

ILLINOIS POLLUTION CONTROL BOARD

R72-18, AMENDMENTS TO CHAPTER 2, AIR POLLUTION REGULATIONS
FOR GRAIN-HANDLING AND GRAIN-DRYING OPERATIONS

Rule 103: PERMITS

(b) OPERATING PERMITS

(2) EXISTING EMISSION SOURCES

(A) SOURCE CLASSIFICATION

DATE OPERATING
PERMIT REQUIRED

Grain-Handling and
Grain-Drying Operations By December 31, 1975

(i) EXEMPTIONS. No permit is required for the following
classes of equipment:

- (17) Grain-handling operations, exclusive of grain-drying operations, with an annual grain through-put not exceeding 300,000 bushels.
- (18) Grain-drying operations with a total grain-drying capacity not exceeding 750 bushels per hour for 5% moisture extraction at manufacturer's rated capacity, using the American Society of Agricultural Engineers Standard 248.2, Section 9, Basis for Stating Drying Capacity of Batch and Continuous-Flow Grain Dryers.
- (19) Portable grain-handling equipment and one-turn storage space.

Rule 201: DEFINITIONS

Aeration: The practice of forcing air through bulk stored grain to maintain the condition of the grain.

Annual Grain Through-Put: Unless otherwise shown by the owner or operator, annual grain through-put for grain-handling operations, which have been in operation for three consecutive years prior to the effective date of Rule 203(d) (9), shall be determined by adding grain receipts and shipments for the three previous fiscal years and dividing the total by 6. The annual grain through-put for grain-handling operations in operation for less than three consecutive years prior to the effective date of Rule 203(d) (9) shall be determined by a reasonable three-year estimate; the owner or operator shall document the reasonableness of his three-year estimate.

Certified Investigation: A report signed by Agency personnel certifying whether a grain-handling operation (or portion thereof) or grain-drying operation is causing or tending to cause air pollution. Such report must describe the signatory's investigation, including a summary of those facts on which he relies to certify whether the grain-handling or grain-drying operation is causing or threatening or allowing the discharge or emission of any contaminant into the environment so as to cause or tend to cause air pollution in Illinois, either alone or in combination with contaminants from other sources, or so as to violate regulations or standards adopted by the Board under the Act. The certified investigation shall be open to reasonable public inspection and may be copied upon payment of the actual cost of reproducing the original.

Choke Loading: That method of transferring grain from the grain-handling operation to any vehicle for shipment or delivery which precludes a free fall velocity of grain from a discharge spout into the receiving container.

Cleaning and Separating Operation: That operation where foreign and undesired substances are removed from the grain.

Dump-Pit Area: Any area where grain is received at a grain-handling or grain-drying operation.

Effective Grate Area: That area of a dump-pit grate through which air passes, or would pass, when aspirated.

Existing Grain-Drying Operation: Any grain-drying operation the construction or modification of which was commenced prior to the effective date of Rule 203(d)(9).

Existing Grain-Handling Operation: Any grain-handling operation the construction or modification of which was commenced prior to the effective date of Rule 203(d)(9).

Grain: The whole kernel or seed of corn, wheat, oats, soybeans, and any other cereal or oil seed plant; and the normal fines, dust, and foreign matter which results from harvesting, handling, or conditioning. The grain shall be unaltered by grinding or processing.

Grain-Drying Operation: Any operation, excluding aeration, by which moisture is removed from grain and which typically uses forced ventilation with the addition of heat.

Grain-Handling Operation: Any operation where one or more of the following grain-related processes (other than grain-drying operation, portable grain-handling equipment, one-turn storage space, and excluding flour mills and feed mills) are performed: receiving, shipping, transferring, storing, mixing, or treating of grain or other processes pursuant to normal grain operations.

Housekeeping Practices: Those activities specifically defined in the list of Housekeeping Practices developed by the Joint EPA - Industry Task Force and included herein under Rule 203(d) (9) (A).

Internal Transferring Area: Areas and associated equipment used for conveying grain among the various grain operations.

Load-Out Area: Any area where grain is transferred from the grain-handling operation to any vehicle for shipment or delivery.

Major Dump Pit: Any dump pit with an annual grain through-put of more than 300,000 bushels, or which receives more than 40% of the annual grain through-put of the grain-handling operation.

Major Population Area (MPA): Areas of major population concentration in Illinois, as described below.

The area within the counties of Cook; Lake; DuPage; Will; the townships of Burton, Richmond, McHenry, Greenwood, Nunda, Dorr, Algonquin, Grafton, and the municipality of Woodstock, plus a zone extending two miles beyond the boundary of said municipality located in McHenry County; the townships of Dundee, Rutland, Elgin, Plato, St. Charles, Campton, Geneva, Blackberry, Batavia, Sugar Creek, and Aurora located in Kane County; and the municipalities of Kankakee, Bradley, and Bourbonnais, plus a zone extending two miles beyond the boundaries of said municipalities in Kankakee County.

The area within the municipalities of Rockford and Loves Park, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Rock Island, Moline, East Moline, Carbon Cliff, Milan, Oak Grove, Silvis, Hampton, Greenwood, and Coal Valley, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Galesburg and East Galesburg, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Bartonville, Peoria, and Peoria Heights, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Pekin, North Pekin, Marquette Heights, Creve Coeur, and East Peoria, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Bloomington and Normal, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Champaign, Urbana, and Savoy, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Decatur, Mt. Zion, Harristown, and Forsyth, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the municipalities of Springfield, Leland Grove, Jerome, Southern View, Grandview, Sherman, and Chatham, plus a zone extending two miles beyond the boundaries of said municipalities.

The area within the townships of Godfrey, Foster, Wood River, Fort Russell, Chouteau, Edwardsville, Venice, Nameoki, Alton, Granite City, and Collinsville located in Madison County; and the townships of Stites, Canteen, Centreville, Caseyville, St. Clair, Sugar Loaf, and Stookey located in St. Clair County.

Mixing Operation: The operation of combining two or more ingredients, of which at least one is a grain.

New Grain-Drying Operation: Any grain-drying operation the construction or modification of which is commenced on or after the effective date of Rule 203(d) (9).

New Grain-Handling Operation: Any grain-handling operation the construction or modification of which is commenced on or after the effective date of Rule 203(d) (9).

One-Turn Storage Space: That space used to store grain with a total annual through-put not in excess of the total bushel storage of that space.

Portable Grain-Handling Equipment: Any equipment (excluding portable grain dryers) that is designed and maintained to be movable primarily for use in a non-continuous operation for loading and unloading one-turn storage space, and is not physically connected to the grain elevator, provided that the manufacturer's rated capacity of the equipment does not exceed 10,000 bushels per hour.

Rule 203: PARTICULATE EMISSION STANDARDS AND LIMITATIONS

(d) Exceptions to Rules 203(a), 203(b), and 203(c)

(9) Grain-Handling and Grain-Drying Operations.

Rules 203(a), 203(b), 203(c), and 203(f)(2) shall not apply to grain-handling and grain-drying operations, portable grain-handling facilities, and one-turn storage space.

(A) All grain-handling and grain-drying operations, regardless of size, must implement and use the following Housekeeping Practices:

(i) Air pollution control devices shall be checked daily and cleaned as necessary to insure proper operation.

(ii) Cleaning and Maintenance

(a) Floors shall be kept swept and cleaned from boot pit to cupola floor. Roof or bin decks and other exposed flat surfaces shall be

kept clean of grain and dust that would tend to rot or become airborne.

- (b) Cleaning shall be handled in such a manner as not to permit dust to escape to the atmosphere.
- (c) The yard and surrounding open areas, including but not limited to ditches and curbs, shall be cleaned to prevent the accumulation of rotting grain.

(iii) Dump Pit

- (a) Aspiration equipment shall be maintained and operated.
- (b) Dust control devices shall be maintained and operated.

(iv) Head House

The head house shall be maintained in such a fashion that visible quantities of dust or dirt are not allowed to escape to the atmosphere.

(v) Property

The yard and driveway of any facility shall be asphalted, oiled, or equivalently treated to control dust.

(vi) Housekeeping Check List

Housekeeping check lists to be developed by the Agency shall be completed by the manager and maintained on the premises for inspection by Agency personnel.

- (B) Unless otherwise exempted pursuant to Rules 203(d)(9)(D) or Rule 203(d)(9)(E), or allowed to use alternate control according to Rule 203(d)(9)(K), existing grain-handling operations with a total annual grain through-put of 300,000 bushels or more shall apply for an operating permit pursuant to Rule 103 of Part I, and shall demonstrate compliance with the following:

(i) Cleaning and Separating Operations

- (a) Particulate matter generated during cleaning and separating operations shall be captured to the extent necessary to prevent visible particulate matter emissions directly into the atmosphere.

- (b) For grain-handling facilities having a grain through-put of not more than 2 million bushels per year or located outside a major population area, air contaminants collected from cleaning and separating operations shall be conveyed through air pollution control equipment which has a rated and actual particulate removal efficiency of not less than 90% by weight prior to release into the atmosphere.
- (c) For grain-handling facilities having a grain through-put exceeding 2 million bushels per year and located within a major population area, air contaminants collected from cleaning and separating operations shall be conveyed through air pollution control equipment which has a rated and actual particulate removal efficiency of not less than 98% by weight prior to release into the atmosphere.

(ii) Major Dump-Pit Area

(a) Induced Draft

(1) Induced draft shall be applied to major dump pits and their associated equipment (including, but not limited to, boots, hoppers, and legs) to such an extent that a minimum face velocity is maintained, at the effective grate surface, sufficient to contain particulate emissions generated in unloading operations. The minimum face velocity at the effective grate surface shall be at least 200 fpm, which shall be determined by using the equation:

$$V_f = \frac{Q}{A}$$

where: V_f = face velocity
and Q = induced draft volume in scfm
and A = effective grate area in ft^2

and

(2) The induced draft air stream for grain-handling facilities having a grain through-put of not more than 2 million bushels per year or located outside a major population area shall be confined and conveyed through air pollution control equipment which has an overall rated and actual particulate collection efficiency of not less than 90% by weight; and

(3) The induced draft air stream for grain-handling facilities having a grain through-put exceeding 2 million bushels per year and located in a major population area shall be confined and conveyed through air pollution control equipment which has an overall rated and actual particulate collection efficiency of not less than 98% by weight; and

(4) Means or devices (including, but not limited to, quick-closing doors, air curtains, or wind deflectors) shall be employed to prevent a wind velocity in excess of 50% of the induced draft face velocity at the pit; provided, however, that such means or devices do not have to achieve the same degree of prevention when the ambient air wind exceeds 25 mph. The wind velocity shall be measured, with the induced draft system not operating, at a point midway between the dump-pit area walls at the point where the wind exits the dump-pit area, and at a height above the dump-pit area floor of approximately two (2) feet; or

- (b) Any equivalent method, technique, system, or combination thereof adequate to achieve, at a minimum, a particulate matter emission reduction equal to the reduction which could be achieved by compliance with subpart (ii)(a) herein.

(iii) Internal Transferring Area

- (a) Internal transferring areas shall be enclosed to the extent necessary to prohibit visible particulate matter emissions directly into the atmosphere.
- (b) Air contaminants collected from internal transfer operations for grain-handling facilities having a grain through-put of not more than 2 million bushels per year or located outside a major population area shall be conveyed through air pollution control equipment which has a rated and actual particulate removal efficiency of not less than 90% by weight prior to release into the atmosphere.
- (c) Air contaminants collected from internal transfer operations for grain-handling facilities having a grain through-put ex-

ceeding 2 million bushels per year and located in a major population area shall be conveyed through air pollution control equipment which has a rated and actual particulate removal efficiency of not less than 98% by weight prior to release into the atmosphere.

(iv) Load-Out Area

- (a) Truck and hopper car loading shall employ socks, sleeves, or equivalent devices which extend 6 inches below the sides of the receiving vehicle, except for topping off. Choke loading shall be considered an equivalent method as long as the discharge point is no more than 12 inches above the sides of the receiving vehicle.
- (b) Box car loading shall employ means or devices to prevent the emission of particulate matter into the atmosphere to the fullest extent which is technologically and economically feasible.
- (c) Watercraft Loading
 - (1) Particulate emissions generated during loading for grain-handling facilities having a grain through-put of not more than 2 million bushels per year or located outside a major population area shall be captured in an induced draft air stream, which shall be ducted through air pollution control equipment that has a rated and actual particulate removal efficiency of not less than 90% by weight prior to release into the atmosphere.
 - (2) Particulate emissions generated during loading for grain-handling facilities having a grain through-put exceeding 2 million bushels per year and located in a major population area shall be captured in an induced draft air stream, which shall be ducted through air pollution control equipment that has a rated and actual particulate removal efficiency of not less than 98% by weight prior to release into the atmosphere; except for the portion of grain loaded by trimming machines for which particulate matter emission reductions, at a minimum, shall equal the reduction achieved by compliance with subpart (iv)(c)(1) herein.

- (C) Unless otherwise exempted pursuant to Rule 203 (d) (9) (D) or Rule 203(d) (9) (E) or allowed to use alternate control according to Rule 203(d) (9) (K), existing grain-drying operations with a total grain-drying capacity in excess of 750 bushels per hour for 5% moisture extraction at manufacturer's rated capacity (using the American Society of Agricultural Engineers Standard 248.2, Section 9, Basis for Stating Drying Capacity of Batch and Continuous-Flow Grain Dryers) shall be operated in such a fashion as to preclude the emission of particulate matter larger than 300 microns mean particle diameter, shall apply for an operating permit pursuant to Rule 103 of Part I, and shall comply with the following:

(i) Column Dryers

The largest effective circular diameter of transverse perforations in the external sheeting of a column dryer shall not exceed 0.094 inch, and the grain inlet and outlet shall be enclosed.

(ii) Rack Dryers

No portion of the exhaust air of rack dryers shall be emitted to the ambient atmosphere without having passed through a particulate collection screen having a maximum opening of 50 mesh, U.S. Sieve Series.

- (a) All such screens will have adequate self-cleaning mechanisms, the exhaust gas of which for grain-handling facilities having a grain through-put of not more than 2 million bushels per year or located outside a major population area shall be ducted through air pollution control equipment which has a rated and actual particulate removal efficiency of 90% by weight prior to release into the atmosphere.
- (b) All such screens will have adequate self-cleaning mechanisms, the exhaust gas of which for grain-handling facilities having a grain through-put exceeding 2 million bushels per year and located in a major population area shall be ducted through air pollution control equipment which has a rated and actual particulate removal efficiency of 98% by weight prior to release into the atmosphere.

(iii) Other Types of Dryers

All other types of dryers shall be controlled in a manner which shall result in the same degree of control required for rack dryers pursuant to subpart (C) (ii) herein.

(D) Exemptions

Any existing grain-handling operation having a grain through-put of not more than 2 million bushels per year and located inside a major population area and any existing grain-handling operation or existing grain-drying operation located outside of a major population area which is required to apply for a permit pursuant to Rule 203(d) (9) (B) and Rule 203(d) (9) (C), respectively, shall receive such permit notwithstanding the control requirements of those respective Rules provided said operation can demonstrate that the following conditions exist upon application for, or renewal of, an operating permit:

- (i) The requirements of Rule 203(d) (9) (A) are being met; and
- (ii) No certified investigation is on file with the Agency indicating that there is an alleged violation prior to issuance of the permit.
 - (a) If a certified investigation is on file with the Agency indicating an alleged violation, any applicant may obtain an exemption for certain operations if said applicant can prove to the Agency that those parts of his operation for which he seeks exemption are not the probable cause of the alleged violation.
 - (b) Applicants requesting an exemption in accordance with the provisions of Rule 203(d) (9) (D) may be granted an operating permit for a limited time, not to exceed 12 months in duration, if an objection is on file with the Agency on which a certified investigation has not been made prior to issuance of the permit.
 - (c) An applicant may consider denial of an exemption under this Rule as a refusal by the Agency to issue a permit. This shall entitle the applicant to appeal

the Agency's decision to the Board pursuant to Section 40 of the Act.

(E) Loss of Exemption

Any existing grain-handling operation or existing grain-drying operation that has received an operating permit pursuant to the provisions of Rule 203(d)(9)(D) shall apply for an operating and/or construction permit pursuant to Rule 103 of Part I within sixty (60) days after receipt of written notice from the Agency that a certified investigation is on file with the Agency indicating that there is an alleged violation against the operation. The construction permit application shall include a compliance plan and project completion schedule showing the grain-handling operation's, or grain-drying operation's program for complying with the standards and limitations of Rule 203(d)(9)(B), or Rule 203(d)(9)(C) as the case may be, within a reasonable time after the date on which notice of a certified investigation indicating alleged pollution was received by said operation; provided, however, any such operation shall not be required to reduce emissions from those parts of the operation that the applicant can prove to the Agency are not the probable cause of the pollution alleged in the certified investigation.

- (i) The written notice of loss of exemption is not a final action of the Agency appealable to the Board.
- (ii) Denial of a permit requested pursuant to this Rule 203(d)(9)(E) is a final action appealable to the Board under Section 40 of the Act.

(F) New and Modified Grain-Handling Operations

New and modified grain-handling operations shall file applications for construction and operating permits pursuant to Rule 103 of Part I, and shall comply with the control equipment requirements of Rule 203(d)(9)(B), except for new and modified grain-handling operations which will handle an annual grain through-put of less than 300,000 bushels; provided, however, that for the purpose of this Rule 203(d)(9), an increase in the annual grain through-put, without physical alterations or additions to the grain-handling operation, shall not be considered a modification unless such increase exceeds 30% of the annual grain through-put on which the operation's original construction and/or operating permit was granted. If the grain-handling operation has been operating lawfully

without a permit, its annual grain through-put shall be determined as set forth in the definition of the term "annual grain through-put."

(G) New and Modified Grain-Drying Operations

New and modified grain-drying operations shall file applications for construction and operating permits pursuant to Rule 103 of Part I, and shall comply with the control equipment requirements of Rule 203(d)(9)(C), except for new and modified grain-drying operations which do not result in a total grain-drying capacity in excess of 750 bushels per hour for 5% moisture extraction at manufacturer's rated capacity, using the American Society of Agricultural Engineers Standard 248.2, Section 9, Basis for Stating Drying Capacity of Batch and Continuous-Flow Grain Dryers.

(H) Circumvention

It shall be a violation of this Regulation for any person or persons to attempt to circumvent the requirements of this Regulation by establishing a pattern of ownership or facility development which, except for such pattern of ownership or facility development, would otherwise require application of Rule 203(d)(9)(B) or Rule 203(d)(9)(C).

(I) Standard on Appeal to Board

In ruling on any appeal of a permit denial under Rule 203(d)(9)(D) or Rule 203(d)(9)(E), the Board shall not order the permit to be issued by the Agency unless the applicant who has appealed the permit denial has proved to the Board that the grain-handling operation or grain-drying operation which is the subject of the denied application is not injurious to human, plant, or animal life, to health, or to property, and does not unreasonably interfere with the enjoyment of life or property.

(J) Compliance Dates

- (i) Existing grain-handling and grain-drying operations subject to Rule 203(d)(9)(B), Rule 203(d)(9)(C), and Rule 203(d)(9)(D) shall achieve compliance on or before April 30, 1977, except that all grain-handling and grain-drying operations must comply with Rule 203(d)(9)(A) upon the effective date of this Rule 203(d)(9).
- (ii) New grain-handling and grain-drying operations shall comply with Rule 203(d)(9) upon its effective date.

(K) Alternate Control of Particulate Emissions

Grain-handling or grain-drying operations, which were in numerical compliance with Rule 203(b) of Chapter 2, as of the effective date of Part 2 of this Chapter (April, 1972), and continue to be in compliance with Rule 203(b) need not comply with the provisions under Rule 203(d)(9) herein, except the Housekeeping Practices in Rule 203(d)(9)(A) and this Rule 203(d)(9)(K).

Grain-handling or grain-drying operations, which were not in numerical compliance with Rule 203(b) of Chapter 2, as of the effective date of Part 2 of this Chapter, but which came into compliance with Rule 203(a) prior to the effective date of Rule 203(d)(9), and continue to be in compliance with Rule 203(a) need not comply with the provisions under Rule 203(d)(9) herein, except the Housekeeping Practices in Rule 203(d)(9)(A) and this Rule 203(d)(9)(K).

Proof of compliance with said Rule shall be made by stack sampling and/or material balance results obtained from actual testing of the subject facility or process and be submitted at the time of an application for, or renewal of, an operating permit.

(L) Severability

If any provision of these rules and regulations is adjudged invalid, such invalidity shall not affect the validity of this Chapter as a whole or of any part, subpart, sentence or clause thereof not adjudged invalid.

