

23.3(455B) Specific contaminants.

23.3(1) *General.* The emission standards contained in this rule shall apply to each source operation unless a specific emission standard for the process involved is prescribed elsewhere in this chapter, in which case the specific standard shall apply.

23.3(2) *Particulate matter.* No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567—Chapter 24.

a. General emission rate.

(1) For sources construction, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567-21.2(455B), 23.1(455B), 23.4(455B), and 567-Chapter 24.

(2) For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas, or established from standards provided in 23.1(455B) and 23.4(455B).

TABLE 1
ALLOWABLE RATE OF EMISSION BASED ON PROCESS WEIGHT RATE*

Process Weight Rate		Emission Rate	Process Weight Rate		Emission Rate
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
100	0.05	0.55	16,000	8.00	16.5
200	0.10	0.88	18,000	9.00	17.9
400	0.20	1.40	20,000	10.00	19.2
600	0.30	1.83	30,000	15.00	25.2
800	0.40	2.22	40,000	20.00	30.5
1,000	0.50	2.58	50,000	25.00	35.4
1,500	0.75	3.38	60,000	30.00	40.0
2,000	1.00	4.10	70,000	35.00	41.3
2,500	1.25	4.76	80,000	40.00	42.5
3,000	1.50	5.38	90,000	45.00	43.6
3,500	1.75	5.96	100,000	50.00	44.6
4,000	2.00	6.52	120,000	60.00	46.3
5,000	2.50	7.58	140,000	70.00	47.8
6,000	3.00	8.56	160,000	80.00	49.0
7,000	3.50	9.49	200,000	100.00	51.2
8,000	4.00	10.4	1,000,000	500.00	69.0
9,000	4.50	11.2	2,000,000	1,000.00	77.6
10,000	5.00	12.0	6,000,000	3,000.00	92.7
12,000	6.00	13.6			

*Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by the use of the equation

$$E = 4.10 P^{0.67},$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation

$$E = 55.0 P^{0.11} - 40,$$

where E = rate of emission in lb/hr, and
P = process weight in tons/hr

b. Combustion for indirect heating. Emissions of particulate matter from the combustion of fuel for indirect heating or for power generation shall be limited by the ASME Standard APS-1, Second Edition, November, 1968, "Recommended Guide for the Control of Dust Emission—Combustion for Indirect Heat Exchangers." For the purpose of this paragraph, the allowable emissions shall be calculated from equation (15) in that standard, with $C_{max}^2=50$ micrograms per cubic meter. Allowable emissions from a single stack may be estimated from Figure 1. The maximum ground level dust concentrations designated are above the background level. For plants with 4,000 million Btu/hour input or more, the "a" factor shall be 1.0. In plants with less than 4,000 million Btu/hour input, appropriate "a" factors, less than 1.0, shall be applied. Pertinent correction factors, as specified in the standard, shall be applied for installations with multiple stacks. However, for fuel-burning units in operation on January 13, 1976, the maximum allowable emissions calculated under APS-1 for the facility's equipment configuration on January 13, 1976, shall not be increased even if the changes in the equipment or stack configuration would otherwise allow a recalculation and a higher maximum allowable emission under APS-1.

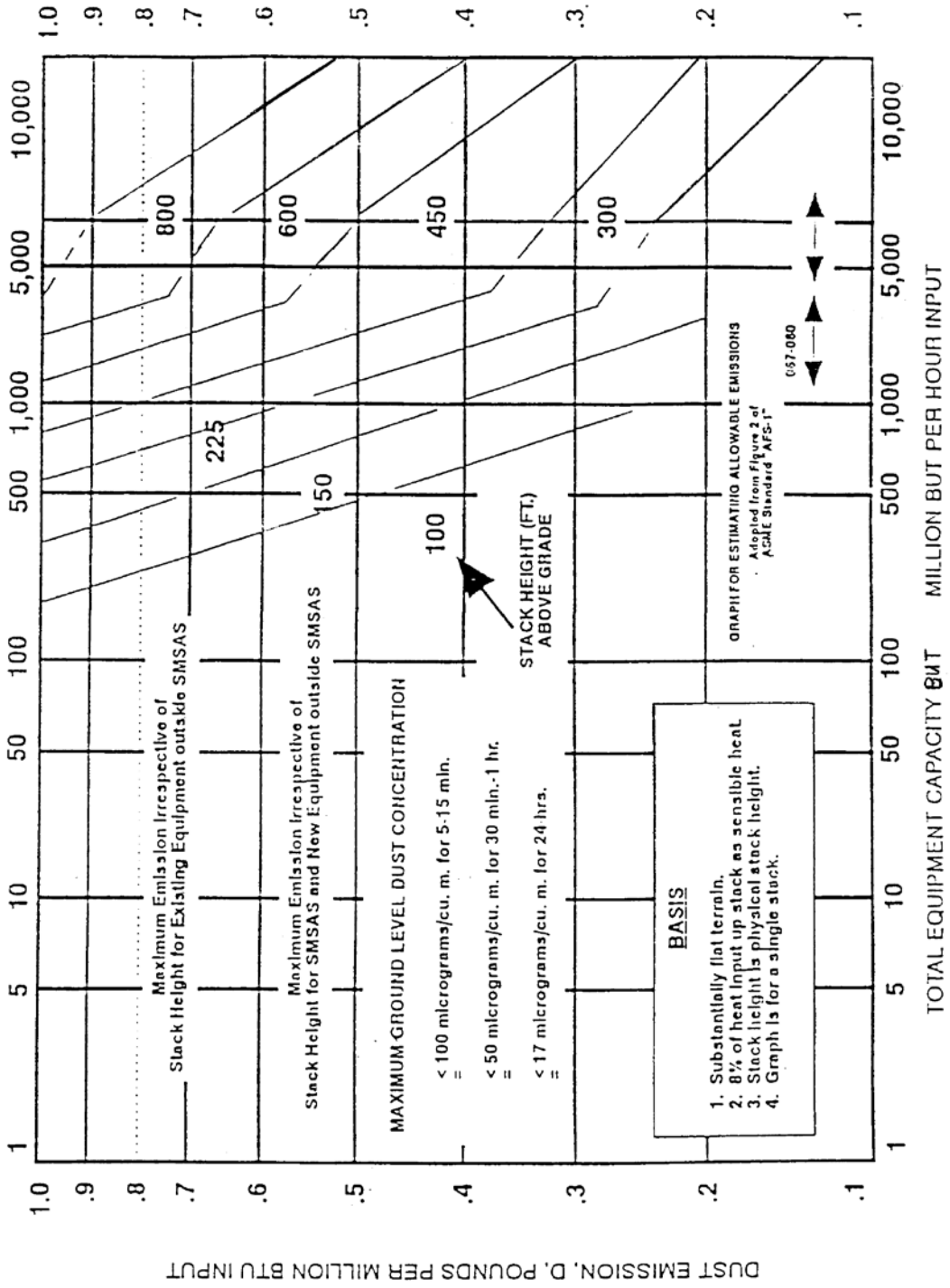
(1) Outside any standard metropolitan statistical area, the maximum allowable emissions from each stack, irrespective of stack height, shall be 0.8 pounds of particulates per million Btu input.

(2) Inside any standard metropolitan statistical area, the maximum allowable emission from each stack, irrespective of stack height, shall be 0.6 pounds of particulates per million Btu input.

(3) For a new fossil fuel-fired steam generating unit of more than 250 million Btu per hour heat input, 23.1(2)"a" shall apply. For a new unit of between 150 million and 250 million (inclusive) Btu per hour heat input, the maximum allowable emissions from such new unit shall be 0.2 pounds of particulates per million Btu of heat input. For a new unit of less than 150 million Btu per hour heat input, the maximum allowable emissions from such new unit shall be 0.6 pounds of particulates per million Btu of heat input.

(4) Measurements of emissions from a particulate source will be made in accordance with the provisions of 567—Chapter 25.

FIGURE 1
COMBUSTION FOR INDIRECT HEAT EXCHANGERS
APPROXIMATE STEAM GENERATION, THOUSANDS OF POUNDS PER HOUR



(5) For fuel-burning sources in operation prior to July 29, 1977, which are not subject to 23.1(2) and which significantly impact a primary or secondary particulate standard nonattainment area, the emission limitations specified in this subparagraph apply. A significant impact shall be equal to or exceeding 5 micrograms of particulate matter per cubic meter of air (24-hour average) or 1 microgram of particulate matter per cubic meter of air (annual average) determined by an EPA approved single source dispersion model using allowable emission rates and five-year worst case meteorological conditions. In the case where two or more boilers discharge into a common stack, the applicable stack emission limitation shall be based upon the heat input of the largest operating boiler. The plantwide allowable emission limitation shall be the weighted average of the allowable emission limitations for each stack or the applicable APS-1 plantwide standard as determined under paragraph 23.3(2)"b", whichever is more stringent.

The maximum allowable emission rate for a single stack with a total heat input capacity less than 250 million Btu per hour shall be 0.60 pound of particulate matter per million Btu heat input; the maximum allowable emission rate for a single stack with a total heat input capacity greater than or equal to 250 million Btu per hour and less than 500 million Btu per hour shall be 0.40 pound of particulate matter per million Btu heat input; the maximum allowable emission rate for a single stack with a total heat input capacity greater than or equal to 500 million Btu per hour shall be 0.30 pound of particulate matter per million Btu heat input; except that the maximum allowable emission rate for the stack serving Unit #1 of Iowa Public Service at Port Neal shall be 0.50 pound of particulate matter per million Btu heat input.

All sources regulated under this subparagraph shall demonstrate compliance by October 1, 1981; however a source is considered to be in compliance with this subparagraph if by October 1, 1981, it is on a compliance schedule to be completed as expeditiously as possible, but no later than December 31, 1982.

c. Fugitive dust.

(1) Attainment and unclassified areas. No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The public highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not be limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.

2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.

3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizer or limestone.

4. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.

5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.

6. Reducing the speed of vehicles traveling over on-property surfaces as necessary to minimize the generation of airborne dusts.

(2) Nonattainment areas. Subparagraph (1) notwithstanding, no person shall allow, cause or permit any visible emission of fugitive dust in a nonattainment area for particulate matter to go beyond the lot line of the property on which a traditional source is located without taking reasonable precautions to prevent emission. Traditional source means a source category for which a particulate emission standard has been established in 23.1(2), 23.3(2)"a", 23.3(2)"b" or 23.4(455B) and includes a quarry operation, haul road or parking lot associated with a traditional source. This paragraph does not modify the emission standard stated in 23.1(2), 23.3(2)"a", 23.3(2)"b" or 23.4(455B), but rather establishes a separate requirement for fugitive dust from such sources. For guidance on the types of controls which may constitute reasonable precautions, see "Identification of Techniques for the Control of Industrial Fugitive Dust Emissions*," adopted by the commission on May 19, 1981.

(3) Reclassified areas. Reasonable precautions implemented pursuant to the nonattainment area provisions of subparagraph (2) shall remain in effect if the nonattainment area is redesignated to either attainment or unclassified after March 6, 1980.

d. Visible emissions. No person shall allow, cause or permit the emission of visible air contaminants into the atmosphere from any equipment, internal combustion engine, premise fire, open fire or stack, equal to or in excess of 40 percent opacity or that level specified in a construction permit, except as provided below and in 567—Chapter 24.

(1) *Residential heating equipment.* Residential heating equipment serving dwellings of four family units or less is exempt.

(2) *Gasoline-powered vehicles.* No person shall allow, cause or permit the emission of visible air contaminants from gasoline-powered motor vehicles for longer than five consecutive seconds.

(3) *Diesel-powered vehicles.* No person shall allow, cause or permit the emission of visible air contaminants from diesel-powered motor vehicles in excess of 40 percent opacity, for longer than five consecutive seconds.

(4) *Diesel-powered locomotives.* No person shall allow, cause or permit the emission of visible air contaminants from diesel-powered locomotives in excess of 40 percent opacity, except for a maximum period of 40 consecutive seconds during acceleration under load, or for a period of four consecutive minutes when a locomotive is loaded after a period of idling.

(5) *Startup and testing.* Initial start and warmup of a cold engine, the testing of an engine for trouble, diagnosis or repair, or engine research and development activities, is exempt.

(6) *Uncombined water.* The provisions of this paragraph shall apply to any emission which would be in violation of these provisions except for the presence of uncombined water, such as condensed water vapor.

23.3(3) *Sulfur compounds.* The provisions of this subrule shall apply to any installation from which sulfur compounds are emitted into the atmosphere.

(a) *Sulfur dioxide from use of solid fuels.*

(1) No person shall allow, cause, or permit the emission of sulfur dioxide into the atmosphere from an existing solid fuel-burning unit, (i.e., a unit which was in operation or for which components had been purchased, or which was under construction prior to September 23, 1970), in an amount greater than 6 pounds, replicated maximum *three-hour* average, per million Btu of heat input if such unit is located within the following counties: Black Hawk, Clinton, Des Moines, Dubuque, Jackson, Lee, Linn, Louisa, Muscatine and Scott.

(2) No person shall allow, cause, or permit the emission of sulfur dioxide into the atmosphere from an existing solid fuel-burning unit, (i.e., a unit which was in operation or for which components had been purchased, or which was under

construction prior to September 23, 1970), in an amount greater than 5 pounds, replicated maximum three-hour average, per million Btu of heat input if such unit is located within the remaining 89 counties of the state not listed in subparagraph 23.3(3)"a"(1).

(3) No person shall allow, cause, or permit the emission of sulfur dioxide into the atmosphere from any new solid fuel-burning unit (i.e., a unit which was not in operation or for which components had not been purchased, or which was not under construction prior to September 23, 1970) which has a capacity of 250 million Btu or less per hour heat input, in an amount greater than 6 pounds, replicated maximum three-hour average, per million Btu of heat input.

(4) Subparagraphs (1) through (3) notwithstanding, a fossil fuel-fired steam generator to which 23.1(2)"a," 23.1(2)"z" or 23.1(2)"ccc" applies shall comply with 23.1(2)"a," 23.1(2)"z" or 23.1(2)"ccc," respectively.

b. Sulfur dioxide from use of liquid fuels.

(1) No person shall allow, cause, or permit the combustion of number 1 or number 2 fuel oil exceeding a sulfur content of 0.5 percent by weight.

(2) No person shall allow, cause, or permit the emission of sulfur dioxide into the atmosphere in an amount greater than 2.5 pounds of sulfur dioxide, replicated maximum three-hour average, per million Btu of heat input from a liquid fuel-burning unit.

(3) Notwithstanding this paragraph, a fossil fuel-fired steam generator to which 23.1(2)"a," 23.1(2)"z" or 23.1(2)"ccc" applies shall comply with 23.1(2)"a," 23.1(2)"z" or 23.1(2)"ccc."

c. Sulfur dioxide from sulfuric acid manufacture. After January 1, 1975, no person shall allow, cause or permit the emission of sulfur dioxide from an existing sulfuric acid manufacturing plant in excess of 30 pounds of sulfur dioxide, maximum three-hour average, per ton of product calculated as 100 percent sulfuric acid.

(Paragraph d. below is approved pursuant to section 111(d) and is not part of the approved SIP.)

d. Acid mist from sulfuric acid manufacture. After January 1, 1974, no person shall allow, cause or permit the emission of acid mist calculated as sulfuric acid from an existing sulfuric acid manufacturing plant in excess of 0.5 pounds, maximum three-hour average, per ton of product calculated as 100 percent sulfuric acid.

e. Other processes capable of emitting sulfur dioxide. After January 1, 1974, no person shall allow, cause or permit the emission of sulfur dioxide from any process, other than sulfuric acid manufacture, in excess of 500 parts per million, based on volume. This paragraph shall not apply to devices which have been installed for air pollution abatement purposes where it is demonstrated by the owner of the source that the ambient air quality standards are not being exceeded.

This rule is intended to implement Iowa Code section 455B.133.

EPA Rulemakings

CFR: 40 C.F.R. 52.820(b)
 FRM: 37 FR 10842 (5/31/72)
 PRM: None
 State Submission: 1/27/72
 State Proposal: unknown
 State Final: Effective 4/1/72
 APDB File: IA-00
 Description: This rule was approved as part of the original SIP.

CFR: 40 C.F.R. 52.820(c)(11)
 FRM: 40 FR 15879 (4/8/75)
 PRM: 39 FR 25502 (7/11/74)
 State Submission: 4/24/74
 State Proposal: unknown
 State Final: Adopted 12/11/73
 APDB File: IA-00
 Description: This revision created the Iowa Department of Environmental Quality. The emission standards for nitrogen oxides from the use of fuels and manufacture of nitric acid have been deleted. Also, the emission standards for sulfur dioxide from sulfuric acid plants has been changed from 6.5 lbs. per ton to 30 lbs. per ton of 100 percent acid (23.3(c)). 23.3(3)(a) which restricts emissions of sulfur oxides from fuel burning sources was not approved.

CFR: 40 C.F.R. 52.820(c)(22)
 FRM: 41 FR 43407 (10/1/76)
 PRM: 41 FR 8071 (2/24/76)
 State Submission: 7/17/75
 State Proposal: unknown
 State Final: 11/14/74
 APDB File: IA-00
 Description: This revision withdrew the amended fugitive dust regulation, and no action was taken on the sulfur dioxide emission standards for fuel-burning sources 23.3(3)a and b.

CFR: 40 C.F.R. 52.820(c)(25)
 FRM: 42 FR 27892 (6/1/77)
 PRM: 41 FR 48750 (11/5/76)
 State Submission: 6/9/76
 State Proposal: unknown
 State Final: Effective 4/26/76
 APDB File: IA-3
 Description: This revision limited the emission of SO₂ to 6 pounds, replicated maximum two-hour average, per million Btu of heat input in ten counties. A 5-pound limit was approved for the remainder of the state. We approved this in paragraphs 23.3(3)(a)(2)(3) and (4). 23.3(3)(a)(5) was disapproved. Paragraph 23.3(3)(a) was in the original SIP and all of 23.3(3)(a) was disapproved except for the emission of sulfur dioxide, 5-pound, replicated maximum 2-hour average from any old fuel-burning installation. Paragraph 23.3(3)(b) was approved. (The state later corrected its rule so that the emission limits would be the same, but this revision was never submitted as a SIP revision. This resulted in minor differences; see statement of differences below.)

CFR: 40 C.F.R. 52.820(c)(26a)
 FRM: 47 FR 22531 (5/25/82)
 PRM: None
 State Submission: 6/20/77
 State Proposal: 8/9/76
 State Final: 5/19/77
 APDB File: IA-17
 Description: The EPA approved revisions to Iowa's SIP to reduce the limitation on plants between 150 million Btus and 250 million Btus.

567-23.3

CFR: 40 C.F.R. 52.820(c)(27)
 FRM: 45 FR 14567 (3/6/80)
 PRM: 44 FR 52263 (9/7/79)
 State Submission: 6/22/79
 State Proposal: IAB 2/7/79
 State Final: 10/14/79
 APDB File: IA-2a, IA-2b, IA-2c
 Description: This revision revised 23.3(2) fugitive dust.

CFR: 40 C.F.R. 52.820(c)(30)
 FRM: 46 FR 22372 (4/17/81)
 PRM: 45 FR 51620 (8/4/80)
 State Submission: 4/18/80
 State Proposal: 12/26/79 (ARC 0791)
 State Final: 3/11/80
 APDB File: IA-5
 Description: This revision revises the fugitive emission regulation to extend its applicability to secondary nonattainment areas. This revision was conditionally approved with respect to several requirements. These requirements were met by submissions from the state on August 19, 1980 (40 C.F.R. 52.820(c)(31)), and November 17, 1980 (40 C.F.R. 52.820(c)(32)).

CFR: 40 C.F.R. 52.820(c)(38)
 FRM: 46 FR 59973 (12/8/81)
 PRM: 46 FR 36716 (7/15/81)
 State Submission: 6/1/81
 State Proposal: 4/30/80
 State Final: 2/27/81
 APDB File: IA-10
 Description: This revision approved a fugitive dust enforcement procedures manual describing what sources are subject to the fugitive dust control rule, and revised the fugitive dust control rule to ensure that measures taken to solve a nonattainment problem are in effect if an area is redesignated to attainment. This specifically effects 23.3(2)(c)1-3.

CFR: 40 C.F.R. 52.820(c)(40)
 FRM: 46 FR 59973 (12/8/81)
 PRM: 46 FR 36716 (7/15/81)
 State Submission: 7/31/81
 State Proposal: 12/10/80
 State Final: 5/31/81 (ARC 2024)
 APDB File: IA-10
 Description: This revision established emission limitations for all existing fuel burning sources which have a significant impact on a primary or secondary particulate standard nonattainment area at levels which represent RACT. This specifically effects 23.3(2)b(5).

CFR: 40 C.F.R. 52.280(c)(43)
 FRM: 50 FR 37176 (9/12/85)
 PRM: 49 FR 45761 (11/20/84)
 State Submission: 7/18/84
 State Proposal: None
 State Final: 7/1/83
 APDB File: IA-19
 Description: Recodification of the regulations from chapter 3 of the Iowa Department of Environmental Quality into Department 900, Title II, Chapters 20-39 of the Iowa Department of Water, Air and Waste Management (IDWAWM).

CFR: 40 C.F.R. 62.3850
 FRM: 50 FR 52922 (12/27/85)
 PRM: None
 State Submission: 10/19/79
 State Proposal: 9/6/78
 State Final: 8/29/79
 APDB File: IA-20
 Description: This revision approved Iowa's section 111(d) plan for the control of sulfuric acid mist emissions from existing sulfuric acid production plants.

CFR: 40 C.F.R. 52.820(47)(i)(A)
 FRM: 53 FR 41600 (10/24/88)
 PRM: 52 FR 33437 (9/3/87)
 State Submission: 5/20/86
 State Proposal: 1/15/86 (ARC 6280)
 State Final: 4/22/86 (ARC 6566) Effective 6/25/86
 APDB File: IA-25
 Description: This revision limited the amount of dispersion credit allowed for facilities employing stack heights that exceed GEP guidelines. This amendment affected section 23.1(4).

CFR: 40 C.F.R. 52.820(c)(52)(i)(B)
 FRM: 55 FR 26690 (6/29/90)
 PRM: None
 State Submission: 5/7/90
 State Proposal: IAB 11/15/89 (ARC 412A)
 State Final: IAB 2/7/90 (ARC 658A) (Effective 3/14/90)
 APDB File: IA-32
 Description: This rulemaking recodified Chapters 20-29. It was Water, Air and Waste Management (900) and is now Environmental Protection Commission (567).

CFR: 40 C.F.R. 52.820(c)(57)(i)(A)
 FRM: 58 FR 27939 (5/12/93)
 PRM: None
 State Submission: 1/5/93
 State Proposal: IAB 9/16/92 (ARC 3350A)
 State Final: IAB 1/20/93 (ARC 3694A) (Effective 2/24/93)
 APDB File: IA-37
 Description: This revision deleted the reference to the Ringelman Chart so that the limitation is expressed as 40 percent opacity, and changed the averaging period for sulfur dioxide emission limitations from two hours to three hours.

CFR: 40 C.F.R. 52.820(c)(59)(i)(B)
 FRM: 58 FR 65717 (12/21/94)
 PRM: 59 FR 65744 (12/21/94)
 State Submission: 5/5/94
 State Proposal: 10/13/93
 State Final: Effective 4/20/94 (Published 3/16/94)
 APDB File: IA-46
 Description: This revision deleted the use of the Ringelman Chart in regulating diesel powered vehicles and locomotives.

CFR: 40 C.F.R. 52.820(c)(67)(i)(A)
 FRM: 63 FR 34601 6/25/98
 PRM: 63 FR 34618 6/25/98
 State Submission: 1/21/98
 State Proposal: IAB 1/17/96 1186
 State Final: IAB 5/8/96 1771
 APDB File: IA-58
 Description: This revision deleted a redundant statement regarding opacity limits.

CFR: 40 C.F.R. 52.820 (c)
 FRM: 64 FR 17548 (4/12/99) and 65 FR 32030 (5/22/00) (correction)
 PRM: 64 FR 17592 (4/12/99)
 State Submission: 8/12/98
 State Proposal: 1/14/98
 State Final: IAC 4/8/98
 APDB File: IA-71
 Description: This revision changes wording in Particulate matter, paragraph "c," Fugitive dust, subparagraph (2), Nonattainment areas, to improve the clarity of the paragraph.

CFR: 40 C.F.R. 52.820 (c)
 FRM: 67 FR 9591 (03/04/2002)
 PRM: 67 FR 9640 (03/04/2002)
 State Submission: 08/07/2000
 State Final: IAB 06/16/1999
 APDB File: IA-79
 Description: This revision establishes a maximum sulfur content for number one and number two fuel oil that may be combusted.

567-23.3

CFR: 40 C.F.R. 52.820 (c)
FRM: 70 FR 22599 (05/02/2005)
PRM: 70 FR 22623 (05/02/2005)
State Submission: 12/15/2005
State Final: IAB 11/10/2004; effective 12/15/2004
APDB File: IA-104; Docket No. EPA-R07-OAR-2005-IA-0002
Description: This revision removed the reference to boiler #6 of Muscatine Power and Water because the boiler was permanently removed from service at the facility on September 17, 1985.

CFR: 40 C.F.R. 52.820 (c)
FRM: 72 FR 30275 (05/31/2007)
PRM: 72 FR 30319 (05/31/2007)
State Submission: 01/08/2007
State Final: IAB 11/10/2004; effective 12/15/2004
APDB File: IA-125; Docket No. EPA-R07-OAR-2007-0124
Description: This revision approves the general emission rate for particulate matter (23.3(2)"a").

CFR: 40 C.F.R. 52.820 (c)
FRM: 74 FR 68692 (12/29/2009)
PRM: 74 FR 68761 (12/29/2009)
State Submission: 11/18/2008
State Final: IAB 5/7/2008, effective 6/11/2008
APDB File: IA-131 and IA 134; EPA-R07-OAR-2008-0895
Description: This revision adds new paragraph 6 to 23.3(2)"c"(1). The speed of vehicles traveling over on-property surfaces is reduced.

Difference Between the State and EPA-Approved Regulation:

Section 23.3 (3)"d" is approved pursuant to section 111(d) and is not part of the approved SIP.

Subrule 23.3(3) "d" is not SIP approved.