space air exchange rate	0.00014	0.00023
L_B (cm)	enclosed space volume/infiltration area ratio	200	300
L_{crack} (cm)	enclosed space foundation or wall thickness	15	15
η	areal fraction of cracks in foundation/wall	0.01	0.01

Chemical-Specific Parameter Values Used for Iowa Tier 1 Table Generation

Chemical	D^{air} (cm^2/s)	D^{wat} (cm^2/s)	H (L-air/L-water)	log(K_{oc}), L/kg
Benzene	0.093	1.1e-5	0.22	1.58
Toluene	0.085	9.4e-6	0.26	2.13
Ethylbenzene	0.076	8.5e-6	0.32	1.98
Xylenes	0.072	8.5e-6	0.29	2.38
Naphthalene	0.072	9.4e-6	0.049	3.11
Benzo(a)pyrene	0.050	5.8e-6	5.8e-8	5.59
Benz(a)anthracene	0.05	9.0e-6	5.74e-7	6.14
Chrysene	0.025	6.2e-6	4.9e-7	5.30

Saturation Values Used to Determine "NA" for the Iowa Tier 1 Table

Chemical	Solubility in Water (mg/L) S	Saturation in Soil (mg/kg) C_s^{sat}
Benzene	1,750	801
Toluene	535	765
Ethylbenzene	152	159
Xylenes	198	492
Naphthalene	31	401
Benzo(a)pyrene	0.0012	4.69
Benz(a)anthracene	0.014	193.3
Chrysene	0.0028	5.59

The maximum solubility of the pure chemical in water is listed in the table above. The equation below is used to calculate the soil concentration (C_s^{sat}) at which dissolved pore-water and vapor phases become saturated. Tier 1 default values are used in the equation. "NA" (for not applicable) is used in the Tier 1 table when the risk-based value exceeds maximum solubility for water (S) or maximum saturation for soil (C_s^{sat}).

$$C_s^{sat}(\text{mg/kg-soil}) = S/\rho_s \times (H\theta_{as} + \theta_{ws} + k_s \rho_s)$$

Slope Factors and Reference Doses Used for Iowa Tier 1 Table Generation

Chemical	SF_i ((kg-day)/mg)	SF_o ((kg-day)/mg)	RfD_i (mg/(kg-day))	RfD_o (mg/(kg-day))
Benzene	0.029	0.029	—	—
Toluene	—	—	0.114	0.2
Ethylbenzene	—	—	0.286	0.1
Xylenes	—	—	2.0	2.0
Naphthalene	—	—	0.004	0.004
Benzo(a)pyrene	6.1	7.3	—	—
Benz(a)anthracene	0.61	0.73	—	—
Chrysene	0.061	0.073	—	—

[**ARC 9011B**, IAB 8/25/10, effective 9/29/10]

Appendix B – Tier 2 Equations and Parameter Values (Revised Model)

All Tier 1 equations and parameters apply at Tier 2 except as specified below.

Equation for Tier 2 Groundwater Contaminant Transport Model

Equation (1)

$$C(x) = C_s \exp\left(\frac{x_m}{2\alpha_x}\left[1-\sqrt{1+\frac{4\lambda\alpha_x}{u}}\right]\right) erf\left(\frac{S_w}{4\sqrt{\alpha_y x_m}}\right) erf\left(\frac{S_d}{4\sqrt{\alpha_z x_m}}\right)$$

Equation (2)

Where $x_m = ax + bx^c$

The value of X_m is computed from Equation (2), where the values for a, b and c in Equation (2) are given in Table 1.

Table 1. Parameter Values for Equation (2)

Chemical	a	b	c
Benzene	1	0.000000227987	3.929438689
Toluene	1	0.000030701	3.133842393
Ethylbenzene	1	0.0001	2.8
Xylenes	1	0.0	0.0
TEH-Diesel	1	0.000000565	3.625804634
TEH-Waste Oil	1	0.000000565	3.625804634
Naphthalene	1	0	0

Variable definitions

x: distance in the x direction downgradient from the source

erf( ): the error function

C(x): chemical concentration in groundwater at x

C_s: Source concentration in groundwater (groundwater concentration at x=0)

S_w: width of the source (perpendicular to x)

S_d: vertical thickness of the source

u: groundwater velocity (pore water velocity); u=Ki/θe

K: hydraulic conductivity

i: groundwater head gradient

θe: effective porosity

λ: first order decay coefficient, chemical specific

αx, αy, αz: dispersivities in the x, y and z directions, respectively

For the following lists of parameters, one of three is required: site-specific measurements, defaults or the option of either (which means the default may be used or replaced with a site-specific measurement).

Soil parameters

Parameter		Default Value	Required
ρ_s	soil bulk density	1.86 g/cm^3	option
f_{oc}	fraction organic carbon in the soil	0.01 kg-C/kg-soil	option
θ_T	total soil porosity	0.3cm^3-voids/cm^3-soil	option
θ_{as}	volumetric air content in vadose zone	0.2cm^3-air/cm^3-soil	default
θ_{ws}	volumetric water content in vadose zone	0.1cm^3-H_2O/cm^3-soil	default
θ_{acrack}	volumetric air content in foundation/wall cracks	0.2cm^3-air/cm^3-soil	default

Parameter		Default Value	Required
θ_{wcrack}	volumetric water content in foundation/wall cracks	0.1cm^3-H_2O/cm^3-soil	default
I	infiltration rate of water through soil	7 cm/year	default

If the total porosity is measured, assume 1/3 is air filled and 2/3 is water filled for determining the water and air fraction in the vadose zone soil and floor cracks.

Groundwater Transport Modeling Parameters

Parameter		Default Value	Required
K	hydraulic conductivity	16060 cm/year	site-specific
i	groundwater head gradient	0.01 cm/cm	site-specific
S_w	width of the source	use procedure specified in 135.10(2)	site-specific
S_d	vertical thickness of the source	3 m	default
αx	dispersivity in the x direction	0.1x	default
αy	dispersivity in the y direction	0.33αx	default
αz	dispersivity in the z direction	0.05αx	default
θe	effective porosity	0.1	default

where u=Ki/θe

First-order Decay Coefficients

Chemical	Default Valueλ (d-1)	Required
Benzene	0.000127441	default
Toluene	0.0000208066	default
Ethylbenzene	0.0	default
Xylenes	0.0005	default
Naphthalene	0.00013	default
TEH-Diesel	0.0000554955	default
TEH-Waste Oil	0.0000554955	default

Other Parameters for Groundwater Vapor to Enclosed Space

Parameter		Default Value	Required
Lgw	depth to groundwater from the enclosed space foundation	1 cm	option
L_B	enclosed space volume/infiltration area ratio	200 cm	option
ER (s-1)	enclosed space air exchange rate	0.00014	default
Lcrack	enclosed space foundation or wall thickness	15 cm	default
η	areal fraction of cracks in foundation/wall	0.01	default

Other Parameters for Soil Vapor to Enclosed Space

Parameter		Default Value	Required
L_s	depth to subsurface soil sources from the enclosed space foundation	1 cm	option
L_B	enclosed space volume/infiltration area ratio	250 cm *	option
ER (s-1)	enclosed space air exchange rate	0.000185 *	default
Lcrack	enclosed space foundation or wall thickness	15 cm	default
η	areal fraction of cracks in foundation/wall	0.01	default

*These values are an average of residential and nonresidential factors.

Soil Leaching to Groundwater

Parameter		Default Value	Required
δ	groundwater mixing zone	2 m	default

Building Parameters for Iowa Tier 2

Parameter		Residential	Nonresidential
ER (s-1)	enclosed space air exchange rate	0.00014	0.00023
L_B	enclosed space volume/infiltration area ratio	200 cm	300 cm

Other Parameters

For Tier 2, the following are the same as Tier 1 values (refer to Appendix A): chemical-specific parameters, slope factors and reference doses, and exposure factors (except for those listed below).

Exposure Factors for Tier 2 Groundwater Vapor to Enclosed Space Modeling:

Potential Residential: use residential exposure and residential building parameters.

Potential Nonresidential: use nonresidential exposure and nonresidential building parameters.

Diesel and Waste Oil

Diesel and Waste Oil			Chemical-Specific Values for Tier 1			
Media	Exposure Pathway	Receptor	Naphthalene	Benzo(a) pyrene	Benz(a) anthracene	Chrysene
Groundwater (ug/L)	Groundwater Ingestion	actual	150	0.012	0.12	1.2
		potential	150	1.2	12.0	NA
	Groundwater Vapor to Enclosed Space	all	4,440	NA	NA	NA
	Groundwater to Water Line	all	150	1.2	12.0	NA
	Surface Water	all	150	1.2	12.0	NA
Soil (mg/kg)	Soil Leaching to Groundwater	all	7.6	NA	NA	NA
	Soil Vapor to Enclosed Space	all	95	NA	NA	NA
	Soil to Water Line	all	21	NA	NA	NA

Due to difficulties with analytical methods for the four individual chemicals listed in the above table, Total Extractable Hydrocarbon (TEH) default values were calculated for each chemical, using the assumption that diesel contains 0.2% napthalene, 0.001% benzo(a)pyrene, 0.001% benz(a)anthracene, and 0.001% chrysene. Resulting TEH Default Values are shown in the following table.

Diesel			TEH Default Values			
Media	Exposure Pathway	Receptor	Naphthalene	Benzo(a) pyrene	Benz(a) anthracene	Chrysene
Groundwater (ug/L)	Groundwater Ingestion	actual	75,000	1,200	12,000	120,000
		potential	75,000	120,000	1,200,000	NA
	Groundwater Vapor to Enclosed Space	all	2,200,000	NA	NA	NA
	Groundwater to Water Line	all	75,000	120,000	1,200,000	NA
	Surface Water	all	75,000	120,000	1,200,000	NA
Soil (mg/kg)	Soil Leaching to Groundwater	all	3,800	NA	NA	NA
	Soil Vapor to Enclosed Space	all	47,500	NA	NA	NA
	Soil to Water Line	all	10,500	NA	NA	NA

The lowest TEH default value for each pathway (shown as a shaded box) was used in the Tier 1 Table.

Due to difficulties with analytical methods for the four individual chemicals, Total Extractable Hydrocarbon (TEH) default values were calculated for each chemical, using the assumption that waste oil contains no naphthalene, 0.003% benzo(a)pyrene, 0.003% benz(a)anthracene, and 0.003% chrysene. Resulting TEH Default Values are shown in the following table.

Waste Oil			TEH Default Values			
Media	Exposure Pathway	Receptor	Naphthalene	Benzo(a) pyrene	Benz(a) anthracene	Chrysene
Groundwater (ug/L)	Groundwater Ingestion	actual	NA	400	4,000	40,000
		potential	NA	40,000	400,000	NA
Groundwater (ug/L)	Groundwater Vapor to Enclosed Space	all	NA	NA	NA	NA
	Groundwater to Water Line	all	NA	40,000	400,000	NA
	Surface Water	all	NA	40,000	400,000	NA
Soil (mg/kg)	Soil Leaching to Groundwater	all	NA	NA	NA	NA
	Soil Vapor to Enclosed Space	all	NA	NA	NA	NA
	Soil to Water Line	all	NA	NA	NA	NA

The lowest TEH default value for each pathway (shown as a shaded box) was used in the Tier 1 Table.

Water Line Calculations

Explanation of Target Levels for
Petroleum Fuel-Derived BTEX Compounds in Groundwater and Soil

GROUNDWATER

PVC or Gasketed Mains

Benzene: 7,500 µg/L
Gasoline-saturated groundwater was considered to be an extreme condition of environmental contamination, and it was considered unacceptable to leave water lines, regardless of material, in contact with this level of benzene contamination. While Ong et al. (2008) showed that gasoline-saturated groundwater would not pose a significant risk of permeation exceeding the 5 µg/L MCL for benzene of gasketed DI or PVC water mains, a safety factor of 1/8th was applied to the level of benzene in premium gasoline-saturated water determined by Ong et al. (2008). A 1/2 safety factor was compounded for each of four potential safety risks: material defects in the pipe (= 1/2), presence of service line taps (= 1/4), stagnation of water (= 1/6), and water line breaks (= 1/8). This was an average of 67.5 mg/L ± 4.9 mg/L for multiple preparations of gasoline-saturated water and was rounded to 60.0 mg/L to conservatively account for the statistical uncertainty. Hence,

$$\textit{Target Level} = \frac{1}{8} \times 60{,}000\ \mu g/L = 7{,}500\ \mu g/L\ \textit{benzene}$$

Toluene: 6,250 µg/L
The target level for toluene was determined similarly to that for benzene. The level of toluene in premium gasoline-saturated water was determined by Ong et al. (2008) to be 56.2 mg/L ± 4.9 mg/L and conservatively rounded to 50.0 mg/L. Hence,

$$\textit{Target Level} = \frac{1}{8} \times 50{,}000\ \mu g/L = 6{,}250\ \mu g/L\ \textit{toluene}$$

Ethylbenzene: 40,000 µg/L
The target level was set to be double that for PVC or Gasketed Service Lines (20,000 µg/L – see below).

Total Xylenes: 48,000 µg/L
The target level was set to be double that for PVC or Gasketed Service Lines (24,000 µg/L – see below).

PVC or Gasketed Service Lines

Benzene: 3,750 µg/L
The target level was set to be one-half of that for PVC or Gasketed Mains (7,500 µg/L as above) since service lines tend to be of higher risk than mains owing to their smaller diameter and greater potential for stagnation.

Toluene: 3,120 µg/L
Similar to benzene, the target level was set to be one-half of that for PVC or Gasketed Mains (6,250 µg/L as above) since service lines tend to be of higher risk than mains owing to their smaller diameter and greater potential for stagnation. Odd-even rounding to 3 significant figures was applied.

Ethylbenzene: 20,000 µg/L
The target level was based on two observations by Ong et al. (2008): (1) premium gasoline-saturated water has an average concentration of 3.4 mg/L ethylbenzene and (2) ethylene permeates high density polyethylene 46 times slower than does benzene (presumably, this is reasonably representative of other materials such as rubber gaskets). The 1/8 safety factor was also applied, as above. Odd-even rounding to 2 significant figures was applied. Hence:

$$\textit{Target Level} = 3{,}400\ \mu g/L \times 46x \times \frac{1}{8} = 19{,}550\ \mu g/L = 20{,}000\ \mu g/L$$

Total Xylenes: 24,000 µg/L
Similar to ethylbenzene, the target level was based on (1) premium gasoline-saturated water has an average concentration of 19 mg/L total xylenes and (2) total xylenes permeate high density polyethylene 10 times slower than does benzene. The 1/8 safety factor was also applied, as above. Odd-even rounding to 2 significant figures was applied. Hence:

$$\textit{Target Level} = 19{,}000\ \mu g/L \times 10x \times \frac{1}{8} = 23{,}750\ \mu g/L = 24{,}000\ \mu g/L$$

PE/PB/AC

Benzene: 200 µg/L
The target level was set at the concentration of benzene in groundwater surrounding a 1″ HDPE service line (SIDR 9 IPS) that would result in a concentration of 2 µg/L benzene in the service line after a 24 hr stagnation period. This level was chosen because 2 µg/L is generally the minimum reportable concentration of benzene in laboratory reports received by the department.

The permeation rate is a function of the concentration of benzene in the groundwater as described by Ong et al. (2008), equation 3.4a:

$$P_m = 0.0079 C_{bulk}^{1.1323}$$

where P_m is the benzene permeation rate in µg/cm^2/day through the pipe described above (cm^2 refers to the inner surface of the pipe) and C_{bulk} is the concentration of benzene in the groundwater (mg/L).

For any length of exposed 1″ SIDR 9 IPS pipe, l (cm), the concentration in the pipe after 24 hr stagnation, C_{24hr} (µg/L), can be computed from P_m and the ratio of the inner surface of the pipe to the internal volume:

$$C_{24hr} = P_m \times \left(\frac{2\pi r l}{\pi r^2 l/1000}\right) = 0.0079 C_{bulk}^{1.1323} \times \frac{2000}{r}$$

where r is the inside radius of the pipe (cm), l is the length of exposed pipe (cm), and dividing by 1000 converts from cm^3 to liters (and, therefore, 2000/r converts µg/cm^2/day to µg/L/day).

Solving for C_{bulk} (mg/L) with C_{24hr}= 2 µg/L and r = 1.28 cm (per manufacturer's specifications):

$$C_{bulk}^{1.1323} = \frac{2 \times 1.28}{0.0079 \times 2000}$$

and

$$C_{bulk} = \sqrt[1.1323]{0.162} = 0.200 mg/L = 200 \mu g/L$$

While the target level is expressed as 200 µg/L for clarity, the underlying data support only two significant figures. In a stricter treatment of the data, this would be expressed as 20×10^1 µg/L.

Toluene: 3,120 µg/L
The target level was set to be equal to that for PVC or Gasketed Service Lines. Calculations similar to those used above for benzene (Ong et al. (2008), equation 3.4b) indicate that 3,120 µg/L toluene in groundwater would result in 50 µg/L inside a 1" SIDR 9 IPS HDPE pipe after 24 hours of stagnation, which is 1/20th of the 1,000 µg/L MCL for toluene.

Ethylbenzene: 3,400 µg/L
The target level was set to be equal to the concentration of ethylbenzene in premium gasoline-saturated water (see discussion above for PVC or Gasketed Mains/Benzene). Unlike other target levels based on contaminant concentrations in gasoline-saturated water, the 1/8th safety factor was not applied because of the very low permeation rate of ethylbenzene through HDPE, the relatively low solubility of ethylbenzene in water, and the relatively high MCL (700 µg/L). Ong et al. (2008) found that permeation of HDPE by aqueous ethylbenzene was minimal and of no consequence for public health.

Total Xylenes: 19,000 µg/L
The target level was set to be equal to the concentration of ethylbenzene in premium gasoline-saturated water following the same reasoning for ethylbenzene (above). The permeation rate and water solubility are also very low, and the MCL is 10,000 µg/L. Ong et al. (2008) found that permeation of HDPE by aqueous xylenes was minimal and of no consequence for public health.

SOIL

Target levels for soil were set to be the same for mains and service lines of any material discussed above under "Groundwater." The underlying data support two significant figures for target levels in soil. Odd-even rounding was applied where appropriate.

Benzene: 2.0 mg/Kg
The target level was derived from the concentration of benzene (mg/Kg) that would result if soil that was 10% moisture and 1% organic matter was equilibrated with premium gasoline-saturated water (60 mg/L benzene – as per discussion of PVC or Gasketed Mains/Benzene above). The equilibrium concentration in soil was calculated using the approach of Chiou et al. (1983). The 1/8th safety factor discussed previously for groundwater was applied. Accordingly:

$$C_T = C_W K_d + C_W \theta$$

where C_T is the total concentration of benzene in soil (mg/Kg), θ is the fraction of moisture in the soil (Kg/Kg), and K_d is the partition coefficient from water to soil (L/Kg). Further:

$$K_d = K_{om} f_{om}$$

where K_{om} is the partition coefficient from water to organic matter in the soil, which is 16.8 L/Kg for benzene in soils with naturally occurring organic matter (Chiou et al. (1983)), and f_{om} is the fraction of organic matter in the dry soil (Kg/Kg).

For soil containing 1% naturally occurring organic matter and 10% moisture, the total concentration of benzene upon exposure to premium gasoline-saturated groundwater (60 mg/L benzene, as per above discussion of PVC or Gasketed Mains) would be:

$$C_T = \left(\frac{60\ mg}{L} \times \left(\frac{16.8\ L}{Kg} \times \frac{0.01\ Kg}{Kg}\right)\right) + \left(\frac{60\ mg}{L} \times \frac{0.1\ Kg}{Kg}\right) = \frac{16\ mg}{Kg}$$

Applying the 1/8th safety factor:

$$Target\ Level = \frac{1}{8} \times \frac{16\ mg}{Kg} = \frac{2.0\ mg}{Kg}$$

Toluene: 3.2 mg/Kg

The target level was derived in the same manner as for benzene except that the concentration of toluene in premium gasoline-saturated water is 50 mg/L and K_{om} is 42 L/Kg. Accordingly:

$$C_T = \left(\frac{50\ mg}{L} \times \left(\frac{42\ L}{Kg} \times \frac{0.01\ Kg}{Kg}\right)\right) + \left(\frac{50\ mg}{L} \times \frac{0.1\ Kg}{Kg}\right) = \frac{26\ mg}{Kg}$$

and

$$Target\ Level = \frac{1}{8} \times \frac{26\ mg}{Kg} = \frac{3.2\ mg}{Kg}$$

Ethylbenzene: 45 mg/Kg

The target level was based on the target level set for Groundwater/PVC or Gasketed Mains (40,000 µg/L, rounded from 39,100 µg/L, or 39.1 mg/L) and the principles of Chiou et al. (1983) discussed above. In a manner similar to that for benzene in soil, C_W was 3.4 mg/L, K_d was 0.106 L/Kg, and C_T was calculated to be 3.9 mg/Kg. The target level for soil that is equivalent to the target level set for groundwater was calculated as follows:

$$Target\ Level\ mg/Kg = 39.1\ mg/L \times \frac{3.9\ mg/Kg}{3.4\ mg/L} = 45\ mg/Kg$$

Total Xylenes: 52 mg/Kg

The target level was set in the same manner as for ethylbenzene (above), based on the groundwater target level of 48,000 µg/L (rounded from 47.5 mg/L). C_W was 19 mg/L, K_d was 1.001 L/Kg (assuming a mixture of m-, o-, and p-xylenes which is 60%, 20%, and 20%, respectively, which is typical of xylenes derived from petroleum), and C_T was calculated to be 21 mg/Kg. Hence:

$$Target\ Level\ mg/Kg = 47.5\ mg/L \times \frac{21\ mg/Kg}{19\ mg/L} = 52\ mg/Kg$$

NOTE: The 1/8th safety factor was applied above to the target levels for ethylbenzene and total xylenes for Groundwater, PVC or Gasketed Service Lines, thence the target levels for Groundwater, PVC or Gasketed Mains, were derived. Consequently, the 1/8th safety factor has also been applied to the target levels for both ethylbenzene and total xylenes in soil.

REFERENCES

Chiou, C. T., P. E. Porter and D. W. Schmedding. 1983. Partition equilibria of nonionic organic compounds between soil organic matter and water. Environ. Sci. Technol., 17(4)227-231.

Ong, S. K., J. A. Gaunt, F. Mao, C. L. Cheng, L. Esteve-Agelet, and C. R. Hurburgh. 2008. Impact of hydrocarbons on PE/PVC pipes and pipe gaskets, Publication 91204. Awwa Research Foundation (presently Water Research Foundation), Denver, CO.

Appendix B-1 – Tier 2 Equations and Parameter Values (Old Model)

All Tier 1 equations and parameters apply at Tier 2 except as specified below.

Equation for Tier 2 Groundwater Contaminant Transport Model

$$C(x) = C_s \exp\left(\frac{x}{2\alpha_x}\left[1-\sqrt{1+\frac{4\lambda\alpha_x}{u}}\right]\right)\operatorname{erf}\left(\frac{S_w}{4\sqrt{\alpha_y x}}\right)\operatorname{erf}\left(\frac{S_d}{4\sqrt{\alpha_z x}}\right)$$

Variable definitions

x: distance in the x direction downgradient from the source
erf( ): the error function
C(x): chemical concentration in groundwater at x
C_s: Source concentration in groundwater (groundwater concentration at x=0)
S_w: width of the source (perpendicular to x)
S_d: vertical thickness of the source
u: groundwater velocity (pore water velocity); u=Ki/θe
K: hydraulic conductivity
i: groundwater head gradient
θe: effective porosity
λ: first-order decay coefficient, chemical specific
αx, αy, αz: dispersivities in the x, y and z directions, respectively

For the following lists of parameters, one of three is required: site-specific measurements, defaults or the option of either (which means the default may be used or replaced with a site-specific measurement).

Soil parameters

Parameter		Default Value	Required
ρ_s	soil bulk density	1.86 g/cm^3	option
f_{oc}	fraction organic carbon in the soil	0.01 kg-C/kg-soil	option
θ_T	total soil porosity	0.3cm^3-voids/cm^3-soil	option
θ_{as}	volumetric air content in vadose zone	0.2cm^3-air/cm^3-soil	default
θ_{ws}	volumetric water content in vadose zone	0.1cm^3-H_2O/cm^3-soil	default
θ_{acrack}	volumetric air content in foundation/wall cracks	0.2cm^3-air/cm^3-soil	default
θ_{wcrack}	volumetric water content in foundation/wall cracks	0.1cm^3-H_2O/cm^3-soil	default
I	infiltration rate of water through soil	7 cm/year	default

If the total porosity is measured, assume 1/3 is air filled and 2/3 is water filled for determining the water and air fraction in the vadose zone soil and floor cracks.

Groundwater Transport Modeling Parameters

Parameter		Default Value	Required
K	hydraulic conductivity	16060 cm/year	site-specific
i	groundwater head gradient	0.01 cm/cm	site-specific
S_w	width of the source	use procedure specified in 135.10(2)	site-specific
S_d	vertical thickness of the source	3 m	default
αx	dispersivity in the x direction	0.1x	default
αy	dispersivity in the y direction	$0.33\alpha x$	default
αz	dispersivity in the z direction	$0.05\alpha x$	default
θe	effective porosity	0.1	default

where $u=Ki/\theta e$

First-order Decay Coefficients

Chemical	Default Value λ (d-1)	Required
Benzene	0.0005	default
Toluene	0.0007	default
Ethylbenzene	0.00013	default
Xylenes	0.0005	default
Naphthalene	0.00013	default
Benzo(a)pyrene	0	default
Benz(a)anthracene	0	default
Chrysene	0	default

Other Parameters for Groundwater Vapor to Enclosed Space

Parameter		Default Value	Required
Lgw	depth to groundwater from the enclosed space foundation	1 cm	option
L_B	enclosed space volume/infiltration area ratio	200 cm	option
ER (s-1)	enclosed space air exchange rate	0.00014	default
Lcrack	enclosed space foundation or wall thickness	15 cm	default
η	areal fraction of cracks in foundation/wall	0.01	default

Other Parameters for Soil Vapor to Enclosed Space

Parameter		Default Value	Required
L_s	depth to subsurface soil sources from the enclosed space foundation	1 cm	option
L_B	enclosed space volume/infiltration area ratio	250 cm *	option
ER (s-1)	enclosed space air exchange rate	0.000185 *	default
Lcrack	enclosed space foundation or wall thickness	15 cm	default
η	areal fraction of cracks in foundation/wall	0.01	default

*These values are an average of residential and nonresidential factors.

Soil Leaching to Groundwater

Parameter		Default Value	Required
δ	groundwater mixing zone	2 m	default

Building Parameters for Iowa Tier 2

Parameter		Residential	Nonresidential
ER (s-1)	enclosed space air exchange rate	0.00014	0.00023
L_B	enclosed space volume/infiltration area ratio	200 cm	300 cm

Other Parameters

For Tier 2, the following are the same as Tier 1 values (refer to Appendix A): chemical-specific parameters, slope factors and reference doses, and exposure factors (except for those listed below).

Exposure Factors for Tier 2 Groundwater Vapor to Enclosed Space Modeling:
Potential Residential: use residential exposure and residential building parameters.
Potential Nonresidential: use nonresidential exposure and nonresidential building parameters.

Diesel and Waste Oil

Diesel and Waste Oil			Chemical-Specific Values for Tier 1			
Media	Exposure Pathway	Receptor	Naphthalene	Benzo(a) pyrene	Benz(a) anthracene	Chrysene
Groundwater (ug/L)	Groundwater Ingestion	actual	150	0.012	0.12	1.2
		potential	150	1.2	12.0	NA
	Groundwater Vapor to Enclosed Space	all	4,440	NA	NA	NA
	Groundwater to Plastic Water Line	all	150	1.2	12.0	NA
	Surface Water	all	150	1.2	12.0	NA
Soil (mg/kg)	Soil Leaching to Groundwater	all	7.6	NA	NA	NA
	Soil Vapor to Enclosed Space	all	95	NA	NA	NA
	Soil to Plastic Water Line	all	21	NA	NA	NA

Due to difficulties with analytical methods for the four individual chemicals listed in the above table, Total Extractable Hydrocarbon (TEH) default values were calculated for each chemical, using the assumption that diesel contains 0.2% napthalene, 0.001% benzo(a)pyrene, 0.001% benz(a)anthracene, and 0.001% chrysene. Resulting TEH Default Values are shown in the following table.

Diesel			TEH Default Values			
Media	Exposure Pathway	Receptor	Naphthalene	Benzo(a) pyrene	Benz(a) anthracene	Chrysene
Groundwater (ug/L)	Groundwater Ingestion	actual	75,000	1,200	12,000	120,000
		potential	75,000	120,000	1,200,000	NA
	Groundwater Vapor to Enclosed Space	all	2,200,000	NA	NA	NA
	Groundwater to Plastic Water Line	all	75,000	120,000	1,200,000	NA
	Surface Water	all	75,000	120,000	1,200,000	NA
Soil (mg/kg)	Soil Leaching to Groundwater	all	3,800	NA	NA	NA
	Soil Vapor to Enclosed Space	all	47,500	NA	NA	NA
	Soil to Plastic Water Line	all	10,500	NA	NA	NA

The lowest TEH default value for each pathway (shown as a shaded box) was used in the Tier 1 Table.

Due to difficulties with analytical methods for the four individual chemicals, Total Extractable Hydrocarbon (TEH) default values were calculated for each chemical, using the assumption that waste oil contains no naphthalene, 0.003% benzo(a)pyrene, 0.003% benz(a)anthracene, and 0.003% chrysene. Resulting TEH Default Values are shown in the following table.

Waste Oil			TEH Default Values			
Media	Exposure Pathway	Receptor	Naphthalene	Benzo(a) pyrene	Benz(a) anthracene	Chrysene
Groundwater (ug/L)	Groundwater Ingestion	actual	NA	400	4,000	40,000
		potential	NA	40,000	400,000	NA
Groundwater (ug/L)	Groundwater Vapor to Enclosed Space	all	NA	NA	NA	NA
	Groundwater to Plastic Water Line	all	NA	40,000	400,000	NA
	Surface Water	all	NA	40,000	400,000	NA
Soil (mg/kg)	Soil Leaching to Groundwater	all	NA	NA	NA	NA
	Soil Vapor to Enclosed Space	all	NA	NA	NA	NA
	Soil to Plastic Water Line	all	NA	NA	NA	NA

The lowest TEH default value for each pathway (shown as a shaded box) was used in the Tier 1 Table.
[**ARC 9011B**, IAB 8/25/10, effective 9/29/10]

APPENDIX C
DECLARATION OF RESTRICTIVE COVENANTS
Rescinded IAB 7/19/06, effective 8/23/06

APPENDIX D
IOWA DEPARTMENT OF NATURAL RESOURCES

NO FURTHER ACTION CERTIFICATE

This document certifies that the referenced underground storage tank site has been classified by the Iowa Department of Natural Resources (IDNR) as "no action required" as provided in the 1995 Iowa Code Supplement 455B.474(1)"h"(1). This certificate may be recorded as provided by law.

ISSUED TO: OWNERS/OPERATORS OF TANKS
DATE OF ISSUANCE:
IDNR FILE REFERENCES: LUST # REGISTRATION #
LEGAL DESCRIPTION OF UNDERGROUND STORAGE TANK SITE:

Issuance of this certificate does not preclude the IDNR from requiring further corrective action due to new releases and is based on the information available to date. The department is precluded from requiring additional corrective action solely because governmental action standards are changed. See 1995 Iowa Code Supplement 455B.474(1)"h"(1).

This certificate does not constitute a warranty or a representation of any kind to any person as to the environmental condition, marketability or value of the above referenced property other than that certification required by 1995 Iowa Code Supplement 455B.474(1)"h".

These rules are intended to implement Iowa Code sections 455B.304, 455B.424 and 455B.474.

[Filed emergency 9/20/85—published 10/9/85, effective 9/20/85]
[Filed emergency 11/14/86—published 12/3/86, effective 12/3/86]
[Filed emergency 12/29/86—published 1/14/87, effective 1/14/87]
[Filed 5/1/87, Notice 1/14/87—published 5/20/87, effective 7/15/87[1]]
[Filed emergency 9/22/87—published 10/21/87, effective 9/22/87]
[Filed 2/19/88, Notice 11/18/87—published 3/9/88, effective 4/13/88]
[Filed emergency 10/24/88—published 11/16/88, effective 10/24/88]
[Filed 7/21/89, Notice 2/22/89—published 8/9/89, effective 9/13/89]
[Filed emergency 8/25/89—published 9/20/89, effective 8/25/89]
[Filed 8/31/90, Notice 3/21/90—published 9/19/90, effective 10/24/90]
[Filed 2/1/91, Notice 11/14/90—published 2/20/91, effective 3/27/91]
[Filed emergency 3/29/91—published 4/17/91, effective 3/29/91]
[Filed emergency 8/28/91—published 9/18/91, effective 8/28/91]
[Filed emergency 2/21/92 after Notice 9/18/91—published 3/18/92, effective 2/21/92]
[Filed 9/24/93, Notice 3/17/93—published 10/13/93, effective 11/17/93]
[Filed 12/1/95, Notice 8/16/95—published 12/20/95, effective 1/24/96]
[Filed emergency 6/25/96—published 7/17/96, effective 8/15/96]
[Filed emergency 12/20/96 after Notice 7/17/96—published 1/15/97, effective 12/20/96]
[Filed emergency 6/25/99—published 7/14/99, effective 7/1/99]
[Filed 10/1/99, Notice 7/14/99—published 10/20/99, effective 11/24/99]

[Filed emergency 9/29/00—published 10/18/00, effective 9/29/00]
[Filed 1/19/01, Notice 10/18/00—published 2/7/01, effective 3/14/01]
[Filed 12/19/01, Notice 10/17/01—published 1/9/02, effective 2/13/02]
[Filed 3/23/06, Notice 11/9/05—published 4/12/06, effective 5/17/06]
[Filed 6/28/06, Notice 3/15/06—published 7/19/06, effective 8/23/06]
[Filed emergency 7/6/07—published 8/1/07, effective 7/6/07]
[Filed 10/4/07, Notice 8/1/07—published 10/24/07, effective 11/28/07]
[Filed 6/12/08, Notice 2/13/08—published 7/2/08, effective 8/6/08[2]]
[Editorial change: IAC Supplement 7/30/08]
[Editorial change: IAC Supplement 11/5/08]
[Filed ARC 7621B (Notice ARC 7400B, IAB 12/3/08), IAB 3/11/09, effective 4/15/09]
[Filed ARC 8124B (Notice ARC 7854B, IAB 6/17/09), IAB 9/9/09, effective 10/14/09]
[Filed ARC 8469B (Notice ARC 7854B, IAB 6/17/09), IAB 1/13/10, effective 2/17/10][3]
[Editorial change: IAC Supplement 2/24/10]
[Editorial change: IAC Supplement 5/5/10]
[Filed ARC 9011B (Notice ARC 8676B, IAB 4/7/10), IAB 8/25/10, effective 9/29/10]
[Filed ARC 9331B (Notice ARC 9152B, IAB 10/20/10), IAB 1/12/11, effective 2/16/11]

[1] July 15, 1987, effective date of 135.9(4) delayed 70 days by Administrative Rules Review Committee at its June 1987 meeting.

[2] August 6, 2008, effective date of **ARC 6892B** delayed 70 days by Administrative Rules Review Committee at its July 2008 meeting. At its meeting held October 14, 2008, the Committee delayed until adjournment of the 2009 Session of the General Assembly the following provisions: **567—135.2(455B)**, definition of "Sensitive area"; **135.9(4)"f"**; **135.10(4)"a,"** last sentence: "A public water supply screening and risk assessment must be conducted in accordance with 135.10(4)"f" for this pathway" and **135.10(4)"b,"** last sentence of the first paragraph: "The certified groundwater professional or the department may request additional sampling of drinking water wells and non-drinking water wells as part of its evaluation"; **135.10(4)"f"**; **135.10(11)"h."**

[3] February 17, 2010, effective date of 135.5(1)"e" delayed 70 days by the Administrative Rules Review Committee at its meeting held February 8, 2010. At its meeting held April 13, 2010, the Committee delayed the effective date of 135.5(1)"e" until adjournment of the 2011 Session of the General Assembly.

OBJECTION

At a special meeting held on Monday, February 8, 2010, the Administrative Rules Review Committee voted to object to the provisions of **ARC 8469B**, on the grounds these requirements are beyond the authority delegated to the agency. This filing appeared in the 1/13/2010 issue of the Iowa Administrative Bulletin.

This adopted filing establishes leak detection requirements for unstaffed fueling facilities. It requires in-line leak detection to shut off the pump and stop fuel flow to the dispenser. Discussion at the February 8, 2010, meeting raised several issues involving the number of facilities affected and the cost of the upgrades. The issue was also raised whether the rule exceeded the authority of the agency. Iowa Code §455B.474(10) states, in part, "The rules adopted by the commission under this section shall be consistent with and shall not exceed the requirements of federal regulations…." Since federal regulations do not have specific leak detection requirements for unstaffed fueling facilities, the Committee believes the plain language of §455B.474(10) precludes this rulemaking.

For this reason the Committee members felt the new detection requirements are beyond the authority delegated to the agency.

Objection filed February 12, 2010

TITLE VI
PARKS AND RECREATION AREAS

CHAPTER 61
STATE PARKS AND RECREATION AREAS

[Prior to 12/31/86, Conservation Commission[290] Ch 45]

571—61.1(461A) Applicability. This chapter is applicable to all state-owned parks and recreation areas managed by the department of natural resources and by political subdivisions unless otherwise noted.

571—61.2(461A) Definitions.

"Bank" or *"shoreline"* means the zone of contact of a body of water with the land and an area within 25 feet of the water's edge.

"Basic unit" or *"basic camping unit"* means the portable shelter used by one to six persons.

"Beach" is as defined in rule 571—64.1(461A).

"Beach house open shelter" means a building located on the beach which is open on two or more sides and which may or may not have a fireplace.

"Cabin" means a small, one-story dwelling of simple construction which is available for rental on a daily or weekly basis.

"Call center" means a phone center where operators process all telephone reservations, reservation changes and reservation cancellations for camping and rental facilities.

"Camping" means the erecting of a tent or shelter of natural or synthetic material or placing a sleeping bag or other bedding material on the ground or parking a motor vehicle, motor home, or trailer for the apparent purpose of overnight occupancy.

"Centralized reservation system" means a system that processes reservations using more than one method to accept reservations. Each method simultaneously communicates to a centralized database at a reservation contractor location to ensure that no campsite or rental facility is booked more than once.

"Chaperoned, organized youth group" means a group of persons 17 years of age and under, which is sponsored by and accompanied by adult representatives of a formal organization including, but not limited to, the Boy Scouts of America or Girl Scouts of America, a church, or Young Men's or Young Women's Christian Association. "Chaperoned, organized youth group" does not include families of members of a formal organization.

"Fishing" means taking or attempting to take fish by utilizing hook, line and bait as defined in Iowa Code section 481A.72, or use of permitted devices for taking rough fish as determined by Iowa Code sections 461A.42 and 481A.76.

"Free climbing" means climbing with the use of hands and feet only and without the use of ropes, pins and other devices normally associated with rappelling and rock climbing.

"Group camp" means those camping areas at Dolliver Memorial State Park, Springbrook State Park and Lake Keomah State Park where organized groups (i.e., family groups or youth groups) may camp. Dining hall facilities are available.

"Immediate family" means spouses, parents or legal guardians, domestic partners, dependent children and grandparents.

"Lodge" means a day-use building which is enclosed on all four sides and may have kitchen facilities such as a stove or refrigerator and which is available for rent on a daily basis. "Lodge" does not include buildings that are open on two or more sides and that contain fireplaces only.

"Modern area" means a camping area which has showers and flush toilets.

"Nonmodern area" means a camping area in which no showers are provided and which contains only pit-type latrines or flush-type toilets. Potable water may or may not be available to campers.

"Open shelter" means a building which is open on two or more sides and which may or may not include a fireplace.

"Open shelter with kitchenette" means a building which is open on two or more sides and contains a lockable, enclosed kitchen area.

"Organized youth group campsite" means a designated camping area within or next to the main campground where chaperoned, organized youth groups may camp.

"Persons with disabilities parking permit" means an identification device bearing the international symbol of accessibility that is issued by the Iowa department of transportation or similar devices that are issued by other states. The device can be a hanging device or on a motor vehicle as a plate or sticker as provided in Iowa Code section 321L.2 or 321L.9.

"Person with physical disability" means an individual, commonly termed a paraplegic or quadriplegic, with paralysis or a physical condition of the lower half of the body with the involvement of both legs, usually due to disease or injury to the spinal cord; a person who is a single or double amputee of the legs; or a person with any other physical affliction which makes it impossible to ambulate successfully in park or recreation area natural surroundings without the use of a wheeled conveyance.

"Possession" means exercising dominion or control with or without ownership over property.

"Prohibited activity" means any activity other than fishing as defined in this chapter including, but not limited to, picnicking and camping.

"Property" means personal property such as goods, money, or domestic animals.

"Recreation areas" means the following areas that have been designated by action of the natural resource commission:

Area	County
Badger Creek Recreation Area	Madison
Brushy Creek Recreation Area	Webster
Claire Wilson Park	Dickinson
Emerson Bay and Lighthouse	Dickinson
Fairport Recreation Area	Muscatine
Lower Gar Access	Dickinson
Marble Beach	Dickinson
Mines of Spain Recreation Area	Dubuque
Pioneer Recreation Area	Mitchell
Pleasant Creek Recreation Area	Linn
Templar Park	Dickinson
Volga River Recreation Area	Fayette
Wilson Island Recreation Area	Pottawattamie

These areas are managed for multiple uses, including public hunting, and are governed by rules established in this chapter as well as in 571—Chapters 52 and 105.

"Refuse" means trash, garbage, rubbish, waste papers, bottles or cans, debris, litter, oil, solvents, liquid or solid waste or other discarded material.

"Rental facilities" means those facilities that may be rented on a daily or nightly basis and includes open shelters, open shelters with kitchenettes, beach house open shelters, lodges, cabins, yurts and group camps.

"Reservation transaction fees" means fees as given in this chapter to process a reservation, change a reservation or cancel a reservation.

"Reservation window" means a rolling period of time in which a person may reserve a campsite or rental facility.

"Scuba diving" means swimming with the aid of self-contained underwater breathing apparatus.

"Special event" means any planned event for which attendance is solicited through advertising, invitation, or other solicitation and that may interfere with the general public's normal use of a state park or recreation area and its facilities.

"State park" means the following areas managed by the state and designated by action of the natural resource commission:

Area	County
A. A. Call	Kossuth
Backbone	Delaware
Banner Lakes at Summerset	Warren
Beed's Lake	Franklin
Bellevue	Jackson
Big Creek	Polk
Black Hawk	Sac
Cedar Rock	Buchanan
Clear Lake	Cerro Gordo
Dolliver Memorial	Webster
Elinor Bedell	Dickinson
Elk Rock	Marion
Fort Atkinson	Winneshiek
Fort Defiance	Emmet
Geode	Henry and Des Moines
George Wyth	Black Hawk
Green Valley	Union
Gull Point	Dickinson
Honey Creek	Appanoose
Lacey-Keosauqua	Van Buren
Lake Ahquabi	Warren
Lake Anita	Cass
Lake Darling	Washington
Lake Keomah	Mahaska
Lake Macbride	Johnson
Lake Manawa	Pottawattamie
Lake of Three Fires	Taylor
Lake Wapello	Davis
Ledges	Boone
Lewis and Clark	Monona
Maquoketa Caves	Jackson
McIntosh Woods	Cerro Gordo
Mini-Wakan	Dickinson
Nine Eagles	Decatur
Okamanpedan	Emmet
Palisades-Kepler	Linn
Pikes Peak	Clayton
Pikes Point	Dickinson
Pilot Knob	Winnebago
Pine Lake	Hardin
Prairie Rose	Shelby
Preparation Canyon	Monona
Red Haw	Lucas
Rice Lake	Winnebago

Area	County
Rock Creek	Jasper
Shimek Forest Campground	Lee
Springbrook	Guthrie
Stephens Forest Campground	Lucas
Stone	Plymouth and Woodbury
Trapper's Bay	Dickinson
Twin Lakes	Calhoun
Union Grove	Tama
Viking Lake	Montgomery
Walnut Woods	Polk
Wanata	Clay
Wapsipinicon	Jones
Waubonsie	Fremont
Wildcat Den	Muscatine
Yellow River Forest Campground	Allamakee

Use and management of these areas are governed by Iowa Code chapter 461A and by other restrictions prescribed on area signs pursuant to Iowa Code section 461A.44.

"State park managed by a management company" means the following area established by Iowa Code chapter 463C:

Area	County
Honey Creek Resort State Park	Appanoose

Use and management of this area are governed by rules established in this chapter, as well as by the indenture of trust entered into by and among the department, the treasurer of state, the Honey Creek Premiere Destination Park bond authority as established by Iowa Code chapter 463C, and Banker's Trust Corporation, dated October 1, 2006.

"State park managed by another governmental entity" means the following areas designated by action of the natural resource commission:

Area	County
Bobwhite	Wayne
Browns Lake-Bigelow Park	Woodbury
Cold Springs	Cass
Crystal Lake	Hancock
Eagle Lake	Hancock
Echo Valley	Fayette
Frank A. Gotch	Humboldt
Galland School	Lee
Heery Woods	Butler
Kearny	Palo Alto
Lake Cornelia	Wright
Lake Odessa Campground	Louisa
Margo Frankel Woods	Polk
Mill Creek	O'Brien
Oak Grove	Sioux

Area	County
Oakland Mills	Henry
Pammel	Madison
Pioneer	Mitchell
Sharon Bluffs	Appanoose
Silver Lake	Delaware
Spring Lake	Greene
Swan Lake	Carroll

Use and management of these areas are governed by Iowa Code chapter 461A, by this chapter, and by rules adopted by the managing entity.

"State preserve" means the following areas or portion of the areas dedicated by actions pursuant to Iowa Code section 465C.10:

Area	County
A. F. Miller	Bremer
Ames High Prairie	Story
Anderson Prairie	Emmet
Behrens Ponds and Woodland	Linn
Berry Woods	Warren
Bird Hill	Cerro Gordo
Bixby	Clayton
Bluffton Fir Stand	Winneshiek
Brush Creek Canyon	Fayette
Brushy Creek	Webster
Cameron Woods	Scott
Casey's Paha	Tama
Catfish Creek	Dubuque
Cayler Prairie	Dickinson
Cedar Bluffs Natural Area	Mahaska
Cedar Hills Sand Prairie	Black Hawk
Cheever Lake	Emmet
Clay Prairie	Butler
Claybanks Forest	Cerro Gordo
Coldwater Cave	Winneshiek
Crossman Prairie	Howard
Decorah Ice Cave	Winneshiek
Derald Dinesen Prairie	Shelby
Doolittle Prairie	Story
Eureka Woods	Greene
Fallen Rock	Hardin
Fish Farm Mounds	Allamakee
Five Ridge Prairie	Plymouth
Fleming Woods	Poweshiek
Fort Atkinson	Winneshiek
Fossil and Prairie Park	Floyd
Freda Haffner Kettlehole	Dickinson

Area	County
Gitchie Manitou	Lyon
Hanging Bog	Linn
Hardin City Woodland	Hardin
Hartley Fort	Allamakee
Hartman Bluff	Black Hawk
Hayden Prairie	Howard
Hoffman Prairie	Cerro Gordo
Indian Bluffs Primitive Area	Jones
Indian Fish Trap	Iowa
Kalsow Prairie	Pocahontas
Kish-Ke-Kosh Prairie	Jasper
Lamson Woods	Jefferson
Liska-Stanek Prairie	Webster
Little Maquoketa River Mounds	Dubuque
Malanaphy Springs	Winneshiek
Malchow Mounds	Des Moines
Manikowski Prairie	Clinton
Mann Wilderness Area	Hardin
Marietta Sand Prairie	Marshall
Mericle Woods	Tama
Merrill A. Stainbrook	Johnson
Merritt Forest	Clayton
Montauk	Fayette
Mossy Glen	Clayton
Mount Pisgah Cemetery	Union
Mount Talbot	Woodbury and Plymouth
Nestor Stiles Prairie	Cherokee
Ocheyedan Mound	Osceola
Old State Quarry	Johnson
Palisades-Dows	Linn
Pecan Grove	Muscatine
Pellett Memorial Woods	Cass
Pilot Grove	Iowa
Pilot Knob	Hancock
Retz Memorial Woods	Clayton
Roberts Creek	Clayton
Rock Creek Island	Cedar
Rock Island Botanical	Linn
Roggman Boreal Slopes	Clayton
Rolling Thunder Prairie	Warren

Area	County
Savage Woods	Henry
Searryl's Cave	Jones
Sheeder Prairie	Guthrie
Silver Lake Fen	Dickinson
Silvers-Smith Woods	Dallas
Slinde Mounds	Allamakee
St. James Lutheran Church	Winneshiek
Starr's Cave	Des Moines
Steele Prairie	Cherokee
Stinson Prairie	Kossuth
Strasser Woods	Polk
Sylvan Runkel	Monona
Toolesboro Mounds	Louisa
Turin Loess Hills	Monona
Turkey River Mounds	Clayton
White Pine Hollow	Dubuque
Williams Prairie	Johnson
Wittrock Indian Village	O'Brien
Woodland Mounds	Warren
Woodman Hollow	Webster
Woodthrush Woods	Jefferson

Use and management of these areas are governed by rules established in this chapter as well as by management plans adopted by the preserves advisory board.

"Swim" or *"swimming"* means to propel oneself in water by natural means, such as movement of limbs, and includes but is not limited to wading and the use of inner tubes or beach toy-type swimming aids.

"Walk-in camper" means a person arriving at a campground without a reservation and wishing to occupy a first-come, first-served campsite or unrented, reservable campsite.

"Yurt" means a one-room circular fabric structure built on a platform which is available for rental on a daily or weekly basis.

[**ARC 8821B**, IAB 6/2/10, effective 7/7/10]

571—61.3(461A) Establishment of centralized reservation system operating procedures and policies. The department shall establish a centralized reservation system to accept and process reservations for camping and rental facilities in state parks, recreation areas and state forest campgrounds.

61.3(1) *Centralized reservation system business rules manual.* The department shall adopt by reference the manual titled "Centralized Reservation System Business Rules for Iowa State Parks, Recreation Areas and State Forests," dated January 1, 2006, which sets procedures and policies for the administration of reservations of campsites and rental facilities through the centralized reservation system.

61.3(2) *Recreation facilities available on centralized reservation system.*

a. Rental facilities. All rental facilities will be available on the centralized reservation system with the exception of the group camp at Springbrook State Park.

b. Campgrounds.

(1) All campgrounds will be available on the centralized reservation system except for the campgrounds at A. A. Call State Park, Fort Defiance State Park and Preparation Canyon State Park and the backpack campsites located in state forests.

(2) No less than 50 percent and up to no more than 75 percent of the total number of campsites in each individual campground shall be designated as reservable sites on the reservation system. The determination of which campsites shall be included in the reservable designation shall be the responsibility of the park staff in each park. Park staff shall include a combination of electric, nonelectric and sewer/water sites while taking into consideration campsite characteristics such as location, shade and size. The department will review the percentage of reservable sites and usage on a biennial basis and determine whether the percentage of reservable campsites should be changed. A reservable campsite will be identified with a reservable site marker on the campsite post.

(3) All designated organized youth group campsites and campsites marked with the international symbol of accessibility shall be included in the reservation system.

61.3(3) *Methods available to make reservations.* Persons may make reservations by telephone through the call center or through the Internet using the reservation system Web site.

61.3(4) *Reservation transaction fees.*

a. Reservation fee. A nonrefundable reservation fee shall be charged for each reservation made per campsite or rental facility regardless of the length of stay. The one-time fee is per reservation and is not charged per day or night. This fee is in addition to the camping fees or rental fees established in subrules 61.4(1) and 61.5(1). The reservation fee varies depending upon the method used when the reservation is made.

(1) Internet reservation — $4.

(2) Telephone reservation — $6.

b. Change fee. A fee shall be charged to change an existing reservation.

(1) Reservation change made through the Internet — $5.

(2) Reservation change made over the telephone — $7.

c. Cancellation fee. A fee shall be charged to cancel a reservation.

(1) Reservation cancellation made through the Internet — $5.

(2) Reservation cancellation made over the telephone — $7.

61.3(5) *Reservation window.*

a. Camping. The reservation window for campsite reservations is 3 months to 2 days prior to the arrival date.

b. Rental facilities.

(1) Rentals for May 1 to September 30. The reservation window for rental facilities is 12 months to 4 days prior to the arrival date.

(2) Rentals for October 1 to April 30. The reservation window for rental facilities is 12 months to 7 days prior to the arrival date.

[**ARC 9324B**, IAB 1/12/11, effective 2/16/11]

571—61.4(461A) Camping.

61.4(1) *Fees.* The following are maximum per-night fees for camping in state parks and recreation areas. The fees may be reduced or waived by the director for special events or special promotional efforts sponsored by the department of natural resources. Special events or promotional efforts shall be conducted so as to give all park facility users equal opportunity to take advantage of reduced or waived fees. Reductions or waivers shall be on a statewide basis covering like facilities. In the case of promotional events, prizes shall be awarded by random drawing of registrations made available to all park visitors during the event. In areas subject to a local option sales tax, the camping fee shall be administratively adjusted so that persons camping in those areas will pay the same total cost applicable in other areas.

	Fee	Sales Tax	Total Per Night
a. The following fees shall be in effect from May 1 to September 30 each year.			
Nonmodern	$ 8.49	.51	$ 9.00
Modern	10.38	.62	11.00
b. The following fees shall be in effect from October 1 to April 30 each year.			
Nonmodern	5.66	.34	6.00
Modern	7.55	.45	8.00
c. Electricity	4.72	.28	5.00
This fee will be charged in addition to the camping fee on sites where electricity is available (whether it is used or not).			
d. Organized youth group campsite, per group	14.15	.85	15.00
e. Cable television hookup	1.89	.11	2.00
f. Sewer and water hookup	2.83	.17	3.00
g. Additional fee for campgrounds designated for equestrian use	2.83	.17	3.00
This fee is in addition to applicable fees listed above.			
h. Camping tickets (per book of seven)	85.85	5.15	91.00

Camping tickets shall be valid for one year from the month of purchase. Persons using valid camping tickets purchased prior to any fee increase will not be required to pay the difference due to that fee increase.

61.4(2) *Varying fees.* Fees charged for like services in state-owned areas under management by political subdivisions may vary from those established by this chapter.

61.4(3) *Procedures for camping registration.*

a. Registration.

(1) Registration of walk-in campers occupying nonreservable campsites or unrented, reservable campsites will be on a first-come, first-served basis and will be handled by a self-registration process. Registration forms will be provided by the department of natural resources. Campers shall, within one-half hour of arrival at the campground, complete the registration form, place the appropriate fee or number of camping tickets in the envelope and place the envelope in the depository provided by the department of natural resources. One copy must then be placed in the campsite holder provided at the campsite.

(2) Park staff shall complete the registration of campers with reservations and place the registration in the campsite holder no later than one hour prior to check-in time on the day of the camper's arrival.

b. Campsites are considered occupied and registration for a campsite shall be considered complete when the requirements of 61.4(3)*"a"* have been met.

c. Campsite registration must be in the name of a person 18 years of age or older who will occupy the camping unit on that site for the full term of the registration.

d. Each camping ticket shall cover the cost of one night of camping in a modern area on a site where electricity is furnished. In addition to using the camping ticket, persons camping on equestrian sites or on sites which also have sewer and water hookups or cable television hookups available must pay the additional charges for these services. Use of a camping ticket in an area or on a site which would require a lesser fee than an electrical site in a modern area will not entitle the user to a refund or credit of any kind.

61.4(4) *Organized youth group campsite registration.*

a. Registration procedures for organized youth group campsites shall be governed by paragraphs *"a," "b"* and *"c"* of 61.4(3).

b. Chaperoned, organized youth groups may choose to occupy campsites not designated as organized youth group campsites. However, the group is subject to all fees and rules in 61.4(1), 61.4(3) and 61.4(5) pertaining to the campsite the group wishes to occupy.

61.4(5) *Restrictions on campsite/campground use.* This subrule sets forth conditions of public use which apply to all state parks and recreation areas. Specific areas as listed in 61.4(6), 571—61.7(461A) and 571—61.10(461A) are subject to additional restrictions or exceptions. The conditions in this subrule are in addition to specific conditions and restrictions set forth in Iowa Code chapter 461A.

a. Camping is restricted to designated camping areas within state parks and recreation areas and state forest campgrounds.

b. No more than six persons shall occupy a campsite except for the following:

(1) Families that exceed six persons may be allowed on one campsite if all members are immediate family and cannot logically be split to occupy two campsites.

(2) Campsites which are designated as chaperoned, organized youth group campsites.

c. Camping is restricted to one basic unit per site except that a small tent may be placed on a site with the basic unit. The area occupied by the small tent shall be no more than 8 feet by 10 feet and the tent shall hold no more than four people.

d. Each camping group shall utilize only the electrical outlet fixture designated for its particular campsite. No extension cords or other means of hookup shall be used to furnish electricity from one designated campsite to another.

e. Each camping group will be permitted to park one motor vehicle not being used for camping purposes at the campsite. Unless otherwise posted, one additional vehicle may be parked at the campsite.

f. All motor vehicles, excluding motorcycles, not covered by the provision in 61.4(5)*"e"* shall be parked in designated extra-vehicle parking areas.

g. Walk-in campers occupying nonreservable campsites or unrented, reservable campsites shall register as provided in subrule 61.4(3) within one-half hour of entering the campground.

h. Campers occupying nonreservable campsites shall vacate the campground or register for the night prior to 4 p.m. daily. Registration can be for more than 1 night at a time but not for more than 14 consecutive nights for nonreservable campsites. All members of the camping party must vacate the state park or recreation area campground after the fourteenth night and may not return to the state park or recreation area until a minimum of 3 nights has passed. All equipment must be removed from the site at the end of each stay. The 14-night limitation shall not apply to volunteers working under a department of natural resources program.

i. Walk-in campers shall not occupy unrented, reservable campsites until 10 a.m. on the first camping day of their stay. Campers shall vacate the campground by 3 p.m. of the last day of their stay. Initial registration shall not exceed 2 nights. Campers may continue to register after the first 2 nights on a night-to-night basis up to a maximum of 14 consecutive nights, subject to campsite availability. All members of the camping party must vacate the state park or recreation area campground after the fourteenth night and may not return to the state park or recreation area until a minimum of 3 nights has passed. All equipment must be removed from the site at the end of each stay. The 14-night limitation shall not apply to volunteers working under a department of natural resources program.

j. Campers with reservations shall not occupy a campsite before 4 p.m. of the first day of their stay. Campers shall vacate the site by 3 p.m. of the last day of their stay. Campers may register for more than 1 night at a time but not for more than 14 consecutive nights. All members of the camping party must vacate the state park or recreation area campground after the fourteenth night and may not return to the state park or recreation area until a minimum of 3 nights has passed. All equipment must be removed from the site at the end of each stay. The 14-night limitation shall not apply to volunteers working under a department of natural resources program.

k. Campsites marked with the international symbol of accessibility shall be used only by vehicles displaying a persons with disabilities parking permit. The vehicle must be in use by a person with a disability, either as an operator or a passenger.

l. In designated campgrounds, equine animals and llamas must be stabled at a hitching rail, individual stall or corral if provided. Equine animals and llamas may be hitched to trailers for short

periods of time to allow for grooming and saddling. These animals may be stabled inside trailers if no hitching facilities are provided. Portable stalls/pens and electric fences are not permitted.

61.4(6) *Area-specific restrictions on campground use.* In addition to the general conditions of public use set forth in this chapter, special conditions shall apply to specific areas listed as follows:

a. Brushy Creek Recreation Area, Webster County.

(1) In the designated equestrian campgrounds, the maximum number of equine animals to be tied to the hitching rails is six. Persons with a number of equine animals in excess of the number permitted on the hitching rail at their campsite shall be allowed to stable their additional animals in a trailer or register and pay for an additional campsite if available.

(2) In the designated equestrian campgrounds, equine animals may be tied to trailers for short periods of time to allow grooming or saddling; however, the tying of equine animals to the exterior of trailers for extended periods of time or for stabling is not permitted.

b. Recreation area campgrounds. Access into and out of designated campgrounds shall be permitted from 4 a.m. to 10:30 p.m. From 10:30 p.m. to 4 a.m., only registered campers are permitted in and out of the campgrounds.

c. Lake Manawa State Park, Pottawattamie County. Except for the following limitations on campground length of stay, campsite use restrictions as stated in 61.4(5) shall apply to Lake Manawa. Campers may register for more than 1 night at a time but not for more than 14 consecutive nights. No person may camp at the Lake Manawa campground for more than 14 nights in any 30-day period.

d. Walnut Woods State Park, Polk County. Except for the following limitations on campground length of stay, campsite use restrictions as stated in 61.4(5) shall apply to Walnut Woods. Campers may register for more than 1 night at a time but not for more than 14 consecutive nights. No person may camp at the Walnut Woods campground for more than 14 nights in any 30-day period.

61.4(7) *Campground fishing.* Rule 61.11(461A) is not intended to prohibit fishing by registered campers who fish from the shoreline within the camping area.

[**ARC 7684B**, IAB 4/8/09, effective 5/13/09; **ARC 8821B**, IAB 6/2/10, effective 7/7/10]

571—61.5(461A) Rental facilities. The following are maximum fees for facility use in state parks and recreation areas. The fees may be reduced or waived by the director for special events or special promotional efforts sponsored by the department of natural resources. Special events or promotional efforts shall be conducted so as to give all park facility users equal opportunity to take advantage of reduced or waived fees. Reductions or waivers shall be on a statewide basis covering like facilities. In the case of promotional events, prizes shall be awarded by random drawing of registrations made available to all park visitors during the event.

61.5(1) *Fees.*

a. Cabin rental. This fee does not include tax. Tax will be calculated at time of final payment.

	Per Night*	Per Week
Backbone State Park, Delaware County		
Renovated modern cabins	$ 50	$300
Two-bedroom modern cabins	85	510
Deluxe cabins	100	600
Black Hawk State Park, Sac County	100	600
Dolliver Memorial State Park, Webster County	35	210
Green Valley State Park, Union County	35	210
Honey Creek State Park, Appanoose County	35	210
Lacey-Keosauqua State Park, Van Buren County	50	300
Lake Darling State Park, Washington County	35	210
Lake of Three Fires State Park, Taylor County	50	300
Lake Wapello State Park, Davis County (Cabin Nos. 1-12)	60	360
Lake Wapello State Park, Davis County (Cabin No. 13)	85	510

	Per Night*	Per Week
Lake Wapello State Park, Davis County (Cabin No. 14)	75	450
Nine Eagles State Park, Decatur County	75	450
Palisades-Kepler State Park, Linn County	50	300
Pine Lake State Park, Hardin County		
Studio cabins (four-person occupancy limit)	65	390
One-bedroom cabins	75	450
Pleasant Creek State Recreation Area, Linn County	35	210
Prairie Rose State Park, Shelby County	35	210
Springbrook State Park, Guthrie County	200	1200
Stone State Park, Woodbury County	35	210
Union Grove State Park, Tama County	75	450
Waubonsie State Park, Fremont County		
Two-bedroom modern cabins	85	510
One-bedroom modern cabins	60	360
Two-bedroom camping cabins	50	300
One-bedroom camping cabins	35	210
Camping cabin	25	150
Wilson Island State Recreation Area, Pottawattamie County	25	150
*Minimum two nights		

b. Yurt rental. This fee does not include tax. Tax will be calculated at time of payment.

	Per Night*	Per Week
McIntosh Woods State Park, Cerro Gordo County	$ 35	$210
*Minimum two nights		

c. Lodge rental per reservation. This fee does not include tax. Tax will be calculated at time of payment.

	Per Weekday M-Th***	Per Weekend Day Fr-Su
A. A. Call State Park, Kossuth County	$ 40	$ 80
Backbone State Park Auditorium, Delaware County**	25	50
Backbone State Park, Delaware County	62.50	125
Beed's Lake State Park, Franklin County	40	80
Bellevue State Park-Nelson Unit, Jackson County	50	100
Clear Lake State Park, Cerro Gordo County	50	100
Dolliver Memorial State Park-Central Lodge, Webster County**	30	60
Dolliver Memorial State Park-South Lodge, Webster County	37.50	75
Ft. Defiance State Park, Emmet County	35	70
George Wyth State Park, Black Hawk County**	35	70
Gull Point State Park, Dickinson County	100	200
Lacey-Keosauqua State Park, Van Buren County	35	70
Lake Ahquabi State Park, Warren County	45	90
Lake Darling State Park, Washington County	100	200
Lake Keomah State Park, Mahaska County	45	90
Lake Macbride State Park, Johnson County		

	Per Weekday M-Th***	Per Weekend Day Fr-Su
Beach Lodge	35	70
Lodge	35	70
Lake of Three Fires State Park, Taylor County	35	70
Lake Wapello State Park, Davis County	30	60
Lewis and Clark State Park, Monona County	35	70
Palisades-Kepler State Park, Linn County	87.50	175
Pine Lake State Park, Hardin County	40	80
Pleasant Creek Recreation Area, Linn County**	37.50	75
Stone State Park, Woodbury/Plymouth Counties	62.50	125
Viking Lake State Park, Montgomery County	30	60
Walnut Woods State Park, Polk County	100	200
Wapsipinicon State Park, Jones County		
Heated year-round lodge	35	70
Unheated seasonal lodge	20	40

**Does not contain kitchen facilities

***The weekend day fee applies to New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving, and Christmas, even though the holiday may fall on a weekday.

d. Open shelter reservation, $25 plus applicable tax.

e. Reservation for open shelter with kitchen, $75 plus applicable tax.

f. Beach house open shelter reservation, $40 plus applicable tax:

Lake Ahquabi State Park, Warren County

Lake Wapello State Park, Davis County

Pine Lake State Park, Hardin County

Springbrook State Park, Guthrie County

g. Group camp rental. This fee does not include tax. Tax will be calculated at time of payment.

(1) Dolliver Memorial State Park, Webster County. Rental includes use of restroom/shower facility at Dolliver Memorial State Park.

1. Chaperoned, organized youth groups—$2 per day per person with a minimum charge per day of $60.

2. Other groups—$15 per day per cabin plus $30 per day for the kitchen and dining facility.

(2) Lake Keomah State Park, Mahaska County. All groups—$40 per day for the dining/restroom facility plus the applicable camping fee. Lake Keomah dining/restroom facility day use only rental $90.

h. Springbrook State Park conservation education center rental. The conservation education center may be rented as a group camp facility or as an educational group facility. All rentals shall be handled through staff at the education center.

(1) Linen service. Linen service includes bedding, pillows, towels and washcloths. The linen service fee stated below shall be charged. School groups are required to use the linen service. All other groups may elect to use the linen service.

(2) Concessionaire. All groups that utilize the classroom building and use education center staff for programs must use the concessionaire for all meals. All other groups may elect to use the kitchenette at the fee stated below or use the concessionaire or a combination of both.

(3) Classroom. All day use groups not utilizing the entire conservation education center facilities must pay the appropriate classroom or library fee. Overnight groups wishing to use the classroom facility for non-conservation education activities (such as quilters' meetings or family reunions) must pay the appropriate classroom fee.

(4) Reservations. School groups and DNR camps may reserve the center three years in advance. All other groups may reserve the center a year in advance on a first-come, first-served basis. There is no reservation fee. Fees shall be paid upon arrival at the center.

(5) Damage deposit. The damage deposit shall be paid on a separate instrument from the rental fee. School groups shall be exempt from this requirement.

(6) Day use attendance fee. A fee of $5 per person per day plus applicable tax shall be charged to all day use groups and all persons associated with overnight groups attending day functions only when they utilize the entire conservation education center facilities and staff services.

(7) Overnight rental fees. These fees do not include tax. Tax will be calculated at time of payment.

1. Kindergarten through grade 12—$5 per person per night.
2. Adults—$15 per person per night.
3. Families—$160 per dorm per night.

(8) Other services. These fees do not include tax. Tax will be calculated at time of payment.

1. Linen service—$5 per person per night.
2. Family linen service—$160 per dorm per night.
3. Kitchenette rental—$30 per day or night.
4. Classroom rental—$100 per day or night.
5. Library rental—$50 per day or night.
6. Dining hall rental, day use only—$100 per day.
7. Dining hall with kitchenette rental, day use only—$130 per day.

(9) Damage deposit—$50 per visit.

(10) Check-out times for dorms.

1. Monday-Saturday, 8 a.m.
2. Sunday, 9 a.m.

61.5(2) *Varying fees.* Fees charged for like services in state-owned areas under management by political subdivisions may vary from those established by this chapter.

61.5(3) *Procedures for rental facility registration and rentals.*

a. Registrations for all rental facilities must be in the name of a person 18 years of age or older who will be present at the facility for the full term of the reservation.

b. Rental stay requirements for cabins and yurts.

(1) Except as provided in subparagraphs 61.5(3)*"b"*(2) and 61.5(3)*"b"*(3), cabin reservations must be for a minimum of one week (Friday p.m. to Friday a.m.) beginning the Friday of the national Memorial Day holiday weekend through Thursday after the national Labor Day holiday. From the Friday after the national Labor Day holiday through the Thursday before the national Memorial Day holiday weekend, cabins may be reserved for a minimum of two nights.

(2) The cabins at Dolliver Memorial State Park; the camping cabins at Pleasant Creek and Wilson Island State Recreation Areas and Green Valley, Honey Creek, Lake Darling and Stone State Parks; the yurts at McIntosh Woods State Park; and the group camps at Dolliver Memorial and Lake Keomah State Parks may be reserved for a minimum of two nights throughout the entire rental season.

(3) The multifamily cabin at Springbrook State Park may be reserved for a minimum of two nights throughout the entire rental season with the following exceptions:

1. From the Friday of the national Memorial Day holiday weekend through the Thursday after the national Labor Day holiday, a Friday and Saturday night stay is required for weekends.
2. A Friday, Saturday, and Sunday night stay is required for the national Memorial Day holiday and national Labor Day holiday weekends.
3. A Thursday, Friday, and Saturday night stay is required for the Fourth of July holiday if the Fourth of July occurs on a Thursday, Friday or Saturday.
4. A Friday, Saturday, and Sunday night stay is required for the Fourth of July holiday if the Fourth of July occurs on a Monday.

(4) All unreserved cabins, yurts and group camps may be rented for a minimum of two nights on a walk-in, first-come, first-served basis. No walk-in rentals will be permitted after 6 p.m.

(5) Reservations or walk-in rentals for more than a two-week stay will not be accepted for any facility.

c. Persons renting cabins, yurts or group camp facilities must check in at or after 4 p.m. on Saturday. Check-out time is 11 a.m. or earlier on Saturday.

d. Persons renting facilities listed in subparagraph 61.5(3)*"b"*(2) must check in at or after 4 p.m. on the first day of the two-night rental period. Check-out time is 11 a.m. or earlier on the last day of the two-night rental period.

e. Except by arrangement for late arrival with the park staff, no cabin, yurt or group camp reservation will be held past 6 p.m. on the first night of the reservation period if the person reserving the facility does not arrive. When arrangements for late arrival have been made, the person must appear prior to the park's closing time established by Iowa Code section 461A.46 or access will not be permitted to the facility until 8 a.m. the following day. Arrangements must be made with the park staff if next-day arrival is to be later than 9 a.m.

f. The number of persons occupying rental cabins is limited to six in cabins which contain one bedroom or less and eight in cabins with two bedrooms. Occupancy of the studio cabins at Pine Lake and all camping cabins is limited to four persons. Occupancy of the yurts is limited to four persons.

g. Except at parks or recreation areas with camping cabins or yurts, no tents or other camping units are permitted for overnight occupancy in the designated cabin area. One small tent shall be allowed at each cabin or yurt in the designated areas and is subject to the occupancy requirements of 61.4(5)*"b."*

h. Open shelters and beach house open shelters which are not reserved are available on a first-come, first-served basis. If the open shelters with kitchenettes are not reserved, the open shelter portions of these facilities are available on a first-come, first-served basis.

i. Except by arrangement with the park staff in charge of the area, persons renting lodge, shelter, and beach house open shelter facilities and all guests shall vacate the facility by 10 p.m.

61.5(4) *Damage deposits for all rental facilities.*

a. Upon arrival for the rental facility period, renters shall pay in full a damage deposit in the amount of $50.

b. Damage deposits will be refunded only after authorized personnel inspect the rental facility to ensure that the facility and furnishings are in satisfactory condition.

c. If it is necessary for department personnel to clean up the facility or repair any damage beyond ordinary wear and tear, a log of the time spent in such cleanup or repair shall be kept. The damage deposit refund shall be reduced by an amount equivalent to the applicable hourly wage of the employees for the time necessary to clean the area or repair the damage and by the cost of any repairs of furnishings.

d. The deposit is not to be construed as a limit of liability for damage to state property. The department may take legal action necessary to recover additional damages.

[**ARC 7684B**, IAB 4/8/09, effective 5/13/09; **ARC 9186B**, IAB 11/3/10, effective 12/8/10]

571—61.6(461A) Vessel storage fees. These fees do not include tax.

Vessel Storage Space (wet or dry)	Maximum Fee
Pontoon boats—eight months or less	$150
Eight months or less (new docks)	200
Year-round	200
Year-round (new docks)	250
Other boats—eight months or less	125
Eight months or less (new docks)	150
Year-round	150
Year-round (new docks)	200

571—61.7(461A) Restrictions—area and use. This rule sets forth conditions of public use which apply to all state parks and recreation areas. Specific areas as listed in 61.4(6), 61.8(461A) and 61.11(461A) are subject to additional restrictions or exceptions. The conditions in this rule are in addition to specific conditions and restrictions set forth in Iowa Code chapter 461A.

61.7(1) *Animals.*

a. The use of equine animals and llamas is limited to roadways or to trails designated for such use.

b. Animals are prohibited within designated beach areas.

c. Livestock are not permitted to graze or roam within state parks and recreation areas. The owner of the livestock shall remove the livestock immediately upon notification by the department of natural resources personnel in charge of the area.

d. Except for dogs being used in designated hunting or in dog training areas, pets such as dogs or cats shall not be allowed to run at large within state parks, recreation areas, or preserves. Such animals shall be on a leash or chain not to exceed six feet in length and shall be either led by or carried by the owner, attached to an anchor/tie-out or vehicle, or confined in a vehicle.

61.7(2) *Beach use/swimming.*

a. Except as provided in paragraphs *"b"* and *"c"* of this subrule, all swimming and scuba diving shall take place in the beach area within the boundaries marked by ropes, buoys, or signs within state parks and recreation areas. Inner tubes, air mattresses and other beach-type items shall be used only in designated beach areas.

b. Persons may scuba dive in areas other than the designated beach area provided they display the diver's flag as specified in rule 571—41.10(462A).

c. Swimming outside beach area.

(1) Persons may swim outside the beach area under the following conditions:

1. Swimming must take place between sunrise and sunset;

2. The swimmer must be accompanied by a person operating a vessel and must stay within 20 feet of the vessel at all times during the swim;

3. The vessel accompanying the swimmer must display a flag, which is at least 12-inches square, is bright orange, and is visible all around the horizon; and

4. The person swimming pursuant to this subparagraph must register with the park staff in charge of the area and sign a registration immediately prior to the swim.

(2) Unless swimming is otherwise posted as prohibited or limited to the designated beach area, a person may also swim outside the beach area provided that the person swims within ten feet of a vessel which is anchored not less than 100 yards from the shoreline or the marked boundary of a designated beach. Any vessel, except one being uprighted, must be attended at all times by at least one person remaining on board.

(3) A passenger on a sailboat or other vessel may enter the water to upright or repair the vessel and must remain within ten feet of that vessel.

d. The provisions of paragraph *"a"* of this subrule shall not be construed as prohibiting wading in areas other than the beach by persons actively engaged in shoreline fishing.

61.7(3) *Bottles.* Possession or use of breakable containers, the fragmented parts of which can injure a person, is prohibited in beach areas of state parks and recreation areas.

61.7(4) *Chainsaws.* Except by written permission of the director of the department of natural resources, chainsaw use is prohibited in state parks and recreation areas. This provision is not applicable to employees of the department of natural resources in the performance of their official duties.

61.7(5) *Firearms.* The use of firearms in state parks and recreation areas, as defined in 61.2(461A), is limited to the following:

a. Lawful hunting as traditionally allowed at Badger Creek Recreation Area, Brushy Creek Recreation Area, Pleasant Creek Recreation Area, Mines of Spain Recreation Area (pursuant to 61.9(461A)), Volga River Recreation Area and Wilson Island Recreation Area.

b. Target and practice shooting in areas designated by DNR.

c. Special events, festivals, and education programs sponsored or permitted by DNR.

d. Special hunts authorized by the natural resource commission to control deer populations.

61.7(6) *Fishing off boat docks within state areas.* Persons may fish off all state-owned docks within state parks and recreation areas. Persons fishing off these docks must yield to boats and not interfere with boaters.

61.7(7) *Garbage.* Using government refuse receptacles for dumping household, commercial, or industrial refuse brought as such from private property is prohibited.

61.7(8) *Motor vehicle restrictions.*

a. Except as provided in these rules, motor vehicles are prohibited on state parks, recreation areas and preserves except on constructed and designated roads, parking lots and campgrounds.

b. Use of motorized vehicles by persons with physical disabilities. Persons with physical disabilities may use certain motorized vehicles to access specific areas in state parks, recreation areas and preserves, according to restrictions set out in this paragraph, in order to enjoy the same recreational opportunities available to others. Allowable vehicles include any self-propelled electric or gas vehicle which has at least three wheels, but no more than six wheels, and is limited in engine displacement to less than 800 cubic centimeters and in total dry weight to less than 1,450 pounds.

(1) Permits.

1. Each person with a physical disability must have a permit issued by the director in order to use a motorized vehicle in specific areas within state parks, recreation areas, and preserves. Such permits will be issued without charge. An applicant must submit a certificate from a doctor stating that the applicant meets the criteria describing a person with a physical disability. One nonhandicapped companion may accompany the permit holder on the same vehicle if that vehicle is designed for more than one rider; otherwise the companion must walk.

2. Existing permits. Those persons possessing a valid permit for use of a motorized vehicle on game management areas as provided in 571—51.7(461A) may use a motorized vehicle to gain access to specific areas for recreational opportunities and facilities within state parks, recreation areas and preserves.

(2) Approved areas. On each visit, the permit holder must contact the park staff in charge of the specific area in which the permit holder wishes to use a motorized vehicle. The park staff must designate on a park map the area(s) where the permit holder will be allowed to use a motorized vehicle. This restriction is intended to protect the permit holder from hazards or to protect certain natural resources of the area. The map is to be signed and dated on each visit by the park staff in charge of the area. Approval for use of a motorized vehicle on state preserves also requires consultation with a member of the preserves staff in Des Moines.

(3) Exclusive use. The issuance of a permit does not imply that the permittee has exclusive or indiscriminate use of an area. Permittees shall take reasonable care not to unduly interfere with the use of the area by others.

(4) Prohibited acts and restrictions.

1. Except as provided in 61.7(8)*"b,"* the use of a motorized vehicle on any park, recreation area or preserve by a person without a valid permit or at any site not approved on a signed map is prohibited. Permits and maps shall be carried by the permittee at any time the permittee is using a motorized vehicle in a park, recreation area or preserve and shall be exhibited to any department employee or law enforcement official upon request.

2. The speed limit for an approved motor vehicle off-road will be no more than 5 mph. The permit of a person who is found exceeding the speed limit will be revoked.

3. The permit of any person who is found causing damage to cultural and natural features or abusing the privilege of riding off-road within the park will be revoked.

(5) Employees exempt. Restrictions in subrule 61.7(8) shall not apply to department personnel, law enforcement officials, or other authorized persons engaged in research, management or enforcement when in performance of their duties.

61.7(9) *Noise.* Creating or sustaining any unreasonable noise in any portion of all state parks and recreation areas is prohibited at all times. The nature and purpose of a person's conduct, the impact on other area users, the time of day, location, and other factors which would govern the conduct of a reasonable, prudent person under the circumstances shall be used to determine whether the noise is unreasonable. Unreasonable noise shall include the operation or utilization of motorized equipment or machinery such as an electric generator, motor vehicle, or motorized toy; or audio device such as a radio, television set, tape deck, public address system, or musical instrument; or other device. Between the hours of 10:30 p.m. and 6 a.m., noise which can be heard at a distance of 120 feet or three campsites shall be considered unreasonable.

61.7(10) *Opening and closing times.* Except by arrangement or permission granted by the director or the director's authorized representative or as otherwise stated in this chapter, the following restrictions shall apply: All persons shall vacate all state parks and preserves before 10:30 p.m. each day, except authorized campers in accordance with Iowa Code section 461A.46, and no person or persons shall enter into such parks and preserves until 4 a.m. the following day.

61.7(11) *Paintball guns.* The use of any item generally referred to as a paintball gun is prohibited in state parks, recreation areas and preserves.

61.7(12) *Restrictions on picnic site use.*

a. Open picnic sites marked with the international symbol of accessibility shall be used only by a person or group with a person qualifying for and displaying a persons with disabilities parking permit on the person's vehicle.

b. Paragraph 61.7(12)*"a"* does not apply to picnic shelters marked with the international accessibility symbol. The use of the symbol on shelters shall serve only as an indication that the shelter is wheelchair accessible.

61.7(13) *Rock climbing or rappelling.* The rock climbing practice known as free climbing and climbing or rappelling activities which utilize bolts, pitons, or similar permanent anchoring equipment or ropes, harnesses, or slings are prohibited in state parks and recreation areas, except by persons or groups registered with the park staff in charge of the area. Individual members of a group must each sign a registration. Climbing or rappelling will not be permitted at Elk Rock State Park, Marion County; Ledges State Park, Boone County; Dolliver Memorial State Park, Webster County; Stone State Park, Woodbury and Plymouth Counties; Maquoketa Caves State Park, Jackson County; Wildcat Den State Park, Muscatine County; or Mines of Spain Recreation Area, Dubuque County. Other sites may be closed to climbing or rappelling if environmental damage or safety problems occur or if an endangered or threatened species is present.

61.7(14) *Speech or conduct interfering with lawful use of an area by others.*

a. Speech commonly perceived as offensive or abusive is prohibited when such speech interferes with lawful use and enjoyment of the area by another member of the public.

b. Quarreling or fighting is prohibited when it interferes with the lawful use and enjoyment of the area by another member of the public.

61.7(15) *Deer population control hunts.* Deer hunting as allowed under Iowa Code section 461A.42*"c"* is permitted only during special hunts in the following state parks as provided under 571—Chapter 105 and as approved by the natural resource commission. During the dates of deer hunting, only persons engaged in deer hunting shall use the area or portions thereof as designated by DNR and signed as such.

Backbone State Park	Delaware County
Elk Rock State Park	Marion County
George Wyth State Park	Black Hawk County
Lake Darling State Park	Washington County
Lake Manawa State Park	Pottawattamie County
Lake of Three Fires State Park	Taylor County
Springbrook State Park	Guthrie County
Viking Lake State Park	Montgomery County

61.7(16) *Special event permits.* Any person or group wishing to conduct a special event in any state park or recreation area shall notify the department of natural resources manager in charge of the area in advance and comply with the following procedures.

a. At least 30 days prior to the scheduled event, the sponsor shall submit an application to the park staff of the area where the proposed event is to take place. Application forms shall be furnished by DNR. Submission of an application does not guarantee issuance of a permit by DNR.

b. Applicants for special events shall provide proof of liability insurance naming the applicant and DNR as additional insured.

c. If the area has a concessionaire on site, sales of food and other items shall be governed pursuant to 571—Chapter 14. If a concessionaire chooses not to provide these services during the event, the event sponsor may then bring in other concession operations as approved by DNR.

d. Exclusive use. Issuance of a special event permit does not imply that the permittee has exclusive use of an area unless a facility has been reserved pursuant to 61.3(461A) and 61.6(461A).

[**ARC 7683B**, IAB 4/8/09, effective 5/13/09]

571—61.8(461A) Certain conditions of public use applicable to specific parks and recreation areas. In addition to the general conditions of public use set forth in this chapter, special conditions shall apply to the specific areas listed as follows:

61.8(1) *Brushy Creek State Recreation Area, Webster County.* Swimming is limited by the provisions of 61.7(2); also, swimming is prohibited at the beach from 10:30 p.m. to 6 a.m. daily.

61.8(2) *Hattie Elston Access and Claire Wilson Park, Dickinson County.*

a. Parking of vehicles overnight on these areas is prohibited unless the vehicle operator and occupants are actively involved in boating or are fishing as allowed under 61.11(461A).

b. Overnight camping is prohibited.

61.8(3) *Mines of Spain Recreation Area, Dubuque County.* All persons shall vacate all portions of the Mines of Spain Recreation Area prior to 10:30 p.m. each day, and no person or persons shall enter into the area until 4 a.m. the following day.

61.8(4) *Pleasant Creek Recreation Area, Linn County.* Swimming is limited by the provisions of 61.7(2); also, swimming is prohibited at the beach from 10:30 p.m. to 6 a.m. daily. Access into and out of the north portion of the area between the east end of the dam to the campground shall be closed from 10:30 p.m. to 4 a.m., except that walk-in overnight fishing will be allowed along the dam. The areas known as the dog trial area and the equestrian area shall be closed from 10:30 p.m. to 4 a.m., except for equestrian camping and for those persons participating in a DNR-authorized field trial. From 10:30 p.m. to 4 a.m., only registered campers are permitted in the campground.

61.8(5) *Wapsipinicon State Park, Jones County.* The land adjacent to the park on the southeast corner and generally referred to as the "Ohler property" is closed to the public from 10:30 p.m. to 4 a.m.

571—61.9(461A) Mines of Spain hunting, trapping and firearms use.

61.9(1) The following described portions of the Mines of Spain Recreation Area are established and will be posted as wildlife refuges:

a. That portion within the city limits of the city of Dubuque located west of U.S. Highway 61 and north of Mar Jo Hills Road.

b. The tract leased by the department of natural resources from the city of Dubuque upon which the E. B. Lyons Interpretive Center is located.

c. That portion located south of the north line of Section 8, Township 88 North, Range 3 East of the 5th P.M. between the west property boundary and the east line of said Section 8.

d. That portion located north of Catfish Creek, east of the Mines of Spain Road and south of the railroad tracks. This portion contains the Julien Dubuque Monument.

61.9(2) Trapping and archery hunting for all legal species are permitted in compliance with all open-season, license and possession limits on the Mines of Spain Recreation Area except in those areas designated as refuges by 61.9(1).

61.9(3) Firearms use is prohibited in the following described areas:

a. The areas described in 61.9(1).

b. The area north and west of Catfish Creek and west of Granger Creek.

61.9(4) Deer hunting and hunting for all other species are permitted using shotguns only and are permitted only during the regular gun season as established by 571—Chapter 106. Areas not described in 61.9(3) are open for hunting. Hunting shall be in compliance with all other regulations.

61.9(5) Turkey hunting with shotguns is allowed only in compliance with the following regulations:

a. Only during the first shotgun hunting season established in 571—Chapter 98, which is typically four days in mid-April.

b. Only in that area of the Mines of Spain Recreation Area located east of the established roadway and south of the Horseshoe Bluff Quarry.

61.9(6) The use or possession of a handgun or any type of rifle is prohibited on the entire Mines of Spain Recreation Area except as provided in 61.9(4). Target and practice shooting with any type of firearm is prohibited.

61.9(7) All forms of hunting, trapping and firearms use not specifically permitted by 61.9(461A) are prohibited in the Mines of Spain Recreation Area.

571—61.10(461A) After-hours fishing—exception to closing time. Persons shall be allowed access to the areas designated in 61.11(461A) between the hours of 10:30 p.m. and 4 a.m. under the following conditions:

1. The person shall be actively engaged in fishing.
2. The person shall behave in a quiet, courteous manner so as not to disturb other users of the park such as campers.
3. Access to the fishing site from the parking area shall be by the shortest and most direct trail or access facility.
4. Vehicle parking shall be in the lots designated by signs posted in the area.
5. Activities other than fishing are allowed with permission of the director or an employee designated by the director.

571—61.11(461A) Designated areas for after-hours fishing. These areas are open from 10:30 p.m. to 4 a.m. for fishing only. The areas are described as follows:

61.11(1) *Black Hawk Lake, Sac County.* The area of the state park between the road and the lake running from the marina at Drillings Point on the northeast end of the lake approximately three-fourths of a mile in a southwesterly direction to a point where the park boundary decreases to include only the roadway.

61.11(2) *Claire Wilson Park, Dickinson County.* The entire area including the parking lot, shoreline and fishing trestle facility.

61.11(3) *Clear Lake State Park, Ritz Unit, Cerro Gordo County.* The boat ramp, courtesy dock, fishing dock and parking lots.

61.11(4) *Elinor Bedell State Park, Dickinson County.* The entire length of the shoreline within state park boundaries.

61.11(5) *Elk Rock State Park, Marion County.* The Teeter Creek boat ramp area just east of State Highway 14, access to which is the first road to the left after the entrance to the park.

61.11(6) *Green Valley State Park, Union County.* The shoreline adjacent to Green Valley Road commencing at the intersection of Green Valley Road and 130th Street and continuing south along the shoreline to the parking lot on the east side of the dam, and then west along the dam embankment to the shoreline adjacent to the parking lot on the west side of the spillway.

61.11(7) *Hattie Elston Access, Dickinson County.* The entire area including the parking lot shoreline and boat ramp facilities.

61.11(8) *Honey Creek State Park, Appanoose County.* The boat ramp area located north of the park office, access to which is the first road to the left after the entrance to the park.

61.11(9) *Geode State Park, Des Moines County portion.* The area of the dam embankment that is parallel to County Road J20 and lies between the two parking lots located on each end of the embankment.

61.11(10) *Lake Keomah State Park, Mahaska County.*

a. The embankment of the dam between the crest of the dam and the lake.

b. The shoreline between the road and the lake from the south boat launch area west and north to the junction with the road leading to the group camp shelter.

61.11(11) *Lake Macbride State Park, Johnson County.* The shoreline of the south arm of the lake adjacent to the county road commencing at the "T" intersection of the roads at the north end of the

north-south causeway proceeding across the causeway thence southeasterly along a foot trail to the east-west causeway, across the causeway to the parking area on the east end of that causeway.

61.11(12) *Lake Manawa State Park, Pottawattamie County.* The west shoreline including both sides of the main park road, commencing at the north park entrance and continuing south 1.5 miles to the parking lot immediately north of the picnic area located on the west side of the southwest arm of the lake.

61.11(13) *Lower Pine Lake, Hardin County.* West shoreline along Hardin County Road S56 from the beach southerly to the boat ramp access.

61.11(14) *Mini-Wakan State Park, Dickinson County.* The entire area.

61.11(15) *North Twin Lake State Park, Calhoun County.* The shoreline of the large day-use area containing the swimming beach on the east shore of the lake.

61.11(16) *Pikes Point State Park, Dickinson County.* The shoreline areas of Pikes Point State Park on the east side of West Okoboji Lake.

61.11(17) *Prairie Rose State Park, Shelby County.* The west side of the embankment of the causeway across the southeast arm of the lake including the shoreline west of the parking area located off County Road M47 and just north of the entrance leading to the park office.

61.11(18) *Rock Creek Lake, Jasper County.* Both sides of the County Road F27 causeway across the main north portion of the lake.

61.11(19) *Union Grove State Park, Tama County.*

a. The dam embankment from the spillway to the west end of the parking lot adjacent to the dam.

b. The area of state park that parallels BB Avenue, from the causeway on the north end of the lake southerly to a point approximately one-tenth of a mile southwest of the boat ramp.

61.11(20) *Upper Pine Lake, Hardin County.* Southwest shoreline extending from the boat launch ramp to the dam.

61.11(21) *Viking Lake State Park, Montgomery County.* The embankment of the dam from the parking area located southeast of the dam area northwesterly across the dam structure to its intersection with the natural shoreline of the lake.

[**ARC 9186B**, IAB 11/3/10, effective 12/8/10]

571—61.12(461A) Vessels prohibited. Rule 61.11(461A) does not permit the use of vessels on the artificial lakes within state parks after the 10:30 p.m. park closing time. All fishing is to be done from the bank or shoreline of the permitted area.

571—61.13(461A) Severability. Should any rule, subrule, paragraph, phrase, sentence or clause of this chapter be declared invalid or unconstitutional for any reason, the remainder of this chapter shall not be affected thereby.

571—61.14(461A) Restore the outdoors program. Funding provided through the appropriation set forth in Iowa Code section 461A.3A, and subsequent Acts, shall be used to renovate, replace or construct new vertical infrastructure and associated appurtenances in state parks and other public facilities managed by the department of natural resources.

The intended projects will be included in the department's annual five-year capital plan in priority order by year and approved by the natural resource commission for inclusion in its capital budget request.

The funds appropriated by Iowa Code section 461A.3A, and subsequent Acts, will be used to renovate, replace or construct new vertical infrastructure through construction contracts, agreements with local government entities responsible for managing state parks and other public facilities, and agreements with the department of corrections to use offender labor where possible. Funds shall also be used to support site survey, design and construction contract management through consulting engineering and architectural firms and for direct survey, design and construction management costs incurred by department engineering and architectural staff for restore the outdoors projects. Funds shall not be used to support general department oversight of the restore the outdoors program, such as accounting, general administration or long-range planning.

571—61.15(461A,463C) Honey Creek Resort State Park. This chapter shall not apply to Honey Creek Resort State Park, with the exception that subrules 61.7(1) through 61.7(9) and 61.7(11) through 61.7(16) and rule 61.12(461A) shall apply to the operation and management of Honey Creek Resort State Park. Where permission is required to be obtained from the department, an authorized representative of the department's management company may provide such permission in accordance with policies established by the department.

These rules are intended to implement Iowa Code sections 422.43, 455A.4, 461A.3, 461A.3A, 461A.35, 461A.38, 461A.39, 461A.42, 461A.43, 461A.45 to 461A.51, 461A.57, and 723.4 and Iowa Code chapters 463C and 724.

[Filed 9/14/65]
[Filed 5/5/78, Notice 3/8/78—published 5/31/78, effective 7/6/78]
[Filed 7/13/82, Notice 4/28/82—published 8/4/82, effective 9/8/82]
[Filed 4/7/83, Notice 2/2/83—published 4/27/83, effective 6/1/83]
[Filed 11/4/83, Notice 9/28/83—published 11/23/83, effective 12/28/83]
[Filed 2/6/84, Notice 12/21/83—published 2/29/84, effective 4/5/84]
[Filed 4/5/85, Notice 1/30/85◊—published 4/24/85, effective 5/30/85]
[Filed 5/8/85, Notice 1/30/85—published 6/5/85, effective 7/10/85]
[Filed emergency 5/31/85—published 6/19/85, effective 7/1/85]
[Filed emergency 6/11/86—published 7/2/86, effective 6/13/86]
[Filed 10/17/86, Notice 7/2/86—published 11/5/86, effective 12/10/86]
[Filed without Notice 12/12/86—published 12/31/86, effective 2/4/87]
[Filed 3/20/87, Notice 1/28/87—published 4/8/87, effective 5/13/87]
[Filed 10/16/87, Notice 8/26/87—published 11/4/87, effective 2/3/88]
[Filed emergency 7/7/89—published 7/26/89, effective 7/7/89]
[Filed 3/15/91, Notices 10/3/90, 12/26/90—published 4/3/91, effective 5/8/91]
[Filed 6/7/91, Notice 4/3/91—published 6/26/91, effective 7/31/91][1]
[Filed emergency 10/4/91 after Notice 8/7/91—published 10/30/91, effective 10/4/91]
[Filed 3/13/92, Notice 12/25/91—published 4/1/92, effective 5/6/92]
[Filed 5/8/92, Notice 4/1/92—published 5/27/92, effective 7/1/92][2]
[Filed emergency 8/7/92—published 9/2/92, effective 8/7/92]
[Filed 12/4/92, Notice 9/30/92—published 12/23/92, effective 1/27/93]
[Filed 8/13/93, Notice 6/23/93—published 9/1/93, effective 1/1/94][3]
[Filed 8/12/94, Notice 6/8/94—published 8/31/94, effective 10/5/94]
[Filed 9/9/94, Notice 7/6/94—published 9/28/94, effective 11/2/94]
[Filed emergency 10/27/94—published 11/23/94, effective 10/27/94]
[Filed emergency 2/9/95—published 3/1/95, effective 2/10/95]
[Filed 5/15/95, Notice 3/1/95—published 6/7/95, effective 7/12/95]
[Filed 10/20/95, Notice 8/30/95—published 11/8/95, effective 12/13/95]
[Filed 8/9/96, Notice 6/5/96—published 8/28/96, effective 10/2/96]
[Filed 8/9/96, Notice 7/3/96—published 8/28/96, effective 10/2/96]
[Filed without Notice 10/18/96—published 11/6/96, effective 1/1/97]
[Filed 2/21/97, Notice 1/1/97—published 3/12/97, effective 4/16/97]
[Filed 8/22/97, Notice 6/4/97—published 9/10/97, effective 10/15/97]
[Filed 2/20/98, Notice 12/31/97—published 3/11/98, effective 4/15/98]
[Filed emergency 5/29/98—published 6/17/98, effective 5/29/98]
[Filed 8/21/98, Notice 6/17/98—published 9/9/98, effective 10/14/98]
[Filed emergency 12/11/98 after Notice 11/4/98—published 12/30/98, effective 1/1/99]
[Filed 8/20/99, Notice 6/30/99—published 9/8/99, effective 10/13/99]
[Filed emergency 12/10/99 after Notice 11/3/99—published 12/29/99, effective 1/1/00]
[Filed 11/13/00, Notice 10/4/00—published 11/29/00, effective 1/3/01]
[Filed 8/17/01, Notice 5/30/01—published 9/5/01, effective 10/10/01]
[Filed emergency 12/19/01 after Notice 10/31/01—published 1/9/02, effective 1/1/02]

[Filed 10/11/02, Notice 9/4/02—published 10/30/02, effective 12/4/02]
[Filed 2/14/03, Notice 1/8/03—published 3/5/03, effective 4/9/03]
[Filed 8/15/03, Notice 7/9/03—published 9/3/03, effective 10/8/03]
[Filed 11/19/03, Notice 10/1/03—published 12/10/03, effective 1/14/04]
[Filed 5/20/04, Notice 3/31/04—published 6/9/04, effective 7/14/04]
[Filed 11/17/04, Notice 9/29/04—published 12/8/04, effective 1/12/05]
[Filed emergency 6/28/05—published 7/20/05, effective 6/29/05]
[Filed 10/21/05, Notice 8/31/05—published 11/9/05, effective 1/1/06]
[Filed without Notice 3/23/06—published 4/12/06, effective 5/17/06]
[Filed 8/11/06, Notice 6/7/06—published 8/30/06, effective 10/4/06]
[Filed 3/19/08, Notice 2/13/08—published 4/9/08, effective 5/14/08]
[Filed ARC 7683B (Notice ARC 7499B, IAB 1/14/09), IAB 4/8/09, effective 5/13/09]
[Filed ARC 7684B (Notice ARC 7539B, IAB 1/28/09), IAB 4/8/09, effective 5/13/09]
[Filed ARC 8821B (Notice ARC 8593B, IAB 3/10/10), IAB 6/2/10, effective 7/7/10]
[Filed ARC 9186B (Notice ARC 8819B, IAB 6/2/10), IAB 11/3/10, effective 12/8/10]
[Filed ARC 9324B (Notice ARC 9118B, IAB 10/6/10), IAB 1/12/11, effective 2/16/11]

◊ Two or more ARCs

1 Effective date of subrule 61.6(2) and rule 61.7(7/31/91) delayed 70 days by the Administrative Rules Review Committee at its meeting held 7/12/91.

2 Amendments to 61.4(2)*"f"* and 61.3(5)*"a"* effective January 1, 1993.

3 Amendments to 61.4(2)*"a"* to *"d"* effective October 31, 1993.

CHAPTER 62
STATE FOREST CAMPING
[Prior to 12/31/86, Conservation Commission[290] Ch 41]

571—62.1(461A) Applicability. This chapter governs camping activity in the following areas:

1. Yellow River State Forest, Allamakee County.
2. Stephens State Forest, Clarke, Lucas, Appanoose, Davis and Monroe Counties.
3. Shimek State Forest, Van Buren and Lee Counties.

[**ARC 8820B**, IAB 6/2/10, effective 7/7/10]

571—62.2(461A) Definitions.

"Basic unit" or *"basic camping unit"* means the portable shelter used by one to six persons.

"Call center" means a phone center where operators process all telephone reservations, reservation changes and reservation cancellations for camping and rental facilities.

"Camping" means the erecting of a tent or shelter of natural or synthetic material, or placing a sleeping bag or other bedding material on the ground or parking a motor vehicle, motor home, or trailer for the apparent purpose of overnight occupancy.

"Centralized reservation system" means a system that processes reservations using more than one method to accept reservations. Each method simultaneously communicates to a centralized database at a reservation contractor location to ensure no campsite or rental facility is booked twice.

"Chaperoned, organized youth group" means a group of persons 17 years of age and under, which is sponsored by and accompanied by adult representatives of a formal organization including, but not limited to, the Boy Scouts of America or Girl Scouts of America, a church, or Young Men's or Young Women's Christian Association. "Chaperoned, organized youth group" does not include families of members of a formal organization.

"Immediate family" means spouses, parents or legal guardians, domestic partners, dependent children and grandparents.

"Nonmodern area" means a camping area in which no showers are provided and which contains only pit-type latrines or flush-type toilets. Potable water may or may not be available to campers.

"Organized youth group campsite" means a designated camping area within or next to the main campground where chaperoned, organized youth groups may camp.

"Reservation transaction fees" means fees as given in this chapter to process a reservation, change a reservation or cancel a reservation.

"Reservation window" means a rolling period of time in which a person may reserve a campsite or rental facility.

"Walk-in camper" means a person arriving at a campground without a reservation and wishing to occupy a first-come, first-served campsite or unrented, reservable campsite.

[**ARC 8820B**, IAB 6/2/10, effective 7/7/10]

571—62.3(461A) Camping areas established and marked.

62.3(1) Areas to be utilized for camping shall be established within each of the state forests listed in rule 62.1(461A).

62.3(2) Signs designating the established camping areas shall be posted along the access roads into these areas and around the perimeter of the area designated for camping use.

62.3(3) Areas approved for backpack camping (no vehicular access) shall be marked with appropriate signs and shall contain fire rings.

571—62.4(461A) Campground reservations. The department shall establish a centralized reservation system to accept and process reservations for camping and rental facilities in state parks, recreation areas and state forest campgrounds.

62.4(1) *Centralized reservation system business rules manual.* The department shall adopt by reference the manual titled "Centralized Reservation System Business Rules for Iowa State Parks, Recreation Areas and State Forests," dated January 1, 2006, which sets procedures and policies for

the administration of reservations of campsites and rental facilities through the centralized reservation system.

62.4(2) *Recreation facilities available on the centralized reservation system—campgrounds.*

a. Except for the backpack campsites, all state forest campgrounds shall be available on the centralized reservation system.

b. No less than 50 percent and up to no more than 75 percent of the total number of campsites in each individual campground shall be designated as reservable sites on the reservation system. The determination of which campsites shall be included in the reservable designation shall be the responsibility of the park staff in each park. Park staff shall include a combination of electric, nonelectric and sewer/water sites while taking into consideration campsite characteristics such as location, shade, and size. The department will review the percentage of reservable sites and usage on a biennial basis and determine whether the percentage of reservable campsites should be changed. A reservable campsite will be identified with a reservable site marker on the campsite post.

c. All designated organized youth group campsites and campsites marked with the international symbol of accessibility shall be included in the reservation system.

d. Reservations will not be taken for any backpack campsites in state forest campgrounds. Those sites shall be available on a first-come, first-served basis only.

62.4(3) *Methods available to make reservations.* Persons may make reservations by telephone through the call center or through the Internet using the reservation system Web site.

62.4(4) *Reservation transaction fees.*

a. Reservation fee. A nonrefundable reservation fee shall be charged for each reservation made per campsite regardless of the length of stay. The one-time fee is per reservation and is not charged per day or night. This fee is in addition to the camping fees established in 571—subrule 61.4(1). The reservation fee varies depending upon the method used when the reservation is made.

(1) Internet reservation — $4.

(2) Telephone reservation — $6.

b. Change fee. A fee shall be charged to change an existing reservation.

(1) Reservation change made through the Internet — $5.

(2) Reservation change made over the telephone — $7.

c. Cancellation fee. A fee shall be charged to cancel a reservation.

(1) Reservation cancellation made through the Internet — $5.

(2) Reservation cancellation made over the telephone — $7.

62.4(5) *Reservation window—camping.* The reservation window for camping is three months to two days prior to the arrival date in which a person may make a reservation.

[**ARC 9324B**, IAB 1/12/11, effective 2/16/11]

571—62.5(461A) Camping fees and registration.

62.5(1) Any person who camps in a state forest must register the person's name and address with the department of natural resources' representative in charge of the area.

a. Walk-in campers shall complete the registration form, place the appropriate fee in the envelope and place the envelope in the depository provided by the department of natural resources. One copy must then be placed in the campsite holder provided at the campsite.

b. Park staff shall complete the registration for the campers with reservations and place the registration in the campsite holder no later than one hour prior to the 4 p.m. check-in time on the day of the camper's arrival.

62.5(2) The fees for camping in established state forest campgrounds shall be the same as those cited in 571—paragraphs 61.4(1)*"a"* and *"b"* for all other nonmodern camping areas managed by the department of natural resources where fees are charged.

62.5(3) Campsites are considered occupied and campsite registration shall be considered complete when the requirements of 62.5(1) have been met.

62.5(4) The fees for an organized youth group campsite shall be the same as those cited in 571—paragraph 61.4(1)*"d"* for all other organized youth group campsites.

62.5(5) Backpack campsites. Persons using backpack campsites shall register at the forest area check station or other designated site. No fee will be charged for the use of the designated backpack campsites.

571—62.6(461A) Camping restrictions.

62.6(1) No person shall camp in the state forests listed in rule 62.1(461A) except within the designated camping areas or at established backpack campsite areas.

62.6(2) Camping within the designated camping area shall be on sites posted by numbered signs marking the location to be used by the camping unit or within the areas designated for backpack camping.

62.6(3) No more than six persons shall occupy a campsite except for the following:

a. Families that exceed six persons may be allowed on one campsite if all members are immediate family and cannot logically be split to occupy two campsites.

b. Campsites which are designated as chaperoned, organized youth group campsites.

62.6(4) Campers occupying reservable sites shall vacate the campground by 3 p.m. of the last day of their stay.

62.6(5) Camping is restricted to one basic unit per site except that a small tent may be placed on a site with the basic unit. The area occupied by the small tent shall be no more than 8 feet by 10 feet and the tent shall hold no more than four people.

[**ARC 8820B**, IAB 6/2/10, effective 7/7/10]

571—62.7(461A) Camping time limit. No basic camping unit shall be permitted to camp longer than two weeks at a time within a state forest, except for volunteers working under the department of natural resources' campground host program agreement.

571—62.8(461A) Camping refused. Department of natural resources officers are given authority to refuse camping privileges and to rescind any and all camping permits for cause.

571—62.9(461A) Firearms use prohibited. Except for peace officers acting in the scope of their employment, the use of firearms, fireworks, explosives, and weapons of all kinds by the public is prohibited within the established camping area as delineated by signs marking the area.

571—62.10(461A) Hours. Access into and out of the established camping areas shall be permitted from 4 a.m. to 10:30 p.m. During the hours of 10:31 p.m. to 3:59 a.m., only registered campers are permitted in the campgrounds.

571—62.11(461A) Horses and pets. No horse or other animal shall be hitched or tied to any tree or shrub in a manner to result in injury to state property. Pets such as dogs or cats shall not be allowed to run at large within the designated camping area. Such animals shall be deemed running at large unless the owner carries the animal or leads it by leash or chain not exceeding six feet in length or keeps it confined in or attached to a vehicle. Chains or other restraints used shall not be of sufficient length as to permit the animal to enter a designated campsite other than the one used by the animal's owner.

Stabling of equine animals and llamas shall be in accordance with 571—paragraph 61.4(5)*"k."*

571—62.12(461A) Noise. Creating or sustaining any unreasonable noise in any portion of all state forests is prohibited at all times. The nature and purpose of a person's conduct, the impact on other area users, the time of day, location, and other factors which would govern the conduct of a reasonable, prudent person under the circumstances shall be used to determine whether the noise is unreasonable. Unreasonable noise shall include the operation or utilization of motorized equipment or machinery such as an electric generator, motor vehicle, or motorized toy; or audio device such as a radio, television set, tape deck, public address system, or musical instrument; or other device. Between the hours of 10:30 p.m. and 6 a.m., noise which can be heard at a distance of 120 feet or three campsites shall be considered unreasonable.

These rules are intended to implement Iowa Code sections 461A.35, 461A.44, 461A.45, 461A.47 to 461A.51 and 461A.57.

[Filed 4/9/82, Notice 2/3/82—published 4/28/82, effective 6/2/82]
[Filed 10/7/82, Notice 8/4/82—published 10/27/82, effective 12/1/82]
[Filed 1/5/84, Notice 11/23/83—published 2/1/84, effective 3/7/84]
[Filed 7/10/85, Notice 4/24/85—published 7/31/85, effective 9/4/85]
[Filed without Notice 12/12/86—published 12/31/86, effective 2/4/87]
[Filed 8/13/93, Notice 6/23/93—published 9/1/93, effective 1/1/94]
[Filed 8/12/94, Notice 6/8/94—published 8/31/94, effective 10/5/94]
[Filed 8/17/01, Notice 5/30/01—published 9/5/01, effective 10/10/01]
[Filed 10/21/05, Notice 8/31/05—published 11/9/05, effective 1/1/06]
[Filed ARC 8820B (Notice ARC 8592B, IAB 3/10/10), IAB 6/2/10, effective 7/7/10]
[Filed ARC 9324B (Notice ARC 9118B, IAB 10/6/10), IAB 1/12/11, effective 2/16/11]

CHAPTER 7
LOCAL EMERGENCY MANAGEMENT

[Prior to 4/18/90, Public Defense Department[650], Ch 7]
[Prior to 5/12/93, Disaster Services Division[607], Ch 7]

605—7.1(29C) Scope and purpose. These rules apply to each local emergency management commission as provided for in Iowa Code section 29C.9. These rules are intended to establish standards for emergency management and to provide local emergency management commissions with the criteria to assess and measure their capability to mitigate against, prepare for, respond to, and recover from emergencies or disasters.

605—7.2(29C) Definitions. For purposes of this chapter, the following definitions will apply:

"Shall" indicates a mandatory requirement.

"Should" indicates a recommendation or that which is advised but not required.

605—7.3(29C) Local emergency management commission.

7.3(1) The county board of supervisors, city councils, and school district boards of directors in each county shall cooperate with the emergency management division to establish a local emergency management commission to carry out the provisions of Iowa Code chapter 29C.

a. The local commission shall be named the (county name) county emergency management commission.

b. The commission shall be comprised of the following members:

(1) A member of the county board of supervisors or its appointed representative.

(2) The county sheriff or the sheriff's appointed representative.

(3) The mayor or the mayor's appointed representative from each city within the county.

c. The commission is a municipality as defined in Iowa Code section 670.1.

7.3(2) Local commission bylaws. The commission shall develop bylaws to specify, at a minimum, the following information:

a. The name of the commission.

b. The list of members.

c. The date for the commencement of operations.

d. The commission's mission.

e. The commission's powers and duties.

f. The manner for financing the commission and its activities and maintaining a budget therefor.

g. The manner for acquiring, holding and disposing of property.

h. The manner for electing or appointing officers and the terms of office.

i. The manner by which members may vote.

j. The manner for appointing, hiring, disciplining and terminating employees.

k. The rules for conducting meetings of the commission.

l. Any other necessary and proper rules or procedures.

The bylaws, as adopted, shall be signed by each member of the commission. The commission shall record the signed bylaws with the county recorder and shall forward a copy of the bylaws to the administrator of the state emergency management division.

7.3(3) Commission business. Commission business shall be conducted in compliance with Iowa Code chapter 21, "Official Meetings Open to Public," and Iowa Code chapter 22, "Examination of Public Records."

7.3(4) The commission shall have the following minimum duties and responsibilities:

a. Administration and finance.

(1) Establish and maintain an agency responsible for the local emergency management program. The primary responsibility of this agency is to develop and maintain a comprehensive emergency management capability in cooperation with other governmental agencies, volunteer organizations, and private sector organizations. The name of this agency shall be the (county name) county emergency management agency.

(2) Determine the mission of the agency and its program.

(3) Develop and adopt a budget in accordance with the provisions of Iowa Code chapter 24 and Iowa Code section 29C.17 in support of the commission and its programs. The commission shall be the fiscal authority and the chairperson or vice chairperson shall be the certifying official for the budget.

(4) Appoint an emergency management coordinator who meets the qualifications established in subrule 7.4(3).

(5) Develop and adopt policies defining the rights and liabilities of commission employees, emergency workers and volunteers.

(6) Provide direction for the delivery of the emergency management services of planning, administration, coordination, training, exercising, and support for local governments and their departments.

(7) Coordinate emergency management activities and services among county and city governments and the private sector agencies within the county.

b. Hazard identification, risk assessment, and capability assessment.

(1) The commission should continually identify credible hazards that may affect their jurisdiction, the likelihood of occurrence, and the vulnerability of the jurisdiction to such hazards. Hazards to be considered should include natural, technological, and human-caused.

(2) The commission should conduct an analysis to determine the consequences and impact of identified hazards on the health and safety of the public, the health and safety of responders, property and infrastructure, critical and essential facilities, public services, the environment, the economy of the jurisdiction, and government operations and obligations.

(3) The hazard analysis should include identification of vital personnel, systems, operations, equipment, and facilities at risk.

(4) The commission should identify mitigation and preparedness considerations based upon the hazard analysis.

(5) A comprehensive assessment of the emergency management program elements should be conducted periodically to determine the operational capability and readiness of the jurisdiction to address the identified hazards and risks.

c. Resource management.

(1) The commission should develop a method to effectively identify, acquire, distribute, account for, and utilize resources essential to emergency functions.

(2) The commission shall utilize, to the maximum extent practicable, the services, equipment, supplies and facilities of the political subdivisions that are members of the commission.

(3) The commission should identify resource shortfalls and develop the steps and procedures necessary to overcome such shortfalls.

(4) The commission shall, in collaboration with other public and private agencies within this state, develop written mutual aid agreements. Such agreements shall provide reciprocal disaster services and recovery aid and assistance in case of disaster too great to be dealt with by the jurisdiction unassisted. Mutual aid agreements shall be in compliance with the appropriate requirements contained in Iowa Code chapter 28E.

d. Planning.

(1) The commission shall develop comprehensive countywide emergency operations plans that are multihazard and multifunctional in nature and that shall include, but not be limited to, a part "A" operations plan, part "B" mitigation plan, and part "C" recovery plan that may be contained in a single document or multiple documents. Part A, B, and C plans must be completed and submitted to the division on or before October 5, 2003.

1. A part "A" operations plan assigns responsibilities to organizations and individuals for carrying out specific actions at projected times and places in an emergency or disaster.

2. The part "B" mitigation plan shall establish interim and long-term strategies to eliminate hazards or to reduce the impact of those hazards that cannot be eliminated. This requirement notwithstanding, to qualify for federal funding for mitigation assistance, the eligible applicant must

comply with the mitigation planning requirements set forth in 44 CFR Section 201.6 and the Iowa Hazard Mitigation Grant Program Administrative Plan, as appropriate.

3. A part "C" recovery plan shall identify the short-term and long-term strategic priorities, processes, vital resources, and acceptable time frames and procedures for restoration.

(2) Plans shall contain the following common elements.

1. The functional roles and responsibilities of internal and external agencies, organizations, departments, and individuals during mitigation, preparedness, response and recovery shall be identified.

2. Lines of authority for those agencies, organizations, departments, and individuals shall be established and identified.

(3) Plans shall be regularly reviewed and amended as appropriate in accordance with a five-year schedule established by the commission, to include at a minimum:

1. A complete review, and amendment as appropriate, of the part "A" operations plan at a minimum of every five years. However, a review, and amendment as appropriate, of the hazardous materials portion and of a minimum of 20 percent of the remaining annexes or portions of the plan shall be conducted on a yearly basis. The complete operations plan must be entirely reviewed and amended as appropriate every five years. A printed copy of the portions of the plan that are reviewed, regardless of amendment, must be certified and submitted to the division for approval.

2. A complete review, and amendment as appropriate, of the part "B" mitigation plan at a minimum of every five years at such time a printed copy of the plan, regardless of amendment, must be submitted to the division for approval. Part "B" mitigation plans must also be reviewed and amended, as appropriate, certified and submitted to the division for approval within 180 days of the formal closing of the disaster incident period for a presidential declaration for major disaster.

3. A complete review, and amendment as appropriate, of the part "C" recovery plan at a minimum of every five years at such time a printed copy of the plan, regardless of amendment, must be submitted to the division for approval. Part "C" recovery plans must also be reviewed and amended, as appropriate, certified and submitted to the division for approval within 180 days of the formal closing of the disaster incident period for a presidential declaration for major disaster.

(4) To be certified, the plan must be adopted by the members of the local or joint emergency management commission and attested to by the chairperson and the local emergency management coordinator on a form to be provided by the division.

(5) In addition to the standards heretofore established in paragraph 7.3(4)*"d,"* the operations plan shall include provisions for damage assessment.

(6) Hazardous materials plans shall meet the minimum requirements of federal law, 42 U.S.C., Sec. 11003.

(7) Counties designated as risk or host counties for a nuclear facility emergency planning zone shall meet the standards and requirements as published by the United States Nuclear Regulatory Commission and the Federal Emergency Management Agency in NUREG-0654, FEMA-REP-1, Rev. 1, March 1987.

(8) Local or joint emergency management commissions participating in or conducting exercises or experiencing real disaster incidents, which require after action and corrective action reports, have 180 days from the date of the publication of the corrective action report to incorporate the corrective actions, as appropriate, in their plans.

(9) Required plans or portions of plans, submitted for approval to the division by a local or joint emergency management commission, shall be reviewed within 60 calendar days from the receipt of the plan. The division shall notify the local emergency management coordinator in writing of the approval or nonapproval of the plan. If the plan is not approved, the division shall state the specific standard or standards that are not being met and offer guidance on how the plan may be brought into compliance.

(10) A comprehensive countywide emergency operations plan shall not be considered approved by the emergency management division as required in Iowa Code subsection 29C.9(8) unless such plan adheres to and meets the minimum standards as established in paragraph 7.3(4)*"d."*

(11) Iowa Code section 29C.6 provides that state participation in funding financial assistance in a presidentially declared disaster is contingent upon the local government's having on file a state-approved, comprehensive, countywide plan as provided in Iowa Code subsection 29C.9(8). Required plans must

be received by the division within 180 days of the formal closing of the disaster incident period for a presidential declaration for major disaster for the affected county, and must be approved by the division within 240 days of this date for public or private nonprofit entities within the county to be eligible to receive state financial assistance.

e. Direction, control and coordination.

(1) The commission shall execute and enforce the orders or rules made by the governor, or under the governor's authority.

(2) The commission shall establish and maintain the capability to effectively direct, control and coordinate emergency and disaster response and recovery efforts.

(3) The commission shall establish a means of interfacing on-scene management with direction and control personnel and facilities.

(4) The commission should actively support use of the Incident Command System (ICS) model by all emergency and disaster response agencies within the jurisdiction.

f. Damage assessment.

(1) The commission shall develop and maintain a damage assessment capability consistent with local, state and federal requirements and shall designate individuals responsible for the function of damage assessment.

(2) Individuals identified by the commission to perform the function of damage assessment shall be trained through a course of instruction approved by the division.

g. Communications and warning.

(1) The commission should identify a means of disseminating a warning to the public, key officials, emergency response personnel and those other persons within the jurisdiction that may be potentially affected.

(2) The commission should identify the primary and secondary means of communications to support direction, control, and coordination of emergency management activities.

h. Operations and procedures. The commission should encourage public and private agencies, having defined responsibilities in the countywide emergency operations plan, to develop standard operating procedures, policies, and directives in support of the plan.

i. Training.

(1) The commission shall require the local emergency management coordinator to meet the minimum training requirements as established by the division and identified in subrule 7.4(4).

(2) The commission should, in conjunction with the local emergency management coordinator, arrange for and actively support ongoing emergency management related training for local public officials, emergency responders, volunteers, and support staff.

(3) Persons responsible for emergency plan development or implementation should receive training specific to, or related to, hazards identified in the local hazard analysis.

(4) The commission should encourage individuals, other than the emergency management coordinator, with emergency management responsibilities as defined in the countywide emergency operations plan, to complete, within two years of appointment, training consistent with their emergency management responsibilities.

(5) The commission should encourage all individuals with emergency management responsibilities to maintain current and adequate training consistent with their responsibilities.

j. Exercises.

(1) The commission shall ensure that exercise activities are conducted annually in accordance with local, state and federal requirements.

(2) Exercise activities should follow a progressive five-year plan that is designed to meet the needs of the jurisdiction.

(3) Local entities assigned to an exercise should actively participate and support the role of the entity in the exercise.

(4) Local entities assigned to an exercise should actively participate in the design, development, implementation, and evaluation of the exercise activity.

k. Public education and information.

(1) The commission should designate the individual or individuals who are responsible for public education and information functions.

(2) The commission should ensure a public information capability, to include:

1. Designated public information personnel trained to meet local requirements.
2. A system of receiving and disseminating emergency public information.
3. A method to develop, coordinate, and authorize the release of information.
4. The capability to communicate with special needs populations.

(3) The commission should actively support the development of capabilities to electronically collect, compile, report, receive, and transmit emergency public information.

7.3(5) Two or more commissions. Two or more local commissions may, upon review by the state administrator and with the approval of their respective boards of supervisors and cities, enter into agreements pursuant to Iowa Code chapter 28E for the joint coordination and administration of emergency management services throughout the multicounty area.

605—7.4(29C) Emergency management coordinator.

7.4(1) Each county emergency management commission or joint commission shall appoint an emergency management coordinator who shall serve at the pleasure of the commission. The commission shall delegate to the emergency management coordinator the authority to fulfill the commission's and coordinator's duties as provided in Iowa Code sections 29C.9 and 29C.10, as further described in subrule 7.3(4), and as otherwise assigned and authorized by the commission.

7.4(2) Political activity.

a. A member of a local or joint commission shall not be appointed as the emergency management coordinator.

b. An individual serving in a full-time or part-time governmental position incompatible with the position of coordinator shall not be appointed as the emergency management coordinator.

c. Any employee of an organization for emergency management shall not become a candidate for any partisan elective office. However, the employee is not precluded from holding any nonpartisan elective office for which no pay or only token payment is received.

7.4(3) Emergency management coordinator qualifications. Each person appointed after July 1, 1990, as an emergency management coordinator shall meet the following requirements with regard to education, abilities, experience, knowledge and skills:

a. Demonstrate a knowledge of local, state, and federal laws and regulations pertaining to emergency management.

b. Demonstrate an understanding of communications systems, frequencies, and equipment capabilities.

c. Demonstrate a knowledge of basic accounting principles and practices.

d. Express oneself clearly and concisely, both orally and in writing.

e. Establish and maintain effective working relationships with employees, public officials, and the general public.

f. Prepare accurate reports.

g. Write plans, direct the use of resources, and coordinate emergency operations under extraordinary circumstances.

h. Exercise good judgment in evaluating situations and making decisions.

i. Coordinate with agencies at all levels of government.

j. Have graduated from an accredited four-year college or university and have two years of responsible experience in emergency management, public or business administration, public relations, military preparedness or related work; or have an equivalent combination of experience and education, substituting 30 semester hours of graduate study for each year of the required work experience to a maximum of two years; or have an equivalent combination of experience and education, substituting one year of experience in the aforementioned areas for each year of college to a maximum of four years; or be an employee with current continuous experience in the state classified service that includes the equivalent of 18 months of full-time experience as an emergency management operations officer;

or be an employee with current continuous experience in the state classified service that includes the equivalent of 36 months of full-time experience as a local emergency management assistant.

7.4(4) Emergency management coordinator continuing education requirements. Each local coordinator shall meet the following educational development requirements. The administrator may extend the time frame for meeting these continuing education requirements upon request from the local or joint commission.

a. Within five years of appointment as an emergency management coordinator, the person must complete the following ten independent study courses as prescribed by the Federal Emergency Management Agency:

(1) A Citizen's Guide to Disaster Assistance IS-7.
(2) Emergency Operations Center (EOC) Management and Operations IS-775.
(3) Emergency Manager: An Orientation to the Position IS-1.
(4) Are You Ready? An In-depth Guide to Citizen Preparedness IS-22.
(5) An Introduction to Hazardous Materials IS-5A.
(6) Introduction to Incident Command System IS-100.b.
(7) ICS for Single Resources and Initial Action Incidents IS-200.a.
(8) Radiological Emergency Management IS-3.
(9) Introduction to Hazard Mitigation IS-393.a.
(10) Emergency Management Program Development.

b. Within five years of appointment as an emergency management coordinator, the person must complete the professional development series of courses as prescribed by the Federal Emergency Management Agency.

c. Upon completion of the requirements established in subrule 7.4(4), paragraphs *"a"* and *"b,"* a person must complete annually a minimum of 24 hours of state-approved emergency management training. Since completion of the annual training will follow the federal fiscal year, October 1 to September 30, the requirement to complete 24 hours of annual training will commence on the next October 1.

d. The local emergency management coordinator must document completion of courses by submitting a copy of the certificate of completion, a letter indicating satisfactory completion, or other appropriate documentation.

e. The Iowa homeland security and emergency management division, in conjunction with the Iowa Emergency Management Association, may substitute courses when deemed appropriate.

f. An emergency management coordinator who has met the baseline requirements prior to October 1, 2006, will not be required to take any of the new courses listed above to reestablish the person's baseline.

[**ARC 8116B**, IAB 9/9/09, effective 10/14/09; **ARC 9332B**, IAB 1/12/11, effective 2/16/11]

605—7.5(29C) Local commission or joint commission personnel.

7.5(1) Personnel for the local commission or joint commission shall be considered as employees of that local commission to include the coordinator, operations officers, and emergency management assistants.

7.5(2) The local or joint commission shall determine the personnel policies of the agency to include holidays, rate of pay, sick leave, vacation, and health benefits. The local commission may adopt existing county or city policies in lieu of writing their own policies.

605—7.6(29C) Damage assessment and financial assistance for disaster recovery. Disaster-related expenditures and damages incurred by local governments, private nonprofit entities, individuals, and businesses may be reimbursable and covered under certain state and federal disaster assistance programs. Preliminary damage assessments shall be provided to the emergency management division prior to the governor's making a determination that the magnitude and impact are sufficient to warrant a request for a presidential disaster declaration.

7.6(1) *Local preliminary damage assessment and impact statement.* The county emergency management coordinator shall be responsible for the coordination and collection of damage assessment and impact statement information immediately following a disaster that affects the county or any municipality within the county.

7.6(2) *Damage assessment guidance and forms to be provided.* The state emergency management division will provide guidance regarding the methodologies to be used in collecting damage assessment and impact statement information and shall provide the forms and format by which this information shall be recorded.

7.6(3) *Joint preliminary damage assessment.* Once the governor has determined that a request for a presidential disaster declaration is appropriate, joint preliminary damage assessment teams, consisting of local, state, and federal inspectors, will assess the uninsured damages and costs incurred or to be incurred in responding to and recovering from the disaster. All affected city, municipality, or county governments shall be required to provide assistance to the joint preliminary damage assessment teams for conducting damage assessments. The jurisdiction may be required to develop maps to show the damaged areas and to compile lists of names and telephone numbers of individuals, businesses, private nonprofit entities, and governmental agencies sustaining disaster response and recovery costs or damages. This joint preliminary damage assessment may be required before the request for presidential declaration is formally transmitted to the Federal Emergency Management Agency.

7.6(4) *Public assistance and hazard mitigation briefing.* In the event that a presidential disaster declaration is received, affected jurisdictions and eligible private nonprofit entities should be prepared to attend a public assistance and hazard mitigation briefing to acquire the information and documents necessary to make their formal applications for public and hazard mitigation assistance. Failure to comply with the deadlines for making application for public and mitigation assistance as established in 44 CFR Part 206 and the Stafford Act (PL 923-288) may jeopardize or eliminate the jurisdiction's or private nonprofit entity's ability to receive assistance.

7.6(5) *Forfeiture of assistance funding.* Failure to provide timely and accurate damage assessment and impact statement information may jeopardize or eliminate an applicant's ability to receive federal and state disaster assistance funds that may otherwise be available.

State participation in funding of disaster financial assistance in a presidentially declared disaster shall be contingent upon the local or joint emergency management commission's having on file a state-approved, comprehensive, countywide emergency operations plan which meets the standards as provided in subrule 7.3(4), paragraph *"d."*

605—7.7(29C) Emergency management performance grant (EMPG) program. Emergency management is a joint responsibility of the federal government, the states, and their political subdivisions. Emergency management means all those activities and measures designed or undertaken to mitigate against, prepare for, respond to, or recover from the effects of a human-caused, technological, or natural hazard. The purpose of the emergency management performance grant program is to provide the necessary assistance to local governments to ensure that a comprehensive emergency preparedness system exists for all hazards.

7.7(1) *Eligibility.* Local or joint emergency management commissions may be eligible for funding under the state and emergency management performance grant program by meeting the requirements, conditions, duties and responsibilities for emergency management commissions and county emergency management coordinators established in rules 7.3(29C) and 7.4(29C). In addition, the local commission shall ensure that the coordinator works an average of 20 hours per week or more toward the emergency management effort. Joint commissions shall ensure that the coordinator works an average of 40 hours per week toward the emergency management effort.

7.7(2) *Application for funding.* Local or joint commissions may apply for funding under the emergency management performance grant program by entering into an agreement with the division and by completing the necessary application and forms, as published and distributed yearly to each commission by the division.

7.7(3) *Allocation and distribution of funds.*

a. The homeland security and emergency management division shall allocate funds to eligible local or joint commissions within 45 days of receipt of notice from the federal Department of Homeland Security, Preparedness Directorate, Office of Grants and Training, that such funds are available. The division shall use a formula for the allocation of funds based upon the number of eligible applicants, the part-time or full-time status of the coordinator, 50 percent equal-share base, and 50 percent population base. The total allocation of funds for an applicant may not exceed the lesser of $39,000 or the amount requested by the applicant.

b. The formula shall be applied in the following manner: The pass-through amount is divided equally between an equal-share base and a population base.

(1) The amount of total equal-share base dollars is divided by the total number of EMPG counties to establish a per-county average. For counties with part-time coordinators, the per-county average is reduced by 50 percent to determine the part-time county allocation. The total baseline dollar amount, minus the cumulative total dollars already allocated to part-time counties, is then divided by the total number of counties with full-time coordinators to determine the full-time county allocation.

(2) The population base amount for each county is determined by adding the populations of all counties together; then each county's population is divided by that total population to determine a percentage. The total population base dollars are then multiplied by a county's percentage to determine that county's share of the population dollars.

c. Funds will be reimbursed to local and joint commissions on a federal fiscal year, quarterly basis; and such reimbursement will be based on eligible claims made against the local or joint commission's allocation. In no case will the allocation or reimbursement of funds be greater than one-half of the total cost of eligible emergency management related expenses.

7.7(4) *Compliance.* The administrator may withhold or recover emergency management performance grant funds from any local or joint commission for its failure or its coordinator's failure to meet any of the following conditions:

a. Appoint a qualified coordinator.

b. Comply with continuing education requirements.

c. Adopt a comprehensive countywide emergency operations plan that meets current standards.

d. Determine the mission of its agency.

e. Show continuing progress in fulfilling the commission's duties and obligations.

f. Conduct commission business according to the guidelines and rules established in this chapter.

g. Enter into and file a cooperative agreement with the division by the stipulated filing date.

h. Abide by state and federal regulations governing the proper disbursement and accountability for federal funds, equal employment opportunity and merit system standards.

i. Accomplish work specified in one or more program areas, as agreed upon in the cooperative agreement, or applicable state or federal rule or statute.

j. Provide the required matching financial contribution.

k. Expend funds for authorized purposes or in accordance with applicable laws, regulations, terms and conditions.

l. Respond to, or cooperate with, state efforts to determine the extent and nature of compliance with the cooperative agreement.

7.7(5) *Serious nonperformance problems.* If a local or joint commission cannot demonstrate achievement of agreed-upon work products, the division is empowered to withhold reimbursement or to recover funds from the local or joint commission. Corrective action procedures are designed to focus the commission's attention on nonperformance problems and to bring about compliance with the cooperative agreement. Corrective action procedures, which could lead to sanction, may be enacted as soon as the administrator becomes aware of serious nonperformance or noncompliance. This realization may arise from staff visits or other contacts with the local agency or commission, from indications in the commission's or coordinator's quarterly report that indicate a significant shortfall from planned accomplishments, or from the commission's or coordinator's failure to report. Financial sanctions are

to be applied only after corrective action remedies fail to result in accomplishment of agreed-upon work product.

7.7(6) *Corrective actions.*

a. Informal corrective action. As a first and basic step to correcting nonperformance, a designated member of the state emergency management division staff will visit, call or write the local coordinator to determine the reason for nonperformance and seek an agreeable resolution.

b. Formal corrective action. On those occasions when there is considerable discrepancy between agreed-upon and actual performance and response to informal corrective action is not sufficient or agreeable, the division will take the following steps:

(1) Emergency management staff will review the scope of work, as agreed to in the cooperative agreement, to determine the extent of nonperformance. To focus attention on the total nonperformance issue, all instances of nonperformance will be addressed together in a single correspondence to the local or joint commission.

(2) The administrator will prepare a letter to the local or joint commission which will contain, at a minimum, the following information:

1. The reasons why the division believes the local or joint commission may be in noncompliance, including the specified provisions in question.

2. A description of the efforts made by the division to resolve the matter and the reasons these efforts were unsuccessful.

3. A declaration of the local or joint commission's commitment to accomplishing the work agreed upon and specified in the comprehensive cooperative agreement and its importance to the emergency management capability of the local jurisdiction.

4. A description of the exact actions or alternative actions required of the local or joint commission to bring the problem to an agreed resolution.

5. A statement that this letter constitutes the final no-penalty effort to achieve a resolution and that financial sanctions provided for in these rules will be undertaken if a satisfactory response is not received by the division within 30 days.

7.7(7) *Financial sanctions.* If the corrective actions heretofore described fail to produce a satisfactory resolution to cases of serious nonperformance, the administrator may invoke the following financial sanction procedures:

a. Send a "Notice of Intention to Withhold Payment" to the chairperson of the local or joint commission. This notice shall also contain notice of a reasonable time and place for a hearing, should the local or joint commission request a hearing before the administrator.

b. Any request by a local or joint commission for a hearing must be made in writing, to the division, within 15 days of receipt of the notice of intention to withhold payment.

c. Any hearing under the notice of intention to withhold payment shall be held before the administrator. However, the administrator may designate an administrative law judge to take evidence and certify to the administrator the entire record, including findings and recommended actions.

d. The local or joint commission shall be given full opportunity to present its position orally and in writing.

e. If, after a hearing, the administrator finds sufficient evidence that the local or joint commission has violated established rules and regulations or the terms and conditions of the cooperative agreement, the administrator may withhold such contributions and payments as may be considered advisable, until the failure to expend funds in accordance with said rules, regulations, terms and conditions has been corrected or the administrator is satisfied that there will no longer be any such failure.

f. If upon the expiration of the 15-day period stated for a hearing, a hearing has not been requested, the administrator may issue the findings and take appropriate action as described in the preceding paragraph.

g. If the administrator finds there is serious nonperformance by the commission or its coordinator and issues an order to withhold payments to the local or joint commission as described in this rule, the commission shall not receive funds under the emergency management performance grant program for the

remainder of the federal fiscal year in which the order is issued and one additional year or until such time that all issues of nonperformance have been agreeably addressed by the division and the commission.

h. Any emergency management perforce grant program funds withheld or recovered by the division as a result of this process shall be reallocated at the end of the federal fiscal year to the remaining participating counties.

[**ARC 8543B**, IAB 2/24/10, effective 4/14/10]

These rules are intended to implement Iowa Code sections 29C.6 and 29C.8.

[Filed 4/29/77, Notice 1/12/77—published 5/18/77, effective 6/22/77]
[Filed 3/20/90, Notice 2/7/90—published 4/18/90, effective 5/23/90]
[Filed 4/22/93, Notice 3/17/93—published 5/12/93, effective 6/16/93]
[Filed emergency 4/24/00—published 5/17/00, effective 5/17/00]
[Filed 7/18/00, Notice 5/17/00—published 8/9/00, effective 9/13/00]
[Filed without Notice 9/15/00—published 10/4/00, effective 11/8/00]
[Filed emergency 8/15/03—published 9/3/03, effective 9/3/03]
[Filed 10/23/03, Notice 9/3/03—published 11/12/03, effective 12/17/03]
[Filed 8/10/07, Notice 6/20/07—published 8/29/07, effective 10/3/07]◊
[Filed ARC 8116B (Notice ARC 7951B, IAB 7/15/09), IAB 9/9/09, effective 10/14/09]
[Filed Without Notice ARC 8543B, IAB 2/24/10, effective 4/14/10]
[Filed ARC 9332B (Notice ARC 9226B, IAB 11/17/10), IAB 1/12/11, effective 2/16/11]

◊ Two or more ARCs

PHYSICAL AND OCCUPATIONAL THERAPISTS

CHAPTER 200 LICENSURE OF PHYSICAL THERAPISTS AND PHYSICAL THERAPIST ASSISTANTS
CHAPTER 201 PRACTICE OF PHYSICAL THERAPISTS AND PHYSICAL THERAPIST ASSISTANTS
CHAPTER 202 DISCIPLINE FOR PHYSICAL THERAPISTS AND PHYSICAL THERAPIST ASSISTANTS
CHAPTER 203 CONTINUING EDUCATION FOR PHYSICAL THERAPISTS AND PHYSICAL THERAPIST ASSISTANTS
CHAPTER 204 RESERVED
CHAPTER 205 RESERVED
CHAPTER 206 LICENSURE OF OCCUPATIONAL THERAPISTS AND OCCUPATIONAL THERAPY ASSISTANTS
CHAPTER 207 CONTINUING EDUCATION FOR OCCUPATIONAL THERAPISTS AND OCCUPATIONAL THERAPY ASSISTANTS
CHAPTER 208 PRACTICE OF OCCUPATIONAL THERAPISTS AND OCCUPATIONAL THERAPY ASSISTANTS
CHAPTER 209 DISCIPLINE FOR OCCUPATIONAL THERAPISTS AND OCCUPATIONAL THERAPY ASSISTANTS

CHAPTER 200
LICENSURE OF PHYSICAL THERAPISTS AND PHYSICAL THERAPIST ASSISTANTS

[Prior to 3/6/02, see 645—200.3(147) to 645—200.8(147), 645—200.11(272C), and 645—202.3(147) to 645—202.7(147)]
[Prior to 12/24/03, see 645—ch 201]

645—200.1(147) Definitions. For purposes of these rules, the following definitions shall apply:

"Active license" means a license that is current and has not expired.

"Assistive personnel" means any person who carries out physical therapy and is not licensed as a physical therapist or physical therapist assistant. This definition does not include students as defined in Iowa Code section 148A.3(2).

"Board" means the board of physical and occupational therapy.

"Department" means the department of public health.

"Grace period" means the 30-day period following expiration of a license when the license is still considered to be active. In order to renew a license during the grace period, a licensee is required to pay a late fee.

"Impairment" means a mechanical, physiological or developmental loss or abnormality, a functional limitation, or a disability or other health- or movement-related condition.

"Inactive license" means a license that has expired because it was not renewed by the end of the grace period. The category of "inactive license" may include licenses formerly known as lapsed, inactive, delinquent, closed, or retired.

"Licensee" means any person licensed to practice as a physical therapist or physical therapist assistant in the state of Iowa.

"License expiration date" means the fifteenth day of the birth month every two years after initial licensure.

"Licensure by endorsement" means the issuance of an Iowa license to practice physical therapy to an applicant who is or has been licensed in another state.

"Mandatory training" means training on identifying and reporting child abuse or dependent adult abuse required of physical therapists or physical therapist assistants who are mandatory reporters. The full requirements on mandatory reporting of child abuse and the training requirements are found in Iowa Code section 232.69. The full requirements on mandatory reporting of dependent adult abuse and the training requirements are found in Iowa Code section 235B.16.

"On site" means:

1. To be continuously on site and present in the department or facility where assistive personnel are performing services;

2. To be immediately available to assist the person being supervised in the services being performed; and

3. To provide continued direction of appropriate aspects of each treatment session in which a component of treatment is delegated to assistive personnel.

"Physical therapist" means a person licensed under this chapter to practice physical therapy.

"Physical therapist assistant" means a person licensed under this chapter to assist in the practice of physical therapy.

"Physical therapy" means that branch of science that deals with the evaluation and treatment of human capabilities and impairments, including:

1. Evaluation of individuals with impairments in order to determine a diagnosis, prognosis, and plan of therapeutic treatment and intervention, and to assess the ongoing effects of intervention;

2. Use of the effective properties of physical agents and modalities, including but not limited to mechanical and electrotherapeutic devices, heat, cold, air, light, water, electricity, and sound, to prevent, correct, minimize, or alleviate an impairment;

3. Use of therapeutic exercises to prevent, correct, minimize, or alleviate an impairment;

4. Use of rehabilitative procedures to prevent, correct, minimize, or alleviate an impairment, including but not limited to the following procedures:

- Manual therapy, including soft-tissue and joint mobilization and manipulation;
- Therapeutic massage;
- Prescription, application, and fabrication of assistive, adaptive, orthotic, prosthetic, and supportive devices and equipment;
- Airway clearance techniques;
- Integumentary protection and repair techniques; and
- Debridement and wound care;

5. Interpretation of performances, tests, and measurements;

6. The establishment and modification of physical therapy programs;

7. The establishment and modification of treatment planning;

8. The establishment and modification of consultive services;

9. The establishment and modification of instructions to the patient, including but not limited to functional training relating to movement and mobility;

10. Participation, administration and supervision attendant to physical therapy and educational programs and facilities.

"PT" means physical therapist.

"PTA" means physical therapist assistant.

"Reactivate" or *"reactivation"* means the process as outlined in rule 200.15(17A,147,272C) by which an inactive license is restored to active status.

"Reciprocal license" means the issuance of an Iowa license to practice physical therapy to an applicant who is currently licensed in another state which has a mutual agreement with the Iowa board of physical and occupational therapy to license persons who have the same or similar qualifications to those required in Iowa.

"Reinstatement" means the process as outlined in 645—11.31(272C) by which a licensee who has had a license suspended or revoked or who has voluntarily surrendered a license may apply to have the license reinstated, with or without conditions. Once the license is reinstated, the licensee may apply for active status.

645—200.2(147) Requirements for licensure. The following criteria shall apply to licensure:

200.2(1) The applicant shall complete a board-approved application packet. Application forms may be obtained from the board's Web site (http://www.idph.state.ia.us/licensure) or directly from the board office. All applications shall be sent to Board of Physical and Occupational Therapy, Professional Licensure Division, Fifth Floor, Lucas State Office Building, Des Moines, Iowa 50319-0075.

200.2(2) The applicant shall complete the application form according to the instructions contained in the application. If the application is not completed according to the instructions, the application will not be reviewed by the board.

200.2(3) Each application shall be accompanied by the appropriate fees payable by check or money order to the Board of Physical and Occupational Therapy. The fees are nonrefundable.

200.2(4) No application will be considered by the board until official copies of academic transcripts sent directly from the school to the board of physical and occupational therapy have been received by the board. An applicant shall have successfully completed a physical therapy education program accredited by a national accreditation agency approved by the board.

200.2(5) Notification of eligibility for the examination shall be sent to the applicant by the board.

200.2(6) The candidate shall have the examination score sent directly from the testing service to the board.

200.2(7) Licensees who were issued their initial licenses within six months prior to the renewal date shall not be required to renew their licenses until the renewal date two years later.

200.2(8) Incomplete applications that have been on file in the board office for more than two years shall be:

a. Considered invalid and shall be destroyed; or

b. Maintained upon written request of the candidate. The candidate is responsible for requesting that the file be maintained.

645—200.3(147) Requirements for practice prior to licensure. Rescinded IAB 12/19/07, effective 1/23/08.

645—200.4(147) Examination requirements for physical therapists and physical therapist assistants. The following criteria shall apply to the written examination(s):

200.4(1) The applicant shall take and pass the National Physical Therapy Examination (NPTE) or other nationally recognized equivalent examination as defined by the board.

200.4(2) The applicant shall abide by the following criteria:

a. For examinations taken prior to July 1, 1994, satisfactory completion shall be defined as receiving an overall examination score exceeding 1.5 standard deviations below the national average.

b. For examinations completed after July 1, 1994, satisfactory completion shall be defined as receiving an overall examination score equal to or greater than the criterion-referenced passing point recommended by the Federation of State Boards of Physical Therapy.

200.4(3) Before the board may approve an applicant for testing beyond three attempts, an applicant shall reapply for licensure and shall demonstrate evidence satisfactory to the board of having successfully completed additional clinical training or coursework, or both.

200.4(4) The applicant shall be notified by the board in writing of examination results.

645—200.5(147) Educational qualifications.

200.5(1) The applicant must present proof of meeting the following requirements for licensure as a physical therapist or physical therapist assistant:

a. Educational requirements—physical therapists. Physical therapists shall graduate from a physical therapy program accredited by a national accreditation agency approved by the board.

(1) If the degree is granted on or before January 31, 2004, the degree must be equivalent to at least a baccalaureate degree. The baccalaureate program shall consist of a minimum of 60 hours of general education and 60 hours of professional education.

(2) If the degree is granted on or after February 1, 2004, the degree must be equivalent to a postbaccalaureate degree.

b. Educational requirements—physical therapist assistants. Physical therapist assistants shall graduate from a PTA program accredited by a national accreditation agency approved by the board.

200.5(2) Foreign-trained applicants shall:

a. Submit an English translation and an equivalency evaluation of their educational credentials through the following organization: Foreign Credentialing Commission on Physical Therapy, Inc., 124 West Street South, Third Floor, Alexandria, VA 22314; telephone (703)684-8406; Web site www.fccpt.org. The credentials of a foreign-educated physical therapist or foreign-educated physical therapist assistant licensure applicant should be evaluated using the version of the Federation of State Boards of Physical Therapy (FSBPT) Coursework Tool (CWT) that covers the date the applicant graduated from the applicant's respective physical therapist or physical therapist assistant education program. A credentialing agency should use the version for the CWT that coincides with the professional educational criteria that were in effect on the date the applicant graduated from the applicant's respective physical therapy education program. This same process should be used for first-time licensees and for those seeking licensure through endorsement. The professional curriculum must be equivalent to the Commission on Accreditation in Physical Therapy Education standards. An applicant shall bear the expense of the curriculum evaluation.

b. Submit certified proof of proficiency in the English language by achieving on the Test of English as a Foreign Language (IBT-TOEFL) a total score of at least 89 on the Internet-based TOEFL as well as accompanying minimum scores in the four test components as follows: 24 in writing; 26 in speaking; 21 in reading comprehension; and 18 in listening comprehension. This examination is administered by Educational Testing Services, Inc., P.O. Box 6157, Princeton, NJ 08541-6157. An applicant shall bear the expense of the TOEFL examination. Applicants may be exempt from the TOEFL examination when the native language is English, physical therapy education was completed in a school approved by the Commission on Accreditation in Physical Therapy Education (CAPTE), language of instruction in physical therapy was English, language of the textbooks was English, and the applicant's transcript was in English.

c. Submit an official statement from each country's or territory's board of examiners or other regulatory authority regarding the status of the applicant's license, including issue date, expiration date and information regarding any pending or prior investigations or disciplinary action. The applicants shall request such statements from all entities in which they are currently or formerly licensed.

d. Receive a final determination from the board regarding the application for licensure.

[**ARC 9328B**, IAB 1/12/11, effective 2/16/11]

645—200.6(272C) Supervision requirements.

200.6(1) Physical therapist supervisor responsibilities. The supervisor shall:

a. Provide supervision to a PTA.

b. Provide on-site supervision or supervision by telecommunication as long as the physical therapy services are rendered in accordance with the minimum frequency standards set forth in subrule 200.6(4).

c. Assume responsibility for all delegated tasks and shall not delegate a service which exceeds the expertise of the PTA.

d. Provide evaluation and development of a treatment plan for use by the PTA.

e. Supervise not more than the equivalent of two full-time PTAs, not to exceed four part-time PTAs, who are providing physical therapy per calendar day, including supervision by telecommunication.

f. Rescinded IAB 12/19/07, effective 1/23/08.

g. Ensure that a PTA under the PT's supervision has a current license to practice as a PTA.

h. Rescinded IAB 12/19/07, effective 1/23/08.

i. Ensure that the signature of a PTA on a physical therapy treatment record indicates that the physical therapy services were provided in accordance with the rules and regulations for practicing as a PTA.

200.6(2) The following are functions that only a physical therapist may provide and cannot be delegated to a PTA:

a. Interpretation of referrals;

b. Initial physical therapy evaluation and reevaluations;

c. Identification, determination or modification of patient problems, goals, and care plans;

d. Final discharge evaluation and establishment of the discharge plan;

e. Assurance of the qualifications of all assistive personnel to perform assigned tasks through written documentation of their education or training that is maintained and available at all times;

f. Delegation of and instruction in the services to be rendered by the PTA or other assistive personnel including, but not limited to, specific tasks or procedures, precautions, special problems, and contraindicated procedures; and

g. Timely review of documentation, reexamination of the patient and revision of the plan when indicated.

200.6(3) Supervision of other assistive personnel. PTs are responsible for patient care provided by assistive personnel under their supervision. Physical therapy aides and other assistive personnel shall not provide independent patient care unless each of the following standards is satisfied:

a. The supervising PT has physical participation in the patient's treatment or evaluation, or both, each treatment day;

b. The assistive personnel may provide independent patient care only while under the on-site supervision of the supervising PT;

c. Documentation made in physical therapy records by unlicensed assistive personnel shall be cosigned by the supervising PT; and

d. The PT provides periodic reevaluation of assistive personnel's performance in relation to the patient.

200.6(4) The PT must provide patient evaluation and participate in treatment based upon the health care admission or residency status of the patient being treated. Participation shall include direct client contact according to the following schedule:

Patient's Health Care Residency or Admission Status	Maximum of Physical Therapist Delegation (whichever comes first)
Hospital, acute care	3 visits or 2 consecutive calendar days
Hospital, non-CARF	3 visits or 2 consecutive calendar days
Hospital, CARF-accredited beds	4 visits or 4 consecutive calendar days
Skilled nursing	4 visits or 7 consecutive calendar days
Home health	4 visits or 9 consecutive calendar days
Nursing facility	9 visits or 9 consecutive calendar days
Iowa educational agency	4 visits or 29 consecutive calendar days
Other facility/admissions status	4 visits or 9 consecutive calendar days

Calendar days include weekends and holidays.

200.6(5) Physical therapist assistant responsibilities. The physical therapist assistant:

a. Shall provide only those services for which the PTA has the skills necessary and shall consult the supervising physical therapist if the procedures are believed not to be in the best interest of the patient;

b. Shall gather data relating to the patient's disability, but not interpret the data as it pertains to the plan of care;

c. Shall communicate any change, or lack of change, which occurs in the patient's condition and which may need the assessment of the PT;

d. Shall provide physical therapy services only under the supervision of the physical therapist;

e. Shall provide treatment only after evaluation and development of a treatment plan by the physical therapist;

f. Shall refer inquiries that require interpretation of patient information to the physical therapist;

g. May have on-site or immediate telecommunicative supervision as long as the physical therapy services are rendered in accordance with the minimum frequency standards set forth in subrule 200.6(4); and

h. May receive supervision from any number of physical therapists.

i. Shall record on every patient chart the name of the PTA's supervisor for each treatment session.

The signature of a PTA on a physical therapy treatment record indicates that the physical therapy services were provided in accordance with the rules and regulations for practicing as a PTA.

200.6(6) Other assistive personnel. Physical therapy aides and other assistive personnel may assist a PTA in providing patient care in the absence of a PT only if the PTA maintains in-sight supervision of the physical therapy aide or other assistive personnel and the PTA is primarily and significantly involved in that patient's care.

645—200.7(147) Licensure by endorsement.

200.7(1) An applicant who has been a licensed PT or PTA under the laws of another jurisdiction shall file an application for licensure by endorsement with the board office. The board may receive by endorsement any applicant from the District of Columbia or another state, territory, province or foreign country who:

a. Submits to the board a completed application;

b. Pays the licensure fee;

c. Shows evidence of licensure requirements that are similar to those required in Iowa;

d. Submits a copy of the scores from the appropriate professional examination to be sent directly from the examination service to the board;

e. Provides official copies of the academic transcripts sent directly from the school to the board; and

f. Provides verification of license(s) from every jurisdiction in which the applicant has been licensed, sent directly from the jurisdiction(s) to the board office. Web-based verification may be substituted for verification direct from the jurisdiction's board office if the verification provides:

(1) Licensee's name;

(2) Date of initial licensure;

(3) Current licensure status; and

(4) Any disciplinary action taken against the license.

200.7(2) In addition to the requirements of 200.7(1), a physical therapist applicant shall:

a. Have completed 40 hours of board-approved continuing education during the immediately preceding two-year period; or

b. Have practiced as a licensed physical therapist for a minimum of 2,080 hours during the immediately preceding two-year period; or

c. Have served the equivalent of one year as a full-time faculty member teaching physical therapy in an accredited school of physical therapy for at least one of the immediately preceding two years; or

d. Have successfully passed the examination within a period of one year from the date of examination to the time application is completed for licensure.

200.7(3) In addition to the requirements of 200.7(1), a physical therapist assistant applicant shall:

a. Have completed 20 hours of board-approved continuing education during the immediately preceding two-year period; or

b. Have practiced as a licensed physical therapist assistant for a minimum of 2,080 hours during the immediately preceding two-year period; or

c. Have successfully passed the examination for physical therapist assistants within a period of one year from the date of examination to the time application for licensure is completed.

200.7(4) Individuals who were issued their licenses by endorsement within six months of the license renewal date will not be required to renew their licenses until the next renewal two years later.

200.7(5) An applicant for licensure under subrule 200.7(1) must include with this application a sworn statement of previous physical therapy practice from an employer or professional associate, detailing places and dates of employment and verifying that the applicant has practiced physical therapy at least 2,080 hours or taught as the equivalent of a full-time faculty member for at least one of the immediately preceding years during the last two-year time period.

200.7(6) Foreign-trained applicants applying for licensure by endorsement shall also meet the requirements outlined in subrule 200.5(2).

645—200.8(147) Licensure by reciprocal agreement. Rescinded IAB 12/17/08, effective 1/21/09.

645—200.9(147) License renewal.

200.9(1) The biennial license renewal period for a license to practice as a physical therapist or physical therapist assistant shall begin on the sixteenth day of the birth month and end on the fifteenth day of the birth month two years later. The board shall send a renewal notice by regular mail to each licensee at the address on record at least 60 days prior to the expiration of the license. The licensee is responsible for renewing the license prior to its expiration. Failure of the licensee to receive the notice does not relieve the licensee of the responsibility for renewing the license.

200.9(2) An individual who was issued a license within six months of the license renewal date will not be required to renew the license until the subsequent renewal two years later.

200.9(3) A licensee seeking renewal shall:

a. Meet the continuing education requirements of rule 645—203.2(148A) and the mandatory reporting requirements of subrule 200.9(4). A licensee whose license was reactivated during the current renewal compliance period may use continuing education credit earned during the compliance period for the first renewal following reactivation; and

b. Submit the completed renewal application and renewal fee before the license expiration date.

200.9(4) Mandatory reporter training requirements.

a. A licensee who in the scope of professional practice regularly examines, attends, counsels or treats children in Iowa shall indicate on the renewal application completion of two hours of training in child abuse identification and reporting in the previous five years of condition(s) for waiver of this requirement as identified in paragraph *"e."*

b. A licensee who in the scope of professional practice regularly examines, attends, counsels or treats adults in Iowa shall indicate on the renewal application completion of two hours of training in dependent adult abuse identification and reporting in the previous five years or condition(s) for waiver of this requirement as identified in paragraph *"e."*

c. A licensee who in the scope of professional practice regularly examines, attends, counsels or treats both adults and children in Iowa shall indicate on the renewal application completion of training in abuse identification and reporting for dependent adults and children in the previous five years or condition(s) for waiver of this requirements as identified in paragraph *"e."*

Training may be completed through separate courses as identified in paragraphs *"a"* and *"b"* or in one combined two-hour course that includes curricula for identifying and reporting child abuse and dependent adult abuse. The course shall be a curriculum approved by the Iowa department of public health abuse education review panel.

d. The licensee shall maintain written documentation for five years after mandatory training as identified in paragraphs *"a"* to *"c,"* including program date(s), content, duration, and proof of participation.

e. The requirement for mandatory training for identifying and reporting child and dependent adult abuse shall be suspended if the board determines that suspension is in the public interest or that a person at the time of license renewal:

(1) Is engaged in active duty in the military service of this state or the United States.

(2) Holds a current waiver by the board based on evidence of significant hardship in complying with training requirements, including an exemption of continuing education requirements or extension of time in which to fulfill requirements due to a physical or mental disability or illness as identified in 645—Chapter 4.

f. The board may select licensees for audit of compliance with the requirements in paragraphs *"a"* to *"e."*

200.9(5) Upon receiving the information required by this rule and the required fee, board staff shall administratively issue a two-year license and shall send the licensee a wallet card by regular mail. In the event the board receives adverse information on the renewal application, the board shall issue the renewal license but may refer the adverse information for further consideration or disciplinary investigation.

200.9(6) Persons licensed to practice as physical therapists or physical therapist assistants shall keep their renewal licenses displayed in a conspicuous public place at the primary site of practice.

200.9(7) Late renewal. The license shall become a late license when the license has not been renewed by the expiration date on the wallet card. The licensee shall be assessed a late fee as specified in 645—subrule 5.13(4). To renew a late license, the licensee shall complete the renewal requirements and submit the late fee within the grace period.

200.9(8) Inactive license. A licensee who fails to renew the license by the end of the grace period has an inactive license. A licensee whose license is inactive continues to hold the privilege of licensure in Iowa, but may not practice as a physical therapist or a physical therapist assistant in Iowa until the license is reactivated. A licensee who practices as a physical therapist or a physical therapist assistant in the state of Iowa with an inactive license may be subject to disciplinary action by the board, injunctive action pursuant to Iowa Code section 147.83, criminal sanctions pursuant to Iowa Code section 147.86, and other available legal remedies.

645—200.10(272C) Exemptions for inactive practitioners. Rescinded IAB 9/14/05, effective 10/19/05.

645—200.11(272C) Lapsed licenses. Rescinded IAB 9/14/05, effective 10/19/05.

645—200.12(147) Duplicate certificate or wallet card. Rescinded IAB 12/17/08, effective 1/21/09.

645—200.13(147) Reissued certificate or wallet card. Rescinded IAB 12/17/08, effective 1/21/09.

645—200.14(17A,147,272C) License denial. Rescinded IAB 12/17/08, effective 1/21/09.

645—200.15(17A,147,272C) License reactivation. To apply for reactivation of an inactive license, a licensee shall:

200.15(1) Submit a reactivation application on a form provided by the board.

200.15(2) Pay the reactivation fee that is due as specified in 645—subrule 5.13(5).

200.15(3) Provide verification of current competence to practice physical therapy by satisfying one of the following criteria:

a. If the license has been on inactive status for five years or less, an applicant must provide the following:

(1) Verification of the license(s) from every jurisdiction in which the applicant is or has been licensed and is or has been practicing during the time period the Iowa license was inactive, sent directly from the jurisdiction(s) to the board office. Web-based verification may be substituted for verification from a jurisdiction's board office if the verification includes:

1. Licensee's name;
2. Date of initial licensure;
3. Current licensure status; and
4. Any disciplinary action taken against the license; and

(2) Verification of completion of 20 hours of continuing education for a physical therapy assistant and 40 hours of continuing education for a physical therapist within two years of application for reactivation.

b. If the license has been on inactive status for more than five years, an applicant must provide the following:

(1) Verification of the license(s) from every jurisdiction in which the applicant is or has been licensed and is or has been practicing during the time period the Iowa license was inactive, sent directly from the jurisdiction(s) to the board office. Web-based verification may be substituted for verification from a jurisdiction's board office if the verification includes:

1. Licensee's name;
2. Date of initial licensure;
3. Current licensure status; and

4. Any disciplinary action taken against the license; and

(2) Verification of completion of 40 hours of continuing education for a physical therapy assistant and 80 hours of continuing education for a physical therapist within two years of application for reactivation; or evidence of successful completion of the professional examination required for initial licensure completed within one year prior to the submission of an application for reactivation.

645—200.16(17A,147,272C) License reinstatement. A licensee whose license has been revoked, suspended, or voluntarily surrendered must apply for and receive reinstatement of the license in accordance with 645—11.31(272C) and must apply for and be granted reactivation of the license in accordance with 200.15(17A,147,272C) prior to practicing physical therapy in this state.

These rules are intended to implement Iowa Code chapters 17A, 147, 148A and 272C.

[Filed 2/13/02, Notice 10/3/01—published 3/6/02, effective 4/10/02]
[Filed 8/28/02, Notice 6/12/02—published 9/18/02, effective 10/23/02]
[Filed 11/26/03, Notice 9/17/03—published 12/24/03, effective 1/28/04]
[Filed 8/22/05, Notice 6/22/05—published 9/14/05, effective 10/19/05]◊
[Filed 11/30/07, Notice 9/26/07—published 12/19/07, effective 1/23/08]
[Filed 11/26/08, Notice 9/24/08—published 12/17/08, effective 1/21/09]
[Filed ARC 9328B (Notice ARC 9156B, IAB 10/20/10), IAB 1/12/11, effective 2/16/11]

◊ Two or more ARCs

CHAPTER 202
DISCIPLINE FOR PHYSICAL THERAPISTS AND PHYSICAL THERAPIST ASSISTANTS

[Prior to 3/6/02, see 645—200.10(272C) and 645—202.8(272C)]

645—202.1(148A) Definitions.

"Board" means the board of physical and occupational therapy.

"Discipline" means any sanction the board may impose upon licensees.

"Licensee" means a person licensed to practice as a physical therapist or a physical therapist assistant in Iowa.

645—202.2(272C) Grounds for discipline. The board may impose any of the disciplinary sanctions provided in rule 645—202.3(147,272C) when the board determines that the licensee is guilty of any of the following acts or offenses:

202.2(1) Fraud in procuring a license. Fraud in procuring a license includes, but is not limited to, an intentional perversion of the truth in making application for a license to practice in this state, which includes the following:

a. False representations of a material fact, whether by word or by conduct, by false or misleading allegations, or by concealment of that which should have been disclosed when making application for a license in this state; or

b. Attempting to file or filing with the board or the department of public health any false or forged diploma or certificate or affidavit or identification or qualification in making an application for a license in this state.

202.2(2) Professional incompetency. Professional incompetency includes, but is not limited to:

a. A substantial lack of knowledge or ability to discharge professional obligations within the scope of practice.

b. A substantial deviation from the standards of learning or skill ordinarily possessed and applied by other physical therapists or physical therapist assistants in the state of Iowa acting in the same or similar circumstances.

c. A failure to exercise the degree of care which is ordinarily exercised by the average physical therapist or physical therapist assistant acting in the same or similar circumstances.

d. Failure to conform to the minimal standard of acceptable and prevailing practice of the licensed physical therapist or licensed physical therapist assistant in this state.

e. Mental or physical inability reasonably related to and adversely affecting the licensee's ability to practice in a safe and competent manner.

f. Being adjudged mentally incompetent by a court of competent jurisdiction.

202.2(3) Knowingly making misleading, deceptive, untrue or fraudulent representations in the practice of physical therapy or engaging in unethical conduct or practice harmful or detrimental to the public. Proof of actual injury need not be established.

202.2(4) Practice outside the scope of the profession.

202.2(5) Use of untruthful or improbable statements in advertisements. Use of untruthful or improbable statements in advertisements includes, but is not limited to, an action by a licensee in making information or intention known to the public which is false, deceptive, misleading or promoted through fraud or misrepresentation.

202.2(6) Habitual intoxication or addiction to the use of drugs.

a. The inability of a licensee to practice with reasonable skill and safety by reason of the excessive use of alcohol on a continuing basis.

b. The excessive use of drugs which may impair a licensee's ability to practice with reasonable skill or safety.

202.2(7) Obtaining, possessing, attempting to obtain or possess, or administering controlled substances without lawful authority.

202.2(8) Falsification of patient records.

202.2(9) Acceptance of any fee by fraud or misrepresentation.

202.2(10) Negligence by the licensee in the practice of the profession. Negligence by the licensee in the practice of the profession includes a failure to exercise due care, including negligent delegation of duties or supervision of employees or other individuals, whether or not injury results; or any conduct, practice or conditions which impair the ability to safely and skillfully practice the profession.

202.2(11) Conviction of a crime related to the profession or occupation of the licensee or the conviction of any crime that would affect the licensee's ability to practice physical therapy. A copy of the record of conviction or plea of guilty shall be conclusive evidence.

202.2(12) Violation of a regulation, rule or law of this state, another state, or the United States which relates to the practice of physical therapy, including, but not limited to, the code of ethics found in rule 645—201.1(148A,272C).

202.2(13) Revocation, suspension, or other disciplinary action taken by a licensing authority of this state, another state, territory, or country; or failure of the licensee to report in writing such action within 30 days of the final action by the licensing authority. A stay by an appellate court shall not negate this requirement; however, if such disciplinary action is overturned or reversed by a court of last resort, the report shall be expunged from the records of the board.

202.2(14) Failure of a licensee or an applicant for licensure in this state to report any voluntary agreements restricting the individual's practice of physical therapy in another state, district, territory or country.

202.2(15) Failure to notify the board of a criminal conviction within 30 days of the action, regardless of the jurisdiction where it occurred.

202.2(16) Failure to notify the board within 30 days after occurrence of any judgment or settlement of a malpractice claim or action.

202.2(17) Engaging in any conduct that subverts or attempts to subvert a board investigation.

202.2(18) Failure to comply with a subpoena issued by the board, or failure to cooperate with an investigation of the board.

202.2(19) Failure to respond within 30 days of receipt of communication from the board which was sent by registered or certified mail.

202.2(20) Failure to comply with the terms of a board order or the terms of a settlement agreement or consent order.

202.2(21) Failure to pay costs assessed in any disciplinary action.

202.2(22) Submission of a false report of continuing education or failure to submit the required report of continuing education.

202.2(23) Failure to report another licensee to the board for any violations listed in these rules, pursuant to Iowa Code section 272C.9.

202.2(24) Knowingly aiding, assisting or advising a person to unlawfully practice physical therapy.

202.2(25) Failure to report a change of name or address within 30 days after it occurs.

202.2(26) Representing oneself as a licensed physical therapist or physical therapist assistant when one's license has been suspended or revoked, or when the license is on inactive status.

202.2(27) Permitting another person to use the licensee's license for any purpose.

202.2(28) Permitting an unlicensed employee or person under the licensee's control to perform activities that require a license.

202.2(29) Unethical conduct. In accordance with Iowa Code section 147.55(3), behavior (i.e., acts, knowledge, and practices) which constitutes unethical conduct may include, but need not be limited to, the following:

a. Verbally or physically abusing a patient, client or coworker.

b. Improper sexual contact with, or making suggestive, lewd, lascivious or improper remarks or advances to a patient, client or coworker.

c. Betrayal of a professional confidence.

d. Engaging in a professional conflict of interest.

202.2(30) Repeated failure to comply with standard precautions for preventing transmission of infectious diseases as issued by the Centers for Disease Control and Prevention of the United States Department of Health and Human Services.

202.2(31) Violation of the terms of an initial agreement with the impaired practitioner review committee or violation of the terms of an impaired practitioner recovery contract with the impaired practitioner review committee.
[**ARC 9328B**, IAB 1/12/11, effective 2/16/11]

645—202.3(147,272C) Method of discipline. The board has the authority to impose the following disciplinary sanctions:

1. Revocation of license.
2. Suspension of license until further order of the board or for a specific period.
3. Prohibit permanently, until further order of the board, or for a specific period the licensee's engaging in specified procedures, methods, or acts.
4. Probation.
5. Require additional education or training.
6. Require a reexamination.
7. Order a physical or mental evaluation, or order alcohol and drug screening within a time specified by the board.
8. Impose civil penalties not to exceed $1000.
9. Issue a citation and warning.
10. Such other sanctions allowed by law as may be appropriate.

645—202.4(272C) Discretion of board. The following factors may be considered by the board in determining the nature and severity of the disciplinary sanction to be imposed:

1. The relative serious nature of the violation as it relates to ensuring a high standard of professional care for the citizens of this state;
2. The facts of the particular violation;
3. Any extenuating facts or other countervailing considerations;
4. The number of prior violations or complaints;
5. The seriousness of prior violations or complaints;
6. Whether remedial action has been taken; and
7. Such other factors as may reflect upon the competency, ethical standards, and professional conduct of the licensee.

645—202.5(148A) Order for mental, physical, or clinical competency examination or alcohol or drug screening. Rescinded IAB 12/17/08, effective 1/21/09.

These rules are intended to implement Iowa Code chapters 147, 148A and 272C.

[Filed 2/13/02, Notice 10/3/01—published 3/6/02, effective 4/10/02]
[Filed 11/26/03, Notice 9/17/03—published 12/24/03, effective 1/28/04]
[Filed 8/22/05, Notice 6/22/05—published 9/14/05, effective 10/19/05]
[Filed 11/19/05, Notice 9/14/05—published 12/21/05, effective 1/25/06]
[Filed 2/17/06, Notice 12/21/05—published 3/15/06, effective 4/19/06]
[Filed 11/30/07, Notice 9/26/07—published 12/19/07, effective 1/23/08]
[Filed 11/26/08, Notice 9/24/08—published 12/17/08, effective 1/21/09]
[Filed ARC 9328B (Notice ARC 9156B, IAB 10/20/10), IAB 1/12/11, effective 2/16/11]

CHAPTER 203
CONTINUING EDUCATION FOR PHYSICAL THERAPISTS AND PHYSICAL THERAPIST ASSISTANTS

645—203.1(272C) Definitions. For the purpose of these rules, the following definitions shall apply:

"Active license" means a license that is current and has not expired.

"Audit" means the selection of licensees for verification of satisfactory completion of continuing education requirements during a specified time period.

"Board" means the board of physical and occupational therapy.

"Continuing education" means planned, organized learning acts designed to maintain, improve, or expand a licensee's knowledge and skills in order for the licensee to develop new knowledge and skills relevant to the enhancement of practice, education, or theory development to improve the safety and welfare of the public.

"Hour of continuing education" means at least 50 minutes spent by a licensee in actual attendance at and completion of an approved continuing education activity.

"Inactive license" means a license that has expired because it was not renewed by the end of the grace period. The category of "inactive license" may include licenses formerly known as lapsed, inactive, delinquent, closed, or retired.

"Independent study" means a subject/program/activity that a person pursues autonomously and that meets standards for approval criteria in the rules and includes a posttest.

"License" means license to practice.

"Licensee" means any person licensed to practice as a physical therapist or physical therapist assistant in the state of Iowa.

645—203.2(148A) Continuing education requirements.

203.2(1) The biennial continuing education compliance period shall extend for a two-year period that begins on the sixteenth day of the birth month and ends two years later on the fifteenth day of the birth month.

a. Requirements for physical therapist licensees. Each biennium, each person who is licensed to practice as a physical therapist in this state shall be required to complete a minimum of 40 hours of continuing education approved by the board; a minimum of 20 hours shall be clinical in nature.

b. Requirements for physical therapist assistant licensees. Each biennium, each person who is licensed to practice as a physical therapist assistant in this state shall be required to complete a minimum of 20 hours of continuing education approved by the board; a minimum of 10 hours shall be clinical in nature.

203.2(2) Requirements of new licensees. Those persons licensed for the first time shall not be required to complete continuing education as a prerequisite for the first renewal of their licenses. Continuing education hours acquired anytime from the initial licensing until the second license renewal may be used. The new licensee will be required to complete a minimum of 40 hours of continuing education per biennium for physical therapists and a minimum of 20 hours for physical therapist assistants each subsequent license renewal.

203.2(3) Hours of continuing education credit may be obtained by attending and participating in a continuing education activity. These hours must be in accordance with these rules.

203.2(4) No hours of continuing education shall be carried over into the next biennium except for a new licensee. A licensee whose license was reactivated during the current renewal compliance period may use continuing education earned during the compliance period for the first renewal following reactivation.

203.2(5) It is the responsibility of each licensee to finance the cost of continuing education.

[**ARC 9328B**, IAB 1/12/11, effective 2/16/11]

645—203.3(148A,272C) Standards.

203.3(1) *General criteria.* A continuing education activity which meets all of the following criteria is appropriate for continuing education credit if the continuing education activity:

a. Constitutes an organized program of learning which contributes directly to the professional competency of the licensee;

b. Pertains to subject matters which integrally relate to the practice of the profession;

c. Is conducted by individuals who have specialized education, training and experience by reason of which said individuals should be considered qualified concerning the subject matter of the program. At the time of audit, the board may request the qualifications of presenters;

d. Fulfills stated program goals, objectives, or both; and

e. Provides proof of attendance to licensees in attendance including:

(1) Date, location, course title, presenter(s);

(2) Number of program contact hours; and

(3) Certificate of completion or evidence of successful completion of the course provided by the course sponsor.

203.3(2) *Specific criteria.*

a. Licensees may obtain continuing education hours of credit by attending workshops, conferences, symposiums, electronically transmitted, live interactive conferences, and academic courses which relate directly to the professional competency of the licensee. Official transcripts indicating successful completion of academic courses which apply to the field of physical therapy will be necessary in order to receive the following continuing education credits:

1 academic semester hour = 15 continuing education hours of credit

1 academic trimester hour = 12 continuing education hours of credit

1 academic quarter hour = 10 continuing education hours of credit

b. Licensees may obtain continuing education hours of credit by teaching in an approved college, university, or graduate school. The licensee may receive credit on a one-time basis for the first offering of a course.

c. Continuing education hours of credit may be granted for any of the following activities not to exceed a maximum combined total of 20 hours for a physical therapist licensee and 10 hours for a physical therapist assistant licensee:

(1) Presenting professional programs which meet the criteria listed in this rule. Two hours of credit will be awarded for each hour of presentation. A course schedule or brochure must be maintained for audit.

(2) Authoring research or other activities, the results of which are published in a recognized professional publication. The licensee shall receive 5 hours of credit per page.

(3) Viewing videotaped presentations and electronically transmitted material that have a postcourse test if the following criteria are met:

1. There is a sponsoring group or agency;
2. There is a facilitator or program official present;
3. The program official is not the only attendee; and
4. The program meets all the criteria specified in this rule.

(4) Participating in home study courses that have a certificate of completion and a postcourse test.

(5) Participating in courses that have business-related topics: marketing, time management, government regulations, and other like topics.

(6) Participating in courses that have personal skills topics: career burnout, communication skills, human relations, and other like topics.

(7) Participating in courses that have general health topics: clinical research, CPR, child abuse reporting, and other like topics.

[**ARC 9328B**, IAB 1/12/11, effective 2/16/11]

645—203.4(148A,272C) Audit of continuing education report. Rescinded IAB 12/17/08, effective 1/21/09.

645—203.5(148A,272C) Automatic exemption. Rescinded IAB 12/17/08, effective 1/21/09.

645—203.6(272C) Continuing education exemption for disability or illness. Rescinded IAB 12/17/08, effective 1/21/09.

645—203.7(148A,272C) Grounds for disciplinary action. Rescinded IAB 12/17/08, effective 1/21/09.

645—203.8(272C) Continuing education exemption for disability or illness. Rescinded IAB 9/14/05, effective 10/19/05.

645—203.9(148A,272C) Reinstatement of inactive practitioners. Rescinded IAB 9/14/05, effective 10/19/05.

645—203.10(272C) Hearings. Rescinded IAB 9/14/05, effective 10/19/05.

These rules are intended to implement Iowa Code section 272C.2 and chapter 148A.

[Filed 11/9/00, Notice 7/26/00—published 11/29/00, effective 1/3/01]
[Filed 2/13/02, Notice 10/3/01—published 3/6/02, effective 4/10/02]
[Filed 8/22/05, Notice 6/22/05—published 9/14/05, effective 10/19/05]◊
[Filed 11/30/07, Notice 9/26/07—published 12/19/07, effective 1/23/08]
[Filed 11/26/08, Notice 9/24/08—published 12/17/08, effective 1/21/09]
[Filed ARC 9328B (Notice ARC 9156B, IAB 10/20/10), IAB 1/12/11, effective 2/16/11]

◊ Two or more ARCs

CHAPTER 207
CONTINUING EDUCATION FOR OCCUPATIONAL THERAPISTS AND OCCUPATIONAL THERAPY ASSISTANTS

645—207.1(148B) Definitions. For the purpose of these rules, the following definitions shall apply:

"Active license" means a license that is current and has not expired.

"Audit" means the selection of licensees for verification of satisfactory completion of continuing education requirements during a specified time period.

"Board" means the board of physical and occupational therapy.

"Continuing education" means planned, organized learning acts designed to maintain, improve, or expand a licensee's knowledge and skills in order for the licensee to develop new knowledge and skills relevant to the enhancement of practice, education, or theory development to improve the safety and welfare of the public.

"Hour of continuing education" means at least 50 minutes spent by a licensee in actual attendance at and completion of an approved continuing education activity.

"Inactive license" means a license that has expired because it was not renewed by the end of the grace period. The category of "inactive license" may include licenses formerly known as lapsed, inactive, delinquent, closed, or retired.

"Independent study" means a subject/program/activity that a person pursues autonomously and that meets standards for approval criteria in the rules and includes a posttest.

"License" means license to practice.

"Licensee" means any person licensed to practice as an occupational therapist or occupational therapy assistant in the state of Iowa.

645—207.2(272C) Continuing education requirements.

207.2(1) The biennial continuing education compliance period shall extend for a two-year period that begins on the sixteenth day of the licensee's birth month and ends two years later on the fifteenth day of the birth month.

a. Requirements for occupational therapist licensees. Each biennium, each person who is licensed to practice as an occupational therapist in this state shall be required to complete a minimum of 30 hours of continuing education approved by the board; a minimum of 15 hours shall be clinical in nature.

b. Requirements for occupational therapy assistant licensees. Each biennium, each person who is licensed to practice as an occupational therapy assistant in this state shall be required to complete a minimum of 15 hours of continuing education approved by the board; a minimum of 8 hours shall be clinical in nature.

207.2(2) Requirements of new licensees. Those persons licensed for the first time shall not be required to complete continuing education as a prerequisite for the first renewal of their licenses. Continuing education hours acquired anytime from the initial licensing until the second license renewal may be used. The new licensee will be required to complete a minimum of 30 hours of continuing education per biennium for occupational therapists and 15 hours for occupational therapy assistants each subsequent license renewal.

207.2(3) Hours of continuing education credit may be obtained by attending and participating in a continuing education activity. These hours must be in accordance with these rules.

207.2(4) With the exception of continuing education hours obtained by new licensees, no hours of continuing education shall be carried over into the next biennium. A licensee whose license was reactivated during the current renewal compliance period may use continuing education earned during the compliance period for the first renewal following reactivation.

207.2(5) It is the responsibility of each licensee to finance the cost of continuing education.

[**ARC 9328B**, IAB 1/12/11, effective 2/16/11]

645—207.3(148B,272C) Standards.

207.3(1) *General criteria.* A continuing education activity which meets all of the following criteria is appropriate for continuing education credit if the continuing education activity:

a. Constitutes an organized program of learning which contributes directly to the professional competency of the licensee;

b. Pertains to subject matters which integrally relate to the practice of the profession;

c. Is conducted by individuals who have specialized education, training and experience by reason of which said individuals should be considered qualified concerning the subject matter of the program. At the time of audit, the board may request the qualifications of presenters;

d. Fulfills stated program goals, objectives, or both; and

e. Provides proof of attendance to licensees in attendance including:

(1) Date, location, course title, presenter(s);

(2) Number of program contact hours; and

(3) Certificate of completion or evidence of successful completion of the course provided by the course sponsor.

207.3(2) *Specific criteria.*

a. Licensees may obtain continuing education hours of credit by attending workshops, conferences, symposiums, electronically transmitted, live interactive conferences, and academic courses which relate directly to the professional competency of the licensee. Official transcripts indicating successful completion of academic courses which apply to the field of occupational therapy will be necessary in order to receive the following continuing education credits:

1 academic semester hour = 15 continuing education hours of credit

1 academic trimester hour = 12 continuing education hours of credit

1 academic quarter hour = 10 continuing education hours of credit

b. Licensees may obtain continuing education hours of credit by teaching in an approved college, university, or graduate school. The licensee may receive credit on a one-time basis for the first offering of a course.

c. Continuing education hours of credit may be granted for any of the following activities not to exceed a maximum combined total of 15 hours for an occupational therapist licensee and 8 hours for an occupational therapy assistant licensee:

(1) Presenting professional programs which meet the criteria listed in this rule. Two hours of credit will be awarded for each hour of presentation. A course schedule or brochure must be maintained for audit.

(2) Authoring research or other activities, the results of which are published in a recognized professional publication. The licensee shall receive 5 hours of credit per page.

(3) Viewing videotaped presentations and electronically transmitted material that have a postcourse test if the following criteria are met:

1. There is a sponsoring group or agency;
2. There is a facilitator or program official present;
3. The program official is not the only attendee; and
4. The program meets all the criteria specified in this rule.

(4) Participating in home study courses that have a certificate of completion and a postcourse test.

(5) Participating in courses that have business-related topics: marketing, time management, government regulations, and other like topics.

(6) Participating in courses that have personal skills topics: career burnout, communication skills, human relations, and other like topics.

(7) Participating in courses that have general health topics: clinical research, CPR, child abuse reporting, and other like topics.

[**ARC 9328B**, IAB 1/12/11, effective 2/16/11]

645—207.4(148B,272C) Audit of continuing education report. Rescinded IAB 12/17/08, effective 1/21/09.

645—207.5(148B,272C) Automatic exemption. Rescinded IAB 12/17/08, effective 1/21/09.

645—207.6(272C) Continuing education exemption for disability or illness. Rescinded IAB 12/17/08, effective 1/21/09.

645—207.7(148B,272C) Grounds for disciplinary action. Rescinded IAB 12/17/08, effective 1/21/09.

645—207.8(272C) Continuing education exemption for disability or illness. Rescinded IAB 9/14/05, effective 10/19/05.

645—207.9(272C) Reinstatement of inactive practitioners. Rescinded IAB 9/14/05, effective 10/19/05.

645—207.10(272C) Hearings. Rescinded IAB 9/14/05, effective 10/19/05.

These rules are intended to implement Iowa Code section 272C.2 and chapter 148B.

[Filed 11/9/00, Notice 7/26/00—published 11/29/00, effective 1/3/01]
[Filed 2/14/02, Notice 10/3/01—published 3/6/02, effective 4/10/02]
[Filed 8/22/05, Notice 6/22/05—published 9/14/05, effective 10/19/05]◊
[Filed 11/30/07, Notice 9/26/07—published 12/19/07, effective 1/23/08]
[Filed 11/26/08, Notice 9/24/08—published 12/17/08, effective 1/21/09]
[Filed ARC 9328B (Notice ARC 9156B, IAB 10/20/10), IAB 1/12/11, effective 2/16/11]

◊ Two or more ARCs

CHAPTER 209
DISCIPLINE FOR OCCUPATIONAL THERAPISTS AND OCCUPATIONAL THERAPY ASSISTANTS

[Prior to 3/6/02, see 645—201.10(272C)]
[Prior to 12/24/03, see 645—Ch 208]

645—209.1(148B) Definitions.

"Board" means the board of physical and occupational therapy.

"Discipline" means any sanction the board may impose upon licensees.

"Licensee" means a person licensed to practice as an occupational therapist or an occupational therapy assistant in Iowa.

645—209.2(272C) Grounds for discipline. The board may impose any of the disciplinary sanctions provided in rule 645—209.3(147,272C) when the board determines that the licensee is guilty of any of the following acts or offenses:

209.2(1) Fraud in procuring a license. Fraud in procuring a license includes, but is not limited to, an intentional perversion of the truth in making application for a license to practice in this state, which includes the following:

a. False representations of a material fact, whether by word or by conduct, by false or misleading allegations, or by concealment of that which should have been disclosed when making application for a license in this state; or

b. Attempting to file or filing with the board or the department of public health any false or forged diploma or certificate or affidavit or identification or qualification in making an application for a license in this state.

209.2(2) Professional incompetency. Professional incompetency includes, but is not limited to:

a. A substantial lack of knowledge or ability to discharge professional obligations within the scope of practice.

b. A substantial deviation from the standards of learning or skill ordinarily possessed and applied by other occupational therapists or occupational therapy assistants in the state of Iowa acting in the same or similar circumstances.

c. A failure to exercise the degree of care which is ordinarily exercised by the average occupational therapist or occupational therapy assistant acting in the same or similar circumstances.

d. Failure to conform to the minimal standard of acceptable and prevailing practice of the licensed occupational therapist or licensed occupational therapy assistant in this state.

e. Mental or physical inability reasonably related to and adversely affecting the licensee's ability to practice in a safe and competent manner.

f. Being adjudged mentally incompetent by a court of competent jurisdiction.

209.2(3) Knowingly making misleading, deceptive, untrue or fraudulent representations in the practice of occupational therapy or engaging in unethical conduct or practice harmful or detrimental to the public. Proof of actual injury need not be established.

209.2(4) Practice outside the scope of the profession.

209.2(5) Use of untruthful or improbable statements in advertisements. Use of untruthful or improbable statements in advertisements includes, but is not limited to, an action by a licensee in making information or intention known to the public which is false, deceptive, misleading or promoted through fraud or misrepresentation.

209.2(6) Habitual intoxication or addiction to the use of drugs.

a. The inability of a licensee to practice with reasonable skill and safety by reason of the excessive use of alcohol on a continuing basis.

b. The excessive use of drugs which may impair a licensee's ability to practice with reasonable skill or safety.

209.2(7) Obtaining, possessing, attempting to obtain or possess, or administering controlled substances without lawful authority.

209.2(8) Falsification of patient records.

209.2(9) Acceptance of any fee by fraud or misrepresentation.

209.2(10) Negligence by the licensee in the practice of the profession. Negligence by the licensee in the practice of the profession includes a failure to exercise due care, including negligent delegation of duties or supervision of employees or other individuals, whether or not injury results; or any conduct, practice or conditions which impair the ability to safely and skillfully practice the profession.

209.2(11) Conviction of a crime related to the profession or occupation of the licensee or the conviction of any crime that would affect the licensee's ability to practice occupational therapy. A copy of the record of conviction or plea of guilty shall be conclusive evidence.

209.2(12) Violation of a regulation, rule or law of this state, another state, or the United States which relates to the practice of occupational therapy, including, but not limited to, the code of ethics found in rule 645—208.1(148B,272C).

209.2(13) Revocation, suspension, or other disciplinary action taken by a licensing authority of this state, another state, territory, or country; or failure of the licensee to report in writing such action within 30 days of the final action by the licensing authority. A stay by an appellate court shall not negate this requirement; however, if such disciplinary action is overturned or reversed by a court of last resort, the report shall be expunged from the records of the board.

209.2(14) Failure of a licensee or an applicant for licensure in this state to report any voluntary agreements restricting the individual's practice of occupational therapy in another state, district, territory or country.

209.2(15) Failure to notify the board of a criminal conviction within 30 days of the action, regardless of the jurisdiction where it occurred.

209.2(16) Failure to notify the board within 30 days after occurrence of any judgment or settlement of a malpractice claim or action.

209.2(17) Engaging in any conduct that subverts or attempts to subvert a board investigation.

209.2(18) Failure to comply with a subpoena issued by the board, or failure to cooperate with an investigation of the board.

209.2(19) Failure to respond within 30 days of receipt of communication from the board which was sent by registered or certified mail.

209.2(20) Failure to comply with the terms of a board order or the terms of a settlement agreement or consent order.

209.2(21) Failure to pay costs assessed in any disciplinary action.

209.2(22) Submission of a false report of continuing education or failure to submit the required report of continuing education.

209.2(23) Failure to report another licensee to the board for any violations listed in these rules, pursuant to Iowa Code section 272C.9.

209.2(24) Knowingly aiding, assisting or advising a person to unlawfully practice occupational therapy.

209.2(25) Failure to report a change of name or address within 30 days after it occurs.

209.2(26) Representing oneself as a licensed occupational therapist or occupational therapy assistant when one's license has been suspended or revoked, or when the license is on inactive status.

209.2(27) Permitting another person to use the licensee's license for any purpose.

209.2(28) Permitting an unlicensed employee or person under the licensee's control to perform activities that require a license.

209.2(29) Unethical conduct. In accordance with Iowa Code section 147.55(3), behavior (i.e., acts, knowledge, and practices) which constitutes unethical conduct may include, but need not be limited to, the following:

a. Verbally or physically abusing a patient, client or coworker.

b. Improper sexual contact with, or making suggestive, lewd, lascivious or improper remarks or advances to a patient, client or coworker.

c. Betrayal of a professional confidence.

d. Engaging in a professional conflict of interest.

209.2(30) Repeated failure to comply with standard precautions for preventing transmission of infectious diseases as issued by the Centers for Disease Control and Prevention of the United States Department of Health and Human Services.

209.2(31) Violation of the terms of an initial agreement with the impaired practitioner review committee or violation of the terms of an impaired practitioner recovery contract with the impaired practitioner review committee.

[**ARC 9328B**, IAB 1/12/11, effective 2/16/11]

645—209.3(147,272C) Method of discipline. The board has the authority to impose the following disciplinary sanctions:

1. Revocation of license.
2. Suspension of license until further order of the board or for a specific period.
3. Prohibit permanently, until further order of the board, or for a specific period the licensee's engaging in specified procedures, methods, or acts.
4. Probation.
5. Require additional education or training.
6. Require a reexamination.
7. Order a physical or mental evaluation, or order alcohol and drug screening within a time specified by the board.
8. Impose civil penalties not to exceed $1000.
9. Issue a citation and warning.
10. Such other sanctions allowed by law as may be appropriate.

645—209.4(272C) Discretion of board. The following factors may be considered by the board in determining the nature and severity of the disciplinary sanction to be imposed:

1. The relative serious nature of the violation as it relates to ensuring a high standard of professional care for the citizens of this state;
2. The facts of the particular violation;
3. Any extenuating facts or other countervailing considerations;
4. The number of prior violations or complaints;
5. The seriousness of prior violations or complaints;
6. Whether remedial action has been taken; and
7. Such other factors as may reflect upon the competency, ethical standards, and professional conduct of the licensee.

645—209.5(148B) Order for mental, physical, or clinical competency examination or alcohol or drug screening. Rescinded IAB 12/17/08, effective 1/21/09.

These rules are intended to implement Iowa Code chapters 147, 148B and 272C.

[Filed 2/14/02, Notice 10/3/01—published 3/6/02, effective 4/10/02]
[Filed 11/26/03, Notice 9/17/03—published 12/24/03, effective 1/28/04]
[Filed 8/22/05, Notice 6/22/05—published 9/14/05, effective 10/19/05]
[Filed 11/19/05, Notice 9/14/05—published 12/21/05, effective 1/25/06]
[Filed 2/17/06, Notice 12/21/05—published 3/15/06, effective 4/19/06]
[Filed 11/30/07, Notice 9/26/07—published 12/19/07, effective 1/23/08]
[Filed 11/26/08, Notice 9/24/08—published 12/17/08, effective 1/21/09]
[Filed ARC 9328B (Notice ARC 9156B, IAB 10/20/10), IAB 1/12/11, effective 2/16/11]

CHAPTER 2
PUBLIC RECORDS AND FAIR INFORMATION PRACTICES

The board of medicine hereby adopts, with the following exceptions and amendments, rules of the Governor's Task Force on Uniform Rules of Agency Procedure relating to public records and fair information practices which are printed in the first volume of the Iowa Administrative Code.

653—2.1(17A,22) Definitions. As used in this chapter:

"Agency." In lieu of the words "(official or body issuing these rules)", insert "Iowa Board of Medicine".

653—2.3(17A,22) Requests for access to records.

2.3(1) *Location of record.* In lieu of the words "insert agency head", insert "Iowa Board of Medicine" and in lieu of "insert agency name and address", insert "Iowa Board of Medicine, 400 S.W. 8th Street, Suite C, Des Moines, Iowa 50309-4686".

2.3(2) *Office hours.* In lieu of "insert customary office hours and if agency does not have customary office hours of at least thirty hours per week, insert hours specified in Iowa Code section 22.4)", insert "the agency's regular business hours, Monday through Friday from 8 a.m. to 4:30 p.m., excluding legal holidays".

2.3(7) *Fees.*

c. Search and supervisory fees. An hourly fee may be charged for actual agency expenses in supervising the examination and copying of requested records when the supervision time required is in excess of one-quarter hour. The custodian shall prominently post in agency offices the hourly fees to be charged for supervision of records during the examination and copying. That hourly fee shall not be in excess of the hourly wage of an agency employee who ordinarily would be appropriate and suitable to perform this supervisory function.

If the request requires research or if the record or records cannot reasonably be readily retrieved by the office, the requester will be advised of this fact. Reasonable search fees may be charged where appropriate. In addition, all costs for retrieval and copying of information stored in electronic storage systems may be charged to the requester.

653—2.6(17A,22) Procedure by which additions, dissents, or objections may be entered into certain records. In lieu of the words "designate office" insert the words "Iowa Board of Medicine, 400 S.W. 8th Street, Suite C, Des Moines, Iowa 50309-4686".

653—2.7(17A,22) Consent to disclosure by the subject of a confidential record. Insert at the end of the model rule the following new sentence. "This section does not allow the subject of a record which is confidential under Iowa Code section 272C.6(4) to consent to its release."

653—2.9(17A,22) Disclosures without the consent of the subject.

2.9(1) Open records are routinely disclosed without the consent of the subject.

2.9(2) To the extent allowed by law, disclosure of confidential records may occur without the consent of the subject. Following are instances where disclosure, if lawful, will generally occur without notice to the subject:

a. For a routine use as defined in subrule 2.10(1) or in any notice for a particular record system.

b. To a recipient who has provided the agency with advance written assurance that the record will be used solely as a statistical research or reporting record, provided that the record is transferred in a form that does not identify the subject.

c. To another government agency or to an instrumentality of any governmental jurisdiction within or under the control of the United States for a civil or criminal law enforcement activity if the activity is authorized by law, and if an authorized representative of such government agency or instrumentality has

submitted a written request to the agency specifying the record desired and the law enforcement activity for which the record is sought.

d. To an individual pursuant to a showing of compelling circumstances affecting the health or safety of an individual if a notice of the disclosure is transmitted to the last-known address of the subject.

e. To the legislative services agency.

f. Disclosures in the course of employee disciplinary proceedings.

g. In response to a court order or subpoena.

653—2.10(17A,22) Routine use.

2.10(1) Defined. "Routine use" means the disclosure of a record without the consent of the subject or subjects, for a purpose which is compatible with the purpose for which the record was collected. It includes disclosures required to be made by statute other than the public records law, Iowa Code chapter 22.

2.10(2) To the extent allowed by law, the following uses are considered routine uses of all agency records:

a. Disclosure to those officers, employees, investigators, members, and agents of the agency who have a need for the record in the performance of their duties. The custodian of the record may, upon request of any officer, employee, investigator, member, or agent, or on the custodian's own initiative, determine what constitutes legitimate need to use confidential records.

b. Disclosure of information indicating an apparent violation of the law to appropriate law enforcement authorities for investigation and possible criminal prosecution, civil court action, or regulatory order.

c. Disclosure to the department of inspections and appeals for matters in which it is performing services or functions on behalf of the agency.

d. Disclosure to the attorney general's office for use in performing its official function.

e. Transfers of information within the agency office and among board members; to other state agencies, boards, and departments; to federal agencies; to agencies in other states; Federation of State Medical Boards of the United States, Inc., American Medical Association, American Osteopathic Association, Iowa Medical Society, Iowa Osteopathic Medical Association; Educational Commission for Foreign Medical Graduates; Iowa Physician Assistant Society; Physician's Assistant Advisory Committee; approved Advanced Care Training facilities; or to local units of government as appropriate to carry out the agency's statutory authority.

f. Information released to the staff of federal or state entities for audit purposes or for purposes of determining whether the agency is operating a program lawfully.

g. Any disclosure specifically authorized by the statute under which the record was collected or maintained.

h. Transmittal to the district court of the record in a disciplinary hearing, pursuant to Iowa Code section 17A.19(6), regardless of whether the hearing was open or closed.

653—2.11(17A,22) Consensual disclosure of confidential records.

2.11(1) *Consent to disclosure by a subject individual.* To the extent permitted by law, the subject may consent in writing to board disclosure of confidential records as provided in rule 2.7(17A,22).

2.11(2) *Complaints to public officials.* A letter from a subject of a confidential record to a public official which seeks the official's intervention on behalf of the subject in a matter that involves the agency may to the extent permitted by law be treated as an authorization to release sufficient information about the subject to the official to resolve the matter. This rule does not allow the subject of a record which is confidential under Iowa Code section 272C.6(4) to consent to its release.

653—2.12(17A,22) Release to subject. The subject of a confidential record may file a written request to review confidential records about that person as provided in rule 653—2.6(17A,22). However, the agency need not release the following records to the subject:

1. The identity of a person providing information to the agency need not be disclosed directly or indirectly to the subject of the information when the information is authorized to be held confidential pursuant to Iowa Code sections 22.7(18) and 272C.6(4) or other provision of law.

2. All information in licensee complaint and investigation files maintained by the agency for purposes of licensee discipline are required to be withheld from the subject prior to the filing of formal charges and the notice of hearing in a licensee disciplinary proceeding.

3. Records need not be disclosed to the subject when they are the work product of an attorney or are otherwise privileged.

4. Peace officers' investigative reports may be withheld from the subject, except as required by the Iowa Code.

5. As otherwise authorized by law.

653—2.13(17A,22) Availability of records.

2.13(1) Open records. Agency records are open for public inspection and copying unless otherwise provided by rule or law.

2.13(2) Confidential records. The following records may be withheld from public inspection. Records are listed by category, according to the legal basis for withholding them from public inspection.

a. Tax records made available to the agency. (Iowa Code sections 422.70 and 422.72)

b. Records which are exempt from disclosure under Iowa Code section 22.7.

c. All complaint files, investigative files, other investigation reports, and other investigation information maintained by the agency for purposes of licensee discipline are confidential. (Iowa Code section 272C.6(4))

(1) This information may be released to the licensee once a licensee disciplinary proceeding has been initiated by the filing of formal charges and a notice of hearing. (Iowa Code section 272C.6)

(2) The agency may disclose the investigative file, reports and other information to appropriate licensing authorities within this state or the appropriate licensing authorities in another state, territory or country in which the licensee is licensed or has applied for a license. (Iowa Code section 272C.6(4))

(3) If the investigative information in the possession of the agency indicates a crime has been committed, the information shall be reported to the proper law enforcement agency. However, a final written decision and finding of fact in a disciplinary proceeding, including a decision referred to in Iowa Code section 272C.3, subsection 4, is a public record. (Iowa Code section 272C.6(4))

d. Information relating to the contents of an examination for licensure. (Iowa Code section 147.21)

e. Information relating to the results of an examination for licensure other than final score except for information about the results of an examination which is given to the person who took the examination. (Iowa Code section 147.21)

f. Information contained in professional substance abuse reports or other investigative reports relating to the abuse of controlled substances. (Iowa Code chapter 125 and section 228.2 and 42 U.S.C. 290 dd-2)

g. Minutes and tape recordings of portions of meetings held in closed session. (Iowa Code section 21.5(4))

h. The record of a disciplinary hearing which is closed to the public pursuant to Iowa Code section 272C.6(1). (Iowa Code section 21.5(4))

i. Identifying details in final orders, decisions and opinions to the extent required to prevent a clearly unwarranted invasion of personal privacy or trade secrets under Iowa Code section 17A.3(1)*"e."* (Iowa Code sections 21.5(3) and 21.5(18))

j. Records which constitute attorney work product or attorney-client communications or which are otherwise privileged. Attorney work product is confidential under Iowa Code sections 22.7(4), 622.10, and 622.11, Iowa R. Civ. P. 1.503, Fed. R. Civ. P. 26(b)(3), and case law. Attorney-client communications are confidential under Iowa Code sections 622.10 and 622.11, the rules of evidence, the Code of Professional Responsibility, and case law.

k. Any other information or records made confidential by law.

2.13(3) Authority to release confidential records. The agency may have discretion to disclose some confidential records which are exempt from disclosure under Iowa Code section 22.7 or other law. Any person may request permission to inspect records withheld from inspection under a statute which authorized limited or discretionary disclosure as provided in rule 653—2.4(17A,22). If the agency initially determines that it will release such records, the agency may where appropriate notify interested parties and withhold the records from inspection as provided in subrule 2.4(3).

2.13(4) Notwithstanding any statutory confidentiality provision, the board may share information with the child support recovery unit, the department of revenue, and the college student aid commission through manual or automated means for the sole purpose of identifying licensees or applicants subject to enforcement under Iowa Code chapter 252J, 261, 272D or 598.
[**ARC 9337B**, IAB 1/12/11, effective 2/16/11]

653—2.14(17A,22) Personally identifiable information. This rule describes the nature and extent of personally identifiable information which is collected, maintained, and retrieved by the agency by personal identifier in record systems as defined in rule 2.1(17A,22). For each record system, this rule describes the legal authority for the collection of that information and the means of storage of that information. The description also indicates whether the record system contains any confidential information, and includes the legal authority for confidentiality. The records systems maintained by the agency are:

2.14(1) *Records of agency disciplinary hearings.* These records contain information about licensees and certificants who are the subject of an agency disciplinary proceeding or other action. This information is collected by the agency pursuant to the authority granted in Iowa Code chapters 147, 147A, 148, 148C, and 272C. This information is stored electronically and on paper. The information contained in "records of closed" board hearings is confidential in whole or in part pursuant to Iowa Code sections 21.5(4) and 272C.6 or other provisions of the law.

2.14(2) *Information in complaint and investigation files maintained by the agency for purposes of licensee discipline.* This information is required to be kept confidential pursuant to Iowa Code section 272C.6(4). However, it may be released to the licensee once a disciplinary proceeding is commenced by the filing of formal charges and the notice of hearing.

2.14(3) *Information on nonlicensee investigation files maintained by the agency.* This information is a public record except to the extent that certain information may be exempt from disclosure under Iowa Code section 22.7 or other provision of the law.

2.14(4) *Licensee disciplinary proceedings.* The following information regarding licensee disciplinary proceedings:

a. Formal charges and notices of hearing.

b. Completed records of open disciplinary hearings. If a hearing is closed pursuant to Iowa Code section 272C.6(1), the record is confidential under Iowa Code section 21.5(4) or 272C.6.

c. Final written decisions imposing sanctions, including informal stipulations and settlements; or dismissing the charges, in whole or in part.

2.14(5) *Continuing education records.* These records contain educational information about persons licensed or certified by the agency. This information is collected pursuant to the authority granted in Iowa Code chapter 272C. This information is stored on paper only.

2.14(6) *Examination records.* These records contain information about applicants for any of the following examinations: United States Medical Licensing Examination (USMLE), Federation of State Medical Boards of the United States, Inc. - Federation Licensing Examination (FLEX), National Board of Medical Examiners, National Board of Osteopathic Medical Examiners, National Commission for the Certification of Acupuncturists, individual state or territorial medical licensing boards, Licentiate of the Medical Council of Canada examination (LMCC), Special Purpose Examination (SPEX), or other examination approved by the board. These records may also contain information about applicants who pursue licensure by endorsement, score transfer, or other means. The information is collected by the agency pursuant to the authority granted in Iowa Code chapters 147, 148, and 148E and is stored

electronically and on paper. Portions of the examination records are confidential in part pursuant to Iowa Code sections 22.7(1), 22.7(19), and 147.21.

2.14(7) *Investigative reports.* These records contain information about the subjects of board investigations and the activities of board investigators and agents. The records include a variety of attachments such as interviews; drug audits; medical records; pharmacy records; exhibits; police reports; and investigators' comments, conclusions, and recommendations. This information is collected by the agency pursuant to the authority granted in Iowa Code chapters 147, 147A, 148, and 148C. This information is stored electronically on microfilm and on paper. The information contained in these records is confidential in whole or in part pursuant to Iowa Code sections 22.7, 147.21, and 272C.6(4).

2.14(8) *Licensure and certification records.* These records contain information about doctors of medicine and surgery and osteopathic medicine and surgery; and registered acupuncturists who are licensed or registered by the agency. The information is collected by the agency pursuant to the authority granted in Iowa Code chapters 147, 148, and 148E and is stored on paper, in automated data processing systems, on microfiche, on CD-ROM, floppy disk, and in the state archives. These records may contain information which is confidential under subrule 2.13(2).

2.14(9) *Personnel records.* These records contain personal information about board members, registered peer review committee members, and staff. The files include payroll records, biographical information, medical information relating to disability, performance reviews and evaluations, disciplinary information, information required for tax withholding, information concerning employee benefits, affirmative action reports, and other information concerning the employer-employee relationship. This information is stored on paper and microfiche. The personal information contained in these records may be confidential in whole or in part pursuant to Iowa Code section 22.7.

2.14(10) *Routine probation supervision reports.* These reports contain information about licensees or certificants who have been placed on professional probation as the result of an official agency disciplinary action and contain information relating to the licensees' or certificants' compliance with the terms of probation and are confidential under Iowa Code section 272C.6.

2.14(11) *Routine consent agreement monitoring reports.* These reports contain information about licensees or certificants who have been granted licensure or certification under special terms and conditions through official agency action, and contain information relating to the licensees' or certificants' compliance with the terms of the consent agreement and are confidential under Iowa Code section 272C.6.

653—2.15(17A,22) Other groups of records. This rule describes groups of records maintained by the agency other than record systems as defined in rule 653—2.1(17A,22). These records are routinely available to the public. The agency's files of these records may contain confidential information as discussed in rule 653—2.13(17A,22). These records may contain information about individuals. These records include:

2.15(1) *Agency calendars, agenda, news releases, statistical reports and compilations, newsletters, publications, correspondence, and other information intended for the public.* These records may contain information about individuals, including board members and staff. This information is stored on paper only.

2.15(2) *Minutes of open meetings of the agency.* These records contain information about people who participate in board meetings. This information is collected pursuant to Iowa Code section 21.3. This information is stored electronically and on paper.

2.15(3) *Records of board rule-making proceedings.* These records may contain information about individuals making written or oral comments on rules proposed by the agency. This information is collected pursuant to Iowa Code section 17A.4. This information is stored electronically and on paper.

2.15(4) *Board decisions, findings of fact, final orders, advisory opinions, and other statements of law, policy, or declaratory rulings issued by the agency in the performance of its function.* These records are open to the public except for information that is confidential according to rule 653—2.13(17A,22). This information is stored on paper and on microfilm.

2.15(5) *Other records*. The agency maintains other records which do not generally contain information pertaining to individuals. These records are routinely open to the public. These records include but are not limited to:

a. Financial reports pertaining to the agency's budget including its revenue and expenses. This information is stored electronically and on paper.

b. Blank forms utilized by the agency and its staff in the performance of its function. This information is stored on paper only.

c. Grant proposals and applications submitted by, on behalf of, or in conjunction with the agency for the purpose of performing the agency's function or furthering its goals and objectives. This information is stored on paper only.

d. A record inventory of all categories of information and records maintained by or on behalf of the board. This inventory is stored on paper only.

653—2.16(17A,22) Data processing system. The agency does not currently have a data processing system which matches, collates, or permits the comparison of personally identifiable information in one record system with personally identifiable information in another record system.

653—2.17(17A,22) Applicability.

2.17(1) This chapter implements Iowa Code section 22.11 by establishing agency policies and procedures for the maintenance of records.

2.17(2) This chapter does not:

1. Require the agency to index or retrieve records which contain information about individuals by that person's name or other personal identifier.
2. Make available to the general public records which would otherwise not be available under the public records law, Iowa Code chapter 22.
3. Govern the maintenance or disclosure of, notification of or access to, records in the possession of the agency which are governed by rules of another board or agency.
4. Apply to guarantees, including local governments or subdivisions thereof, administering state-funded programs.
5. Make available records compiled by the agency in reasonable anticipation of court litigation or formal administrative disciplinary proceedings. The availability of such records to the general public or to any subject individual or party to such litigation or proceedings shall be governed by applicable constitutional principles, statutes, rules of discovery, evidentiary privileges, and applicable rules of the agency.

These rules are intended to implement Iowa Code section 22.11.

[Filed 5/4/88, Notice 3/23/88—published 5/18/88, effective 6/22/88]
[Filed 2/23/96, Notice 1/3/96—published 3/13/96, effective 4/17/96]
[Filed 5/2/97, Notice 3/12/97—published 5/21/97, effective 6/25/97]
[Filed 12/1/00, Notice 10/18/00—published 12/27/00, effective 1/31/01]
[Filed 5/3/06, Notice 2/15/06—published 5/24/06, effective 6/28/06]
[Filed 9/18/08, Notice 8/13/08—published 10/8/08, effective 11/12/08]
[Filed ARC 9337B (Notice ARC 9089B, IAB 9/22/10), IAB 1/12/11, effective 2/16/11]

CHAPTER 6
NURSING PRACTICE FOR REGISTERED NURSES/LICENSED PRACTICAL NURSES

655—6.1(152) Definitions.

"Accountability" means being obligated to answer for one's acts, including the act of supervision.

"Advanced registered nurse practitioner (ARNP)" means a nurse with current licensure as a registered nurse in Iowa or who is licensed in another state and recognized for licensure in this state pursuant to the nurse licensure compact contained in 2000 Iowa Acts, House File 2105, section 8, and is also registered in Iowa to practice in an advanced role. The ARNP is prepared for an advanced role by virtue of additional knowledge and skills gained through a formal advanced practice education program of nursing in a specialty area approved by the board. In the advanced role, the nurse practices nursing assessment, intervention, and management within the boundaries of the nurse-client relationship. Advanced nursing practice occurs in a variety of settings, within an interdisciplinary health care team, which provide for consultation, collaborative management, or referral. The ARNP may perform selected medically delegated functions when a collaborative practice agreement exists.

"Basic nursing education" means a nursing program preparing a person for initial licensure to practice nursing as a registered nurse or licensed practical nurse.

"Board" as used in this chapter means the Iowa board of nursing.

"Certified clinical nurse specialist" means an ARNP prepared at the master's level who possesses evidence of current certification as a clinical specialist in an area of nursing practice by a national professional nursing association as approved by the board.

"Certified nurse-midwife" means an ARNP educated in the disciplines of nursing and midwifery who possesses evidence of current certification by a national professional nursing association approved by the board. The certified nurse-midwife is authorized to manage the care of normal newborns and women, antepartally, intrapartally, postpartally or gynecologically.

"Certified nurse practitioner" means an ARNP educated in the disciplines of nursing who has advanced knowledge of nursing, physical and psychosocial assessment, appropriate interventions, and management of health care, and who possesses evidence of current certification by a national professional nursing association approved by the board.

"Certified registered nurse anesthetist" means an ARNP educated in the disciplines of nursing and anesthesia who possesses evidence of current certification by a national professional nursing association approved by the board.

"Competence in nursing" means having the knowledge and the ability to perform, skillfully and proficiently, the functions within the role of the licensed nurse.

"Expanded intravenous therapy certification course" means the Iowa board of nursing course required for licensed practical nurses to perform procedures related to the expanded scope of practice of intravenous therapy.

"Midline catheter" means a long peripheral catheter in which the distal end resides in the mid to upper arm, but the tip terminates no further than the axilla.

"Minimum standards" means standards of practice that interpret the legal definition of nursing as well as provide criteria against which violations of the law can be determined.

"Nursing diagnosis" means a judgment made by a registered nurse, following a nursing assessment of individuals and groups about actual or potential responses to health problems, which forms the basis for determining effective nursing interventions.

"Nursing facility" means an institution as defined in Iowa Code chapter 135C. This definition does not include acute care settings.

"Nursing process" means ongoing assessment, nursing diagnosis, planning, intervention, and evaluation.

"Peripheral intravenous catheter" means a catheter three inches or less in length.

"Peripherally inserted central catheter" means a soft flexible central venous catheter inserted into an extremity and advanced until the tip is positioned in the vena cava.

"Proximate area" means that the registered nurse analyzes the qualifications of the licensed practical nurse in relationship to nursing needs of the client in determining the appropriate distance within the building and the time necessary to be readily available to the licensed practical nurse.

"Unlicensed assistive personnel" is an individual who is trained to function in an assistive role to the registered nurse and licensed practical nurse in the provision of nursing care activities as delegated by the registered nurse or licensed practical nurse.

This rule is intended to implement Iowa Code chapter 152.

[**ARC 9329B**, IAB 1/12/11, effective 2/16/11]

655—6.2(152) Minimum standards of nursing practice for registered nurses.

6.2(1) The registered nurse shall recognize and understand the legal implications within the scope of nursing practice. The scope of nursing practice considered to be minimum standards of nursing practice shall not be interpreted to include those practices currently ascribed to the advanced registered nurse practitioner.

6.2(2) The registered nurse shall utilize the nursing process in the practice of nursing, consistent with accepted and prevailing practice. The nursing process is ongoing and includes:

a. Nursing assessments about the health status of an individual or group.

b. Formulation of a nursing diagnosis based on analysis of the data from the nursing assessment.

c. Planning of nursing care which includes determining goals and priorities for actions which are based on the nursing diagnosis.

d. Nursing interventions implementing the plan of care.

e. Evaluation of the individual's or group's status in relation to established goals and the plan of care.

6.2(3) The registered nurse shall conduct nursing practice by respecting the rights of an individual or group.

6.2(4) The registered nurse shall conduct nursing practice by respecting the confidentiality of an individual or group, unless obligated to disclose under proper authorization or legal compulsion.

6.2(5) The registered nurse shall recognize and understand the legal implications of accountability. Accountability includes but need not be limited to the following:

a. Performing or supervising those activities and functions which require the knowledge and skill level currently ascribed to the registered nurse and seeking assistance when activities and functions are beyond the licensee's scope of preparation.

b. Assigning and supervising persons performing those activities and functions which do not require the knowledge and skill level currently ascribed to the registered nurse.

c. Using professional judgment in assigning and delegating activities and functions to unlicensed assistive personnel. Activities and functions which are beyond the scope of practice of the licensed practical nurse may not be delegated to unlicensed assistive personnel. For the purposes of this paragraph, "unlicensed assistive personnel" does not include certified emergency medical services personnel authorized under Iowa Code chapter 147A performing nonlifesaving procedures for which those individuals have been certified and which are designated in a written job description, after the patient is observed by a registered nurse.

d. Supervising, among other things, includes any or all of the following:

(1) Direct observation of a function or activity.

(2) Assumption of overall responsibility for assessing, planning, implementing, and evaluating nursing care.

(3) Delegation of nursing tasks while retaining accountability.

(4) Determination that nursing care being provided is adequate and delivered appropriately.

e. Executing the regimen prescribed by a physician. In executing the medical regimen as prescribed by the physician, the registered nurse shall exercise professional judgment in accordance with minimum standards of nursing practice as defined in these rules. If the medical regimen prescribed by the physician is not carried out, based on the registered nurse's professional judgment, accountability shall include but need not be limited to the following:

(1) Timely notification of the physician who prescribed the medical regimen that the order(s) was not executed and reason(s) for same.

(2) Documentation on the medical record that the physician was notified and reason(s) for not executing the order(s).

f. Wearing identification which clearly identifies the nurse as a registered nurse when providing direct patient care unless wearing identification creates a safety or health risk for either the nurse or the patient.

655—6.3(152) Minimum standards of practice for licensed practical nurses.

6.3(1) The licensed practical nurse shall recognize and understand the legal implications within the scope of nursing practice. The licensed practical nurse shall perform services in the provision of supportive or restorative care under the supervision of a registered nurse or physician as defined in the Iowa Code.

6.3(2) The licensed practical nurse shall participate in the nursing process, consistent with accepted and prevailing practice, by assisting the registered nurse or physician. The licensed practical nurse may assist the registered nurse in monitoring, observing and reporting reactions to therapy.

6.3(3) The licensed practical nurse shall not perform any activity requiring the knowledge and skill ascribed to the registered nurse, including:

a. The initiation of or assessment related to procedures/therapies requiring the knowledge or skill level ascribed to the registered nurse.

b. The initiation of intravenous solutions, intravenous medications and blood components.

c. The administration of medicated intravenous solutions, intravenous medications and blood components.

d. The initiation or administration of medications requiring the knowledge or skill level currently ascribed to the registered nurse.

6.3(4) A licensed practical nurse, under the supervision of a registered nurse, may engage in the limited scope of practice of intravenous therapy. The licensed practical nurse shall be educated and have documentation of competency in the limited scope of practice of intravenous therapy. Limited scope of practice of intravenous therapy may include:

a. Addition of intravenous solutions without adding medications to established peripheral intravenous sites.

b. Regulation of the rate of nonmedicated intravenous solutions to established peripheral intravenous sites.

c. Administration of maintenance doses of analgesics via the patient-controlled analgesia pump set at a lock-out interval to established peripheral intravenous sites.

d. Discontinuation of peripheral intravenous therapy.

e. Administration of a prefilled heparin or saline syringe flush, prepackaged by the manufacturer or premixed and labeled by a registered pharmacist or registered nurse, to an established peripheral lock, in a licensed hospital, a nursing facility or a certified end-stage renal dialysis unit.

6.3(5) When nursing tasks are delegated by the registered nurse to the licensed practical nurse in a certified end-stage renal dialysis unit, the facility must have a written policy that defines the practice and written verification of the education and competency of the licensed practical nurse in accordance with the facility's written policy. Nursing tasks which may be delegated to the licensed practical nurse for the sole purpose of hemodialysis treatment include:

a. Initiation and discontinuation of the hemodialysis treatment utilizing any of the following established vascular accesses: central line catheter, arteriovenous fistula, graft.

b. Administration, during hemodialysis treatment, of local anesthetic prior to cannulation of the vascular access site.

c. Administration of prescribed dosages of heparin solution or saline solution utilized in the initiation and discontinuation of hemodialysis.

d. Administration, during hemodialysis treatment via the extracorporeal circuit, of the routine intravenous medications erythropoietin, Vitamin D Analog, intravenous antibiotic solutions prepackaged

by the manufacturer or premixed and labeled by a registered pharmacist or registered nurse, and iron, excluding any iron preparation that requires a test dose. The registered nurse shall administer the first dose of erythopoietin, Vitamin D Analog, antibiotics, and iron.

6.3(6) The licensed practical nurse may provide nursing care in an acute care setting. When the nursing care provided by the licensed practical nurse in an acute care setting requires the knowledge and skill level currently ascribed to the registered nurse, a registered nurse or physician must be present in the proximate area. Acute care settings requiring the knowledge and skill ascribed to the registered nurse include, but are not limited to:

a. Units where care of the unstable, critically ill, or critically injured individual is provided.

b. General medical-surgical units.

c. Emergency departments.

d. Operating rooms. (A licensed practical nurse may assist with circulating duties when supervised by a registered nurse circulating in the same room.)

e. Postanesthesia recovery units.

f. Hemodialysis units.

g. Labor and delivery/birthing units.

h. Mental health units.

6.3(7) The licensed practical nurse may provide nursing care in a non-acute care setting. When the nursing care provided by the licensed practical nurse in a non-acute care setting requires the knowledge and skill level currently ascribed to the registered nurse, the registered nurse or physician must be present in the proximate area. The non-acute care settings requiring the knowledge and skill level ascribed to the registered nurse include, but are not limited to:

a. Community health. (Subrules 6.6(1) and 6.6(4) are exceptions to the "proximate area" requirement.)

b. School nursing. (Subrules 6.6(2) and 6.6(3) are exceptions to the "proximate area" requirement.)

c. Occupational nursing.

d. Correctional facilities.

e. Community mental health nursing.

6.3(8) The licensed practical nurse shall conduct nursing practice by respecting the rights of an individual or group.

6.3(9) The licensed practical nurse shall conduct nursing practice by respecting the confidentiality of an individual or group, unless obligated to disclose under proper authorization or legal compulsion.

6.3(10) The licensed practical nurse shall recognize and understand the legal implications of accountability. Accountability includes but need not be limited to the following:

a. Performing those activities and functions which require the knowledge and skill level currently ascribed to the licensed practical nurse and seeking assistance when activities and functions are beyond the licensee's scope of preparation.

b. Accepting responsibility for performing assigned and delegated functions and informing the registered nurse when assigned and delegated functions are not executed.

c. Executing the medical regimen prescribed by a physician. In executing the medical regimen as prescribed by the physician, the licensed practical nurse shall exercise prudent judgment in accordance with minimum standards of nursing practice as defined in these rules. If the medical regimen prescribed by the physician is not carried out based on the licensed practical nurse's prudent judgment, accountability shall include but need not be limited to the following:

(1) Timely notification of the physician who prescribed the medical regimen that said order(s) was not executed and reason(s) for same.

(2) Documentation on the medical record that the physician was notified and reason(s) for not executing the order(s).

d. Wearing identification which clearly identifies the nurse as a licensed practical nurse when providing direct patient care unless wearing identification creates a safety or health risk for either the nurse or the patient.

This rule is intended to implement Iowa Code chapters 152 and 152E.
[**ARC 9329B**, IAB 1/12/11, effective 2/16/11]

655—6.4(152) Additional acts which may be performed by registered nurses.

6.4(1) A registered nurse shall be permitted to practice as a diagnostic radiographer while under the supervision of a licensed practitioner provided that appropriate training standards for use of radiation-emitting equipment are met as outlined in 641—42.1(136C).

6.4(2) A registered nurse, licensed pursuant to Iowa Code chapter 152, may staff an authorized ambulance, rescue, or first response service provided the registered nurse can document equivalency through education and additional skills training essential in the delivery of out-of-hospital emergency care. The equivalency shall be accepted when documentation has been reviewed and approved at the local level by the medical director of the ambulance, rescue, or first response service in accordance with the form adopted by the Iowa department of public health bureau of emergency medical services. An exception to this subrule is the registered nurse who accompanies and is responsible for a transfer patient.

This rule is intended to implement Iowa Code section 147A.12 and chapters 136C and 152.

655—6.5(152) Additional acts which may be performed by licensed practical nurses.

6.5(1) A licensed practical nurse shall be permitted to supervise unlicensed assistive personnel under the provisions of Iowa Code section 152.1(4)*"b."*

a. Supervision, among other things, includes any or all of the following:

(1) Direct observation of a function or activity.

(2) Delegation of nursing tasks while retaining accountability.

(3) Determination that nursing care being provided is adequate and delivered appropriately.

b. Supervision shall be in accordance with the following:

(1) A licensed practical nurse working under the supervision of a registered nurse shall be permitted to supervise in an intermediate care facility for the mentally retarded or in a residential health care setting.

(2) A licensed practical nurse working under the supervision of a registered nurse shall be permitted to supervise in a nursing facility.

The licensed practical nurse shall be required to complete a curriculum which has been approved by the board and designed specifically for the supervision role of the licensed practical nurse in a nursing facility. The course must be presented by a board-approved nursing program or an approved provider of continuing education. Documentation of the completion of the curriculum as outlined in this subparagraph shall be maintained by the licensed practical nurse.

(3) A licensed practical nurse shall be entitled to supervise without the educational requirement outlined in subparagraph 6.5(1)*"b"*(2) if the licensed practical nurse was performing in a supervisory role on or before October 6, 1982. The licensed practical nurse being employed in a supervisory role after the enactment of these rules shall complete the curriculum outlined in subparagraph 6.5(1)*"b"*(2) within six months of employment.

(4) A licensed practical nurse working under the supervision of a registered nurse may direct the activities of other licensed practical nurses and unlicensed assistive personnel in an acute care setting in giving care to individuals assigned to the licensed practical nurse. The registered nurse must be in the proximate area.

6.5(2) A licensed practical nurse shall be permitted to practice as a diagnostic radiographer while under the supervision of a licensed practitioner provided that appropriate training standards for use of radiation-emitting equipment are met as outlined in 641—42.1(136C).

6.5(3) A licensed practical nurse shall be permitted to perform, in addition to the functions set forth in subrule 6.3(4), procedures related to the expanded scope of practice of intravenous therapy upon completion of the board-approved expanded intravenous therapy certification course.

6.5(4) To be eligible to enroll in the course, the licensed practical nurse shall:

a. Hold a current unrestricted Iowa license or an unrestricted license in another state recognized for licensure in this state pursuant to the nurse licensure compact contained in Iowa Code chapter 152E.

b. Have documentation of 1040 hours of practice as a licensed practical nurse.

c. Be practicing in a licensed hospital, a nursing facility or a certified end-stage renal dialysis unit whose policies allow the licensed practical nurse to perform procedures related to the expanded scope of practice of intravenous therapy.

6.5(5) The course must be offered by an approved Iowa board of nursing provider of nursing continuing education. Documentation of course completion shall be maintained by the licensed practical nurse and employer.

6.5(6) The board-approved course shall incorporate the responsibilities of the licensed practical nurse when providing intravenous therapy via a peripheral intravenous catheter, a midline catheter and a peripherally inserted central catheter (PICC) to children, adults and elderly adults. When providing intravenous therapy, the LPN shall be under the supervision of a registered nurse. Procedures which may be performed if delegated by the registered nurse are as follows:

a. Initiation of a peripheral intravenous catheter for continuous or intermittent therapy using a catheter not to exceed three inches in length.

b. Administration, via a peripheral intravenous catheter, midline catheter, and a PICC line, of premixed electrolyte solutions or premixed vitamin solutions. The first dose shall be administered by the registered nurse. The solutions must be prepackaged by the manufacturer or premixed and labeled by a registered pharmacist or registered nurse.

c. Administration, via a peripheral intravenous catheter, midline catheter, and a PICC line, of solutions containing potassium chloride that do not exceed 40 meq per liter and that do not exceed a dose of 10 meq per hour. The first dose shall be administered by the registered nurse. The solutions must be prepackaged by the manufacturer or premixed and labeled by a registered pharmacist or registered nurse.

d. Administration, via a peripheral intravenous catheter, midline catheter, and a PICC line, of intravenous antibiotic solutions prepackaged by the manufacturer or premixed and labeled by a registered pharmacist or registered nurse. The first dose shall be administered by the registered nurse.

e. Maintenance of the patency of a peripheral intravenous catheter, midline catheter, and a PICC line with a prefilled heparin or saline syringe flush, prepackaged by the manufacturer or premixed by a registered pharmacist or registered nurse.

f. Changing the dressing of a midline catheter and a PICC line per sterile technique.

6.5(7) Procedures which shall not be delegated by the registered nurse to the licensed practical nurse are as follows:

a. Initiation and discontinuation of a midline catheter or a peripherally inserted central catheter (PICC).

b. Administration of medication by bolus or IV push except maintenance doses of analgesics via a patient-controlled analgesia pump set at a lock-out interval.

c. Administration of blood and blood products, vasodilators, vasopressors, oxytoxics, chemotherapy, colloid therapy, total parenteral nutrition, anticoagulants, antiarrhythmics, thrombolytics, and solutions with a total osmolarity of 600 or greater.

d. Provision of intravenous therapy to a client under the age of 12 or any client weighing less than 80 pounds, with the exception of those activities authorized in the limited scope of practice found in subrule 6.3(4).

e. Provision of intravenous therapy in any other setting except a licensed hospital, a nursing facility and a certified end-stage renal dialysis unit, with the exception of those activities authorized in the limited scope of practice found in subrule 6.3(4).

This rule is intended to implement Iowa Code chapters 136C and 152.

[**ARC 9329B**, IAB 1/12/11, effective 2/16/11]

655—6.6(152) Specific nursing practice for licensed practical nurses.

6.6(1) The licensed practical nurse shall be permitted to provide supportive and restorative care in the home setting under the supervision of a registered nurse, as defined in subrule 6.2(5), or a physician. When the licensed practical nurse provides care under the supervision of the registered nurse, the initial assessment and ongoing application of the nursing process shall be provided by the registered nurse.

6.6(2) The licensed practical nurse shall be permitted to provide supportive and restorative care to a specific student in the school setting in accordance with the student's health plan when under the supervision of and as delegated by the registered nurse employed by the school district.

6.6(3) The licensed practical nurse shall be permitted to provide supportive and restorative care in a Head Start program under the supervision of a registered nurse, as defined in subrule 6.2(5), or a physician if the licensed practical nurse were in this position prior to July 1, 1985.

6.6(4) The licensed practical nurse shall be permitted to provide supportive and restorative care in a camp setting under the supervision of a registered nurse, as defined in subrule 6.2(5), or a physician. When the licensed practical nurse provides care under the supervision of the registered nurse, the initial assessment and ongoing application of the nursing process are performed by the registered nurse. The licensed practical nurse is responsible for requesting registered nurse consultation as needed.

6.6(5) The licensed practical nurse shall be permitted to provide supportive and restorative care in a county jail facility or municipal holding facility operating under the authority provided by Iowa Code chapter 356. The supportive and restorative care provided by the licensed practical nurse in such facilities shall be performed under the supervision of a registered nurse, as defined in subrule 6.2(5). The registered nurse shall perform the initial assessment and ongoing application of the nursing process. The registered nurse shall be available 24 hours per day by teleconferencing equipment, and the time necessary to be readily available on site to the licensed practical nurse shall be no greater than ten minutes. This exception to the proximate area requirement is limited to a county jail facility or municipal holding facility operating under the authority of Iowa Code chapter 356 and shall not apply in any other correctional facility.

6.6(6) The licensed practical nurse shall be permitted to conduct height, weight and hemoglobin screening and record responses to health questions asked in a standardized questionnaire under the supervision of a registered nurse in a Women, Infants and Children (WIC) clinic. A registered nurse employed by or under contract to the WIC agency will assess the competency of the licensed practical nurse to perform these functions and will be available for consultation. The licensed practical nurse is responsible for performing under the scope of practice for licensed practical nurses and requesting registered nurse consultation as needed. This exception to the proximate area requirement is limited to WIC clinics and to the services permitted in this subrule.

This rule is intended to implement Iowa Code sections 17A.3 and 152.1.

655—6.7(152) Specific nursing practice for registered nurses. A registered nurse, while circulating in the operating room, shall provide supervision only to persons in the same operating room.

This rule is intended to implement Iowa Code section 152.1.

[Filed 3/11/81, Notice 12/10/80—published 4/1/81, effective 5/6/81[1]]
[Filed emergency 12/2/81—published 12/23/81, effective 12/2/81]
[Filed 2/17/82, Notice 12/23/81—published 3/17/82, effective 4/21/82[2]]
[Filed 6/17/82, Notice 5/12/82—published 7/7/82, effective 8/11/82]
[Filed 8/13/82, Notices 3/17/82, 6/9/82—published 9/1/82, effective 10/6/82]
[Filed emergency 7/29/83—published 8/17/83, effective 7/29/83]
[Filed 10/21/83, Notice 8/17/83—published 11/9/83, effective 12/14/83]
[Filed 7/26/84, Notice 5/23/84—published 8/15/84, effective 7/1/85][3]
[Filed 1/22/85, Notice 12/5/84—published 2/13/85, effective 3/20/85]
[Filed without Notice 7/19/85—published 8/14/85, effective 9/18/85]
[Filed 11/27/85, Notice 10/9/85—published 12/18/85, effective 1/22/86]
[Filed 1/30/87, Notice 12/3/86—published 2/25/87, effective 4/1/87]
[Filed emergency 7/29/87—published 8/26/87, effective 7/29/87]
[Filed 4/1/88, Notice 2/24/88—published 4/20/88, effective 5/25/88]

[Filed 9/18/91, Notice 7/24/91—published 10/16/91, effective 11/20/91]
[Filed 12/9/92, Notice 10/14/92—published 1/6/93, effective 2/10/93[4]]
[Filed 3/20/97, Notice 1/1/97—published 4/9/97, effective 5/14/97]
[Filed 9/17/98, Notice 7/15/98—published 10/7/98, effective 11/11/98]
[Filed emergency 6/9/00—published 6/28/00, effective 6/30/00]
[Filed 6/9/00, Notice 4/5/00—published 6/28/00, effective 8/2/00]
[Filed 9/15/00, Notice 6/28/00—published 10/4/00, effective 11/8/00]
[Filed 9/15/00, Notice 7/12/00—published 10/4/00, effective 11/8/00]
[Filed 9/28/01, Notice 6/27/01—published 10/17/01, effective 11/21/01]
[Filed 6/6/03, Notice 4/2/03—published 6/25/03, effective 7/30/03]◊
[Filed ARC 9329B (Notice ARC 8930B, IAB 7/14/10), IAB 1/12/11, effective 2/16/11]

◊ Two or more ARCs

1 Effective date of 5/6/81 delayed 70 days by the Administrative Rules Review Committee [Published IAB 4/29/81]. Effective date of Chapter 6 delayed by the Administrative Rules Review Committee 45 days after convening of the next General Assembly pursuant to §17A.8(9) [Published IAB 8/5/81].

2 Effective date of 4/21/82 delayed 70 days by the Administrative Rules Review Committee [Published IAB 4/28/82]. Delay lifted by committee on June 9, 1982.

3 Amendments to 6.3(5), paragraphs *"g"* and *"h,"* and 6.6 effective 7/1/85, IAB 8/15/84.

4 Effective date delayed until adjournment of the 1993 General Assembly by the Administrative Rules Review Committee at its meeting held February 8, 1993; subrule 6.4(2) nullified by 1993 Iowa Acts, HJR 17, effective April 23, 1993.

CHAPTER 177
MIXED MARTIAL ARTS
[Prior to 10/21/98, see 347—Ch 101]
[Prior to 8/16/06, see 875—Ch 101]

875—177.1(90A) Definitions. The definitions contained in Iowa Code chapter 90A as amended by 2010 Iowa Acts, Senate File 2286, and the definitions in this rule shall apply to this chapter.

"Complimentary tickets," as used in Iowa Code section 90A.9, means tickets that are sold for less than 50 percent of the minimum price available to the general public and tickets for which no fee is charged.

"Contestant" means a person who fights or is scheduled to fight in a match.

"Event" means a program or card of one or more matches covered by Iowa Code chapter 90A.

"Match" means a mixed martial arts match.

"Mixed martial arts" means a style of athletic contest that includes a combination of combative skills from the sports of boxing, wrestling, kickboxing and judo.

"MMA" means mixed martial arts.

[**ARC 8916B**, IAB 6/30/10, effective 8/4/10; **ARC 9335B**, IAB 1/12/11, effective 2/16/11]

875—177.2(90A) Responsibilities of promoter.

177.2(1) *License.* Rescinded IAB 6/30/10, effective 8/4/10.

177.2(2) *General.* The promoter shall:

a. Ensure compliance with the rules of this chapter;

b. Ensure that the referees are familiar with and enforce the rules;

c. Be responsible for the conduct of all officials and participants;

d. Answer to the commissioner for noncompliance; and

e. Be available to the commissioner throughout an event or identify a designee who shall be:

(1) Available to the commissioner throughout an event; and

(2) Authorized by the promoter to address issues that may arise.

177.2(3) *Contracts.* A promoter shall enter into a written contract with each contestant using the form furnished by the commissioner. Telegrams, fax transmissions, electronic mail, or letters indicating acceptance of terms will be considered an agreement between a contestant, the contestant's manager and the promoter pending the actual signing of the contract.

177.2(4) *Event officials provided.* The promoter shall provide all officials and ensure their attendance during the entire event. The officials are subject to approval by the commissioner.

177.2(5) *Protective equipment and gloves provided.* The promoter shall provide all equipment, personal protective equipment and gloves.

177.2(6) *Public safety.* The promoter shall ensure that adequate public safety is maintained at all events. At least one law enforcement officer, who is certified pursuant to Iowa Code chapter 80B, and adequate personnel provided by a private security company shall be furnished by the promoter. When the commissioner finds that failure to provide adequate security to maintain public safety imperatively requires emergency action, the commissioner may immediately suspend the event license, pending license revocation procedures pursuant to Iowa Code chapter 17A.

177.2(7) *Prohibited events.* No promoter shall arrange or advertise:

a. A match between persons of the opposite sex;

b. A match in which more than two contestants are to appear in the cage at the same time;

c. A match with a contestant who is younger than 18 years of age; or

d. A match between a contestant who has previously fought in a reported professional MMA match and a contestant who has not previously fought in a reported professional MMA match. Prior to applying for a license pursuant to subrule 177.2(9), a promoter shall confirm that each contestant on an amateur card has not participated in a reported professional MMA match by visiting www.mixedmartialarts.com.

177.2(8) *Advance notice of event.* A promoter shall submit advance notice of an event to the commissioner on the form provided by the commissioner at least 30 days prior to the event. The advance notice shall include:

a. The date, time, and location of the event;

b. The date, time, and location for weighing the contestants;

c. The promoter's name and contact information;

d. The name, contact information, and role of each proposed official; and

e. Other relevant information requested by the commissioner on the form.

177.2(9) *License.* A promoter shall not hold an event prior to the promoter's obtaining a license. At least seven days before the event, the promoter shall submit an application for a license on the form provided by the commissioner. The promoter shall submit with the application each of the following:

a. A bond in the sum of $5,000, payable to the State of Iowa, conditioned upon the payment of the tax and penalties imposed by Iowa Code chapter 90A as amended by 2010 Iowa Acts, Senate File 2286, unless the promoter has a current valid bond on file with the division;

b. The name, address, weight, gender, and opponent of each contestant;

c. A copy of the medical license of the ringside physician;

d. Copies of the contracts with the contestants, the emergency medical services company, and the security company;

e. The name and contact information for the certified law enforcement officer that will attend the event;

f. The date, time, and location of the ringside physician's examination of the contestants;

g. The date, time, and location for weighing the contestants;

h. Certificates of health and life insurance as required by rule 875—177.10(90A);

i. Proof of age for each contestant that shall consist of a copy of one of the following documents:

(1) A certified birth certificate;

(2) A passport;

(3) A certified baptismal record;

(4) A U.S. visa;

(5) An identification card issued to the contestant by a governmental entity and which includes the contestant's photograph and birth date; or

(6) A U.S. resident alien card.

j. Other relevant information requested by the commissioner on the form.

177.2(10) *Emergency medical service.* A promoter shall ensure that an ambulance service authorized at the EMT-B, EMT-I, EMT-P or paramedic specialist level pursuant to 641—Chapter 132 is present at the event. A promoter is fully responsible for all charges assessed by the ambulance service related to the event except:

a. Charges covered by insurance.

b. Charges for services provided to persons other than participants and officials.

177.2(11) *Cleaning.* The promoter shall provide and maintain a container with a solution of ten parts water to one part bleach to clean bodily fluids from any part of the cage, cage enclosure, or floor.

[**ARC 8916B**, IAB 6/30/10, effective 8/4/10]

875—177.3(90A) Equipment specifications.

177.3(1) *Ring requirements.*

a. Size. The cage shall not be less than 16 nor more than 36 feet square.

b. Enclosure. The ring shall be equipped with an enclosure to limit persons from being tossed from the ring. The enclosure shall be at least 6 feet high. The enclosure shall consist of supports and enclosing material. The supports shall be constructed of rigid material not more than 4 inches in diameter. The supports shall be fastened securely to the floor or to the other supports. The supports shall be protected by padding to avoid injury to any contestants striking the supports. The enclosing material shall have openings not to exceed 4 inches in any direction. The enclosing material shall not be rigid and shall deflect at least ½ inch when ten pounds of pressure are exerted upon any point. All sharp objects or protrusions shall be protected with padding.

c. Height. The ring shall not be elevated more than 3½ feet above the floor. Suitable steps for the use of contestants shall be provided.

d. Ring floor. The ring floor shall be padded to the thickness of at least 1 inch with insulite or other soft materials to be approved by the commissioner. A canvas covering stretched tightly and laced to the ring platform shall cover the padding.

e. Ring approval. The promoter shall make the ring and ring enclosure system available in the state of Iowa for inspection by the commissioner at least ten days prior to any event. The specifications in this rule are general, and so actual inspection will be necessary to verify adequate contestant safety prior to the event. If the commissioner has previously inspected the ring used by the promoter, the commissioner may waive the ten-day advance inspection.

177.3(2) *Bell.* A suitable bell or gong shall be provided and used.

177.3(3) *Time keeping.* The timekeeper shall be provided with a stopwatch and whistle.

[**ARC 8916B**, IAB 6/30/10, effective 8/4/10]

875—177.4(90A) Event.

177.4(1) *Officials.* Officials shall consist of three judges, two referees, the physician, and the timekeeper.

177.4(2) *Referee.* The referee is charged with the enforcement of all rules of the commissioner which apply to the performance and conduct of contestants and their seconds while in the ring. The referee shall wear latex gloves at all times while in the ring.

177.4(3) *Timekeeper.* The timekeeper shall keep an exact record of time taken out at the request of a referee for an examination of a contestant by the physician, replacing a glove or adjusting any equipment during a round. The timekeeper shall notify contestants at the beginning and end of each round. The timekeeper shall be impartial and shall not signal interested parties at any time during a match.

177.4(4) *Participants.* The contestants, seconds and managers are subject to approval by the commissioner.

177.4(5) *Weighing of contestants.* Rescinded IAB 6/30/10, effective 8/4/10.

177.4(6) *Scoring.* Three judges shall score each match by evaluating striking, grappling, control of the cage, aggressiveness, and defense. The significance and number of legal strikes shall receive the greatest weight. The number of legal takedowns and reversals shall receive the second greatest weight. Control of the cage shall receive the third greatest weight. Aggression shall receive the fourth greatest weight. Defense shall receive the least weight. The winner of a round shall always receive a score of 10. The score for each round shall be one of the following:

a. If the contestants were evenly matched and neither dominated the round, the score shall be 10-10.

b. If a contestant won a round by a close margin, the score shall be 10-9.

c. If a contestant overwhelmingly dominated a round, the score shall be 10-8.

d. If a contestant totally dominated a round, the score shall be 10-7.

177.4(7) *Length of match.* Each match shall consist of no more than three rounds with no more than five minutes per round. However, the commissioner may authorize experienced contestants to compete in up to five rounds of up to five minutes each. There shall be a one-minute rest period between rounds. An overtime round shall not be allowed.

177.4(8) *Persons allowed in the cage.* No person other than the two contestants and the referee shall enter the cage during the match. However, the physician may enter the cage to examine a contestant upon the request of the referee.

177.4(9) *Seconds.*

a. Unless special permission is granted by the commissioner, there shall be no more than two seconds. Before the start of the match, each corner shall notify the referee of the name of the chief second.

b. Seconds shall not enter the cage except as authorized by this paragraph. The chief second may enter the cage after the timekeeper indicates the termination of the round, and the chief second must leave before the beginning of a round.

c. Before leaving the ring at the start of the round, the seconds shall remove all obstructions, buckets, stools, bottles, towels and robes from the ring floor and ring enclosure.

d. Seconds shall not smoke in the ring or corners and shall not wear a hat or cap while working in the corner.

e. Seconds shall wear latex gloves at all times while attending any contestant.

f. Seconds shall not throw or splash water upon a contestant. Excess water on the floor of the cage shall be wiped up immediately. Water discharged from the mouth of a contestant shall be caught in a bucket.

177.4(10) *Decorum of officials and participants.*

a. Except as allowed in this subrule, a promoter, official, or participant shall not:

(1) Intentionally or recklessly strike or injure a person;

(2) Speak or act in a threatening manner toward a person; or

(3) Damage, destroy, or attempt to damage or destroy property.

b. The commissioner may immediately suspend the promoter's license if the promoter does not comply with paragraph 177.4(10)*"a"* or if the promoter does not take appropriate action to curtail activities in violation of paragraph 177.4(10)*"a"* by an official or a participant.

c. The commissioner may immediately suspend the authorization to participate in the event of an official or a participant who does not comply with paragraph 177.4(10)*"a."*

d. A contestant is exempt from 177.4(10)(a)(1) and (2) while interacting with the contestant's opponent during a round. However, if the round is stopped by the physician or referee for a time out, 177.4(10)(a)(1) and (2) shall apply to a contestant.

[**ARC 8916B**, IAB 6/30/10, effective 8/4/10]

875—177.5(90A) Contestants.

177.5(1) *Time between matches.* No contestant shall be permitted to compete if the contestant participated in a boxing, wrestling, kickboxing, judo, or mixed martial arts event within the previous five-day period.

177.5(2) *Age restrictions.* No contestant under the age of 18 years shall be permitted to participate in any event except by special permission of the commissioner.

177.5(3) *Proper attire.* Contestants must wear proper athletic attire. Athletic attire of opposing contestants shall be of contrasting colors.

177.5(4) *Body protection.* All male contestants shall wear a foulproof protective cup. All female contestants shall wear foulproof pelvic area protection and breast protection.

177.5(5) *Mouth protection.* Each contestant shall wear a mouthpiece throughout each match. If the mouthpiece is knocked from a contestant's mouth, it shall be washed and then replaced.

177.5(6) *Gloves.* Gloves shall be approved martial arts gloves. All gloves shall be approved by the commissioner.

177.5(7) *Hand protection.* Only one roll of cotton gauze surgical bandage, not to exceed 2 inches in width and 10 yards in length, shall be used for the protection of each hand. Only one winding of surgeons' adhesive tape, not more than 1½ inches in width, may be placed directly on the hand to protect that part of the hand near the wrist. The tape may cross the back of the hand twice, but shall not extend within 1 inch of the knuckles when the hand is clenched to make a fist. Practice wraps (training handwraps) may be used in lieu of gauze and tape.

177.5(8) *Hair protection.* Where necessary, hair shall be secured in a manner that it will not interfere with the vision or safety of either contestant.

177.5(9) *Use of substances.* A contestant shall not use any substance including, but not limited to, cocoa butter, petroleum jelly, grease, ointments or strong-smelling substances without permission of the referee.

177.5(10) *Contestants' grooming.* Fingernails will be trimmed closely.

177.5(11) *Blood-borne disease testing.* At least one week before each event, the promoter shall submit to the labor commissioner and to the ringside physician test results showing that each contestant scheduled for the event tested negative for the human immunodeficiency, hepatitis B, and hepatitis C viruses within the six-month period prior to the event. The contestant shall not participate and the

physician shall notify the promoter that the contestant is prohibited from participating for medical reasons if any of the following occurs:

a. The promoter does not produce timely proof of testing;

b. The test results are positive;

c. The laboratory is not properly certified in accordance with the federal Clinical Laboratory Improvement Act;

d. The test was performed more than six months prior to the event; or

e. The test results are otherwise deficient.

177.5(12) *Weighing contestants.*

a. The promoter shall arrange for each contestant to be weighed in Iowa during the 24-hour period prior to the event.

b. Accurate scales shall be furnished by the promoter.

c. An official who has been approved by the commissioner shall weigh each contestant and accurately record the contestant's name and weight and the date and time. The weight records shall be submitted to the commissioner on the date of the event.

d. All contestants scheduled for an event shall be weighed on the same date.

e. Contestants shall be weighed in the presence of their opponents and without shoes, clothes or equipment.

f. Unless both contestants weigh more than 200 pounds, there shall not be a weight difference of more than 20 pounds between opponents without the commissioner's consent.

g. No less than two weeks before the event, a promoter may request that a representative of the commissioner be present when contestants are weighed. The fee for this optional service shall be $200 plus reasonable and necessary travel expenses.

177.5(13) *Examination of contestants.* On the day of the event, at a time and place to be approved by the commissioner, the ringside physician shall conduct a rigorous physical examination to determine the contestant's fitness to participate in an MMA match. A contestant deemed not fit by the physician shall not participate in the event.

[**ARC 8916B**, IAB 6/30/10, effective 8/4/10]

875—177.6(90A) Procedural rules.

177.6(1) *Inspection for foreign substances.* The referee shall inspect the gloves, bandages, and bodies of the contestants and make sure that no foreign substances have been applied to the gloves, bandages, or bodies of the contestants that might be detrimental to an opponent.

177.6(2) *Prohibited materials in ring.* Contestants shall not take anything not permitted by these rules into the ring or pick up anything thrown into the ring and use the material or object in any way to gain an advantage over an opponent.

177.6(3) *Fouls.* As set forth in this subrule, the referee may penalize a contestant for fouls by disqualifying the contestant or by deducting points. The referee shall immediately determine if each foul is flagrant or accidental. "Flagrant" means the foul was intentional or reckless. "Accidental" means the foul was unintentional or incidental.

a. Disqualification. If the referee determines that the foul was flagrant and the contestant who was fouled is unable to continue due to an injury resulting from the foul, the contestant who committed the foul shall be disqualified.

b. Deduction of points. In determining the number of points to be deducted, the referee shall consider the nature and severity of the foul and its effect upon the opponent. As soon as practical after the foul, the referee shall notify the judges, contestants, and the commissioner of the number of points, if any, to be deducted from the score of the offender and whether the foul was flagrant or accidental. Points shall be deducted in the round in which the foul occurred.

c. Continuation of match. This paragraph governs how a match shall be continued if a foul that does not result in disqualification occurs.

(1) If a foul occurred but did not cause a serious injury, the referee may order the match to continue after a five-minute delay for recuperation. If subsequent fair blows aggravate the injury inflicted by a

foul and the referee orders the contest stopped because of the injury, the outcome will be determined by scoring the completed rounds and the round during which the referee stopped the match.

(2) If an accidental foul results in a concussive impact to the head, if a contestant's chance of winning has been seriously jeopardized as a result of an accidental foul, or if a contestant is not able to continue the match due to an injury caused by an accidental foul, "no contest" will be declared or the winner will be determined based on points as set forth below.

1. "No contest" will be declared if:

- The foul occurs during the first two rounds of a match scheduled for three rounds or fewer.
- The foul occurs during the first three rounds of a match scheduled for four or five rounds.

2. The winner will be determined by scoring the completed rounds and the round during which the referee stopped the match if:

- The foul occurs during the third round of a match scheduled for three rounds.
- The foul occurs during the fourth or fifth round of a match scheduled for four or five rounds.

d. Prohibited acts. Each of the following actions is a foul:

(1) Butting with the head.
(2) Eye gouging of any kind.
(3) Biting.
(4) Hair pulling.
(5) Fishhooking.
(6) Groin attacks of any kind.
(7) Putting a finger into any orifice, cut, or laceration on an opponent.
(8) Small joint manipulation.
(9) Striking to the spine or behind the ears.
(10) Striking using the point of the elbow.
(11) Throat strikes of any kind, including, without limitation, grabbing the trachea.
(12) Clawing, pinching or twisting the flesh.
(13) Grabbing the clavicle.
(14) Kicking the head of a grounded opponent.
(15) Kneeing the head of a grounded opponent.
(16) Stomping a grounded opponent.
(17) Striking the kidney.
(18) Dropping or slamming an opponent on an opponent's head or neck.
(19) Throwing an opponent out of the cage or fenced area.
(20) Holding the shorts or gloves of an opponent.
(21) Spitting at an opponent.
(22) Engaging in any unsportsmanlike conduct that causes an injury to an opponent.
(23) Holding the ropes or the fence.
(24) Using abusive language in the cage or fenced area.
(25) Attacking an opponent during a break.
(26) Attacking an opponent who is under the care of the referee.
(27) Attacking an opponent after the bell has sounded the end of the round.
(28) Flagrantly disregarding the instructions of the referee.
(29) Timidity, including, without limitation, avoiding contact with an opponent, intentionally or consistently dropping the mouthpiece or faking an injury.
(30) Interference by a second.
(31) Throwing in the towel during competition.
(32) Threatening or intentionally striking or injuring any person other than the contestant's opponent.

177.6(4) *Mouth protection ejected.* If the mouth protection is knocked from a contestant's mouth, it shall be replaced with no penalty.

177.6(5) *Spitting mouth protection.* The referee shall caution a contestant who deliberately spits out a mouthpiece the first time and disqualify the contestant the second time.

177.6(6) *Gloves.* The gloves shall not be damaged or manipulated in any way by the contestants or their handlers. If a glove breaks or becomes undone during a match, the referee will instruct the timekeeper to take time out while the glove is being adjusted or replaced.

177.6(7) *Injury.* If a contestant claims to be injured or when a contestant has been injured seriously or knocked out, the referee shall immediately stop the fight and summon the attending ring physician to make an examination of the stricken fighter. If the physician decides that the contestant has been injured, the physician shall advise the referee of the severity of the injury. If the physician is of the opinion the injured contestant may be able to continue, the physician shall order a five-minute intermission, after which the physician shall make another examination and again advise the referee of the injured contestant's condition. Managers, handlers and seconds shall not attend to the stricken fighter, except at the request of the physician.

[**ARC 8916B**, IAB 6/30/10, effective 8/4/10]

875—177.7(90A) Decision. A professional match concludes when:

177.7(1) A contestant submits.

177.7(2) The timekeeper indicates that time has expired in the final round of the match. The win will be awarded based on the judges' scores.

177.7(3) The referee stops the match.

177.7(4) The referee disqualifies a contestant for committing a foul pursuant to rule 875—177.6(90A).

177.7(5) A second or manager throws a towel into the cage to indicate the defeat of a contestant. The referee shall stop the match and award the win to the opponent.

177.7(6) A second or manager is in the cage when prohibited. The referee shall stop the match and award the win to the opponent.

[**ARC 8916B**, IAB 6/30/10, effective 8/4/10]

875—177.8(90A) Forfeit of purse. The commissioner, in consultation with the referee, has the power to declare forfeited all or any part of a contestant's purse whenever in the commissioner's judgment the contestant was not performing in good faith.

875—177.9(90A) Attendance of commissioner. Rescinded IAB 8/1/07, effective 9/5/07.

875—177.10(90A) Health and life insurance.

177.10(1) Each promoter shall obtain $25,000 of health insurance coverage on each fighter to provide for medical, surgical and hospital care for injuries sustained and illnesses contracted during the event. If the fighter pays for covered care, the insurance proceeds shall be paid to the fighter or the fighter's beneficiaries as reimbursement for payment. The deductible, if any, shall be the sole responsibility of the promoter and shall not be charged to or paid by the fighter.

177.10(2) Each promoter shall provide no less than $20,000 of life insurance coverage on each fighter to cover death caused by injuries sustained or illnesses contracted during the event.

177.10(3) The promoter shall provide a certificate of health and life insurance to the labor commissioner at least one week before an event. Failure to provide timely proof of insurance that is acceptable to the labor commissioner shall be grounds to deny the issuance of a license for the event.

177.10(4) Insurance policies shall be purchased from companies authorized to do business in the state of Iowa.

[**ARC 8916B**, IAB 6/30/10, effective 8/4/10]

These rules are intended to implement Iowa Code sections 90A.2 and 90A.5.

[Filed Emergency 7/26/96—published 8/14/96, effective 8/14/96]
[Filed 7/26/06, Notice 5/10/06—published 8/16/06, effective 9/20/06]
[Filed 1/12/07, Notice 12/6/06—published 1/31/07, effective 3/7/07]
[Filed 5/16/07, Notice 4/11/07—published 6/6/07, effective 7/11/07]
[Filed 7/13/07, Notice 6/6/07—published 8/1/07, effective 9/5/07]◊
[Filed ARC 8916B (Notice ARC 8752B, IAB 5/5/10), IAB 6/30/10, effective 8/4/10]

[Filed ARC 9335B (Notice ARC 9233B, IAB 11/17/10), IAB 1/12/11, effective 2/16/11]

◊ Two or more ARCs