

**TITLE 20 ENVIRONMENTAL PROTECTION**  
**CHAPTER 2 AIR QUALITY (STATEWIDE)**  
**PART 43 GASIFICATION PLANTS**

**20.2.43.1 ISSUING AGENCY:** New Mexico Environmental Improvement Board.  
[11/23/98; 20.2.43.1 NMAC - Rn, 20 NMAC 2.43.100 10/31/02]

**20.2.43.2 SCOPE:** All geographic areas within the jurisdiction of the Environmental Improvement Board.  
[11/23/98; 20.2.43.2 NMAC - Rn, 20 NMAC 2.43.101 10/31/02]

**20.2.43.3 STATUTORY AUTHORITY:** Environmental Improvement Act, NMSA 1978, section 74-1-8(A)(4) and (7), and Air Quality Control Act, NMSA 1978, sections 74-2-1 et seq., including specifically, section 74-2-5(A), (B) and (C).  
[11/23/98; 20.2.43.3 NMAC - Rn, 20 NMAC 2.43.102 10/31/02]

**20.2.43.4 DURATION:** Permanent.  
[11/23/98; 20.2.43.4 NMAC - Rn, 20 NMAC 2.43.103 10/31/02]

**20.2.43.5 EFFECTIVE DATE:** November 23, 1998, except where a later date is cited at the end of a section or paragraph.  
[11/23/98; 20.2.43.5 NMAC - Rn, 20 NMAC 2.43.104 10/31/02]  
[The latest effective date of any section in this Part is 10/31/02.]

**20.2.43.6 OBJECTIVE:** The objective of this Part is to establish emission standards for gasification plants.  
[11/23/98; 20.2.43.6 NMAC - Rn, 20 NMAC 2.43.105 10/31/02]

**20.2.43.7 DEFINITIONS:** In addition to the terms defined in 20.2.2 NMAC (Definitions), as used in this Part:

**A. "Feed"** means those materials which enter directly into the manufacture of synthetic natural gas, and includes, but is not limited to coal, tars, oils and naphtha.

**B. "Gasification plant"** means a plant that manufactures synthetic gas and includes: all process gas streams and products produced in the gasification process; all operations associated with treatment of gasification products; ash removal equipment; regeneration of any absorbent or oxidizing agents (and any off gases so produced) used in the treatment or removal of products produced in the gasification process; catalyst regeneration; storage facilities for liquids, solids and gases; and pretreatment of coal. Gasification plant does not include the coal preparation plant, the sizing and briquetting of coal or any process gas streams after the streams enter a boiler and undergo combustion.

**C. "Sulfur"** means elemental sulfur and the sulfur component of any sulfur mixtures or compounds.  
[11/23/98; 20.2.43.7 NMAC - Rn, 20 NMAC 2.43.107 10/31/02]

**20.2.43.8 AMENDMENT AND SUPERSESION OF PRIOR REGULATIONS:** This Part amends and supersedes Air Quality Control Regulations (AQCRs): 670, 671, 673, 674, 675, 676, 677, 678, 679, 680, 681, and 682. All references to these AQCRs in any other rule shall be understood as a reference to this Part. See 20.2.43.10 NMAC for detailed filing history.  
[11/23/98; 20.2.43.8 NMAC - Rn, 20 NMAC 2.43.106 10/31/02]

**20.2.43.9 DOCUMENTS:** Documents incorporated and cited in this Part may be viewed at the New Mexico Environment Department, Air Quality Bureau, Harold Runnels Building, 1190 St. Francis Dr., or 2048 Galisteo St., Santa Fe, NM 87502 [87505].  
[11/23/98; 20.2.43.9 NMAC - Rn, 20 NMAC 2.43.108 10/31/02]

**20.2.43.10 PRE-NMAC REGULATORY FILING HISTORY:** The material in this Part was derived from that previously filed with the State Records Center and Archives under Air Quality Control Regulations (AQCRs): 670 - Gasification Plants - Monitoring, filed Nov. 16, 1973 and Feb. 8, 1983; 671 - Gasification Plants - Coal Briquet Forming Facility - Particulate Matter, filed Nov. 16, 1973, Feb. 8, 1983, and July 24, 1984; 673 -

Gasification Plants - Hydrogen Sulfide - Carbon Disulfide - Carbon Oxysulfide, filed Nov. 16, 1973, Feb. 8, 1983, and July 24, 1984; 674 - Gasification Plants - Hydrogen Cyanide, filed Nov. 16, 1973, and Feb. 8, 1983; 675 - Gasification Plants - Hydrogen Chloride - Hydrochloric Acid, filed Nov. 16, 1973, and Feb. 8, 1983; 676 - Gasification Plants - Particulate Matter, filed Nov. 16, 1973, and Feb. 8, 1983; 677 - Gasification Plants - Ammonia, filed Nov. 16, 1973 and Feb. 8, 1983; 678 - Gasification Plants - Gas Burning Boilers - Particulate Matter, filed Nov. 16, 1973 and Feb. 8, 1983; 679 - Gasification Plants - Gas Burning Boilers - Sulfur Dioxide, filed Nov. 16, 1973, Feb. 8, 1983, and July 24, 1984; 680 - Gasification Plants - Sulfur, filed Nov. 16, 1973, Feb. 8, 1983, and July 24, 1984; 681 - Gasification Plants - Hydrocarbons - Storage - Handling - Pumping - Safety Relief Valves - Blowdown System, filed Nov. 16, 1973 and Feb. 8, 1983; 682 - Boilers Operated in Conjunction With Gasification Plants - Enforcement, filed Nov. 16, 1973, Feb. 8, 1983, and July 24, 1984.  
[11/23/98; 20.2.43.10 NMAC - Rn, 20 NMAC 2.43.103A 10/31/02]

**20.2.43.11 to 20.2.43.108 [RESERVED]**

**20.2.43.109 MONITORING:** No person owning or operating a gasification plant shall permit, cause, suffer or allow emissions of gas streams to the atmosphere except through stacks at least ten diameters in length equipped with sampling ports and platforms in such number, location and size as to allow for accurate sampling to be performed.  
[11/23/98; 20.2.43.109 NMAC - Rn, 20 NMAC 2.43.109 10/31/02]

**20.2.43.110 COAL BRIQUET FORMING FACILITY - PARTICULATE MATTER:** No person owning or operating a coal briquet forming facility in conjunction with a gasification plant shall permit, cause, suffer or allow particulate matter emissions to the atmosphere in excess of 0.03 grains per standard cubic foot of exhaust gas. Within technical feasibility, all particulate matter emissions to the atmosphere shall be limited to a stack outlet or outlets.  
[11/23/98; 20.2.43.110 NMAC - Rn, 20 NMAC 2.43.110 10/31/02]

**20.2.43.111 HYDROGEN SULFIDE - CARBON DISULFIDE- CARBON OXYSULFIDE:** No person owning or operating a gasification plant shall permit, cause, suffer or allow any combination of hydrogen sulfide, carbon disulfide and carbon oxysulfide emissions to the atmosphere in excess of 100 ppm by volume in the effluent gas stream or streams. The hydrogen sulfide component in the combined effluent gas stream or streams is limited to 10 ppm by volume.  
[11/23/98; 20.2.43.111 NMAC - Rn, 20 NMAC 2.43.111 10/31/02]

**20.2.43.112 HYDROGEN CYANIDE:** No person owning or operating a gasification plant shall permit, cause, suffer or allow hydrogen cyanide emissions to the atmosphere in excess of 10 ppm by volume in the effluent gas stream or streams.  
[11/23/98; 20.2.43.112 NMAC - Rn, 20 NMAC 2.43.112 10/31/02]

**20.2.43.113 HYDROGEN CHLORIDE - HYDROCHLORIC ACID:** No person owning or operating a gasification plant shall permit, cause, suffer or allow any combination of hydrogen chloride and hydrochloric acid emissions to the atmosphere in excess of 5 ppm by volume in the effluent gas stream or streams.  
[11/23/98; 20.2.43.113 NMAC - Rn, 20 NMAC 2.43.113 10/31/02]

**20.2.43.114 PARTICULATE MATTER:**

**A.** No person owning or operating a gasification plant shall permit, cause, suffer or allow particulate matter emissions to the atmosphere in excess of 0.03 grains per cubic foot of effluent gas at seventy degrees Fahrenheit and 14.7 pounds per square inch absolute.

**B.** Particulate matter emissions governed by this section shall be determined by the method described in 36 Federal Register No. 247, p. 24888 (Dec. 23, 1971) where technically feasible. Where not technically feasible to use this method, samples shall consist of at least one cubic foot of gas and collected over a period of at least twenty minutes.

**C.** No person owning or operating a gasification plant and related facilities shall permit, cause, suffer or allow any material to be handled, transported, stored or disposed of or a building or road to be used, constructed, altered or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.  
[11/23/98; 20.2.43.114 NMAC - Rn, 20 NMAC 2.43.114 10/31/02]

**20.2.43.115 AMMONIA:**

**A.** No person owning or operating a gasification plant shall place, store or hold in any stationary tank or other container any ammonia unless the tank or other container is:

(1) A pressure tank capable of maintaining working pressures sufficient to prevent loss of ammonia to the atmosphere; or

(2) Equipped with other equally effective control equipment to prevent loss of ammonia to the atmosphere.

**B.** No person owning or operating a gasification plant shall permit, cause, suffer or allow ammonia emissions to the atmosphere in excess of 25 ppm by volume in the effluent gas stream or streams.

[11/23/98; 20.2.43.115 NMAC Rn, 20 NMAC 2.43.115 10/31/02]

**20.2.43.116 GAS BURNING BOILERS - PARTICULATE MATTER:**

**A.** No person owning or operating gas-burning boilers in conjunction with a gasification plant shall permit, cause, suffer or allow particulate matter emissions to the atmosphere in excess of 0.03 pounds per million British Thermal Units of heat input (lower heating value) to the boilers. For purposes of this section (20.2.43.116 NMAC) all gas-fired boilers will be considered as one unit for each gasification plant.

**B.** Particulate matter emissions governed by this section shall be determined by the method described in 36 Federal Register No. 247, p. 24888 (Dec. 23, 1971) where technically feasible. Where not technically feasible to use this method, samples shall consist of at least one cubic foot of gas and collected over a period of at least twenty minutes.

[11/23/98; 20.2.43.116 NMAC - Rn, 20 NMAC 2.43.116 10/31/02]

**20.2.43.117 GAS BURNING BOILERS - SULFUR DIOXIDE:** No person owning or operating gas-burning boilers in conjunction with a gasification plant shall permit, cause, suffer or allow sulfur dioxide emissions to the atmosphere in excess of a total of 0.16 pounds per million British Thermal Units of heat input (lower heating value) fed to all boilers.

[11/23/98; 20.2.43.117 NMAC - Rn, 20 NMAC 2.43.117 10/31/02]

**20.2.43.118 SULFUR:** No person owning or operating a gasification plant shall permit, cause, suffer or allow sulfur emissions to the atmosphere in excess of a total of 0.008 pounds per million British Thermal Units of heat input (higher heating value) contained in the feed introduced into the gasification plant.

[11/23/98; 20.2.43.118 NMAC - Rn, 20 NMAC 2.43.118 10/31/02]

**20.2.43.119 HYDROCARBONS - STORAGE - HANDLING - PUMPING - SAFETY RELIEF VALVES - BLOWDOWN SYSTEM:** No person owning or operating a gasification plant shall:

**A.** Place, store or hold in any stationary tank or other container (except wastewater treatment basins, ponds, clarifiers, and settlers) any phenols or any organic compound having a Reid vapor pressure of 1.5 pounds per square inch or greater, unless the tank or other container is designed, equipped and maintained with:

(1) A floating roof, consisting of a pontoon-type, double-deck roof or internal floating cover, which rests on the surface of the liquid contents and is equipped with a closure seal or seals to close the space between the roof or cover edge and tank wall;

(2) A vapor recovery system consisting of:

(a) A vapor gathering system capable of collecting the organic compound vapors and gases discharged; and

(b) A vapor disposal system capable of processing the organic vapors and gases so as to prevent their emission to the atmosphere; or

(3) Any other device which is at least as efficient to prevent vapor or gas loss to the atmosphere.

**B.** Place, store or hold in any stationary tank or other container (except wastewater treatment basins, ponds, clarifiers, and settlers) any phenols or any organic compound having a Reid vapor pressure of 1.5 pounds per square inch or greater without the tank or other container gauging and sampling devices being gas tight, except when gauging or sampling is taking place.

**C.** Load or unload into any tank, truck or trailer any phenols or any organic compound having a Reid vapor pressure of 1.5 pounds per square inch or greater, unless:

(1) The loading facility is equipped with:

(a) A loading arm having a vapor collection adapter to force a vapor-tight seal between the adapter and the hatch and having a means of collecting the vented vapors and preventing their emission to the atmosphere; or

(b) Any other device which is at least as efficient to prevent vapor or gas loss to the atmosphere; and

(2) A means is provided to prevent liquid organic compound drainage from the loading device when it is removed from the hatch of any tank, truck or trailer or to accomplish complete drainage before its removal.

**D.** Use a pump or compressor which handles any phenols or any organic compound having a Reid vapor pressure of 1.5 pounds per square inch or greater, unless the pump or compressor is equipped with mechanical seals or other devices of equal or greater efficiency to prevent liquid or vapor losses.

**E.** Install safety relief valves, except valves installed on gas streams containing steam, product gas, nitrogen or oxygen, unless they are connected to a blowdown system.

**F.** Operate a blowdown system without disposing of the gases in a manner which will prevent hydrocarbon emissions to the atmosphere. If combustion is the means of disposal, it shall be by smokeless flare or similar means to achieve complete combustion.

[11/23/98; 20.2.43.119 NMAC - Rn, 20 NMAC 2.43.119 10/31/02]

### **20.2.43.120 BOILERS OPERATED IN CONJUNCTION WITH GASIFICATION PLANTS - ENFORCEMENT:** In gasification plants, if more than one fuel is fired simultaneously in a boiler:

**A.** The boiler shall be considered as two or more units, each firing the equivalent amount of fuel with the appropriate heat content separately but having a common stack for determination of allowable emissions.

**B.** Allowable emissions shall be calculated according to the following formula:  $ET = E_o Q_o + E_c Q_c + E_g Q_g$ , where ET is the total allowed emission in pounds per given period of time;  $E_o$  is the allowed emission from oil in pounds per million BTU's;  $E_c$  is the allowed emission from coal in pounds per million BTU's;  $E_g$  is the allowed emission from gas in pounds per million BTU's;  $Q_o$  is the heat released by the oil based on the higher heating value in BTU's per period of time;  $Q_c$  is the heat released by the coal based on the higher heating value in BTU's per period of time; and  $Q_g$  is the heat released by the gas based on the lower heating value in BTU's per period of time.

**C.** In addition, the total allowable emissions of particulates two microns equivalent aerodynamic diameter or less shall be calculated according to:  $E_f = 0.40 E_c (Q_o + Q_c + Q_g)$  where:  $E_f$  is the total allowed emission of fine particulates in pounds per given period of time, and all other terms remain as previously defined. [11/23/98; 20.2.43.120 NMAC - Rn, 20 NMAC 2.43.120 10/31/02]

### **HISTORY OF 20.2.43 NMAC:**

**Pre-NMAC History:** The material in this part was derived from that previously filed with the commission of public records-state records center and archives:

AQCR 670-671, Air Quality Control Regulations --- 670 -- Gasification Plants - Monitoring; 671 -- Gasification Plants - Coal Briquet Forming Facility -- Particulate Matter, 11/16/73.

AQCR 670, Air Quality Control Regulation 670 -- Gasification Plants - Monitoring, 02/08/83;

AQCR 671, Air Quality Control Regulation 671 -- Gasification Plants - Coal Briquet Forming Facility -- Particulate Matter, 02/08/83;

EIB/AQCR 671, Air Quality Control Regulation 671 -- Gasification Plants - Coal Briquet Forming Facility -- Particulate Matter, 07/24/84;

AQCR 673-682, Air Quality Control Regulations 673, 674, 675, 676, 677, 678, 679, 680, 681, 682; 11/16/73;

AQCR 673, Air Quality Control Regulation 673 -- Gasification Plants - Hydrogen Sulfide - Carbon Disulfide - Carbon Oxysulfide, 02/08/83;

EIB/AQCR 673, Air Quality Control Regulation 673 -- Gasification Plants - Hydrogen Sulfide - Carbon Disulfide - Carbon Oxysulfide, 07/24/84;

AQCR 674, Air Quality Control Regulation 674 -- Gasification Plants - Hydrogen Cyanide, 02/08/83;

AQCR 675, Air Quality Control Regulation 675 -- Gasification Plants - Hydrogen Chloride - Hydrochloric Acid, 02/08/83;

AQCR 676, Air Quality Control Regulation 676 -- Gasification Plants - Particulate Matter, 02/08/83;

AQCR 677, Air Quality Control Regulation 677 -- Gasification Plants - Ammonia, 02/08/83;

AQCR 678, Air Quality Control Regulation 678 -- Gasification Plants - Gas Burning Boiler - Particulate Matter, 02/08/83;

AQCR 679, Air Quality Control Regulation 679 -- Gasification Plants - Gas Burning Boiler - Sulfur Dioxide, 02/08/83;  
EIB/AQCR 679, Air Quality Control Regulation 679 -- Gasification Plants - Gas Burning Boiler - Sulfur Dioxide, 07/24/84;  
AQCR 680, Air Quality Control Regulation 680 -- Gasification Plants - Sulfur, 02/08/83;  
EIB/AQCR 680, Air Quality Control Regulation 680 -- Gasification Plants - Sulfur, 07/24/84;  
AQCR 681, Air Quality Control Regulation 681 -- Gasification Plants -- Hydrocarbons - Storage - Handling - Pumping - Safety Relief Valves - Blowdown System, 02/08/83;  
AQCR 682, Air Quality Control Regulation 682 -- Boilers Operated In Conjunction With Gasification Plants - Enforcement, 02/08/83;  
EIB/AQCR 682, Air Quality Control Regulation 682 -- Boilers Operated In Conjunction With Gasification Plants - Enforcement, 07/24/84.

**History of Repealed Material:** [RESERVED]

**Other History:**

AQCR 670, Air Quality Control Regulation 670 -- Gasification Plants - Monitoring, filed 02/08/83; EIB/AQCR 671, Air Quality Control Regulation 671 -- Gasification Plants - Coal Briquet Forming Facility -- Particulate Matter, filed 07/24/84; EIB/AQCR 673, Air Quality Control Regulation 673 -- Gasification Plants - Hydrogen Sulfide - Carbon Disulfide - Carbon Oxysulfide, filed 07/24/84; AQCR 674, Air Quality Control Regulation 674 -- Gasification Plants - Hydrogen Cyanide, filed 02/08/83; AQCR 675, Air Quality Control Regulation 675 -- Gasification Plants - Hydrogen Chloride - Hydrochloric Acid, filed 02/08/83; AQCR 676, Air Quality Control Regulation 676 -- Gasification Plants - Particulate Matter, filed 02/08/83; AQCR 677, Air Quality Control Regulation 677 -- Gasification Plants - Ammonia, filed 02/08/83; AQCR 678, Air Quality Control Regulation 678 -- Gasification Plants - Gas Burning Boiler - Particulate Matter, filed 02/08/83; EIB/AQCR 679, Air Quality Control Regulation 679 -- Gasification Plants - Gas Burning Boiler - Sulfur Dioxide, filed 07/24/84; EIB/AQCR 680, Air Quality Control Regulation 680 -- Gasification Plants - Sulfur, filed 07/24/84; AQCR 681, Air Quality Control Regulation 681 -- Gasification Plants -- Hydrocarbons - Storage - Handling - Pumping - Safety Relief Valves - Blowdown System, filed 02/08/83; EIB/AQCR 682, Air Quality Control Regulation 682 -- Boilers Operated In Conjunction With Gasification Plants - Enforcement, filed 07/24/84; were **renumbered** into first version of the New Mexico Administrative Code as 20 NMAC 2.43, Gasification Plants, filed 10/23/98.  
20 NMAC 2.43, Gasification Plants, filed 10/23/98 was **renumbered, reformatted and replaced** by 20.2.43 NMAC, Gasification Plants, effective 10/31/02.