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Subpart D—Supplementary Control System Requirements

§ 57.401 General requirements.

Except as provided in subpart E, each NSO shall require the smelter owner to prevent all violations of the NAAQS in the smelter's designated liability area (DLA) through the operation of an approved supplementary control system (SCS).

§ 57.402 Elements of the supplementary control system.

Each supplementary control system shall contain the following elements:

(a) *Air quality monitoring network.* An approvable SCS shall include the use of appropriate ambient air quality monitors to continuously measure the concentration of sulfur dioxide in the air in the smelter's DLA.

(1) The monitors shall be located at all points of expected SO_2 concentrations necessary to anticipate and prevent possible violations of NAAQS anywhere in the smelter's DLA. The determination of the locations where such concentrations may occur shall take into account all recorded or probable meteorological and operating conditions (including bypassing of control equipment), as well as the presence of other sources of SO_2 significantly affecting SO_2 concentrations in the DLA.

(2) The number and location of sites shall be based on dispersion modeling, measured ambient air quality data, meteorological information, and the results of the continuing review required by paragraph (f) of this section. The system shall include the use of at least 7 fixed monitors unless the issuing agency determines, on the basis of a demonstration by the smelter owner, that the use of fewer monitors would not limit coverage of points of high SO_2 concentration or otherwise reduce the capability of the smelter owner to prevent any violations of the NAAQS in the smelter's DLA.

(3) All monitors shall be continuously operated and maintained and shall meet the performance specifications contained in 40 CFR part 53. The monitors shall be capable of routine real time measurement of maximum expected SO_2 concentrations for the averaging times of SO_2 NAAQS.

(b) *Meteorological network.* The SCS must have a meteorological assessment capability adequate to predict and identify local conditions requiring emission curtailment to prevent possible violations of the NAAQS. The meteorological assessment capability shall provide all forecast and current information necessary for successful use of the SCS operational manual required by paragraph (e) of this section.

(c) *Designated liability area.* The system shall be required to prevent all violations of the NAAQS within the smelter's DLA. The DLA of any smelter is the area within which the smelter's emissions may cause or significantly contribute to violations of the NAAQS for SO_2 when the smelter is operating at its maximum production capacity under any recorded or probable meterological conditions. The boundaries of that area shall be specified in the NSO.

(1) Unless an acceptable demonstration is made under paragraph (c)(2) of this section, the DLA shall be a circle with a center point at the smelter's tallest stack and a minimum radius as given in the following table:

RADIUS FOR SO_2 EMISSIONS AT MAXIMUM PRODUCTION CAPACITY [1]

Emissions rate in tons per hour	Emission rate in grains per sec.	Radius in kilometers
16 or less	4,000 or less	11
24	6,000	16
32	8,000	24
40	10,000	32
48 or more	12,000 or more	40

[1] Maximum emission rates for periods not to exceed 24 hours. Minimum radii may be determined from the table by linear interpolation.

(2) The NSO may provide for a DLA with different boundaries if the smelter owner can demonstrate through the use of appropriate dispersion modeling and ambient air quality monitoring data that the smelter's controlled emissions could not cause or significantly contribute to a violation of the NAAQS beyond the boundaries of such a different area under any recorded or probable meteorological conditions.

(3) A violation of the NAAQS in the DLA of any smelter shall constitute a violation of that smelter's NSO, unless the issuing agency determines on the basis of a showing by the smelter

owner that the smelter owner had taken all emission curtailment action indicated by the SCS operational manual and that the violation was caused in significant part by:

(i) Emissions of another source(s) which were in excess of the maximum permissible emissions applicable to such source(s),

(ii) Fugitive emissions of another source(s), or

(iii) The smelter's own fugitive emissions: *Provided*, that the smelter is in compliance with all requirements of or under subpart E of this part.

(4) For the purposes of this section, maximum permissible emissions for other sources are the highest of:

(i) SIP emission limitation;

(ii) Orders in effect under section 113(d) of the Clean Air Act; or

(d) *Overlapping designated liability areas.* Notwithstanding any other provisions of this subpart, the following requirements shall apply whenever the designated liability areas of 2 or more smelters do, or may, overlap:

(1) In the case of any NSO applicant that would have a DLA which would overlap with the DLA of any other smelter that has applied for an NSO or has an NSO in effect, the NSO applicant shall include in its application an enforceable joint plan, agreed to by such other smelter(s). In determining whether a joint plan is required, the NSO applicant shall calculate its DLA according to the table in paragraph (c)(1) of this section. The DLA of the other smelter shall be calculated according to the table in paragraph (c)(1) unless the other smelter has an NSO in effect, in which case the boundaries in that NSO shall be used. The enforceable joint plan shall provide for:

(i) Emission curtailment adequate to ensure that the NAAQS will not be violated in any areas of overlapping DLAs; and

(ii) Conclusive prospective allocation of legal liability in the event that the NAAQS are violated in the area of overlapping DLAs.

Such plans may, but need not, include the operation of a joint SCS system. Each NSO shall require adherence by the NSO applicant owner to the joint plan for emission curtailment and allocation of liability, unless the issuing agency determines, pursuant to the provisions of paragraph (c)(2) of this section, that the NSO applicant's DLA does not overlap with that of any other smelter.

(2) In the case of any NSO applicant that would have a DLA which would overlap with the DLA of any other smelter whose owner has not applied for an NSO (and does not have an NSO in effect), the NSO applicant's submittal shall contain a written consent, signed by a corporate official empowered to do so. The consent shall state that if, at any time thereafter, the owner of the other smelter applies for an NSO, and the other smelter's DLA would overlap with the NSO applicant's DLA, the NSO applicant will negotiate and submit an enforceable joint plan for emission curtailment and allocation of liability (as described in paragraph (d)(1) of this section). In determining whether it is necessary to submit such a consent, each smelter's DLA shall be calculated according to the table set forth in paragraph (c)(1) of this section. The consent shall state that a joint plan shall be submitted within 90 days of the issuing agency's notification to the NSO applicant of receipt of the other smelter's letter of intent, unless the issuing agency determines that the DLAs do not overlap. Failure of the NSO applicant to submit such a plan shall constitute grounds for denial of its NSO application or a violation of an effective NSO, as applicable.

(e) *The SCS operational manual.* Each NSO shall require the smelter to be operated in accordance with the provisions of an SCS operational manual approved by the issuing agency. The SCS operational manual shall describe the circumstances under which, the extent to which, and the procedures through which emissions shall be curtailed to prevent violations of the NAAQS in the smelter's DLA. Failure to curtail emissions when and as much as indicated by the manual or to follow the provisions of the manual implementing the requirements of paragraph (e)(3) of this section shall constitute a violation of the NSO.

(1) The operational manual shall prescribe emission curtailment decisions

based on the use of real time information from the air quality monitoring network dispersion model estimates of the effect of emissions on air quality, and meteorological observations and predictions.

(2) The operational manual shall also provide for emission curtailment to prevent violation of the NAAQS within the smelter's DLA which may be caused in part by stack emissions, and to the extent practicable fugitive emissions, from any other source (unless that other source is a smelter subject to an NSO).

(3) The SCS operational manual shall include (but not be limited to):

(i) A clear delineation of the authority of the SCS operator to require all other smelter personnel to implement the operator's curtailment decisions;

(ii) The maintenance and calibration procedures and schedules for all SCS equipment;

(iii) A description of the procedures to be followed for the regular acquisition of all meteorological information necessary to operate the system;

(iv) The ambient concentrations and meteorological conditions that will be used as criteria for determining the need for various degrees of emission curtailment;

(v) The meteorological variables as to which judgments may be made in applying the criteria stated pursuant to paragraph (e)(3)(iv) of this section;

(vi) The procedures through which and the maximum time period within which a curtailment decision will be made and implemented by the SCS operator;

(vii) The method for immediately evaluating the adequacy of a particular curtailment decision, including the factors to be considered in that evaluation;

(viii) The procedures through which and the time within which additional necessary curtailment will immediately be effected; and

(ix) The procedures to be followed to protect the NAAQS in the event of a mechanical failure in any element of the SCS.

(f) *Continuing review and improvement of the SCS.* Each NSO shall require the smelter owner to conduct an active program to continuously review the design and operation of the SCS to determine what measures may be available for improving the performance of the system. Among the elements of this program shall be measures to locate and examine possible places both inside and outside the DLA where unmonitored NAAQS violations may be occurring. Such measures shall include the use of modeling as appropriate and mobile ambient air quality monitors, following up on information and complaints from members of the public, and other appropriate activities. The NSO shall also require the submission of a semi-annual report to the issuing agency detailing the results of this review and specifying measures implemented to prevent the recurrence of any violations of NAAQS.

§ 57.403 Written consent.

(a) *The consent.* The NSO shall include a written consent, signed by a corporate official empowered to do so, in the following form:

> As a condition of receiving a Primary Nonferrous Smelter Order (NSO) under Section 119 of the Clean Air Act, for the smelter operated by (name of company) at (location), the undersigned official, being empowered to do so, consents for the company as follows:
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> (1) In any civil proceeding (judicial or administrative) to enforce the NSO, the company will not contest:
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> (a) Liability for any violation of the National Ambient Air Quality Standards for sulfur dioxide in the smelter's designated liability area (DLA), except on the ground that a determination under 40 CFR 57.402(c)(3) was clearly wrong; or
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> (b) The conclusive allocation of liability under NSO provisions satisfying 40 CFR 57.402(d)(1) between the company's smelter and any other smelter(s) for any violation of the National Ambient Air Quality Standards for sulfur dioxide in an area of overlapping DLAs.
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> (2) The issuing agency (as defined in 40 CFR 57.103) will be allowed unrestricted access at reasonable times to inspect, verify calibration of, and obtain data from ambient air quality monitors operated by the company under the requirements of the NSO.

(b) *Rights not waived by the consent.* This consent shall not be deemed to waive any right(s) to judicial review of any provisions of an NSO that are otherwise available to the smelter owner or operator under section 307(b) of the Clean Air Act.

§ 57.404 Measurements, records, and reports.

(a) *Measurements.* Each NSO shall require the smelter owner to install, operate, and maintain a measurement system(s) for continuously monitoring sulfur dioxide emissions and stack gas volumetric flow rates in each stack (except a stack used exclusively for bypassing control equipment) which could emit 5 percent or more of the smelter's total potential (uncontrolled) hourly sulfur dioxide emissions.

(1) Such monitors shall be installed, operated, and maintained in accordance with the performance specifications and other requirements contained in appendices D and E to 40 CFR part 52. The monitors must take and record at least one measurement of sulfur dioxide concentration and stack gas flow rate from the effluent of each affected stack in each fifteen-minute period. (The NSO shall require the smelter operator to devise and implement any procedures necessary for compliance with these performance specifications.)

(2) The sampling point 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 Administrator.

(3) The sampling point for monitoring emissions shall be in the duct at the centroid of the cross section if the cross sectional area is less than 4.645 m^2 (50 ft^2) or at a point no closer to the wall than 0.914m (3 ft) if the cross sectional area is 4.645 m^2 (50 ft^2) or more. The monitor sample point shall be in an area of small spatial concentration gradient and shall provide a sample which is representative of the concentration in the duct.

(4) The measurement system(s) installed and used pursuant to this paragraph shall be subject to the manufacturer's recommended zero adjustment and calibration procedures at least once per 24-hour operating period unless the manufacturer specifies or recommends calibration at shorter intervals, in which case such specifications or recommendations shall be followed. Records of these procedures shall be made which clearly show instrument readings before and after zero adjustment and calibration.

(5) The results of such monitoring, calibration, and maintenance shall be submitted in the form and with the frequency specified in the NSO.

(b) *Records.* Each NSO shall require the smelter owner to maintain records of the air quality measurements made, meteorological information acquired, emission curtailment ordered (including the identity of the persons making such decisions), and calibration and maintenance performed on SCS monitors during the operation of the SCS. These records shall be maintained for the duration of the NSO.

(c) *Reports.* Each NSO shall require the smelter owner to:

(1) Submit a monthly summary indicating all places and times at which the NAAQS for SO_2 were violated in the smelter's DLA, and stating the SO_2 concentrations at such times;

(2) Immediately notify EPA and the State agency any time concentrations of SO_2 in the ambient air in the smelter's DLA reaches 0.3 part per million (800 micrograms/cubic meter), 24-hour average, or exceed the warning stage in any more stringent emergency plan in the applicable State Implementation Plan; and

(3) Make such other reports as may be specified in the NSO.

§ 57.405 Formulation, approval, and implementation of requirements.

(a) *SCS content of the application.* The requirements of § 57.203(d) shall be satisfied with respect to this subpart as follows:

(1) Each NSO application shall include a complete description of any supplementary control system in operation at the smelter at the time of application and a copy of any SCS operational manual in use with that system.

(2) Each NSO application shall contain proposed NSO provisions for compliance with the requirements of §§ 57.401, 57.402 (c), (d), and (f), 57.403, 57.404, and 57.405 (b)(2).

(3) Each NSO application shall include a specific plan for the development of a system fulfilling the requirements of § 57.402(a), (b), and (e) (covering air quality monitoring network,

meteorological network, and the SCS operational manual).

(b) *SCS content of the order.* (1) Each NSO shall include an approved version of the plan described in paragraph (a)(3) of this section and shall provide increments of progress towards its completion. Each NSO shall require, upon completion of the measures specified in the approved plan, submission of a report which describes each element of the SCS and explains why the elements satisfy the requirements of the plan and submission of a copy of the SCS operational manual developed under the plan.

(2) Each NSO shall require the submission of a final report, within 6 months of the required date for completion of the measures specified in the approved plan evaluating the performance and adequacy of the SCS developed pursuant to the approved plan. The report shall include:

(i) A detailed description of how the criteria that form the basis for particular curtailment decisions were derived;

(ii) A complete description of each SCS element listed in § 57.402 (a) through (d) (covering monitoring, meteorology, and the DLA), and an explanation of why the elements fulfill the requirements of those sections;

(iii) A reliability study demonstrating that the SCS will prevent violations of the NAAQS in the smelter's DLA at all times. The reliability study shall include a comprehensive analysis of the system's operation during one or more three-month seasonal periods when meteorological conditions creating the most serious risk of NAAQS violations are likely to occur. Where it is impossible, because of time restraints, to include in such a study and analysis of the three month seasonal period with meteorological conditions creating the most serious risk of NAAQS violations, the study shall analyze the system's operation on the basis of all available information. The NSO shall provide that in such case, a supplemental reliability study shall be submitted after the end of the worst case three-month period as a part of the next semi-annual report required under § 57.402(f).

(iv) A copy of the current SCS operational manual.

(c) *Amendment of the NSO.* Each NSO shall be amended, if necessary, within 3 months of completion of the measures required under the SCS development plan and also, if necessary, within three months of submission of the final report or any supplement to the final report required under paragraph (b)(2) of this section, to reflect the most current approved elements of the SCS and, as appropriate, to fulfill all other requirements of this subpart. Each NSO shall also be subsequently amended (as provided in § 57.104) whenever necessary as a result of the program required by § 57.402(f) or to reflect improved SCS operating procedures or other system requirements.

Subpart E—Fugitive Emission Evaluation and Control

§ 57.501 General requirements.

(a) Each NSO shall require the smelter owner to use such control measures as may be necessary to ensure that the smelter's fugitive emissions do not result in violations of the NAAQS for SO_2 in the smelter's DLA.

(b) A smelter which is operating under an NSO containing a SIP compliance schedule established in accordance with § 57.705 is required to be making progress toward compliance with any fugitive control requirements contained in its respective SIP and need not meet the other requirements contained in this subpart.

(c) A smelter which is subject to an NSO which does not contain a SIP compliance schedule must meet the provisions of §§ 57.502 and 57.503.

§ 57.502 Evaluation.

(a) *Evaluation at the time of application.* Any smelter owner may demonstrate at the time of application for an NSO that the smelter's SO_2 fugitive emissions will not cause or significant contribute to violations of the NAAQS in the smelter's DLA. If such demonstration is not made, the smelter owner shall submit the design and workplan for a study adequate to assess the sources of significant fugitive emissions from the smelter and their effects upon ambient air quality.