

**TITLE 20 ENVIRONMENTAL PROTECTION**  
**CHAPTER 2 AIR QUALITY (STATEWIDE)**  
**PART 41 NONFERROUS SMELTERS - SULFUR**

**20.2.41.1 ISSUING AGENCY:** Environmental Improvement Board.  
[11/30/95; 20.2.41.1 NMAC - Rn, 20 NMAC 2.41.100 10/31/02]

**20.2.41.2 SCOPE:** All geographic areas within the jurisdiction of the Environmental Improvement Board.  
[11/30/95; 20.2.41.2 NMAC - Rn, 20 NMAC 2.41.101 10/31/02]

**20.2.41.3 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).  
[11/30/95; 20.2.41.3 NMAC - Rn, 20 NMAC 2.41.102 10/31/02]

**20.2.41.4 DURATION:** Permanent.  
[11/30/95; 20.2.41.4 NMAC - Rn, 20 NMAC 2.41.103 10/31/02]

**20.2.41.5 EFFECTIVE DATE:** November 30, 1995.  
[11/30/95; 20.2.41.5 NMAC - Rn, 20 NMAC 2.41.104 10/31/02]  
[The latest effective date of any section in this Part is 10/31/02.]

**20.2.41.6 OBJECTIVE:** The objective of this Part is to establish requirements and standards for nonferrous smelters to minimize sulfur emissions.  
[11/30/95; 20.2.41.6 NMAC - Rn, 20 NMAC 2.41.105 10/31/02]

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

- A. "Captured fugitive emissions"** means sulfur emissions which escape from various points in the smelting process and are captured.
- B. "Exceedance"** means the state of being exceeded.
- C. "Existing nonferrous smelter"** means a nonferrous smelter which was constructed and fully operational prior to September 1, 1971.
- D. "Good operating conditions"** means monitors operated in accordance with the specifications at 40 CFR Part 52, Appendices D and E.
- E. "Malfunction"** means any sudden and unavoidable failure of air pollution control equipment, process equipment or process to operate in an expected manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable equipment breakdown shall not be considered a malfunction.
- F. "Median"** means the middle value in a series of numbers below and above which fall an equal number of values.
- G. "Modification"** means a modification as defined by section 74- 2-2(M), NMSA 1978.
- H. "Modified nonferrous smelter"** means any existing smelter that has incorporated a modification.
- I. "New nonferrous smelter"** means a nonferrous smelter, the construction of which commenced after September 1, 1971.
- J. "Part"** means an air quality control regulation under Title 20, Chapter 2 of the New Mexico Administrative Code, unless otherwise noted; as adopted or amended by the Board.
- K. "Startup"** means the setting into operation of any air pollution control equipment, process equipment or process for any purpose.
- L. "Sulfur"** means elemental sulfur and the sulfur component of any sulfur mixtures or compounds.
- M. "Sulfur dioxide"** means the chemical compound containing two atoms of oxygen and one of sulfur.
- N. "Uncaptured fugitive emissions"** means sulfur emissions which escape to the atmosphere from various points in the smelting process due to leakage, materials charging and handling, transfer and storage, or other causes.

[11/30/95; 20.2.41.7 NMAC - Rn, 20 NMAC 2.41.107 10/31/02]

**20.2.41.8 AMENDMENT AND SUPERSESION OF PRIOR REGULATIONS:** This Part amends and supersedes Air Quality Control Regulation ("AQCR") 652 -- Nonferrous Smelters -- Sulfur last filed November 17, 1993.

**A.** All references to AQCR 652 in any other rule shall be construed as a reference to this Part.

**B.** The amendment and supersession of AQCR 652 shall not affect any administrative or judicial enforcement action pending on the effective date of such amendment nor the validity of any permit issued pursuant to AQCR 652.

[11/30/95; 20.2.41.8 NMAC - Rn, 20 NMAC 2.41.106 10/31/02]

**20.2.41.9 DOCUMENTS:** Documents cited in this Part may be viewed at the New Mexico Environment Department, Air Quality Bureau, Runnels Building, 1190 Saint Francis Drive, Santa Fe, NM 87505 [2048 Galisteo St., Santa Fe, NM 87505].

[11/30/95; 20.2.41.9 NMAC - Rn, 20 NMAC 2.41.108 10/31/02]

**20.2.41.10 to 20.2.41.108 [RESERVED]**

**20.2.41.109 EMISSION LIMITATIONS -- EXISTING OR MODIFIED NONFERROUS SMELTER:**

The owner or operator of any existing or modified nonferrous smelter shall not permit, cause, suffer or allow:

**A.** Annual average emissions in excess of 7000 pounds of sulfur dioxide per hour except as provided for in 20.2.41.112 NMAC;

**B.** A median 3-hour running average to exceed 5309 pounds of sulfur dioxide per hour during any 365-day compliance period;

**C.** More than N occurrences of three-hour running average sulfur dioxide emissions in excess of the corresponding E values shown in the following table in any 365-day compliance period when there are malfunction or startup conditions:

N (number of occurrences)	E (pounds per hour of sulfur dioxide emissions)
0	3,000
1	49,000
2	45,500
4	42,300
7	39,200
12	36,200
20	33,400
32	31,300
48	29,200
68	27,200
94	25,600
130	23,800
180	21,700
245	20,000
330	18,700
435	17,200
560	15,800
710	14,600
890	13,200
1100	12,200
[greater than] 1100	7,800

**D.** More than N occurrences of three-hour running average sulfur dioxide emissions in excess of the corresponding E values shown in the following table in any 365-day compliance period when there are not malfunction or startup conditions:

N (number of occurrences)	E (pounds per hour of sulfur dioxide emissions)
0	12,200
240	10,700
510	9,800
810	8,700
1,140	7,800

(1) Any three-hour average that includes a period of time when there are malfunction or startup conditions shall be included in either the cumulative occurrence limits of subsections C and D of 20.2.41.109 NMAC, at the choice of the smelter owner or operator;

(2) Any three-hour average that does not include a period of time when there are malfunction or startup conditions shall be included in the cumulative occurrence table in subsection D of 20.2.41.109 NMAC.

**E.** The release of fugitive sulfur emissions to the atmosphere unless the owner or operator utilizes best engineering practices to minimize the release of such fugitive emissions. Best engineering practices shall, as a minimum, include:

(1) Maintaining and operating all furnaces, converters, and converter hoods so that leakage of gases to the atmosphere will be minimized to the maximum extent practicable;

(2) Maintaining all ducts, flues, and stacks in leak-free condition;

(3) Installing and operating tight-fitting exhaust hoods where feasible on all tapholes, launders, and other significant sources of fugitive sulfur emissions; and

(4) Venting all captured fugitive emissions through the tallest stack serving the smelter;

**F.** Operation of the smelter without including all measured emissions to the atmosphere in compliance calculations.

[11/30/95; 20.2.41.109 NMAC - Rn, 20 NMAC 2.41.109 10/31/02]

**20.2.41.110 EMISSION LIMITATIONS -- NEW NONFERROUS SMELTER:** The owner or operator of a new nonferrous smelter shall not permit, cause, suffer or allow:

**A.** sulfur emissions to the atmosphere in excess of ten pounds of sulfur for every one hundred pounds of sulfur fed to the smelter;

**B.** the release of fugitive sulfur emissions to the atmosphere unless best engineering practices, including practices listed in subsection E of 20.2.41.109 NMAC, are utilized to minimize the release of such fugitive emissions.

[11/30/95; 20.2.41.110 NMAC - Rn, 20 NMAC 2.41.110 10/31/02]

**20.2.41.111 MONITORING -- EXISTING OR MODIFIED NONFERROUS SMELTER:**

**A.** Continuous Monitoring: The owner or operator of an existing or modified nonferrous smelter shall maintain monitors in good operating condition which continuously measure and record the sulfur dioxide concentration and stack gas volumetric flow rate of the gases within the stacks serving all furnaces, liquid sulfur dioxide plants, converters, acid plants, reverberatory feed dryers, and stacks from which captured fugitive emissions are vented to the atmosphere. Any continuous monitors required by this section (20.2.41.111 NMAC) shall record the sulfur dioxide concentration and stack gas volumetric flow rate at least 95 percent of the time for any twelve consecutive calendar months. The 95 percent data recovery shall only apply for the time or times that the stack is used to release sulfur dioxide to the atmosphere. If the monitor does not measure the sulfur dioxide concentration and stack gas volumetric flow rate for the required amount of time, the smelter owner shall use alternative methods approved by the Department and the US EPA to supply the missing concentration data.

**B.** Sampling Locations: The sampling point or points of the continuous monitoring system shall be located at least eight stack diameters (diameter measured at sampling point) downstream and two diameters upstream from any flow disturbance such as a bend, expansion, constriction or flame, unless another location is approved by the Department. The sampling point for monitoring emissions shall be in the duct at the centroid (geometrical centered 1.0 per cent area) of the cross-section if the cross-sectional area is less than 113 square feet or at a point no closer to the wall than six feet if the cross-sectional area is more than 113 square feet unless otherwise

approved by the Department. The sampling point shall be in an area of low spatial concentration gradient and shall be representative of the concentration in the duct.

**C. Exemptions:** Upon the request of the owner or operator of the smelter, the Department may exempt stacks from this monitoring requirement if the Department determines that they do not carry more than ten (10) pounds per hour sulfur dioxide emissions.

**D. Instrument Calibration and Data Retention:** Instruments and sampling systems installed and used pursuant to this section shall be calibrated in accordance with the methods prescribed by manufacturer's recommended zero adjustment and calibration check procedures at least once every 24 hours of operation, unless the manufacturer specifies or recommends calibration checks more frequently. The owner or operator of the smelter shall retain all raw data and quality assurance measurements and procedures for a minimum of three years.

**E. Performance Audits of Monitoring System:** Instruments and sampling systems installed and used pursuant to subsections A, B and C of 20.2.41.111 NMAC, shall be installed, operated and maintained in accordance with the performance specifications and other requirements set forth at 40 CFR Part 52, Appendices D and E. Alternative procedures for this paragraph may be used with approval of the Department and the EPA. In the event that repair work is performed on the monitoring system, that could result in inaccurate readings, the owner or operator of the smelter shall demonstrate to the Department that the system continues to meet the applicable performance specifications. The Department may require the owner or operator of the smelter to conduct performance tests as specified at 40 CFR Part 52, Appendices D and E at any time that the Department determines that such a test is necessary to verify the performance of the monitoring system. The Department and the US EPA may approve alternative means of verifying the performance of the continuous monitoring system. The Department may also perform independent audits on the continuous monitoring system, utilizing Methods 1, 2, 4 and 8, found at 40 CFR Part 60, Appendix A, or other applicable methods.

**F. Test Notification, Reporting and Reevaluation of CEMS:** The owner or operator of an existing or modified nonferrous smelter shall:

(1) Notify the Department at least forty-five (45) days in advance of the start of the field tests required at 40 CFR Part 52, Appendices D and E;

(2) Submit a report to the Department within forty-five (45) days of the completion of any performance specification test required by this Part or the Department; and

(3) Reevaluate the continuous emission monitoring systems installed and operated pursuant to subsection E of 20.2.41.111 NMAC at least once during any twelve (12) calendar months following the installation of such systems. The evaluation shall demonstrate acceptability of zero and calibration drift, relative accuracy error, and calibration error of measurements contained in the applicable performance specification at 40 CFR Part 52, Appendices D and E, or as otherwise approved by the Department.

[11/30/95; 20.2.41.111 NMAC - Rn, 20 NMAC 2.41.111 10/31/02]

**20.2.41.112 COMPLIANCE -- EXISTING OR MODIFIED NONFERROUS SMELTERS:** Compliance with 20.2.41.109 NMAC shall be determined in accordance with the requirements specified in this section:

**A.** Annual running average emissions shall be calculated at the end of each calendar day. The smelter shall be in violation if two (2) consecutive annual averages exceed the emission limit and the second average exceeds the first average. The smelter shall also be in violation if ten (10) consecutive annual averages exceed the annual average emission limit;

**B.** The median running 3-hour average for the previous 365 days shall be calculated at the end of each calendar day. Such compliance determinations shall be calculated at the end of each day for each compliance period;

**C.** Compliance with the cumulative occurrence tables in 20.2.41.109 NMAC shall be determined on the basis of all running three-hour averages measured in the previous 365 days or less. Such compliance determinations shall be calculated at the end of each day. Three-hour averages shall be calculated at the end of each clock hour by averaging the hourly emissions for the preceding three (3) consecutive hours whenever each hour was measured in accordance with 20.2.41.109 NMAC and subsections A, B and C of 20.2.41.111 NMAC.

**D.** If the smelter is not operating for an extended period of time, and with the approval of the Department, zeros may be recorded on an hourly basis without operating the continuous monitoring system if emissions to the atmosphere are shown to be below ten (10) pounds per hour;

**E.** A three-hour emissions average in excess of an emission level (E) is a violation if the number of all three-hour emissions averages that exceed the emission level (E) measured during the compliance period exceeds the cumulative occurrence limit (N);

**F.** The compliance period shall consist of the 365 days immediately preceding each day;

**G.** A three-hour emissions average can only violate the cumulative occurrence limit (N) of an emissions level (E) in the day containing the last hour in the average;

**H.** Multiple exceedances of a cumulative occurrence limit by different three-hour emissions averages containing any common hour constitute a single violation.

[11/30/95; 20.2.41.112 NMAC - Rn, 20 NMAC 2.41.112 10/31/02]

**20.2.41.113 COMPLIANCE -- NEW NONFERROUS SMELTERS:** Compliance with subsection A of 20.2.41.110 NMAC shall be determined in accordance with the requirements specified in this section:

**A.** It shall be a violation of this Part if the sulfur removal requirement in subsection A of 20.2.41.110 NMAC is not achieved for any calendar month;

**B.** The owner or operator of any new nonferrous smelter shall calculate the sulfur removal rate for the smelter for each calendar month. This calculation shall be done in accordance with a written plan approved by the Department and US EPA.

[11/30/95; 20.2.41.113 NMAC - Rn, 20 NMAC 2.41.113 10/31/02]

**20.2.41.114 REPORTING:** Persons owning or operating any existing, modified or new nonferrous smelter shall submit quarterly reports to the Department for the periods January 1 through March 31, April 1 through June 30, July 1 through September 30 and October 1 through December 31 of each year. Each report shall be filed with the Department within forty five (45) days of the end of the quarterly period.

**A.** Existing and Modified Nonferrous Smelters:

(1) The quarterly reports for existing and modified nonferrous smelters shall include:

(a) the annual average emissions in pounds of sulfur dioxide per hour calculated at the end of each day;

(b) all exceedances of the cumulative occurrence tables in 20.2.41.109 NMAC, including the associated date, time, E value and N value; and

(c) the twenty (20) highest running three-hour averages with the associated time and date of occurrence;

(d) the median 3-hour running average for each compliance period in pounds of sulfur dioxide per hour at the end of each day.

(2) All three-hour running averages, E-values, N-values, and continuous monitoring measurements shall be retained by the owner or operator of any existing or modified nonferrous smelter for at least three (3) years. Upon request, the owner or operator of the smelter shall report such data in a timely manner to the Department.

**B.** New Nonferrous Smelters: The quarterly reports for new nonferrous smelters shall include:

(1) Sulfur removal rates for each calendar month;

(2) Identification of all exceedances of the requirement in subsection A of 20.2.41.110 NMAC; and

(3) Identification of all periods of time for which notification was provided to the Department pursuant to 20.2.7 NMAC (Excess Emissions During Malfunction, Startup, Shutdown, or Scheduled Maintenance).

(4) The owner or operator of any new nonferrous smelter shall retain all records utilized as the basis for the quarterly report for a period of at least three (3) years. Upon request, such records shall be made accessible or reported to the Department.

[11/30/95; 20.2.41.114 NMAC - Rn, 20 NMAC 2.41.114 10/31/02]

**20.2.41.115 FUGITIVE EMISSIONS EVALUATION:** No later than the end of the first two years of operation, the owner or operator of a modified smelter shall submit to the Department the results of an evaluation of the fugitive sulfur dioxide emissions from the smelter. The evaluation shall contain the following information:

**A.** A measurement or accurate estimate of captured and uncaptured fugitive emissions from the smelter. The measurement or estimate shall contain the amount of both short-term and long-term fugitive emissions from the smelter. The evaluation plan shall be approved in advance by the Department and shall specify the method used to determine the fugitive emission amounts;

**B.** A measurement or accurate estimate of the relative proportion (expressed as a percentage) of captured and uncaptured fugitive emissions produced by the following smelter processes: Roaster or dryer operation; Calcine or dried concentrate transfer; Furnace operations (including feeding, slag return, matte and slag tapping); Matte transfer; and Converter operations. The measurement technique or method of estimation used to fulfill this requirement shall be approved in advance by the Department;

**C.** the results of a one year fugitive emission impact analysis. The study shall utilize sufficient measurements of fugitive emissions, meteorological conditions and ambient sulfur dioxide concentrations to

associate fugitive emissions with specific measured ambient concentrations of sulfur dioxide. The study shall describe in detail the techniques used to make the required determinations. It shall include an analysis of the feasibility of using sulfur balance figures for the above determinations. The design of the study shall be submitted within 60 days of the startup of the modified smelter for approval by the Department.  
[11/30/95; 20.2.41.115 NMAC - Rn, 20 NMAC 2.41.115 10/31/02]

**20.2.41.116 MONITORING EQUIPMENT:** In order to assess the sufficiency of the cumulative occurrence and emission limits contained in 20.2.41.109 NMAC and in order to maintain the ambient air quality standards for sulfur dioxide, the owner or operator of a smelter subject to 20.2.41.109 NMAC shall continue to calibrate, maintain and operate any ambient sulfur dioxide monitoring equipment owned by the smelter owner or operator and in operation on December 17, 1993. Such monitors shall be operated and maintained as prescribed at 40 CFR Parts 53 and 58. The location of ambient sulfur dioxide monitors and length of time such monitors remain at a location shall be determined by the Department.  
[11/30/95; 20.2.41.116 NMAC - Rn, 20 NMAC 2.41.116 10/31/02]

**20.2.41.117 DATA SUBMISSION:** The data accumulated from the programs detailed in 20.2.41.115 NMAC and 20.2.41.116 NMAC shall be submitted to the Department for its review. The reports should confirm whether or not the emission limitations contained in 20.2.41.109 NMAC are adequate to maintain state and federal ambient air quality standards. The Department, upon reasonable notice and at reasonable times, shall have access to all raw and verified data for verification purposes and shall be permitted access to the monitors, and shall have the opportunity to perform quality assurance audits.  
[11/30/95; 20.2.41.117 NMAC - Rn, 20 NMAC 2.41.117 10/31/02]

#### **HISTORY OF 20.2.41 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 652, Nonferrous Smelters - Sulfur, 02/17/72;  
AQCR 652, Air Quality Control Regulation 652 -- Nonferrous Smelters - Sulfur, 05/08/81;  
EIB/AQCR 652, Air Quality Control Regulation 652 -- Nonferrous Smelters - Sulfur, 11/17/93.

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

#### **Other History:**

EIB/AQCR 652, Air Quality Control Regulation 652 -- Nonferrous Smelters - Sulfur, filed 11/17/93 was **renumbered** into first version of the New Mexico Administrative Code as 20 NMAC 2.41, Nonferrous Smelters - Sulfur, filed 10/30/95.  
20 NMAC 2.41, Nonferrous Smelters - Sulfur, filed 10/30/95 was **renumbered, reformatted and replaced** by 20.2.41 NMAC, Nonferrous Smelters - Sulfur, effective 10/31/02.