AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

PART 57—PRIMARY NONFERROUS SMELTER ORDERS

Subpart A—General

Sec.
57.101 Purpose and scope.
57.102 Eligibility.
57.103 Definitions.
57.104 Amendment of the NSO.
57.105 Submittal of required plans, proposals, and reports.
57.106 Expiration date.
57.107 The State or local agency's transmittal to EPA.
57.108 Comparable existing SIP provisions.
57.109 Maintenance of pay.
57.110 Reimbursement of State or local agency.
57.111 Severability of provisions.

Subpart B—The Application and the NSO Process

57.201 Where to apply.
57.202 How to apply.
57.203 Contents of the application.
57.204 EPA action on second period NSOs which have already been issued.
57.205 Submission of supplementary information upon relaxation of an SO_2 SIP emission limitation.

Subpart C—Constant Controls and Related Requirements

57.301 General requirements.
57.302 Performance level of interim constant controls.
57.303 Total plantwide emission limitation.
57.304 Bypass, excess emissions and malfunctions.
57.305 Compliance monitoring and reporting.

Subpart D—Supplementary Control System Requirements

57.401 General requirements.
57.402 Elements of the supplementary control system.
57.403 Written consent.
57.404 Measurements, records, and reports.
57.405 Formulation, approval, and implementation of requirements.

Subpart E—Fugitive Emission Evaluation and Control

57.501 General requirements.
57.502 Evaluation.
57.503 Control measures.
57.504 Continuing evaluation of fugitive emission control measures.
57.505 Amendments of the NSO.

Subpart F—Research and Development Requirements

57.601 General requirements.
57.602 Approval of proposal.
57.603 Criteria for approval.
57.604 Evaluation of projects.
57.605 Consent.
57.606 Confidentiality.

Subpart G—Compliance Schedule Requirements

57.701 General requirements.
57.702 Compliance with constant control emission limitation.
57.703 Compliance with the supplementary control system requirements.
57.704 Compliance with fugitive emission evaluation and control requirements.
57.705 Contents of SIP Compliance Schedule required by §57.201(d) (2) and (3).

Subpart H—Waiver of Interim Requirement for Use of Continuous Emission Reduction Technology

57.801 Purpose and scope.
57.802 Request for waiver.
57.803 Issuance of tentative determination; notice.
57.804 Request for hearing; request to participate in hearing.
57.805 Submission of written comments on tentative determination.
57.806 Presiding Officer.
57.807 Hearing.
57.808 Opportunity for cross-examination.
57.809 *Ex parte* communications.
57.810 Filing of briefs, proposed findings, and proposed recommendations.
57.811 Recommended decision.
57.812 Appeal from or review of recommended decision.
57.813 Final decision.
57.814 Administrative record.
57.815 State notification.
57.816 Effect of negative recommendation.

APPENDIX A TO PART 57—PRIMARY NONFERROUS SMELTER ORDER (NSO) APPLICATION

AUTHORITY: Secs. 110, 114, 119, 301, Clean Air Act, as amended (42 U.S.C. 7410, 7414, 7419, and 7601); sec. 406 of Pub. L. 95–95.

SOURCE: 50 FR 6448, Feb. 15, 1985, unless otherwise noted.

Subpart A—General

§57.101 Purpose and scope.

(a) *Applicability of the regulations.* The regulations in subparts A through H govern:

(1) The eligibility of smelters for a Primary Nonferrous Smelter Order (NSO) under section 119 of the Clean Air Act;

(2) The procedures through which an NSO can be approved or issued by EPA; and

(3) The minimum contents of each NSO required for EPA issuance or approval under section 119. Subpart I *et seq.*, will contain NSOs in effect for individual smelters.

(b) *State authority to adopt more stringent requirements.* Nothing in this part shall preclude a State from imposing more stringent requirements, as provided by section 116 of the Clean Air Act.

§ 57.102 Eligibility.

(a) A primary copper, lead, zinc, molybdenum, or other nonferrous smelter is eligible for an NSO if it meets the following conditions:

(1) The smelter was in existence and operating on August 7, 1977;

(2) The smelter is subject to an approved or promulgated sulfur dioxide (SO_2) State Implementation Plan (SIP) emission limitation which is adequate to ensure that National Ambient Air Quality Standards (NAAQS) for SO_2 are achieved without the use of any unauthorized dispersion techniques; and

(3) The Administrator determines, based on a showing by the smelter owner, that no means of emission limitation applicable to the smelter which would enable it to comply with its SIP stack emission limitation for SO_2 has been adequately demonstrated to be reasonably available (taking into account the cost of compliance, nonair quality health and environmental impact, and energy considerations) in accordance with § 57.201(d)(1).

(b) For the purposes of these regulations:

(1) The following means of emission limitation shall be considered adequately demonstrated for nonferrous smelters. (Taking into account nonair quality health and environmental impact and energy considerations, but not the cost of compliance).

(i) *Retrofit control technologies.* (A) Sulfuric acid plant in conjunction with an adequately demonstrated replacement technology or process modification;

(B) Magnesium oxide (concentration) scrubbing;

(C) Lime/limestone scrubbing; and

(D) Ammonia scrubbing.

(ii) *Replacement or process modifications.* (A) Flash smelting;

(B) Oxygen enrichment;

(C) Supplemental sulfur burning in conjunction with acid plant;

(D) Electric Furnace;

(E) Noranda process;

(F) Fluid bed roaster;

(G) Continuous smelting (Mitsubishi) process; and

(H) Strong stream/weak stream gas blending.

(2) Each adequately demonstrated means of emission limitation which would enable a smelter to comply with its SIP emission limitation for SO_2 shall be considered applicable to the smelter unless the smelter operator demonstrates that the use of a particular system at that smelter is technically unreasonable, for reasons specific to that site.

(3) An applicable means of emission limitation which would enable a smelter to comply with its SIP emission limitation for SO_2 shall be considered adequately demonstrated to be reasonably available to the smelter (taking into account the cost of compliance) if the information submitted under §§ 57.107(a) and 57.203(b) (plus any necessary supplemental information) shows, according to the criteria, procedures, and tests contained in appendix A to this part and in accordance with § 57.201(d)(1), that both of the following two tests are met.

(i) *The rate of return test.* The present value of the smelter's future net cash flow (during and after investment in constant control technology) is more than book value of the smelter's net investment in constant dollars.

(ii) *The profit protection test.* The constant control technology expenditure reduces the present value of the smelter's forecast pretax profits by less than 50%.

(c) When applying for an NSO, a smelter must establish, for purposes of applying the financial eligibility tests, which adequately demonstrated constant control technology applicable to

that smelter is the most economically feasible for use at that smelter.

[50 FR 6448, Feb. 15, 1985, as amended at 51 FR 10211, Mar. 25, 1986]

§ 57.103 Definitions.

(a) *The Act* means the Clean Air Act, as amended.

(b) *Active use* refers to an SO_2 constant control system installed at a smelter before August 7, 1977 and not totally removed from regular service by that date.

(c) *Adequate SO_2* emission limitation means a SIP emission limitation which was approved or promulgated by EPA as adequate to attain and maintain the NAAQS in the areas affected by the stack emissions without the use of any unauthorized dispersion technique.

(d) *Administrative Law Judge* means an administrative law judge appointed under 5 U.S.C. 3105 (see also 5 CFR part 930, as amended by 37 FR 16787), and is synonymous with the term ''Hearing Examiner'' as formerly used in Title 5 of the U.S. Code.

(e) *The Administrator* means the Administrator of the U.S. Environmental Protection Agency, or the Administrator's authorized representative.

(f) *Ambient air* shall have the meaning given by 40 CFR 50.1(e), as that definition appears upon promulgation of this subpart, or as hereafter amended.

(g) *Ambient air quality* refers only to concentrations of sulfur dioxide in the ambient air, unless otherwise specified.

(h) *An approved measure* refers to one contained in an NSO which is in effect.

(i) *Assistant Administrator for Air and Radiation* means the Assistant Administrator for Air and Radiation of the U.S. Environmental Protection Agency.

(j) *Constant controls, control technology, and continuous emission reduction technology* mean systems which limit the quantity, rate, or concentration, excluding the use of dilution, and emissions of air pollutants on a continuous basis.

(k) *Effective date of an NSO* means the effective date listed in the FEDERAL REGISTER publication of EPA's issuance or approval of an NSO.

(l) *EPA and the Agency* means the Administrator of the U.S. Environmental Protection Agency, or the Administrator's authorized representative.

(m) *Fugitive emissions* means any air pollutants emitted to the atmosphere other than from a stack.

(n) *Issuance* of an NSO means the final transmittal of the NSO pursuant to § 57.107(a) by an issuing agency (other than EPA) to EPA for approval, or the publication of an NSO issued by EPA in the FEDERAL REGISTER.

(o) *Issuing agency*, unless otherwise specifically indicated, means the State or local air pollution control agency to which a smelter's owner has applied for an NSO, or which has issued the NSO, or EPA, when the NSO application has been made to EPA. Any showings or demonstrations required to be made under this part to the issuing agency, when not EPA, are subject to independent determinations by EPA.

(p) *Malfunction* means any unanticipated and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor design, poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions. A malfunction exists only for the minimum time necessary to implement corrective measures.

(q) *Maximum production capacity* means either the maximum demonstrated rate at which a smelter has produced its principal metallic final product under the process equipment configuration and operating procedures prevailing on or before August 7, 1977, or a rate which the smelter is able to demonstrate by calculation is attainable with process equipment existing on August 7, 1977. The rate may be expressed as a concentrate feed rate to the smelter.

(r) *NAAQS and National Ambient Air Quality Standards,* unless otherwise specified, refer only to the National Primary and Secondary Ambient Air Quality Standards for sulfur dioxide.

(s) *Scheduled maintenance* means any periodic procedure, necessary to maintain the integrity or reliability of emissions control performance, which

can be anticipated and scheduled in advance. In sulfuric acid plants, it includes among other items the screening or replacement of catalyst, the retubing of heat exchangers, and the routine repair and cleaning of gas handling/cleaning equipment.

(t) *Smelter owner and operator* means the owner or operator of the smelter, without distinction.

(u) *Supplementary control system* (SCS) means any technique for limiting the concentration of a pollutant in the ambient air by varying the emissions of that pollutant according to atmospheric conditions. For the purposes of this part, the term supplementary control system does not include any dispersion technique based solely on the use of a stack the height of which exceeds good engineering practice (as determined under regulations implementing section 123 of the Act).

(v) *Unauthorized dispersion technique* refers to any dispersion technique which, under section 123 of the Act and the regulations promulgated pursuant to that section, may not be used to reduce the degree of emission limitation otherwise required in the applicable SIP.

(w) Unless otherwise specified in this part, all terms shall have the same meaning given them by the Act.

[50 FR 6448, Feb. 15, 1985, as amended at 57 FR 5328, Feb. 13, 1992]

§ 57.104 Amendment of the NSO.

An NSO shall be amended whenever necessary for compliance with the requirements and purposes of this part.

(a)(1) *Issuance of amendment.* A State or local issuing agency may issue an amendment of any NSO it has issued. Any amendment issued by a State or local issuing agency shall be subject to approval by EPA to the same extent as was the original NSO. Any smelter owner may apply to the agency which originally issued its NSO for an amendment of the NSO at any time. Such an application shall be accompanied by whatever documentation is required by that agency (or EPA) to support the requested amendment.

(2)(i) Notwithstanding the requirements of paragraph (a)(1) of this section, amendments to SIP compliance schedule interim compliance dates in State-issued NSO's need not be submitted for EPA approval if the amendment does not delay the interim date by more than three months from the date as approved by the Administrator and if the final compliance date is unchanged. Delays longer than 3 months shall be handled according to the provisions of § 57.104(a)(1).

(ii) Changes made in accordance with this subparagraph may be effective immediately but must be submitted to EPA within seven days. EPA will give public notice of receipt of such changes by publication of a Notice in the FEDERAL REGISTER.

(3) In any case in which the issuing agency fails to issue an amendment necessary for compliance with the requirements and purposes of this part, EPA may, after first giving the issuing Agency notice, issue such amendment.

(b) *Revision of SCS Manual.* Operation in accordance with the revised provisions of an SCS operational manual (see § 57.402(e)) shall not be considered a violation of an NSO while the application for approval of those revisions as NSO amendments is pending before the issuing agency (or EPA) for approval: *Provided,* that:

(1) No violations of NAAQS occur in the smelter's Designated Liability Area during that time; and

(2) The smelter operator has not been informed by the issuing agency or EPA that its application is not adequately documented, unless such deficiency has been remedied promptly.

(c) *Notice and opportunity for hearing.* Notice and opportunity for public hearing shall be provided before issuance of all major amendments.

§ 57.105 Submittal of required plans, proposals, and reports.

(a) The failure of a smelter owner to submit any plan, report, document or proposal as required by its NSO or by this part shall constitute a violation of its NSO.

(b) If the Administrator determines that a nonferrous smelter is in violation of a requirement contained in an NSO approved under these regulations, the Administrator shall, as provided by section 119(f) of the Act:

(1) Enforce such requirement under section 113 (a), (b), or (c) of the Act;

(2) Revoke the order after notice and opportunity for hearing;

(3) Give notice of noncompliance and commence action under section 120 of the act; or

(4) Take any appropriate combinations of these actions.

(c) Under section 304 of the Act, any person may commence a civil action against an owner or operator of a smelter which is alleged to be in violation or any order approved under this part.

§ 57.106 Expiration date.

Each NSO shall state its expiration date. No NSO issued under this regulation shall expire later than January 1, 1988.

§ 57.107 The State or local agency's transmittal to EPA.

(a) *Content and bases of the State or local agency's NSO.* Issuance of an NSO by a State or local agency shall be completed by the issuing agency's transmittal to the appropriate EPA Regional Office of:

(1) The text of the NSO;

(2) The application submitted by the smelter owner, except for appendix A to this part, all correspondence between the issuing agency and the applicant relating to the NSO, and any material submitted in support of the application;

(3) A concise statement of the State or local agency's findings and their bases; and

(4) All documentation or analyses prepared by or for the issuing agency in support of the NSO.

(b) *The State or local agency's enforcement plan.* The transmittal under paragraph (a) of this section shall be accompanied by a description of the issuing agency's plans for monitoring compliance with and enforcement of the NSO. The transmittal shall also include a description of the resources which will be used to implement those plans. If the enforcement plans appear inadequate, EPA may require that the NSO be modified such that the NSO will be adequately enforced.

§ 57.108 Comparable existing SIP provisions.

Notwithstanding any other provision of this part, an NSO may contain provisions to which the affected smelter is subject under the applicable EPA-approved State Implementation Plan (SIP) for sulfur dioxide in lieu of the corresponding provisions which would otherwise be required under this part if the Administrator determines that those SIP provisions are substantially equivalent to the corresponding NSO provisions which would otherwise be required, and if the Administrator determines that the smelter is in substantial compliance with those SIP provisions. For the purposes of this section, provisions to which the affected smelter is subject under the applicable EPA-approved State Implementation Plan are those which became effective before the smelter owner applied for the NSO.

§ 57.109 Maintenance of pay.

The Administrator will not approve or issue an NSO for any smelter unless he has approved or promulgated SIP provisions which are applicable to the smelter and which satisfy the requirements of section 110(a)(6) of the Clean Air Act.

§ 57.110 Reimbursement of State or local agency.

As a condition of issuing an NSO, any issuing agency may require the smelter operator to pay a fee to the State or local agency sufficient to defray the issuing agency's expenses in issuing and enforcing the NSO.

§ 57.111 Severability of provisions.

The provisions promulgated in this part and the various applications thereof are distinct and severable. If any provision of this part or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions, or the application of such provisions to other persons or circumstances, which can be given effect without the invalid provision of application.

Subpart B—The Application and the NSO Process

§ 57.201 Where to apply.

Any eligible smelter may apply for an NSO to the appropriate EPA Regional Office or to the appropriate State or local air pollution control agency.

(a) When application is made to EPA, all parts of the application required to be submitted under this subpart shall be sent directly to the Director, Stationary Source Compliance Division (EN–341), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460, Attention: Confidential Information Unit. In addition, the smelter owner shall send a copy of the application, except that part required to be submitted under § 57.203(b) (eligibility), directly to the appropriate EPA Regional Office.

(b) When application is made to the appropriate State or local agency, the smelter owner shall submit one complete copy of all parts of the application required to be submitted under this subpart to that agency, in addition to the application requirements contained in paragraph (a) of this section. If the smelter owner is requesting an advance eligibility determination pursuant to § 57.203(b), such request must be made in writing and shall accompany the copy of the application being sent to the Director of the Stationary Source Compliance Division of the Environmental Protection Agency.

(c) If the smelter owner is requesting a waiver of the interim constant control requirement of § 57.301, such request must be sent directly to the Director, Stationary Source Compliance Division, at the time of application, in accordance with § 57.802.

(d) *The NSO Process.* (1) A smelter desiring an NSO shall apply for an NSO by submitting an application under subpart B including the financial information required in appendix A and including the information necessary to make the determinations required by this subparagraph and § 57.201(d)(2). The issuing agency shall analyze the financial information according to the financial eligibility test prescribed by subpart A and described in appendix A. The issuing Agency shall then determine whether the smelter is able to comply with its SIP on or before the date required in the SIP by installing adequately demonstrated technology which is reasonably available. See also § 57.102(a)(3). If the test demonstrates that adequately demonstrated technology is not reasonably available to the smelter to allow it to comply with the SIP by the required compliance date, the smelter is eligible for an NSO.

(2)(i) If the smelter is determined to be eligible for an NSO under paragraph (d)(1) of this section, the issuing Agency shall apply the appendix A financial eligibility tests again before issuing an NSO in order to determine if the smelter can comply with its SIP requirements on or before January 1, 1988 by installing adequately demonstrated technology which is reasonably available.

(ii) If application of the tests shows that the smelter could comply by or before January 1, 1988, the issuing agency shall notify the smelter of this determination, and shall not issue an NSO to the smelter unless the NSO contains a SIP compliance schedule meeting the requirements of § 57.705. Such a compliance schedule must provide for compliance with the smelter's SO_2 SIP as expeditiously as practicable and in no case later than January 1, 1988. A smelter must submit to the issuing agency information necessary to determine a compliance schedule meeting the requirements of § 57.705. This information shall be submitted by a smelter within thirty days after the smelter is notified by the issuing agency that a SIP compliance schedule is required. The Administrator may consider an NSO application to be withdrawn for SIP enforcement purposes if a smelter fails to submit such information within the time required under this paragraph.

(iii) If no adequately demonstrated technology is found to be reasonably available to enable a smelter to comply by January 1, 1988, it would be excused from the compliance schedule requirement in § 57.201(d)(2)(ii), but it would be subject to reevaluation of its ability to comply by that date at any time during the term of the NSO. (See § 57.201(d)(3)).

(3) At any time during the term of an NSO which does not contain a SIP compliance schedule, EPA or the issuing agency may reevaluate the availability of technology to the smelter. If EPA or the issuing agency determines that adequately demonstrated technology is reasonably available to permit the smelter to comply with its SIP by or before January 1, 1988, the NSO shall be amended within 3 months time after such determination. The amendment shall require compliance with all SIP requirements by or before January 1, 1988, and shall include a compliance schedule meeting the requirements of §57.705. The determination that adequately demonstrated technology is reasonably available shall be made by reapplying the same appendix A financial eligibility tests required by subpart B, updated by economic data reflecting current operating conditions and currently demonstrated control technology. Any such determination and amendment shall be governed by the provisions of this part and section 119 of the Clean Air Act.

(4) Notice and opportunity for public hearing in accordance with section 119 of the Clean Air Act must be provided before issuance of any NSO.

(e) A smelter that does not have any constant SO_2 controls or whose existing constant SO_2 controls when in full operation and optimally maintained are not sufficient to treat all strong SO_2 streams may apply for a waiver of the requirements of subpart C to install interim constant controls by submitting an application under subpart H. A waiver may be granted only with respect to the requirement to eliminate bypass of constant controls through the installation of new constant control equipment, not with respect to the requirements for optimum maintenance and operation of existing equipment. EPA shall then determine the smelter's ability to afford installation of the required additional interim constant SO_2 control equipment at the smelter based on financial eligibility information analyzed according to the financial test prescribed in appendix A. A waiver of the requirement for additional interim constant controls will be granted if EPA determines in accordance with the procedures of subpart H that imposition of this requirement would necessitate closure of the smelter for at least one year.

§ 57.202 How to apply.

(a) *Letter of intent.* To initiate an application for an NSO, the owner or operator of a smelter shall send a letter of intent to an appropriate air pollution control agency. The letter of intent shall contain a statement of the owner's intent to apply for an NSO, and an agreement to provide any information required under this part. The letter of intent shall be signed by a corporate official authorized to make such commitments. Upon receipt of any letter of intent by the issuing agency, the SIP emission limitation for sulfur dioxide, as to that applicant, shall be deemed suspended for 60 days. The 60 day suspension may be extended for good cause at the discretion of the Administrator.

(b) *Complete application.* (1) Within the period referred to in paragraph (a) of this section, the smelter owner shall submit its completed application pursuant to §57.201. Receipt of all parts of a substantially complete application postmarked within the original or extended application period shall be deemed to continue the suspension of the SIP emission limitation for SO_2 until the issuing agency issues or declines to issue an NSO. This suspension shall in all cases terminate, however, 90 days after receipt of the substantially completed application, unless extended for good cause at the discretion of the Administrator. If, in the Administrator's judgment, good faith effort has been made to submit a complete application, additional time may be granted to allow for correction of minor deficiencies.

(2) If an issuing agency transmits an NSO to EPA for approval before the expiration of the suspension of the Federal SIP emission limitation, the suspension shall continue until EPA approves or disapproves the NSO.

§ 57.203 Contents of the application.

(a) *Claim of confidentiality.* The smelter owner may make a business confidentiality claim covering all or part

of the information in the NSO application in accordance with 40 CFR part 2, subpart B (41 FR 36906 *et seq.*, Sept. 1, 1976 as amended by 43 FR 39997 *et seq.*, Sept. 8, 1978). A claim is effective only if it is made at the time the material is submitted to the issuing agency or EPA. A claim shall be made by attaching to the information a notice of confidentiality. Information claimed as confidential will be handled by EPA under the provisions of 40 CFR part 2, subpart B. If no claim accompanies the information, it may be made available to the public without further notice.

(b) Each smelter owner shall make the showing required by § 57.102(a)(3) by completing and submitting appendix A to this part and any necessary supplemental information to the issuing agency as a part of its application. Each smelter shall also submit as part of its application the information which, in conjunction with the information required by appendix A, is necessary for the issuing agency to make the determination required by § 57.201(d)(2). Any smelter owner or State may, at its option, simultaneously submit this material to EPA for an advance eligibility determination.

(c) *Current operating information.* A complete NSO application shall also contain the following information:

(1) A process flow diagram of the smelter, including current process and instrumentation diagrams for all processes or equipment which may emit or affect the emission of sulfur dioxide; the characteristics of all gas streams emitted from the smelter's process equipment (flow rates, temperature, volumes, compositions, and variations over time); and a list of all monitoring data and strip charts, including all data, charts, logs or sheets kept with respect to the operation of any process equipment which may emit or affect the emission of sulfur dioxide;

(2) The smelter's maximum daily production capacity (as defined in § 57.103(r)), the operational rate (in pounds of concentrate charged to the smelting furnace per hour) of each major piece of process equipment when the smelter is operating at that capacity; and the smelter's average and maximum daily production rate for each product, co-product, or by-product, by year, for the past four years;

(3) The optimal conversion efficiency (defined in terms of percent of total SO_2 removed from the input flow stream) of any acid plant or other sulfur dioxide control system under the normal process operating conditions (excluding malfunctions) most conducive to optimal conversion efficiency;

(4) The average conversion efficiency of any acid plant or other sulfur dioxide control system during normal process operations (excluding malfunctions), by month, during the past four years.

(5) The percent of the time the acid plant or other control system was available for service during each month for the past four years, excluding downtime for scheduled maintenance, and a full explanation of any major or recurring problems with the system during that time;

(6) The frequency and duration of times during the past four years when the SO_2 system was unavailable because of scheduled maintenance of the system;

(7) A description of all scheduled, periodic, shutdowns of the smelter during the past four years, including their purpose, frequency and duration; and the same information with respect to unscheduled shutdowns;

(8) The gas volume, rates, and SO_2 concentration which the control system was actually designed to accommodate, taking into account any modifications made after its installation;

(9) The average monthly sulfur balance across the process and control equipment, including fugitive emissions, for the past 4 years; and

(10) A description of engineering techniques now in use at the smelter to prevent the release of fugitive emissions into the atmosphere at low elevations.

(d) *The smelter owner's proposals.* The smelter owner shall submit as part of its application, draft NSO provisions which would implement the requirements of subparts C through G of this part. The issuing agency may use these proposals as the basis for any NSO that may be granted, or may modify these

proposals in any way it deems necessary in order to comply with the requirements of this part.

(e) A smelter may submit as part of its application, information necessary to determine any SIP compliance schedule which might be required under § 57.201(d)(2).

(f) *Additional information.* The smelter owner shall designate in its application a corporate officer responsible and authorized to supply supplemental technical and economic information and explanations as required by the issuing agency during the formulation of the NSO. Failure to supply such information and explanations shall constitute a failure to submit a complete application.

(g) *Request for a waiver of constant controls.* Any request for a waiver of the requirement interim constant control of all strpmg streams of § 57.301 shall be made in accordance with § 57.802. The criteria and procedures for granting the waiver are governed by subpart H of this part.

(h) Unless a smelter applies for a waiver in accordance with subpart H, a smelter shall submit as part of its application a proposed schedule for compliance with the interim constant control requirements of subpart C which satisfies the requirements of § 57.702.

§ 57.204 EPA action on second period NSOs which have already been issued.

(a) EPA may approve a second period NSO issued by a State before the date of publication of these regulations in the FEDERAL REGISTER, without requiring a complete reapplication under this subpart and new State proceedings, provided:

(1) The second period NSO was issued by the State consistent with the procedural requirements of section 119 of the Clean Air Act;

(2) EPA can make a determination that the smelter is eligible for a second period NSO and whether the smelter can comply with its SO_2 SIP limits on or before January 1, 1988 under the financial eligibility tests in these regulations on the basis of available information and such supplementary information as the Agency may request the smelter to submit; and

(3) The provisions of the NSO are consistent with the requirements of these regulations.

(b) Should EPA require a smelter to submit information before taking final action on an NSO referred to in paragraph (a), of this section, it shall specify a reasonable period for submission of such information in light of the nature of the information being required. The duration of such period shall not exceed the period allowed for submission of a complete application under § 57.202 (a) and (b).

(c) The Agency shall consider the SIP emission limitation for SO_2 to be suspended with respect to a smelter which received an NSO described in subpart A until EPA takes final action on such NSO. Such suspension shall terminate if the smelter does not submit supplementary information within the time specified under paragraph (b).

§ 57.205 Submission of supplementary information upon relaxation of an SO_2 SIP emission limitation.

(a) In the event an SO_2 SIP limit is relaxed subsequent to EPA approval or issuance of a second period NSO, the smelter issued the NSO shall submit to the issuing agency and EPA such supplementary information that EPA considers appropriate for purposes of determining whether the means of compliance with the new SIP limit are adequately demonstrated to be reasonably available under the financial eligibility tests specified in § 57.102(b)(3). The smelter shall submit such information within sixty days of notification by EPA. This time limit may be extended by EPA for good cause.

(b) Upon receipt of any supplementary information required under paragraph (a), the issuing agency shall promptly reevaluate the availability of the means of compliance with the new SIP limit under the NSO eligibility tests specified in § 57.102(b)(3). If the issuing agency determines that the demonstrated control technology necessary to attain the new SO_2 SIP limit is adequately demonstrated to be reasonably available under the eligibility tests, so as to permit the smelter to comply with the new SIP limit on or before January 1, 1988, the NSO shall be amended within the time contemplated

by § 57.202(a) after receipt of the supplementary information. Such amendment shall require compliance with the new SO_2 SIP limit as expeditiously as practicable in accordance with § 57.201(d)(3). The issuing agency, if not EPA, shall promptly submit its determination and any necessary NSO amendments to EPA.

(c) EPA shall take action to approve or disapprove the issuing agency's determination and NSO amendment, if any, within a reasonable time after receipt of such determination and amendment.

(d) If EPA disapproves the issuing agency's determination or NSO amendment, or if a smelter fails to submit any supplementary information as required under paragraph (a), EPA and/or the issuing agency shall take appropriate remedial action. EPA shall take appropriate remedial action if the issuing agency does not make any determination and amendment required by this section within the time contemplated by § 57.202(a).

Subpart C—Constant Controls and Related Requirements

§ 57.301 General requirements.

Each NSO shall require an interim level of sulfur dioxide constant controls to be operated at the smelter, unless a waiver of this requirement has been granted to the owner under subpart H of this part. Except as otherwise provided in § 57.304, the interim constant controls shall be properly operated and maintained at all times. The NSO shall require the following gas streams to be treated by interim constant controls:

(a) In copper smelters, off-gases from fluidized bed roasters, flash furnaces, NORANDA reactors, electric furnaces and copper converters;

(b) In lead smelters, off-gases from the front end of the sintering machine and any other sinter gases which are recirculated;

(c) In zinc smelters, off-gases from mult-hearth roasters, flash roasters and fluidized bed roasters; and

(d) In all primary nonferrous smelters, all other strong SO_2 streams.

(e) In all primary nonferrous smelters, any other process streams which were regularly or intermittently treated by constant controls at the smelter as of August 7, 1977.

§ 57.302 Performance level of interim constant controls.

(a) *Maximum feasible efficiency.* Each NSO shall require: that the smelter operate its interim constant control systems at their maximum feasible efficiency, including the making of any improvements necessary to correct the effects of any serious deficiencies; that the process and control equipment be maintained in the way best designed to ensure such operation; and that process operations be scheduled and coordinated to facilitate treatment of process gas streams to the maximum possible extent. Maximum feasible efficiency shall be expressed in the NSO in the form of a limitation on the concentration of SO_2 in the tail gas of each individual control system in combination with an appropriate averaging period, as provided below in paragraphs (b) and (c) of this section.

(b) *The limitation level for SO_2 concentration in the control system tail gas.* The level at which the concentration limitation is set shall take into account fluctuations in the strength and volume of process off-gases to the extent that those fluctuations affect the SO_2 content of the tail gas and cannot be avoided by improved scheduling and coordination of process operations. The limitation shall exclude the effect of any increase in emissions caused by process or control equipment malfunction. The limitation shall take into account unavoidable catalyst deterioration in sulfuric acid plants, but may prescribe the frequency of catalyst screening or replacement. The NSO shall also prohibit the smelter owner from using dilution air to meet the limitation.

(c) *Averaging period.* (1) The averaging period shall be derived in combination with the concentration limitation and shall take into account the same factors described in paragraph (b). The averaging period established under this paragraph should generally not exceed the following:

(i) For sulfuric acid plants on copper smelters, 12-hour running average;

(ii) For sulfuric acid plants on lead smelters, 6-hour running average;

(iii) For sulfuric acid plants on zinc smelters, 2-hour running average;

(iv) For dimethylaniline (DMA) scrubbing units on copper smelters, 2-hour running average.

(2) A different averaging period may be established if the applicant demonstrates that such a period is necessary in order to account for the factors described in paragraph (b) of this section: Provided, that the period is enforceable and satisfies the criteria of paragraph (a) of this section.

(d) *Improved performance.* (1) The performance level representing maximum feasible efficiency for any existing control system (e.g., a sulfuric acid plant or a DMA scrubber) shall require the correction of the effects of any serious deficiencies in the system. For the purpose of this paragraph, at least the following problems shall constitute serious deficiencies in acid plants:

(i) Heat exchangers and associated equipment inadequate to sustain efficient, autothermal operation at the average gas strengths and volumes received by the acid plant during routine process equipment operation;

(ii) Failure to completely fill all available catalyst bed stages with sufficient catalyst;

(iii) Inability of the gas pre-treatment system to prevent unduly frequent plugging or fouling (deterioration) of catalyst or other components of the acid plant; or

(iv) Blower capacity inadequate to permit the treatment of the full volume of gas which the plant could otherwise accommodate, or in-leakage of air into the flues leading to the plant, to the extent that this inadequacy results in bypassing of gas around the plant.

(2) Notwithstanding any contrary provisions of §57.304(c) (malfunction demonstration), no excess emissions (as defined in §57.304(a)) shall be considered to have resulted from a malfunction in the constant control system if the smelter owner has not upgraded serious deficiencies in the constant control system in compliance with the requirements of §57.302(d)(1), unless the smelter owner demonstrates under §57.304(c) that compliance with those requirements would not have affected the magnitude of the emission.

(e) *Multiple control devices.* (1) At any smelter where off-gas streams are treated by various existing control systems (e.g., multiple acid plants or a DMA scrubber and an acid plant), the NSO shall require the use of those systems in the combination that will result in the maximum feasible net SO_2 removal.

(2) To the extent that compliance with this requirement is demonstrated by the smelter operator to result in excess emissions during unavoidable start up and shut down of the control systems, those excess emissions shall not constitute violations of the NSO.

§ 57.303 Total plantwide emission limitation.

(a) *Calculation of the emission limitation.* Each NSO shall contain a requirement limiting the total allowable emissions from the smelter to the level which would have been associated with production at the smelter's maximum production capacity (as defined in §57.103(r)) as of August 7, 1977. This limitation shall be expressed in units of mass per time and shall be calculated as the sum of uncontrolled process and fugitive emissions, and emissions from any control systems (operating at the efficiency prescribed under §57.302). These emission rates may be derived from either direct measurements or appropriately documented mass balance calculations.

(b) *Compliance with the emission limitation.* Each NSO shall require the use of specific, enforceable testing methods and measurement periods for determining compliance with the limitation established under paragraph (a) of this section.

§ 57.304 Bypass, excess emissions and malfunctions.

(a) *Definition of excess emissions.* For the purposes of this subpart, any emissions greater than those permitted by the NSO provisions established under §57.302 (performance level of interim constant controls) or §57.303 (plantwide emission limitation) of this subpart shall constitute excess emissions. Emission of any gas stream identified under §57.301 (a), (b), (c), (d) or (e) of

this subpart that is not treated by a sulfur dioxide constant control system shall also constitute an excess emission under this subpart.

(b) *The excess emission report.* Each NSO shall require the smelter to report all excess emissions to the issuing agency, as provided in § 57.305(b). The report shall include the following:

(1) Identity of the stack or other emission points where the excess emissions occurred;

(2) Magnitude of the excess emissions expressed in the units of each applicable emission limitation, as well as the operating data, documents, and calculations used in determining the magnitude of the excess emissions;

(3) Time and duration of the excess emissions;

(4) Identity of the equipment causing the excess emissions;

(5) Nature and cause of such excess emissions;

(6) Steps taken to limit the excess emissions, and when those steps were commenced;

(7) If the excess emissions were the result of a malfunction, the steps taken to remedy the malfunction and to prevent the recurrence of such malfunction; and

(8) At the smelter owner's election, the demonstration specified in paragraph (c) of this section.

(c) *Malfunction demonstration.* Except as provided in § 57.302(e)(2) or in paragraph (d) or (e) of this section, any excess emission shall be a violation of the NSO unless the owner demonstrates in the excess emissions report required under paragraph (b) of this section that the excess emission resulted from a malfunction (or an unavoidable start up and shut down resulting from a malfunction) and that:

(1) The air pollution control systems, process equipment, or processes were at all times maintained and operated, to the maximum extent practicable, in a manner consistent with good practice for minimizing emissions;

(2) Repairs were made as expeditiously as practicable, including the use of off-shift labor and overtime;

(3) The amount and duration of the excess emissions were minimized to the maximum extent practicable during periods of such emissions; and

(4) The excess emissions were not part of a recurring pattern indicative of serious deficiencies in, or inadequate operation, design, or maintenance of, the process or control equipment.

(d) *Scheduled maintenance exception.* Excess emissions occurring during scheduled maintenance shall not constitute violations of the NSO to the extent that:

(1) The expected additional annual sulfur dioxide removal by any control system (including associated process changes) for which construction had not commenced (as defined in 40 CFR 60.2 (g) and (i)) as of August 7, 1977 and which the smelter owner agrees to install and operate under subpart F, would have offset such excess emissions if the system had been in operation throughout the year in which the maintenance was performed;

(2) The system is installed and operated as provided in the NSO provisions established under subpart F; and

(3) The system performs at substantially the expected efficiency and reliability subsequent to its initial break-in period.

(e) An NSO may provide that excess emissions which occur during acid plant start-up as the result of the cooling of acid plant catalyst due to the unavailability of process gas to an acid plant during a prolonged SCS curtailment or scheduled maintenance are not excess emissions. If the NSO does so provide, it shall also require the use of techniques or practices designed to minimize these excess emissions, such as the sealing of the acid plant during prolonged curtailments, the use of auxiliary heat or SO_2 injected during the curtailment, or the preheating of the acid plant before start-up of the process equipment it serves.

(f) Requirements for a smelter with constant controls that applies for a waiver.

(1) If a smelter that has some interim constant controls applies for a waiver in accordance with subpart H, the following requirements shall apply pending action on the waiver application and following final action granting or approving a waiver:

(i) The NSO shall require the smelter to implement maintenance and operation measures designed to reduce to

the maximum extent feasible the potential for bypass of existing interim constant controls.

(ii) Upon application for a waiver under subpart H, the smelter shall submit to the issuing agency for its approval and to EPA proposed maintenance and operation measures for compliance with the requirements of paragraph (i).

(iii) The remainder of this subpart shall apply except that: (A) The emission limitations required under this subpart shall be based only on existing constant control equipment as upgraded through the improved maintenance and operation required by this paragraph, and (B) bypass of existing controls shall not constitute excess emissions, provided the maintenance and operation requirements and emission limitations prescribed by the NSO are satisfied.

(2) After any denial of a waiver by the issuing Agency, or any disapproval by EPA of a waiver granted by the issuing agency, the NSO shall be amended consistent with the requirements of this subpart and § 57.702.

§ 57.305 Compliance monitoring and reporting.

(a) *Monitoring.* (1) Each NSO shall require compliance with the control system performance requirements established pursuant to this subpart to be determined through the use of continuous monitors for measuring SO_2 concentration.

(i) Such monitors must be installed, operated and maintained in accordance with the performance specifications and other requirements contained in appendix D to 40 CFR part 52 or part 60. The monitors must take and record at least one measurement of SO_2 concentration from the effluent of each control system in each 15-minute period. Failure of the monitors to record at least 95% of the 15-minute periods in any 30-day period shall constitute a violation of the NSO.

(ii) The sampling point shall be located at least 8 stack diameters (diameter measured at sampling point) downstream and 2 diameters upstream from any flow disturbance such as a bend, expansion, constriction, or flame, unless another location is approved by the Administrator.

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

(iv) 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.

(2) Each NSO shall require the monitoring of any ducts or flues used to bypass gases, required under this subpart to be treated by constant controls, around the smelter's sulfur dioxide constant control system(s) for ultimate discharge to the atmosphere. Such monitoring shall be adequate to disclose the time of the bypass, its duration, and the approximate volume and SO_2 concentration of gas bypassed.

(b) *Reporting.* (1) Each NSO shall require that the smelter maintain a record of all measurements required under paragraph (a) of this section. Results shall be summarized monthly and shall be submitted to the issuing agency within 15 days after the end of each month. The smelter owner shall retain a record of such measurements for one year after the NSO period terminates.

(2) Each NSO shall require that the smelter maintain a record of all measurements and calculations required under § 57.303(b). Results shall be summarized on a monthly basis and shall be submitted to the issuing agency at 6-month intervals. The smelter owner shall retain a record of such measurements and calculations for at least one year after the NSO terminates.

(3) The report required under § 57.304(b) shall accompany the report required under paragraph (b)(1) of this section.

(c) *Quality assurance and continuous data*—(1) *Quality assurance.* Each NSO shall require that the smelter submit a plan for quality assurance to the issuing agency for approval and that all monitoring performed by continuous monitors shall be verified for quality assurance by the smelter. Such plans must follow current EPA guidelines for quality assurance, in order to be approvable.

(2) *Continuous data.* Manual source testing methods equivalent to 40 CFR part 60, appendix A shall be used to determine compliance if the continuous monitoring system malfunctions.

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

RADIUS FOR SO_2 EMISSIONS AT MAXIMUM PRODUCTION CAPACITY [1]—Continued

Emissions rate in tons per hour	Emission rate in grains per sec.	Radius in kilometers
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:

(1) In any civil proceeding (judicial or administrative) to enforce the NSO, the company will not contest:

(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

(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.

(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.

(b) Evaluation during the first 6 months of the NSO. The design and workplan of the study shall be approved, if adequate, by the issuing agency and included in the NSO. The study shall commence no later than the date when the NSO becomes effective and an analysis of its results shall be submitted to the issuing agency within 6 months of the effective date of the NSO. The study shall include an appropriate period during which the ambient air shall be monitored to determine the impact of fugitive emissions of sulfur dioxide, arsenic (at copper smelters only), lead (at lead and zinc smelters only), and total suspended particulates on the ambient air quality in the smelter's DLA.

§ 57.503 Control measures.

The NSO of any smelter subject to the requirements of § 57.502(b) shall be amended, if necessary, within 6 months of EPA's receipt of the analysis specified in § 57.502(b), as provided in § 57.704(c) to implement the requirement of § 57.501. Measures required to be implemented may include:

(a) *Additional supplementary control.* The use of the supplementary control system, if the additional use of the system does not interfere with the smelter owner's ability to meet the requirements of subpart D; and

(b) *Engineering and maintenance techniques.* The use of engineering and maintenance techniques to detect and prevent leaks and capture and vent fugitive emissions through appropriate stacks. These techniques include but are not limited to:

(1) For reactors, installation and proper operation of primary hoods;

(2) For roasters, installation and proper operation of primary hoods on all hot calcine transfer points;

(3) For furnaces, installation and proper operation of primary hoods on all active matte tap holes, matte launders, slag skim bays, and transfer points;

(4) For converters, installation and proper operation of primary hoods for blowing operations, and where appropriate, secondary hoods for charging and pouring operations;

(5) For sintering machines, installation and proper operation of primary hoods on the sinter bed, all hot sinter ignition points, all concentrate laydown points, and all hot sinter transfer points;

(6) For blast furnaces, installation and proper operation of primary hoods on all active slag and lead bullion furnace tap holes and transfer points;

(7) For dross reverberatory furnaces, installation and proper operation of primary hoods on all active charging and discharging points;

(8) Maintenance of all ducts, flues and stacks in a leak-free condition to the maximum extent possible;

(9) Maintenance of all process equipment under normal operating conditions in such a fashion that out-leakage of fugitive gases will be prevented to the maximum extent possible;

(10) Secondary or tertiary hooding on process equipment where necessary; and

(11) Partial or complete building evacuation as appropriate.

§ 57.504 Continuing evaluation of fugitive emission control measures.

Each NSO shall require the smelter owner to conduct an active program to continuously review the effectiveness of the fugitive emission control measures implemented pursuant to § 57.503 in maintaining the NAAQS and, if such measures are not sufficiently effective, to evaluate what additional measures should be taken to assure that the NAAQS will be maintained with a reasonably degree of reliability. The NSO shall also require submission of a semiannual report to the issuing Agency detailing the results of this review and evaluation. Such a report may be submitted as part of the report required under § 57.402(f).

§ 57.505 Amendments of the NSO.

An NSO shall be amended within three months of submission of any report required under § 57.504 so as to require additional fugitive emission control measures if such report establishes that such additional measures are necessary to assure that the NAAQS will be maintained with a reasonable degree of reliability.

Subpart F—Research and Development Requirements

§ 57.601 General requirements.

(a) This subpart is not applicable to NSOs which contain a SIP compliance schedule in accordance with § 57.705.

(b) The requirements of this subpart may be waived with respect to a smelter if the owner of that smelter submits with its NSO application a written certification by a corporate official authorized to make such a certification that the smelter will either comply with its SO_2 SIP limits by January 2, 1988 or close after January 1, 1988 until it can comply with such limits.

(c) Except as provided in paragraphs (a) and (b), each NSO shall require the smelter to conduct or participate in a specific research and development program designed to develop more effective means of compliance with the sulfur dioxide control requirements of the applicable State Implementation Plan than presently exist.

§ 57.602 Approval of proposal.

(a) *The smelter owner's proposal.* The smelter owner's NSO application shall include a proposed NSO provision for implementing the requirement of § 57.601, a fully documented supporting analysis of the proposed program, and an evaluation of the consistency of the proposed program with the criteria listed in § 57.603. The application shall also specify:

(1) The design and substantive elements of the research and development program, including the expected amount of time required for their implementation;

(2) The annual expected capital, operating, and other costs of each element in the program;

(3) The smelter's current production processes, pollution control equipment, and emissions which are likely to be affected by the program;

(4) Potential or expected benefits of the program;

(5) The basis upon which the results of the program will be evaluated; and

(6) The names, positions, and qualifications of the individuals responsible for conducting and supervising the project.

(b) *EPA approval.* (1) If the issuing agency will not be EPA, the smelter owner or the issuing agency may also submit to EPA the information specified in paragraph (a) of this section at the same time the information is submitted to the issuing agency. As soon as possible after the receipt of the information described in paragraph (a) of this section, EPA shall certify to the issuing agency and to the applicant whether or not in the judgment of the Administrator the smelter owner's final proposals are approvable. If EPA does not receive an advance copy of the proposal, the ultimate approval will occur when the NSO is approved rather than in advance of receipt of the NSO.

(2) A prerequisite for approval of an R&D proposal by EPA and any issuing agency is that the planned work must yield the most cost effective technology possible.

(c) *Optional preproposal.* The smelter owner may, at its option, submit to EPA for its approval and comment a preproposal generally describing the project the owner intends to propose

under paragraph (a) of this section. A preproposal may be submitted to EPA any time prior to the submission of a proposal under paragraph (a) of this section. As soon as possible after the receipt of a preproposal, EPA shall certify to the applicant (and to any other issuing agency, as applicable) whether or not the project would be approvable. This certification may include comments indicating necessary modifications which would make the project approvable.

§ 57.603 Criteria for approval.

The approvability of any proposed research and development program shall be judged primarily according to the following criteria:

(a) The likelihood that the project will result in the use of more effective means of emission limitation by the smelter within a reasonable period of time and that the technology can be implemented at the smelter in question, should the smelter be placed on a SIP compliance schedule at some future date when adequately demonstrated technology is reasonably available;

(b) Whether the proposed funding and staffing of the project appear adequate for its successful completion;

(c) Whether the proposed level of funding for the project is consistent with the research and development expenditure levels for pollution control found in other industries;

(d) The potential that the project may yield industrywide pollution control benefits;

(e) Whether the project may also improve control of other pollutants of both occupational and environmental significance;

(f) The potential effects of the project on energy conservation; and

(g) Other non-air quality health and environmental considerations.

§ 57.604 Evaluation of projects.

The research and development proposal shall include a provision for the employment of a qualified independent engineering firm to prepare written reports at least annually which evaluate each completed significant stage of the research and development program, including all relevant information and data generated by the program. All reports required by this paragraph shall be submitted to EPA and also to the issuing agency if it is not EPA.

§ 57.605 Consent.

Each NSO shall incorporate by reference a binding written consent, signed by a corporate official empowered to do so, requiring the smelter owner to:

(a) Carry out the approved research and development program;

(b) Grant each issuing agency and EPA and their contractors access to any information or data employed or generated in the research and development program, including any process, emissions, or financial records which such agency determines are needed to evaluate the technical or economic merits of the program;

(c) Grant physical access to representatives and contractors of each issuing agency to each facility at which such research is conducted;

(d) Grant the representatives and contractors of EPA and the issuing agency reasonable access to the persons conducting the program on behalf of the smelter owner for discussions of progress, interpretation of data and results, and any other similar purposes as deemed necessary by EPA or any issuing agency.

§ 57.606 Confidentiality.

The provisions of section 114 of the Act and 40 CFR part 2 shall govern the confidentiality of any data or information provided to EPA under this subpart.

Subpart G—Compliance Schedule Requirements

§ 57.701 General requirements.

This section applies to all smelters applying for an NSO. Each NSO shall require the smelter owner to meet all of the requirements within the NSO as expeditiously as practicable but in no case later than the deadlines contained in this subpart or any other section of these regulations. For requirements not immediately effective, the NSO shall provide increments of progress and a schedule for compliance. Each schedule must reflect the extent to

which any required equipment or systems are already in place and the extent to which any required reports or studies have already been completed. Requirements for smelters to submit compliance schedules and the procedures which they must follow are outlined below.

§ 57.702 Compliance with constant control emission limitation.

(a) This section applies to all smelters which receive an NSO, but only to the extent this section is compatible with any SIP compliance schedule required by §§ 57.201(d)(2) and 57.705.

(b) Any NSO issued to a smelter not required to immediately comply with the requirements of subpart G under § 57.701 shall contain a schedule for compliance with those requirements as expeditiously as practicable but in no case later than 6 months from the effective date of the NSO, except as follows: Where a waiver is requested in accordance with subpart H, an NSO may be issued without a schedule for compliance with the requirements for which a waiver is being considered consistent with subpart H, pending a final decision on the request under subpart H. If a waiver is requested in accordance with subpart H, compliance with the requirements of subpart C which were deferred as a result of such request shall be achieved as expeditiously as practicable after, but in no case later than 6 months from a final decision by the issuing agency to deny a waiver under subpart H or disapproval by EPA of a waiver granted by the issuing agency. The time limits specified herein may be extended only if a smelter operator demonstrates that special circumstances warrant more time, in which case the compliance schedule shall require compliance as expeditiously as practicable. An NSO which does not contain a schedule for compliance with all the requirements of subpart C because a waiver has been requested in accordance with subpart H shall be amended in accordance with § 57.104 within three months after a final decision under subpart H so as to either grant a waiver of any remaining requirements of subpart C, or deny such a waiver and place the smelter on a compliance schedule for meeting those requirements. If the issuing agency grants a waiver and such waiver is disapproved by EPA, the issuing agency shall promptly amend the NSO so as to place the smelter on a compliance schedule meeting any remaining requirements of subpart C.

(c) Any schedule required under this section shall contain the following information and increments of progress to the extent applicable:

(1) Description of the overall design of the SO_2 control system(s) to be installed;

(2) Descriptions of specific process hardware to be used in achieving compliance with interim SO_2 constant controls including gas capacity values;

(3) The date by which contracts will be let or purchase orders issued to accomplish any necessary performance improvements;

(4) The date for initiating on-site construction or installation of necessary equipment;

(5) The date by which on-site construction or installation of equipment is to be completed; and

(6) The date for achievement of final compliance with interim emission limitations.

§ 57.703 Compliance with the supplementary control system requirements.

This section applies to all nonferrous smelters applying for an NSO.

(a) Schedules for smelters with existing SCS. Each NSO shall require immediately upon issuance of the NSO operation of any existing supplementary control system and immediately upon the effective date of the NSO the assumption of liability for all violations of the NAAQS detected by any monitor in the SCS system. Each NSO shall require that within six months of the effective date of the NSO the smelter complete any measures specified in the smelter's approved SCS development plan not implemented at the time the NSO is issued, and assume liability for all violations of the NAAQS detected anywhere in the DLA (except as provided in subpart D of these regulations). Other requirements of subpart D such as the requirements for submission of reports records, and for ongoing

evaluation of the SCS shall be complied with at the times specified in subpart D and § 57.701.

(b) Compliance schedule for smelters with no existing SCS system. Where a smelter has no SCS at the time of issuance of the NSO, the NSO shall require compliance with the requirements of subpart D according to the following schedule:

(1) Within six months after the effective date of the NSO the smelter shall install all operating elements of the SCS system, begin operating the system, complete all other measures specified in its approved SCS development plan, begin compliance with the requirements of § 57.404, and assume liability for any violations of the NAAQS within its designated liability area (except as provided by subpart D), detected by the SCS monitors in place.

(2) Within nine months thereafter the smelter shall submit the SCS Report, assume liability for all violations of the NAAQS detected anywhere within its designated liability area, and comply with all other requirements of subpart D, except for those which subpart D specifies are to be satisfied at or after the close of such nine-month period, including requirements for submission of studies, reports, and records, and the requirements for continued review and evaluation of the SCS.

§ 57.704 Compliance with fugitive emission evaluation and control requirements.

This section applies only to smelters not required to submit SIP Compliance Schedules under § 57.705. Each NSO shall require that smelters satisfy each of the requirements of subpart E as expeditiously as practicable, taking into account the extent to which those requirements have already been satisfied, and in any event, within any deadlines specified below.

(a) *Plan for fugitive emission control.* The NSO shall provide that within a reasonable period after the submission of the report on the fugitive emission control study required by § 57.502, but within a period allowing sufficient time for compliance with the requirement of § 57.503 for amendment of the NSO, the smelter owner shall submit to the issuing agency for its approval a proposed fugitive emission control plan, including increments of progress, for compliance with the requirements of §§ 57.501 and 57.503.

(b) *SCS Report.* If the fugitive emission control plan submitted under paragraph (a) of this section proposes to meet the requirements of §§ 57.501 and 57.503 through the additional use of a supplementary control system, the plan shall demonstrate that the use of supplementary controls at that smelter to prevent violations of the NAAQS resulting from fugitive emissions is practicable, adequate, reliable, and enforceable. The plan shall contain increments of progress providing for completion of the implementation of each additional measure, and for corresponding compliance with the requirements of paragraphs (b) and (c) of § 57.404, within four months of approval of the plan by the issuing agency. The plan shall also provide that within three months after completion of implementation of those additional measures, the smelter shall fully comply with the requirements of §§ 57.401 and 57.501 (including the assumption of liability for violations of NAAQS within its designated liability area), and shall submit and additional SCS report for the approval of the issuing agency. This additional final report shall correspond to that submitted under § 57.405(b)(2), except that it need not contain the 3-month study described in § 57.405(b)(2)(iii).

(c) *NSO amendment.* The amendments of the NSO required under § 57.503 shall be affected by the issuing agency as follows:

(1) With respect to the additional use of SCS, upon approval or promulgation of the plan submitted under paragraph (a) of this section and upon approval or promulgation of the requirements for the system described in the additional SCS Report under paragraph (b) of this section;

(2) With respect to the additional use of engineering techniques, upon approval or promulgation of the compliance schedule required by paragraph (a) of this section.

§ 57.705 Contents of SIP Compliance Schedule required by § 57.201(d) (2) and (3).

This section applies to smelters which are required to submit a SIP Compliance Schedule as discussed below.

(a) Each SIP Compliance Schedule required by § 57.201(d) (2) and (3) must contain the following elements:

(1) Description of the overall design of the SO_2 control system(s) to be installed;

(2) Descriptions of specific process hardware to be used in achieving compliance with the SIP emission limitation including gas capacity values;

(3) The date by which contracts will be let or purchase orders issued to accomplish any necessary performance improvements;

(4) The date for initiating on-site construction or installation of necessary equipment;

(5) The date by which on-site construction or installation of equipment is to be completed;

(6) The date for achievement of final compliance with SIP emission limitations; and

(7) Any other measures necessary to assure compliance with all SIP requirements as expeditiously as practicable.

(b) *Operations of SCS.* Smelters to which § 57.705 is applicable must comply with all elements of § 57.703.

Subpart H—Waiver of Interim Requirement for Use of Continuous Emission Reduction Technology

§ 57.801 Purpose and scope.

(a) This subpart shall govern all proceedings for the waiver of the interim requirement that each NSO provide for the use of constant controls.

(b) In the absence of specific provisions in this subpart, and where appropriate, questions arising at any stage of the proceeding shall be resolved at the discretion of the Presiding Officer or the Administrator, as appropriate.

§ 57.802 Request for waiver.

(a) *General.* (1) Each smelter owner requesting a waiver shall complete, sign, and submit appendix A (Test for Eligibility for Interim Waiver). Copies of appendix A may be obtained from any EPA Regional Administrator, or from the Director, Stationary Source Compliance Division (EN–341), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Claims of confidentiality shall be made as provided in § 57.203.

(2) The smelter owner shall append to the completed and signed appendix A full copies of all documents, test results, studies, reports, scientific literature and assessments required by appendix A. To the extent that the material consists of generally available published material, the smelter owner may cite to the material in lieu of appending it to appendix A. The smelter owner shall specifically designate those portions of any documents relied upon and the facts or conclusions in appendix A to which they relate.

(b) *Effect of submitting incomplete application.* (1) The Administrator, or a person designated by him to review applications for waivers, may advise the smelter owner in writing whenever he determines that additional information is needed in order to make the waiver eligibility determinations required by section 119(d)(2) of the Act. The smelter owner shall promptly supply such information. All additional information requested under this paragraph and filed in the manner required by paragraph (d) shall be deemed part of appendix A.

(2) Failure to comply with the requirements of paragraphs (a) and (b)(1) of this section shall be grounds for denial of the requested waiver.

(c) *Time for requesting waivers.* Any request for a waiver must be submitted to the Administrator by the smelter owner at the time of the application for an NSO from the State or the Administrator, as the case may be. Where a smelter was issued a second period NSO by a State before these regulations went into effect, a request for a waiver shall be made and a completed appendix A shall be submitted, within sixty days of the effective date of these regulations, unless an extension is granted by the Administrator, or his designee, for good cause.

(d) *Submission of request.* A copy of appendix A (plus attachments) which has

been completed for the purpose of requesting a waiver of constant control requirements shall be filed with the Administrator, addressed as follows: Director, Stationary Source Compliance Division (EN–341), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460, Attn: Confidential Information Unit.

(e) *Eligibility*. A smelter shall be eligible for consideration under this subpart only if it establishes that (1) its existing strong stream controls, if any, lack the capacity while in full operation to treat all strong stream sulfur dioxide emissions and (2) bypass of strong stream controls due to excess strong stream sulfur dioxide emissions cannot be avoided with improved operation and maintenance of existing strong stream controls and process equipment.

(f) *Criteria for decision*. The Administrator shall grant or approve a waiver, whichever is appropriate, for any eligible smelter as to which he finds, in accordance with the methods and procedures specified in appendix A, that:

(1) The higher of the two net present values of future cash flows completed under the two alternative sets of assumptions set forth in the instructions to schedule D.6 in appendix A in less than liquidation (salvage) value; or

(2) The smelter's average variable costs at all relevant levels of production (after installation of interim constant control equipment) would exceed the weighted average price of smelter output for one year or more.

§ 57.803 Issuance of tentative determination; notice.

(a) *Tentative determination*. (1) The EPA staff shall formulate and prepare:

(i) A ''Staff Computational Analysis,'' using the financial information submitted by the smelter owner under § 57.802 to evaluate the economic circumstances of the smelter for which the waiver is sought;

(ii) A tentative determination as to whether an interim requirement for the use of constant controls would be so costly as to necessitate permanent or prolonged temporary cessation of operations at the smelter for which the waiver is requested. The tentative determination shall contain a ''Proposed Report and Findings'' summarizing the conclusions reached in the Staff Computational Analysis, discussing the estimated cost of interim controls, and assessing the effect upon the smelter of requiring those controls. The tentative determination shall also contain a proposed recommendation that the waiver be granted or denied, based upon the Proposed Report and Findings, and stating any additional considerations supporting the proposed recommendation. This tentative determination shall be a public document.

(2) In preparing the Proposed Report and Findings, the EPA staff shall attempt to the maximum extent feasible to avoid revealing confidential information which, if revealed, might damage the legitimate business interests of the applicant. The preceding sentence notwithstanding, the tentative determination shall be accompanied by a listing of all materials considered by EPA staff in developing the tentative determination. Subject to the provisions of § 57.814(a), full copies of all such materials shall be included in the administrative record under § 57.814, except that, to the extent the material consists of published material which is generally available, full citations to that material may be given instead.

(b) *Public notice*. Public notice of EPA's tentative determination to grant or deny an application for a waiver shall be given by:

(1) Publication at least once in a daily newspaper of general circulation in the area in which the smelter is located; and

(2) Posting in the principal office of the municipality in which the smelter is located.

(c) *Individual notice*. Individual notice of EPA's tentative determination to grant or deny an application for a waiver shall be mailed to the smelter owner by certified mail, return receipt requested, and to the air pollution control agency for the State in which the smelter is located.

(d) *Request for individual notice.* EPA shall mail notice of its tentative determination to grant or deny an application for waiver to any person upon request. Each such request shall be submitted to the Administrator in writing, shall state that the request is for individual notice of tentative determination to grant or deny any application for a waiver under section 119(d) of the Clean Air Act, and shall describe the notice or types of notices desired (e.g., all notices, notices for a particular Region, notices for a particular State, notice for a particular city).

(e) *Form of notice.* The notice of tentative determination required to be distributed under paragraphs (b), (c), and (d) of this section shall include, in addition to any other materials, the following:

(1) A summary of the information contained in appendix A;

(2) The tentative determination prepared under paragraph (a) of this section: Provided, that except in the case of the smelter owner, a summary of the basis for the grant or denial of the waiver may be provided in lieu of the formal determinations required by paragraph (a)(1) of this section;

(3) A brief description of the procedures set forth in § 57.804 for requesting a public hearing on the waiver request, including a statement that such request must be filed within 30 days of the date of the notice;

(4) A statement that written comments on the tentative determination submitted to EPA within 60 days of the date of the notice will be considered by EPA in making a final decision on the application; and

(5) The location of the administrative record and the location at which interested persons may obtain further information on the tentative determination, including a copy of the index to the record, the tentative determination prepared under paragraph (a) of this section, and any other nonconfidential record materials.

§ 57.804 Request for hearing; request to participate in hearing.

(a) *Request for hearing.* Within 30 days of the date of publication or receipt of the notice required by § 57.803, any person may request the Administrator to hold a hearing on the tentative determination by submitting a written request containing the following:

(1) Identification of the person requesting the hearing and his interest in the proceeding;

(2) A statement of any objections to the tentative determination; and

(3) A statement of the issues which such person proposes to raise for consideration at such hearing.

(b) *Grant or denial of hearing; notification.* Whenever (1) the Administrator has received a written request satisfying the requirements of paragraph (a) of this section which presents genuine issues as to the effect on the smelter of the requirement for use of constant controls, or (2) the Administrator determines in his discretion that a hearing is necessary or appropriate the Administrator shall give written notice of his determination to each person requesting such hearing and the smelter owner, and shall provide public notice of his determination in accordance with § 57.803(b). If the Administrator determines that a request filed under paragraph (a) of this section does not comply with the requirements of paragraph (a) or does not present genuine issues, he shall be given written notice of his decision to deny a hearing to the person requesting the hearing.

(c) *Form of notice of hearing.* Each notice of hearing disseminated under paragraph (b) of this section shall contain:

(1) A statement of the time and place of the hearing;

(2) A statement identifying the place at which the official record on the application for waiver is located, the hours during which it will be open for public inspection, and the documents contained in the record as of the date of the notice of hearing;

(3) The due date for filing a written request to participate in the hearing under paragraph (d) of this section;

(4) The due date for making written submissions under 57.805; and

(5) The name, address, and office telephone number of the hearing Clerk for the hearing.

(d) *Request to participate in hearing.* Each person desiring to participate in any hearing granted under this section, including any person requesting such a

hearing, shall file a written request to participate with the Hearing Clerk by the deadline set forth in the notice of hearing. The request shall include:

(1) A brief statement of the interest of the person in the proceeding;

(2) A brief outline of the points to be addressed;

(3) An estimate of the time required; and

(4) If the request is submitted by an organization, a nonbinding list of the persons to take part in the presentation. As soon as practicable, but in no event later than two weeks before the scheduled date of the hearing, the Hearing Clerk shall make available to the public and shall mail to each person who asked to participate in the hearing a hearing schedule.

(e) *Effect of denial of or absence of request for hearing.* If no request for a hearing is made under this section, or if all such requests are denied under paragraph (b) of this section, the tentative determination issued under § 57.803 shall be treated procedurally as if it were a recommended decision issued under § 57.811(b)(2), except that for purposes of §§ 57.812 and 57.813 the term ''hearing participant'' shall be construed to mean the smelter owner and any person who submitted comments under § 57.803(e)(4).

§ 57.805 Submission of written comments on tentative determination.

(a) *Main comments.* Each person who has filed a request to participate in the hearing shall file with the Hearing Clerk no later than 30 days before the scheduled start of the hearing (or such other date as may be set forth in the notice of hearing) any comments which he has on the request for waiver and EPA's tentative determination, based on information which is or reasonably could have been available to that person at the time.

(b) *Reply comments.* Not later than two weeks after a full transcript of the hearing becomes available (or such other date as may be set forth in the notice of hearing), each person who has filed a request to participate in the hearing shall file with the Hearing Clerk any comments he may have on:

(1) Written comments submitted by other participants pursuant to paragraph (a) of this section;

(2) Written comments submitted in response to the notice of hearing;

(3) Material in the hearing record; and

(4) Material which was not and could not reasonably have been available prior to the deadline for submission of main comments under paragraph (a) of this section.

(c) *Form of comments.* All comments should be submitted in quadruplicate and shall include any affidavits, studies, tests or other materials relied upon for making any factual statements in the comments.

(d) *Use of comments.* (1) Written comments filed under this section shall constitute the bulk of the evidence submitted at the hearing. Oral statements at the hearing should be brief, and restricted either to points that could not have been made in written comments, or to emphasizing points which are made in the comments, but which the participant believes can be more forcefully urged in the hearing context.

(2) Notwithstanding the foregoing, within two weeks prior to either deadline specified by paragraph (a) of this section for the filing of main comments, any person who has filed a request to participate in the hearing may file a request with the Presiding Officer to submit all or part of his main comments orally at the hearing in lieu of submitting written comments. The Presiding Officer shall, within one week, grant such request if he finds that such person will be prejudiced if he is required to submit such comments in written form.

§ 57.806 Presiding Officer.

(a) *Assignment of Presiding Officer.* (1) The Administrator shall, as soon as practicable after the granting of a request for hearing under § 57.803, request that the Chief Administrative Law Judge assign an Administrative Law Judge as Presiding Officer. The Chief Administrative Law Judge shall thereupon make the assignment.

(2) If the parties to the hearing waive their right to have the Agency or an Administrative Law Judge preside at

the hearing, the Administrator shall appoint an EPA employee who is an attorney to serve as presiding officer.

(b) *Powers and duties of Presiding Officer.* It shall be the duty of the Presiding Officer to conduct a fair and impartial hearing, assure that the facts are fully elicited, and avoid delay. The Presiding Officer shall have authority to:

(1) Chair and conduct administrative hearings held under this subpart;

(2) Administer oaths and affirmations;

(3) Receive relevant evidence: Provided, that the administrative record, as defined in § 57.814, shall be received in evidence;

(4) Consider and rule upon motions, dispose of procedural requests, and issue all necessary orders;

(5) Hold conferences for the settlement or simplification of the issues or the expediting of the proceedings; and

(6) Do all other acts and take all measures necessary for the maintenance of order and for the efficient, fair and impartial conduct of proceedings under this subpart.

[50 FR 6448, Feb. 15, 1985, as amended at 57 FR 5328, Feb. 13, 1992]

§ 57.807 Hearing.

(a) *Composition of hearing panel.* The Presiding Officer shall preside at the hearing held under this subpart. An EPA panel shall also take part in the hearing. In general, the membership of the panel shall consist of EPA employees having special expertise in areas related to the issues to be addressed at the hearing, including economists and engineers. For this reason, the membership of the panel may change as different issues are presented for discussion.

(b) *Additional hearing participants.* Either before or during the hearing, the Presiding Officer, after consultation with the panel, may request that a person not then scheduled to participate in the hearing (including an EPA employee or a person identified by any scheduled hearing participant as having knowledge concerning the issues raised for discussion at the hearing) make a presentation or make himself available for cross-examination at the hearing.

(c) *Questioning of hearing participants.* The panel members may question any person participating in the hearing. Cross-examination by persons other than panel members shall not be permitted at this stage of the proceeding except where the Presiding Officer determines, after consultation with the panel, that circumstances compel such cross-examination. However, persons in the hearing audience, including other hearing participants, may submit written questions to the Presiding Officer for the Presiding Officer to ask the participants, and the Presiding Officer may, after consultation with the panel, and in his sole discretion, ask these questions.

(d) *Submission of additional material.* Participants in the hearing shall submit for the hearing record such additional material as the hearing panel may request within 10 days following the close of the hearing, or such other period of time as is ordered by the Presiding Officer. Participants may also submit additional information for the hearing record on their own accord within 10 days after the close of the hearing.

(e) *Transcript.* A verbatim transcript shall be made of the hearing.

§ 57.808 Opportunity for cross-examination.

(a) *Request for cross-examination.* After the close of the panel hearing conducted under this part, any participant in that hearing may submit a written request for cross-examination. The request shall be received by EPA within one week after a full transcript of the hearing becomes available and shall specify:

(1) The disputed issue(s) of material fact as to which cross-examination is requested. This shall include an explanation of why the questions at issue are factual, rather than of an analytical or policy nature; the extent to which they are in dispute in the light of the record made thus far, and the extent to which and why they can reasonably be considered material to the decision on the application for a waiver; and

(2) The person(s) the participant desires to cross-examine, and an estimate

of the time necessary. This shall include a statement as to why the cross-examination requested can be expected to result in full and true disclosure resolving the issue of material fact involved.

(b) *Order granting or denying request for cross-examination.* As expeditiously as practicable after receipt of all requests for cross-examination under paragraph (a) of this section, the Presiding Officer, after consultation with the hearing panel, shall issue an order either granting or denying each such request, which shall be disseminated to all persons requesting cross-examination and all persons to be cross-examined. If any request for cross-examination is granted, the order shall specify:

(1) The issues as to which cross-examination is granted;

(2) The persons to be cross-examined on each issue;

(3) The persons allowed to conduct cross-examination;

(4) Time limits for the examination of witnesses; and

(5) The date, time and place of the supplementary hearing at which cross-examination shall take place. In issuing this ruling, the Presiding Officer may determine that one or more participants have the same or similar interests and that to prevent unduly repetitious cross-examination, they should be required to choose a single representative for purposes of cross-examination. In such a case, the order shall simply assign time for cross-examination by that single representative without identifying the representative further.

(c) *Supplementary hearing.* The Presiding Officer and at least one member of the original hearing panel shall preside at the supplementary hearing. During the course of the hearing, the Presiding Officer shall have authority to modify any order issued under paragraph (b) of this section. A verbatim transcript shall be made of this hearing.

(d) *Alternatives to cross-examination.* (1) No later than the time set for requesting cross-examination, a hearing participant may request that alternative methods of clarifying the record (such as the submittal of additional written information) be used in lieu of or in addition to cross-examination. The Presiding Officer shall issue an order granting or denying such request at the time he issues (or would have issued) an order under paragraph (b) of this section. If the request is granted, the order shall specify the alternative provided and any other relevant information (e.g., the due date for submitting written information).

(2) In passing on any request for cross-examination submitted under paragraph (a) of this section, the Presiding Officer may, as a precondition to ruling on the merits of such request, require that alternative means of clarifying the record be used whether or not a request to do so has been made under the preceding paragraph. The person requesting cross-examination shall have one week to comment on the results of utilizing such alternative means, following which the Presiding Officer, as soon as practicable, shall issue an order granting or denying such person's request for cross-examination.

§ 57.809 *Ex parte* communications.

(a) *General.* (1) No interested person outside the Agency or member of the Agency trial staff shall make or knowingly cause to be made to any member of the decisional body an *ex parte* communication relevant to the merits of the proceedings.

(2) No member of the decisional body shall make or knowingly cause to be made to any interested person outside the Agency or member of the Agency trial staff an *ex parte* communication relevant to the merits of the proceedings.

(b) *Effect of receipt of ex parte communication.* (1) A member of the decisional body who receives or who makes or knowingly causes to be made a communication prohibited by this subsection shall place in the record all written communications or memoranda stating the substance of all oral communications together with all written responses and memoranda stating the substance of all responses.

(2) Upon receipt by any member of the decisionmaking body of an *ex parte* communication knowingly made or knowingly caused to be made by a party or representative of a party in violation of this section, the person

presiding at the stage of the hearing then in progress may, to the extent consistent with justice and the policy of the Clean Air Act, require the party to show cause why its claim or interest in the proceedings should not be dismissed, denied, disregarded, or otherwise adversely affected on account of such violation.

(c) *Definitions.* For purposes of this section, the following definitions shall apply:

(1) *Agency trial staff* means those Agency employees, whether temporary or permanent, who have been designated by the Agency as available to investigate, litigate, and present the evidence arguments and position of the Agency in the evidentiary hearing or non-adversary panel hearing. Appearance as a witness does not necessarily require a person to be designated as a member of the Agency trial staff;

(2) *Decisional body* means any Agency employee who is or may be reasonably expected to be involved in the decisional process of the proceeding including the Administrator, Presiding Officer, the Regional Administrator (if he does not designate himself as a member of the Agency trial staff), and any of their staff participating in the decisional process. In the case of a non-adversary panel hearing, the decisional body shall also include the panel members whether or not permanently employed by the Agency;

(3) *Ex parte communication* means any communication, written or oral, relating to the merits of the proceeding between the decisional body and an interested person outside the Agency or the Agency trial staff which was not originally filed or stated in the administrative record or in the hearing. *Ex parte* communications do not include:

(i) Communications between Agency employees other than between the Agency trial staff and the member of the decisional body;

(ii) Discussions between the decisional body and either:

(A) Interested persons outside the Agency, or;

(B) The Agency trial staff if all parties have received prior written notice of such proposed communications and have been given the opportunity to be present and participate therein.

(4) *Interested person outside the Agency* includes the smelter owner, any person who filed written comments in the proceeding, any person who requested the hearing, any person who requested to participate or intervene in the hearing, any participant or party in the hearing and any other interested person not employed by the Agency at the time of the communications, and the attorney of record for such persons.

[50 FR 6448, Feb. 15, 1985, as amended at 57 FR 5328, Feb. 13, 1992]

§ 57.810 Filing of briefs, proposed findings, and proposed recommendations.

Unless otherwise ordered by the Presiding Officer, each hearing participant may, within 20 days after reply comments are submitted under § 57.805(b), or if a supplementary hearing for the purpose of cross-examination has been held under § 57.808(c), within 20 days after the transcript of such supplemental hearing becomes available or if alternative methods of clarifying the record have been used under § 57.808(d), within 20 days after the alternative methods have been employed, file with the Hearing Clerk and serve upon all other hearing participants proposed findings and proposed recommendations to replace in whole or in part the findings and recommendations contained in the tentative determination. Any such person may also file, at the same time, a brief in support of his proposals, together with references to relevant pages of transcript and to relevant exhibits. Within 10 days thereafter each participant may file a reply brief concerning alternative proposals. Oral argument may be held at the discretion of the Presiding Officer on motion of any hearing participant or sua sponte.

§ 57.811 Recommended decision.

As soon as practicable after the conclusion of the hearing, one or more responsible employees of the Agency shall evaluate the record for preparation of a recommended decision and shall prepare and file a recommended decision with the Hearing Clerk. The employee(s) preparing the decision will generally be members of the hearing panel and may include the Presiding

Officer. Such employee(s) may consult with and receive assistance from any member of the hearing panel in drafting a recommended decision and may also delegate the preparation of the recommended decision to the panel or to any member or members of it. This decision shall contain the same elements as the tentative determination. After the recommended decision has been filed, the Hearing Clerk shall serve a copy of such decision on each hearing participant and upon the Administrator.

§ 57.812 Appeal from or review of recommended decision.

(a) *Exceptions.* (1) Within 20 days after service of the recommended decision, any hearing participant may take exception to any matter set forth in such decision or to any adverse order or ruling of the Presiding Officer prior to or during the hearing to which such participant objected, and may appeal such exceptions to the Administrator by filing them in writing with the Hearing Clerk. Such exceptions shall contain alternative findings and recommendations, together with references to the relevant pages of the record and recommended decision. A copy of each document taking exception to the recommended decision shall be served upon every other hearing participant. Within the same period of time each party filing exceptions shall file with the Administrator and shall serve upon all hearing participants a brief concerning each of the exceptions being appealed. Each brief shall include page references to the relevant portions of the record and to the recommended decision.

(2) Within 10 days of the service of exceptions and briefs under paragraph (a)(1) of this section, any hearing participant may file and serve a reply brief responding to exceptions or arguments raised by any other hearing participant together with references to the relevant portions of the record, recommended decision, or opposing brief. Reply briefs shall not, however, raise additional exceptions.

(b) *Sua sponte review by the Administrator.* Whenever the Administrator determines *sua sponte* to review a recommended decision, notice of such intention shall be served upon the parties by the Hearing Clerk within 30 days after the date of service of the recommended decision. Such notice shall include a statement of issues to be briefed by the hearing participants and a time schedule for the service and filing of briefs.

(c) *Scope of appeal or review.* The appeal of the recommended decision shall be limited to the issues raised by the appellant, except when the Administrator determines that additional issues should be briefed or argued. If the Administrator determines that briefing or argument of additional issues is warranted, all hearing participants shall be given reasonable written notice of such determination to permit preparation of adequate argument.

(d) *Argument before the Administrator.* The Administrator may, upon request by a party or sua sponte, set a matter for oral argument. The time and place for such oral argument shall be assigned after giving consideration to the convenience of the parties.

§ 57.813 Final decision.

(a) *After review.* As soon as practicable after all appeal or other review proceedings have been completed, the Administrator shall issue his final decision. Such a final decision shall include the same elements as the recommended decision, as well as any additional reasons supporting his decisions on exceptions filed by hearing participants. The final decision may accept or reject all or part of the recommended decision. The Administrator may consult with the Presiding Officer, members of the hearing panel or any other EPA employee in preparing his final decision. The Hearing Clerk shall file a copy of the decision on all hearing participants.

(b) *In the absence of review.* If no party appeals a recommended decision to the Administrator and if the Administrator does not review it sua sponte, he shall be deemed to have adopted the recommended decision as the final decision of the Agency upon the expiration of the time for filing any exceptions under § 57.812(a).

(c) *Timing of judicial review.* For purposes of judicial review, final Agency action on a request for a waiver of the

interim requirement that each NSO provide for the use of constant controls shall not occur until EPA approves or disapproves the issuance of an NSO to the source requesting such a waiver.

§ 57.814 Administrative record.

(a) *Establishment of record.* (1) Upon receipt of request for a waiver, an administrative record for that request shall be established, and a Record and Hearing Clerk appointed to supervise the filing of documents in the record and to carry out all other duties assigned to him under this subpart.

(2) All material required to be included in the record shall be added to the record as soon as feasible after its receipt by EPA. All material in the record shall be appropriately indexed. The Hearing Clerk shall make appropriate arrangements to allow members of the public to copy all nonconfidential record materials during normal EPA business hours.

(3) Confidential record material shall be indexed under paragraph (a)(2). Confidential record material shall, however, be physically maintained in a separate location from public record material.

(4) Confidential record material shall consist of the following:

(i) Any material submitted pursuant to § 57.802 for which a proper claim of confidentiality has been made under section 114(c) of the Act and 40 CFR part 2; and

(ii) The Staff Computational Anaylsis prepared under § 57.803

(b) *Record for issuing tentative determination.* The administrative record for issuing the tentative determination required by § 57.803 shall consist of the material submitted under § 57.802 and any additional materials supporting the tentative determination.

(c) *Record for acting on requests for cross-examination.* The administrative record for acting on requests for cross-examination under § 57.808 shall consist of the record for issuing the tentative determination, all comments timely submitted under §§ 57.803(e)(4) and 57.805, the transcript of the hearing, and any additional material timely submitted under § 57.807(d).

(d) *Record for preparation of recommended decision.* The administrative record for preparation of the recommended decision required by § 57.811 shall consist of the record for acting on request for cross-examination, the transcript of any supplementary hearing held under § 57.808(c), any materials timely submitted in lieu of or in addition to cross-examination under § 57.808(d), and all briefs, proposed findings of fact and proposed recommendations timely submitted under § 57.810.

(e) *Record for issuance of final decision.* (1) Where no hearing has been held, the administrative record for issuance of the Administrator's final decision shall consist of the record for issuing the tentative determination, any comments timely submitted under § 57.803(e)(4), any briefs or reply briefs timely submitted under § 57.812 (a) through (c), and the transcript of any oral argument granted under § 57.812(d).

(2) Where a hearing has been held, the administrative record for issuance of the Administrator's final decision shall consist of the record of preparation of the recommended decision, any briefs or reply briefs submitted under § 57.812 (a) through (c), and the transcript of any oral argument granted under § 57.812(d).

§ 57.815 State notification.

The Administrator shall give notice of the final decision in writing to the air pollution control agency of the State in which the smelter is located.

§ 57.816 Effect of negative recommendation.

No waiver of the interim requirement for the use of constant controls shall be granted by the Administrator or a State unless the Administrator or a State first takes into account the Administrator's report, findings, and recommendations as to whether the use of constant controls would be so costly as to necessitate permanent or prolonged temporary cessations of operation of the smelter.

APPENDIX A TO PART 57—PRIMARY NONFERROUS SMELTER ORDER (NSO) APPLICATION

INSTRUCTIONS

1. *General Instructions*
1.1 Purpose of the Application
1.2 NSO Financial Tests

1.3 Confidentiality
2. *NSO Financial Reporting Overview*
2.1 Revenue and Cost Assignment
2.2 Transfer Prices on Affiliated Party Transactions
2.3 Forecasting Requirements
2.4 EPA Furnished Forecast Data
2.5 Applicant Generated Forecasts
2.6 Weighted Average Cost of Capital for Nonferrous Metal Producers
2.7 Horizon Value
2.8 Data Entry
2.9 Use of Schedules
2.10 Use of Exhibits

DETAILED INSTRUCTIONS FOR EACH SCHEDULE

A.1 Historical Revenue Data
A.2 Historical Cost Data
A.3 Historical Profit and Loss Summary
A.4 Historical Capital Investment Summary
B.1 Pre-Control Revenue Forecast
B.2 Pre-Control Cost Forecast
B.3 Pre-Control Forecast Profit and Loss Summary
B.4 Constant Controls Revenue Forecast
B.5 Constant Controls Cost Forecast
B.6 Constant Controls Forecast Profit and Loss Summary for the Profit Protection Test
B.7 Profit Protection Test
C.1 Constant Controls Forecast Profit and Loss Summary for the Rate of Return Test
C.2 Constant Controls Sustaining Capital Investment Forecast
C.3 Historical Capital Investment in Constant Dollars
C.4 Rate of Return Test
C.5 Horizon Value of Cash Flows for the Rate of Return Test
D.1 Interim Controls Revenue Forecast
D.2 Interim Controls Cost Forecast
D.3 Interim Controls Forecast Profit and Loss Summary
D.4 Interim Controls Sustaining Capital Investment Forecast
D.5 Cash Proceeds from Liquidation
D.6 Permanent Waiver from Interim Controls Test
D.7 Horizon Value of Cash Flows for the Interim Controls Test

1. General Instructions

1.1 Purpose of the application. This application provides financial reporting schedules and the accompanying instructions for EPA's determination of eligibility for a nonferrous smelter order (NSO), and for a waiver of the interim constant controls requirement of an NSO. Although the determination of eligibility for an NSO is prerequisite for the determination of a waiver, appendix A, as a matter of convenience to applicants, includes both the NSO and waiver tests and reporting schedules.

In order to support an NSO eligibility determination, the applicant must submit operating and financial data as specified by the schedules included in this application. Specific instructions for completing each schedule are provided in subsequent sections of the instructions. In general, applicants must provide:

(a) Annual income statements, balance sheets and supporting data covering the five most recent fiscal years for the smelter for which the NSO requested.

(b) Forecasts of operating revenues, operating costs, net income from operations and capital investments for the firm's smelter operations subject to this application, on the basis of anticipated smelter operations without any sulfur dioxide air pollution control facilities that have not been installed as of the NSO application date.

(c) Forecasts of operating revenues, operating costs, net income from operations and capital investments for the firm's smelter operations subject to this application, on the basis of anticipated smelter operations with expected additional sulfur dioxide control facilities required to comply with the smelter's SIP emission limitation.

(d) For smelters applying for a waiver of interim constant controls, forecasts of operating revenues, operating costs, and capital investments for the firm's smelter operations prepared on the basis of two alternative assumptions: (1) Installation of additional pollution control facilities required to comply with interim constant control requirements, no installation of any additional SO_2 controls that the smelter would otherwise be required to install but for the issuance of an NSO, and closure of the smelter after January 1, 1988; and (2) installation of additional pollution control facilities required to comply with interim constant control requirements, installation of any additional SO_2 controls required to comply with the smelter's SIP emission limitation by January 2, 1988, and continued operation of the smelter after January 1, 1988.

1.2 NSO financial tests. EPA will use separate tests to determine eligibility for an NSO and to evaluate applications for a waiver of the interim constant control requirement. The two tests for NSO eligibility employ a present value approach for determining the reasonable availability of constant control technology that will enable an applicant to achieve full compliance with its SIP sulfur dioxide emission limitation. The tests for the waiver of the interim constant control requirements employ variable costing and discounted cash flow standards for evaluating an applicant's economic capability to implement those requirements.

1.2.1 *NSO Eligibility Tests.* Each applicant must establish that the system of production and/or constant control technology that will enable the smelter to achieve full compliance with its SIP SO_2 emission limitation

standard is not reasonably available. An applicant will determine financial eligibility for an NSO by passing at least one of the following two tests.

(a) *Profit Protection Test.* The smelter will experience a reduction in pre-tax profits of 50 percent or more after undertaking the required installation of constant controls.

(b) *Rate of Return Test.* The smelter will earn a rate of return on historical net investment, expressed in constant dollars, below the industry average cost of capital after undertaking the required installation of constant controls.

1.2.2 *Temporary Waiver from Interim Controls.* Applicants that do not have an existing constant control system or whose constant controls are not sufficient when in operation and optimally maintained to treat all strong streams in accordance with subpart C, may apply for a waiver of the requirements of subpart C with respect to any interim constant controls not already installed. Applicants will be eligible for a temporary waiver of the requirement for interim constant controls not already installed, if they can establish pursuant to the procedures in this application that the imposition of such control requirements would economically necessitate closure of the smelter facility for a period of one year or longer. The economic justification for a non-permanent closure under this temporary waiver test is defined as a situation in which the smelter's projected operating revenues for one or more years during which the NSO is in effect are inadequate to cover variable operating costs anticipated after installing the required interim control technology. Temporary waivers will be granted for only the period of time over which applicants can establish an inability by the firm to cover its variable operating costs. Interim control waiver requests based on the smelter's projected inability to earn adequate income after installation of interim pollution control equipment will be subject to the permanent waiver test.

1.2.3 Permanent Waiver from Interim Controls. Applicants that do not have an existing constant control system or whose constant controls are not sufficient when in operation and optimally maintained to treat all strong streams in accordance with subpart C, may apply for a waiver of the requirements of subpart C with respect to any interim constant controls not already installed. Applicants will be eligible for a permanent waiver of the requirement for interim constant controls not already installed, if they can establish pursuant to the procedures in this application that an imposition of such control requirements would necessitate permanent closure of the smelter. Economic justification for a permanent closure is defined as a situation in which the present value of future cash flows anticipated from the smelter after installing the required interim control technology is less than the smelter's current salvage value under an orderly plan of liquidation. Future cash flows are determined under two alternative assumptions. The higher present value of cash flows computed under these assumptions is then compared to salvage value.

1.2.4 EPA Contact for NSO Inquiries. Inquiries concerning this portion of the requirements for NSO application should be addressed to Laxmi M. Kesari, Environmental Protection Agency, EN 341, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

1.2.5 Certification. The NSO Certification Statement must be signed by an authorized officer of the applicant firm.

1.3 Confidentiality. Applicants may request that information contained in this application be treated as confidential. Agency regulations concerning claims of confidentiality of business information are contained in 40 CFR part 2, subpart B (41 FR 36902 *et seq.*, September 1, 1976, as amended by 43 FR 39997 *et seq.*, September 8, 1978). The regulations provide that a business may, if it desires, assert a business confidentiality claim covering part or all of the information furnished to EPA. The claim must be made at the same time the applicable information is submitted. The manner of asserting such claims is specified in 40 CFR 2.203(b). Information covered by such a claim will be handled by the Agency in accordance with procedures set forth in the subpart B regulations. EPA will not disclose information on a business that has made a claim of confidentiality, except to the extent of and in accordance with 40 CFR part 2, subpart B. However, if no claim of confidentiality is made when information is furnished to EPA, the information may be made available to the public without notice to the business.

2. NSO Financial Reporting Overview

2.1 Revenue and Cost Assignment. The amounts assigned to operations of the smelter subject to this NSO application should include (1) revenues and costs directly attributable to the smelter's operating activities and (2) indirect operating costs shared with other segments of the firm to the extent that a specific causal and beneficial relationship can be identified for the allocation of such costs to the smelter. Do not allocate revenues and costs associated with central administrative activities for which specific causal and beneficial relationships to the activities of the smelter cannot be established. Nonallocable items include, but are not restricted to, amounts such as dividend and interest income on centrally administered portfolio investments, central corporate administrative office expenses and, except for schedules supporting the Profit Protection

Test, interest on long-term debt financing arrangements. Provide a detailed explanation of amounts classified as nontraceable on a separate schedule and attach as part of Exhibit B.

2.2 Transfer Prices on Affiliated Part Transactions. Certain transactions by the smelter subject to an NSO application may reflect sales to or purchases from ''affiliated'' customers or suppliers with whom the smelter has a common bond of ownership and/or managerial control. In preparing this application, affiliated party transactions shall be defined as transactions with any entity that the firm, or its owners, controls directly or indirectly either through an ownership of 10 percent or more of the entity's voting interests or through an exercise of managerial responsibility. Applicants must attach as part of Exhibit B supporting schedules explaining the pricing policies established on affiliated party transactions incorporated in the financial reporting schedules.

Prices on inter-segment material and product transfers within a firm, or on external purchases from and sales to other affiliated suppliers and customers, may differ from the prices on comparable transactions with unaffiliated suppliers and customers. In this event, applicants also must present in the Exhibit B supporting schedules and incorporate in the NSO financial reporting schedules appropriate adjustments for restating affiliated party transactions. Affiliated party transactions must be restated at either (a) equivalent prices on comparable transactions with unaffiliated parties if such price quotations can be obtained or (b) prices that provide the selling entity with a normal profit margin above its cost of sales if a meaningful comparison with unaffiliated transaction prices cannot be established.

A ''normal'' profit margin is defined as the gross operating profit per dollar of operating revenue that will provide an average after-tax rate of return on permanent capital (total assets less current liabilities). This average rate of return is defined differently for the historical and forecast periods. The applicant must use a rate of return of 8.0 percent for the *historical* period. This figure is based on a historical average earned rate of return for the nonferrous metals industry.[1] EPA may update this figure periodically. The updates will be available in the rulemaking docket or from the INFORMATION CONTACT noted in the FEDERAL REGISTER. For the *forecast* period, the applicant must use a rate of return equal to the current weighted average cost of capital for the nonferrous metals industry, as computed in Section 2.6.

[1]The derivation of this figure is explained in two memoranda to EPA (Item Nos. II-A-1 and IV-A-6a in EPA Docket No. A-82-35).

Forecast smelting charges for integrated smelters can be computed from forecast market smelting charges. Integrated copper smelters may use as the basis of their forecast revenues the forecast copper smelting charges provided by EPA, adjusted as described in Section 2.4.1. An applicant may submit other forecasts, providing the forecast methodology is in accordance with the guidelines in Section 2.5 and fully documented as part of Exhibit B.

2.3 Forecasting Requirements. NSO applicants must provide the Agency with financial forecasts in Schedules B.1 through B.6 and C.1 through C.2. Applicants requesting either a temporary or permanent waiver from interim constant control requirements also must provide an additional set of financial forecasts in Schedules D.1 through D.4.

2.3.1 Forecast Period. The forecast period must include at least two full years following completion and startup of the required pollution control system. The forecast period shall be from 1984 through 1990 for an NSO application filed in 1984. If an application is filed in a later year, the 1984 through 1990 period should be adjusted accordingly. All references in this appendix to the period 1984 through 1990 should be interpreted accordingly.

2.3.2 Forecast Adjustment by Control Case. Some line items that have the same title in several schedules may contain different information because they are based on different assumptions regarding pollution controls. Production interruptions or curtailments due to the installation of pollution control facilities may require adjustments to certain revenue and cost estimates in the respective control cases. For example, production curtailments associated with supplementary control systems may be the basis for the pre-control case, yet are eliminated when constant controls replace supplementary control systems in the constant controls case. The application of pollution control techniques that involve process changes in the smelter's operations (e.g., conversion to flash smelting) also may require specific forecasts by applications of associated impacts on incremental operating revenues and costs.

2.3.3 Nominal Dollar Basis. Applicants must make their financial forecasts in terms of nominal dollars. Forecasts of selected parameters provided by EPA will furnish guidelines to an applicant in preparing the required cost and revenue estimates. In particular, copper smelting charges provided in nominal-dollar terms must be used directly by the applicant as given; i.e., the stipulated charge estimates should not be inflated.

2.3.4 Tolling Service Equivalent Basis. Applicants must express all revenue forecasts on a tolling service equivalent basis. Thus,

forecast revenues are computed as the product of the forecast quantity of processed concentrate, the forecast average product grade of the concentrate (the percent of metal in the concentrate), and the forecast smelting charge. Smelters that are not tolling smelters and that do not use the copper smelting charges provided by EPA (as described in Section 2.4.1) can forecast a smelting charge from forecast product grade of the concentrate, percent recovery, and product and concentrate prices. The forecast prices and derivation of the smelting charge must be in accordance with the guidelines in Section 2.5, and the methodology must be fully documented in Exhibit B.

2.4 EPA Furnished Forecast Data. In making projection for the period 1984 through 1990, applicants must, except as noted below, use the indices provided by EPA. The table below presents yearly values for each index (expressed as annual percentage rates of change) to be used by smelters applying for an NSO before January 1, 1985. If forecasts are needed for 1991 and EPA has not provided new forecasts, applicants should use the Data Resources, Inc. forecasts for 1991 (Docket Item No. IV-A-6c) and the average of CRU's forecasts for 1989 and 1990 (expressed in 1991 dollars).

	1984	1985	1986	1987	1988	1989	1990
Copper smelting charge [1] (cents per pound)	14.5	14.6	16.0	15.3	15.3	15.5	15.4
Annual Percentage Rates of Change							
Wages	5.0	5.7	5.8	6.1	6.4	6.7	7.0
Energy prices:							
Electricity	7.0	8.8	8.1	8.3	7.1	4.9	5.5
Natural gas	3.6	5.7	9.3	8.7	9.2	8.0	8.4
Coal	5.1	7.0	8.9	9.0	9.7	9.7	9.7
Fuel oil	1.6	4.2	7.7	6.8	9.8	9.5	9.9
GNP price deflator	4.8	5.0	5.0	5.2	5.8	5.8	5.9

[1] Reference charge for calculating smelter-specific copper smelting charges as described in Section 2.4.1.

2.4.1 Copper smelting charge. EPA will supply a forecast of reference copper smelting charges. These charges, which are f.o.b. U.S. mine, are based on an estimate of export smelting charges and on the differential value of copper in the U.S. and the world market. They must be used in forecasting unaffiliated party revenues for the period following the expiration of existing contracts and in forecasting affiliated party revenues for the entire forecast period. The applicant may submit its own smelting charge forecast for the post-contract period, provided that such forecast is in accordance with the guidelines in Section 2.5 and fully documented and substantiated as part of Exhibit B.

The EPA forecast export charge represents the world market copper smelting charge with copper valued at the London Metal Exchange (LME) copper price. This charge serves as the reference charge for the applicant copper smelter in calculating its smelting charges. Applicant copper smelters must derive their smelting charges from this world market charge as described in paragraph (a) below.

The applicant may adjust the derived smelter-specific smelting charge to account for other factors, provided the adjustments are fully documented as part of Exhibit B. An example of such a factor is the unit deduction for metallurgical losses in smelting. Adjustment for this factor is discussed in paragraph (b) below.

(a) The derivation of a smelter-specific smelting charge from the world market charge is based on assumptions regarding transportation costs and the U.S. producer-world copper price differential. The EPA forecast export charge is the forecast smelting charge available at a Japanese smelter, with copper valued at the London Metal Exchange copper price. The charge includes no freight costs, which must be paid by the mine. A U.S. smelter determines its smelting charge to a mine by meeting the combined world market smelting charge, adjusted to reflect copper valued at the U.S. producer price, and the transportation charge from the mine to the Japanese smelter. This combined price is the highest that a mine is willing to pay for smelting.

The smelter's net smelting charge is equal to the combined world smelting charge, adjusted to the U.S. producer price for copper (i.e., the export forecast charge plus the U.S. producer price premium), and the transportation cost between the mine and a Far East smelter, minus the cost of transporting the concentrate between the mine and the applicant smelter.

The applicant smelter's net smelting charge for concentrate from an individual mine is computed by first adding the U.S. producer Price-LME world price differential to the EPA-supplied forecast. The cost of transporting copper from the U.S. mine to the Far East is then added to this figure. The

net smelting charge is obtained by subtracting from this total the cost of transporting copper from the mine to the applicant smelter. In making these calculations, an applicant must supply (and fully document in Exhibit B), the freight cost between the mine and the Far East and between the mine and the smelter. This freight cost must be converted to nominal dollars of the respective forecast years by applying the GNP percentage price change forecasts supplied by EPA or smelter-provided forecasts of transportation price changes. The smelter-provided forecasts of transportation price changes must comply with guidelines regarding such forecasts in Section 2.5.

An applicant must use a 3 cent per pound U.S. producer price premium (relative to the LME price) in calculating the smelter's net smelting charge. The applicant may substitute its own forecasts of the U.S. producer price premium if it can substantiate such forecasts in accordance with the guidelines in Section 2.5 regarding applicant-provided smelting charge forecasts of principal products. All supporting documentation for such applicant-supplied forecasts must be supplied in Exhibit B. Any updates of the producer price premium will be available in the rulemaking docket or from the INFORMATION CONTACT noted in the FEDERAL REGISTER.

The following two representative examples illustrate this methodology for making the transportation and U. S. producer price premium adjustment.

(1) The applicant smelter, located in Arizona, obtains concentrate from an adjacent mine. The freight charge from mine to smelter is zero. The mine is willing to pay the applicant smelter an amount no higher than the sum of the world market smelting charge (adjusted for the copper value differential) and the transportation cost of shipping copper from the mine to the Far East. This combined cost is the net charge received by the applicant smelter. If the export smelting charge is 12 cents per pound and the freight cost between the mine and the Far East is 13 cents per pound, the applicant smelter would calculate a net smelting charge equal to 28 cents: 12 cents plus 3 cents (for the U.S. producer price premium) plus 13 cents (for the freight cost between the mine and the Far East).

(2) The applicant smelter obtains concentrate from a nonadjacent mine. The mine will pay a charge no higher than the total market smelting charge, valued at the U.S. producer price, and the transportation costs between the mine and a Far East smelter. The applicant's net smelting charge is equal to this combined cost minus the transportation costs for shipping the concentrate between mine and applicant smelter.

Suppose that the mine to Far East freight charge is 13 cents per pound and the mine to applicant smelter freight charge is 4 cents per pound. If the export smelting charge is 12 cents per pound, the net smelting charge is equal to 24 cents per pound: 12 cents plus 3 cents (for the U.S. producer price premium) plus 13 cents (for the freight cost to the Far East) minus 4 cents (for the freight cost to the applicant smelter).

(b) The EPA forecast charges are based on a one unit deduction for metallurgical losses. This means that if a concentrate grades 25 percent copper, the mine is only credited with 24 percent for metal return. The one unit deduction on 25 percent concentrate is equivalent to a 96 percent payment for contained copper. Should a smelter recover less than 96 percent, its revenue would be less than the EPA forecast smelting charge. Should a smelter recover more than 96 percent, its revenue would be greater than the EPA forecast smelting charge.

2.4.2 Indices (Annual Percentage Changes). These indices, which are expressed as annual percentage rate changes in price (wages, energy prices, and GNP price deflator) must be used only for estimating the rate of price increases for the forecast period following the expiration of the applicant's current contracts. The applicant may use alternative forecasts of annual percentage changes for the forecast period following the expiration of current contracts, if justification is provided. Any such alternative forecasts must be prepared by a widely-recognized forecasting authority with expertise comparable to that of the forecaster relied upon by EPA. In addition, the documentation of these forecasts must be comparable to that provided by EPA's forecaster.

The wage indices are to be applied to wage paid to manufacturing labor. The energy price indices are to be applied to prices of the respective energy products. The GNP price deflators are to be applied to prices for non-metal, non-labor, and non-energy inputs.

2.5 Applicant Generated Forecasts. Within the specified limitations, applicants may submit a method of forecasting smelting charges and by-product, co-product and other prices. The method selected must be explained and unit prices or costs provided where applicable. The forecast elements must be compatible with an applicant's historical cost and revenue elements to permit direct comparisons of historical and forecast data. Applicants must attach as part of Exhibit B appropriate schedules explaining variances between forecast and historical unit costs for the smelter.

Forecasts of the smelting charges of the smelter's principal product (i.e., copper, lead, zinc, etc.) may be prepared either by an independent forecasting authority or by the smelter's in-house personnel. If the forecasts are prepared by an independent forecasting authority, the following conditions must be satisfied: (1) The forecasting authority must

have expertise comparable to that of the forecaster relied upon by EPA. (2) As much documentation of the forecasting methodology as can reasonably be obtained must be made available to EPA. Such documentation must, at a minimum, be comparable to the documentation supporting EPA smelting charge forecasts.[2]

If the smelting charge forecasts are prepared by in-house personnel, the following conditions must be met: (1) The in-house forecasts must be certified as being based on sound methodology by an independent forecasting authority with expertise comparable to that of the forecaster who prepared the EPA-supplied smelting charges. The independent forecasting authority shall also provide a brief explanation of the basis for the conclusion reached in the certification. (2) The smelter owner shall provide EPA with the documentation of the forecasting methodology employed, which must at a minimum be comparable to the extent of documentation supporting EPA's smelting charge forecasts. The smelter owner shall also make available upon request by EPA such additional documentation of the methodology and underlying data as EPA considers appropriate for evaluation of the forecasts.

Forecasts of freight cost changes, which are applied to the freight costs used in calculating a smelter's net smelting charges, must be prepared by a widely-recognized forecasting authority. The forecaster's expertise must be comparable to that of the forecaster relied upon by EPA in forecasting the annual percentage changes in wages, energy prices, and GNP. The documentation of these forecasts must be comparable to that provided by EPA's forecaster.

To the maximum extent practicable, by-product, co-product and (when applicable) unaffiliated smelting charges must be stated at market prices adjusted to f.o.b. smelter. Adjustments of these pricing bases must be made to reflect differences in grades and types of production. All adjustments must be consistent with expected sales, grades and types of concentrate processed. Applicants must attach as part of Exhibit B schedules describing and explaining the methods used to forecast these revenue items and the adjustments required for these revenue forecasts.

Applicants must explain fully any changes from the historical data that are required to forecast labor productivity, ore-concentrate grade and composition, materials and energy consumption per unit of output, yield rates and other physical input/output relationships.

Existing contractual terms must be used in forecasting those sales or input costs or prices to which the applicant is committed by contracts. The use of contract-dictated prices must be disclosed and supported by attaching as part of Exhibit B the terms and duration of labor and other supplier arrangements.

Cost of compliance estimates need not be to the accuracy of final design/bid estimates; feasibility grade estimates will be acceptable. Updated cost of compliance estimates used in internal five year plans or specially prepared estimates of costs of compliance will generally be satisfactory.

2.6 Weighted Average Cost of Capital for Nonferrous Metal Producers. The industry average cost of capital is a weighted average of the rates of return for equity and debt. Its components are the interest rate and the return on equity specific to the nonferrous metals industry.

2.6.1 Computation.[3] The applicant must compute the cost of capital according to the following formula:

$R = (0.65 \times E) + (0.182 \times I)$

where

R = weighted average cost of capital
E = return on equity
I = interest rate.

The components are calculated as follows.

(a) *Return on equity for the nonferrous metals industry.* The 20 year Treasury bond yield to maturity plus a risk premium of 8.6 percent.

(b) *Interest Rate.* The 20 year Treasury bond yield to maturity plus a risk premium of 3.0 percent.

(c) *Source of the 20 Year Treasury bond yield. Federal Reserve Bulletin*, most recent monthly issue. Use the average yield for the most recent full month.

2.6.2 Discount Factor. The discount factor corresponding to the weighted average cost of capital for any forecast year is computed according to the following equation:

$$DF = \frac{1}{(1+R)}N$$

where

DF = discount factor
R = weighted average cost of capital
N = the number of years in the future (e.g., for the applicant applying in 1984, N = for the forecast year 1985).

The horizon value, which is described in Section 2.7, is computed as of 1990, the end of the detailed forecast period. The discount factor to be applied to the horizon value is

[2] Documentation of the EPA forecasts is provided as part of Item NO. IV-A-2 in EPA Docket No. A-82-35.

[3] The derivation of the formula and the basis of the parameters are explained in two memoranda to EPA (Item Nos. II-A-1 and IV-A-6a in EPA Docket No. A-82-35).

the same as for any other 1990 figure. For example, if the application is made in 1984, the value of N is 7.

2.7 Horizon Value. The horizon value is the present value of a stream of cash flows or net income for 15 years beyond the last forecast year. Applicants must compute the horizon value by capitalizing the average forecast value of the last two forecast years using the current real weighted cost of capital. The line item instructions for schedules having a horizon value entry will specify the values to be capitalized.

The applicant averages the values of the last two years after expressing both values in terms of the last year's dollars. The two-year average value is then multiplied by 9.6. This is the factor associated with capitalizing a 15 year value stream at the current *real* weighted cost of capital of 6.2 percent.

Applicants must use a separate schedule to calculate the horizon value for the Rate of Return Test and the Interim Controls Test (Schedule C.5 and D.7, respectively). These separate schedules adjust for potential overstatements in the horizon value cash flows that may be caused by control equipment depreciation reported for tax purposes.

2.8 Data Entry

2.8.1 Rounding. All amounts (including both dollar values and physical units) reported in the schedules and exhibits accompanying this application must be rounded to the nearest thousand and expressed in thousands of dollars or units unless otherwise indicated in the instructions.

2.8.2 Estimates. Where an applicant's records cannot produce the specific data required by this application, the use of estimates will be allowed if a meaningful estimate can be made without significant distortion of the reported results. Data estimates must be supported by attaching on a separate sheet of paper as a part of Exhibit B an explanation identifying where such estimates are used and showing explicitly how the estimates were made.

2.8.3 Missing Data. Applicants must provide, where applicable, all operating and financial data requested by this application. Only substantially complete applications can be accepted for processing by the Agency. Questions concerning data entries for which information is not provided by or cannot reasonably be estimated from the applicant's existing accounting records should be addressed to the EPA Contact for NSO Inquiries.

2.8.4 Historical Period. The annual data requested in the historical schedules, Schedules A.1 through A.4, must be reported for each of the five fiscal years immediately preceding the year in which this application is filed. The historical period shall be from fiscal years 1979 through 1983 for an NSO application filed in 1984. If an application is filed in a later year, the references in this appendix to the period 1979 through 1983 should be interpreted accordingly.

2.9 Use of schedules. All applicants must complete Schedules A.1 through A.4, which record historical revenues, cost, and capital investment data. These schedules will be used by EPA to assist in evaluating forecast data. Completion of the remaining schedules depends on the test required of the applicant.

2.9.1 NSO Eligibility. An NSO applicant must pass one of the following two tests and complete the corresponding schedules.

(a) *Profit Protection Test.* The applicant must complete Schedules B.1 through B.7 to determine eligibility under the Profit Protection Test. Schedules B.1 and B.2 report the base case (without constant controls) revenue and cost forecast, respectively, and Schedule B.3 summarizes Schedules B.1 and B.2. Base case production forecasts should reflect any production curtailments associated with interim controls currently (preforecast) installed on smelters. Schedules B.4 and B.5 report the revenue and cost forecast, respectively, for the constant controls case, and Schedule B.6 summarizes Schedules B.4 and B.5 for the Profit Protection Test.

Schedule B.7 presents the calculations for the Profit Protection Test. The applicant enters the forecast profits from Schedules B.3 and B.6. The present value of the forecast profits is then computed for each case. If the present value of forecast pre-tax profits with constant controls is less than 50 percent of the present value of forecast pre-tax profits without controls (base case) the smelter passes the test and is eligible for an NSO. The smelter also passes the test if the present value of forecast pre-tax profits without controls (base case) is negative.

(b) *Rate of Return Test.* The applicant must complete Schedules B.4, B.5, and C.1 through C.5 to determine eligibility under the Rate of Return Test. Schedules B.4 and B.5 report the revenue and cost forecast, respectively, for the constant controls case, and Schedule C.1 summarizes Schedules B.4 and B.5 for the Rate of Return Test. Schedule C.2 reports forecast sustaining capital investment for the constant controls case. Schedule C.3 reports historical net investment for the most recent fiscal year expressed in constant dollars, i.e., dollars of the year in which the application is made.

Schedule C.4 presents the calculations for the Rate of Return Test. The applicant reports in Schedule C.4 the forecast cash flows from Schedules C.1 and C.2 and the horizon value from Schedule C.5, computes their present value, and subtracts the value of invested capital in constant dollars (taken from Schedule C.3) to yield net present value. If the net present value is less than zero, the smelter passes the test and is eligible to receive an NSO. This result indicates that the smelter is expected to earn a rate of

return less than the industry average cost of capital.

2.9.2 Interim Control Waivers. An applicant for a waiver from interim controls must complete either a portion or all of Schedules D.1 through D.7, depending on whether the application is for a temporary or permanent waiver.

(a) *Temporary Waiver from Interim Controls Test*. The applicant must complete Schedules D.1 through D.3 to establish eligibility for a temporary waiver from interim controls. Schedules D.1 and D.2 report forecast revenue and cost data under the assumption of installation of interim constant control equipment and no installation of any additional SO_2 controls that the smelter would otherwise be required to install but for the issuance of the NSO. Schedule D.3 summarizes Schedules D.1 and D.2 and calculates gross operating profit. If gross operating profit is negative for any year during which the NSO is in effect, the applicant is eligible for a temporary waiver.

(b) *Permanent Waiver from Interim Controls Test*. The applicant must complete Schedules D.1 through D.7. All schedules except for Schedule D.5 must be completed twice, based on two alternative assumptions: (1) installation of interim constant control equipment, no installation of any additional SO_2 controls that the smelter would otherwise be required to install but for the issuance of the NSO, and closure of the smelter after January 1, 1988; and (2) installation of interim constant control equipment, installation of any additional SO_2 controls required to comply with the smelter's SIP emission limitation by January 2, 1988, and continued operation of the smelter after January 1, 1988.

Schedules D.1 and D.2 report forecast revenue and cost data under each assumption. Schedule D.3 summarizes Schedules D.1 and D.2, and Schedule D.4 reports forecast sustaining capital under each assumption. Schedule D.5 reports cash proceeds from liquidation.

Schedule D.6 presents the calculations for the permanent waiver test. In Schedule D.6, the applicant reports cash flow projections from Schedules D.3 and D.4 and the horizon value from Schedule D.7, computes their present value and subtracts the current salvage value (taken from Schedule D.5) to yield net present value. The higher of the two net present value figures computed under the two alternative assumptions must be used in the test. If the higher net present value figure is negative, the applicant is eligible for a permanent waiver.

2.10 Use of exhibits. In addition to data required by the schedules included in this application, the following information must be attached as exhibits.

2.10.1 Exhibit A. Background information on the firm's organizational structure and its associated accounting and financial reporting systems for primary nonferrous activities. This information must include, where applicable, the firm's:

(a) Operating association with an ownership control in consolidated subsidiaries, unconsolidated subsidiaries, joint ventures and other affiliated companies.

(b) Organizational subdivision of its primary nonferrous activities into profit centers, cost centers and/or related financial reporting entities employed to control the operation of its mines, concentrators, smelters, refineries and other associated facilities.

(c) Material and product flows among the smelter subject to this NSO application, other integrated facilities and its affiliated suppliers and/or customers. In the case of integrated facilities, applicants must provide process flow diagrams depicting the operating interrelationships among its mines, concentrators, smelters, refineries and other integrated facilities. For both integrated and nonintegrated facilities, applicants also must describe the proportion contributed to its primary nonferrous activities by material purchases from and product sales to affiliated suppliers and customers.

(d) Annual operating capacity over the five most recent fiscal years for the smelter subject to this application. Operating capacity must be defined in terms of the total quantity of throughput that could have been processed with the available facilities after giving appropriate allowance to normal downtime requirements for maintenance and repairs. Operating capacity data also must consider both capacity balancing requirements among processing steps and annual processing yield rates attainable for each facility.

(e) Weighted average analysis of concentrates processed and tonnage produced annually over each of the five most recent fiscal years by the smelter subject to this application.

(f) Accounting system and policies for recording investment expenditures, operating revenues, operating costs and income taxes associated with its primary nonferrous activities. Applicants also must provide a complete description of allocation techniques employed for assigning investments, revenues, costs and taxes to individual profit, cost of departmental centers for which costs are accumulated. Applicants must further indicate the relationship of cost and/or departmental accounting entities to the firm's established profit centers.

(g) Annual five-year operating and capital expenditure plans (or budgets) by individual nonferrous profit center. These documents must include previous plans prepared for the five preceding fiscal years as well as the current one-year and five-year operating and

capital expenditure plans. At least the current one-year and five-year plans must provide a specific breakdown of investment expenditures and operating costs associated with the operation and maintenance of each profit center's existing and proposed pollution control facilities.

2.10.2 Exhibit B. Supplemental description and explanation of items appearing in the financial reporting schedules. Other parts of Section 2 and the detailed instructions for the Schedules specify the information required in Exhibit B.

2.10.3 Exhibit C. Financial data documentation. Applicants must document annual balance sheet, income statement and supporting data reported for the firm's preceding five fiscal years or for that portion of the past five years during which the firm engaged in smelter operations. This documentation must be provided by attaching to the application:

(a) SEC 10–K reports filed by the parent corporation for each of the preceding five fiscal years.

(b) Certified financial statements prepared on a consolidated basis for the parent corporation and its consolidated subsidiaries. This requirement may be omitted for those years in which SEC 10–K reports have been attached to this Exhibit.

(c) Business Segment Information reports filed with the Securities and Exchange Commission by the firm for each of the preceding five years (as available).

Schedule A.1—Historical Revenue Data

General. Use Schedule A.1 to report annual historical revenue data for fiscal years 1979 through 1983. Revenues include product sales and associated operating revenues, net of returns and allowances, from smelter sales and/or transfers of copper, lead, zinc and molybdenum or other nonferrous metal products and tolling services to both unaffiliated and affiliated customers. The line items in Schedule A.1 are explained in the following instructions.

Lines 01, 14, 27 and 40—Primary Nonferrous Product Sales. Report for each year the total quantity of copper, lead, zinc and molybdenum or other nonferrous metal product sales.

Lines 02, 15, 28 and 41—Unaffiliated Customer Sales. Report for each year the respective quantities of copper, lead, zinc and molybdenum or other nonferrous metal product sales to unaffiliated customers.

Lines 03, 16, 29 and 42—Unaffiliated Customer Revenues. Report for each year the total operating revenues derived from smelter sales of copper, lead, zinc and molybdenum or other nonferrous metals to unaffiliated customers.

Lines 04, 17, 30 and 43—Unaffiliated Customer Prices. Report for each year the average unit price received on smelter sales of copper, lead, zinc and molybdenum or other nonferrous metals to unaffiliated customers. The prices are computed as operating revenues reported on Lines 03, 16, 29 and 42 divided by the quantities reported on Lines 02, 15, 28 and 41, respectively.

Lines 05, 18, 31 and 44—Average Product Quality Grade. Report for each year the average quality rating assigned to copper, lead, zinc and molybdenum or other nonferrous metal products purchased by the smelter's unaffiliated customers.

Lines 06, 19, 32 and 45—Affiliated Customers Sales. Report for each year the respective quantities of copper, lead, zinc and molybdenum or other nonferrous metal product sales to affiliated customers.

Lines 07, 20, 33 and 46—Affiliated Customer Revenues. Report for each year the total operating revenues derived from smelter sales of copper, lead, zinc and molybdenum or other nonferrous metals to affiliated customers. These revenues should be stated at prices equivalent to those received on comparable sales to unaffiliated customers as described in Section 2.2. Attach as part of Exhibit B an explanation of the methodology used to state affiliated customer revenues.

Lines 08, 21, 34 and 47—Affiliated Customer Prices. Report for each year the average unit price received on smelter sales of copper, lead, zinc and molybdenum or other nonferrous metals to affiliated customers. The prices are computed as operating revenues reported on Lines 07, 20, 33 and 46 divided by the quantities reported on Lines 06, 19, 32 and 45, respectively.

Lines 09, 22, 35 and 48—Average Product Quality Grade. Report for each year the average quality rating assigned to copper, lead, zinc and molybdenum or other nonferrous metal products purchased by the smelter's affiliated customers.

Lines 10, 23, 36 and 49—Total Primary Product Revenues. Report for each year total operating revenues derived from the smelter's sales to unaffiliated and affiliated customers of copper (Lines 03+07), lead (Lines 16+20), zinc (Lines 29+33) and molybdenum or other nonferrous metals (Lines 42+46).

Lines 11, 24, 37 and 50—Transfer Price Adjustments. Report for each year operating revenue adjustments required to equate affiliated customer transfer prices with unaffiliated customer market prices on smelter sales of copper, lead, zinc and molybdenum or other nonferrous metals. Attach as part of Exhibit B an explanation of the method used for restating transfer prices where such adjustments are necessary.

Lines 12, 25, 38 and 51—Other Revenue Adjustments. Report for each year sales returns and allowances and other adjustments applicable to the smelter's revenues derived from copper, lead, zinc and molybdenum or other nonferrous metal product sales. Attach as

part of Exhibit B a schedule reporting the types and amounts of such adjustments.

Lines 13, 26, 39 and 52—Adjusted Product Revenues. Enter for each year the sums of Lines 10 through 12 for adjusted copper sales (Line 13), Lines 23 through 25 for adjusted lead sales (Line 26), Lines 36 through 38 for adjusted zinc sales (Line 39) and Lines 49 through 51 for adjusted molybdenum or other nonferrous metal sales (Line 52).

Line 53—Primary Metal Revenues. Enter for each year the sum of Lines 13, 26, 39 and 52.

Line 54—Toll Concentrates Processed. Report for each year the total quantity of toll concentrates processed.

Lines 55 to 58—Customer Toll Revenues. Report for each year the quantity of toll concentrates processed for unaffiliated customers (Line 55), total operating revenues derived from this processing (Line 56), average price charged per ton of concentrate processed (Line 57=Line 56/55) and the average quality rating assigned to toll concentrates processed for unaffiliated customers (Line 58).

Lines 59 to 62—Affiliated Customer Toll Revenues. Report for each year the quantity of toll concentrates processed for affiliated customers (Line 59), total operating revenues derived from such processing (Line 60), average price charged per ton of concentrate processed (Line 61=Line 60/59) and the average quality rating (Line 62) assigned to toll concentrates processed for affiliated customers.

Line 63—Tolling Service Revenues. Enter for each year the total of amounts reported on Lines 56 and 60.

Line 64—Transfer Price Adjustments. Report for each year operating revenue adjustments required to equate affiliated customer transfer prices with market prices charged to unaffiliated customers on the smelter's tolling services. Attach as part of Exhibit B an explanation of the method used for restating transfer prices where such adjustments are necessary.

Line 65—Other Revenue Adjustments. Report for each year other adjustments applicable to the smelter's tolling service revenues. Attach as part of Exhibit B a schedule reporting the types and amounts of such adjustments.

Line 66—Adjusted Tolling Service Revenues. Enter for each year the total of Lines 63 through 65.

Line 67—Co-Product Revenues. Report for each year the net revenues from sales of co-products derived from the smelter's operations. Attach as part of Exhibit B a schedule showing by individual type of co-product, the quantity produced and sold, market price per unit of sales and total revenues derived from the co-product sales.

Line 68—Pollution Control By-product Revenues. Report for each year revenues from the sale of by-products derived from operation of the smelter's pollution control facilities. Attach as part of Exhibit B a schedule showing by type of by-product produced, the quantity of output, market price received per unit of output sold and total revenue derived from the by-product sales.

Line 69—Other By-product Revenues. Report for each year revenues from the sales of gold, silver and other by-products derived from the smelter's operations. Attach as part of Exhibit B a schedule providing additional documentation as specified in the instruction for Line 68.

Line 70—Total Co-product and By-product Revenues. Enter for each year the total of Lines 67 through 69.

Schedule A.2—Historical Cost Data

General. Use Schedule A.2 to report annual historical cost and input quantities for smelter operations for fiscal years 1979 through 1983. The line items in Schedule A.2 are explained in the following instructions.

Line 01—Total Quantity Purchased. Report for each year the total quantity of concentrates purchased by the smelter. This will be sum of Lines 02 and 06. Do not include the quantity of toll concentrates.

Line 02—Quantity Purchased. Report for each year the total quantity of concentrates purchased from unaffiliated suppliers by the smelter. Attach as a part of Exhibit B a description of the types and grades of these concentrates. Do not include the quantity of toll concentrates.

Line 03—Concentrate Cost. Report for each year the outlays paid to unaffiliated suppliers for concentrates. Attach as part of Exhibit B an explanation of the method(s) used in determining these outlays and relationship between concentrate prices and the types and grades of concentrates purchased from unaffiliated suppliers.

Line 04—Average Unit Price. Report for each year the average unit price paid for purchases of concentrates from unaffiliated suppliers. Generally, this value will be equivalent to Line 03 divided by Line 02. If this equivalency does not hold, attach as a part of Exhibit B an explanation of the variance.

Line 05—Average Concentrate Grade. Report for each year the average concentrate grade of concentrates purchased from unaffiliated suppliers. Attach as part of Exhibit B an explanation of this average. The average should correspond to the average price reported in Line 04.

Line 06—Quantity Purchased. Report for each year the total quantity of concentrates purchased from affiliated suppliers by the smelter. Attach as part of Exhibit B a description of the types and grades of these concentrates. Do not include the quantity of toll concentrates.

Line 07—Concentrate Cost. Report for each year the actual outlays paid to affiliated

suppliers for concentrates. Attach as part of Exhibit B an explanation of the method(s) used in determining these outlays and relationship between concentrate prices and the types and grades of concentrates purchased from affiliated suppliers. Do not reflect any adjustments to market prices here.

Line 08—Average Unit Price. Report for each year the average unit price paid for purchases of concentrates from affiliated suppliers. Generally, this value will be equivalent to Line 07 divided by Line 06. If this equivalency does not hold, attach as part of Exhibit B an explanation of the variance.

Line 09—Average Concentrate Grade. Report for each year the average concentrate grade of concentrates purchased from affiliated suppliers. Attach as part of Exhibit B an explanation of this average. The average should correspond to the average price reported in Line 08.

Line 10—Total Concentrate Cost. Enter for each year the sum of Lines 03 and 07.

Line 11—Transfer Price Adjustments. Enter for each year the amounts required to adjust outlays paid to affiliated suppliers to market value. Refer to Section 2.2 for instructions on the restatement of affiliated party transactions. Attach as part of Exhibit B a description and the computations of any required cost adjustments.

Line 12—Other Cost Adjustments. Enter for each year the amounts of any other cost adjustments required such as freight or allowances. Attach as part of Exhibit B the identification and the derivation of these adjustments.

Line 13—Adjusted Concentrate Cost. Enter for each year the adjusted concentrate cost reflecting the adjustments reported in Lines 11 and 12.

Line 14—Direct Labor Hours. Report for each year the quantity of direct labor hours required to support the processing levels previously reported. Attach as part of Exhibit B an explanation of the labor productivity factor involved.

Line 15—Average Hourly Wage Rate. Report for each year the average wage rate paid per unit of direct labor input. Attach as part of Exhibit B a description of direct labor costs factors under existing labor contracts and an explanation of the method(s) used to determine wage rates.

Line 16—Total Wage Payments. Enter for each year the product of Lines 14 and 15.

Line 17—Supplemental Employee Benefits. Report adjustments required to direct labor costs for other employee compensation under supplemental benefit plans. Attach as part of Exhibit B a description of such plans and their costs and an explanation of the method(s) used to determine such costs.

Line 18—Total Production Labor Cost. Enter for each year the total of Lines 16 and 17.

Lines 19, 22, 25, 28 and 31—Energy Quantities. Report for each year the quantity of energy by type required to support the processing levels reported in the smelter's revenue. Attach as part of Exhibit B, an explanation of energy use factors and qualities considered in determining the smelter's energy requirements.

Lines 20, 23, 26, 29 and 32—Unit Prices. Report for each year a price paid per unit of energy input by type of energy. Attach as part of Exhibit B, a description of the energy price factors under existing energy contracts and an explanation of the method(s) used to determine unit energy prices.

Lines 21, 24, 27, 30 and 33—Total Payments. Enter for each year the products of quantity and prices paid for electricity (Lines 19×20), natural gas (Lines 22×23), coal (Lines 25×26), fuel oil (Lines 28×29), and other (Lines 31×32).

Line 34—Total Energy Costs. Enter for each year the total of Lines 21, 24, 27, 30 and 33.

Schedule A.3—Historical Profit and Loss Summary

General. Use Schedule A.3 to report annual revenues, cost and income taxes assignable to operation of the smelter subject to this NSO application for fiscal years 1979 through 1983. Assignable revenues and costs should include only the results of transactions either (1) directly associated with smelter operations or (2) for which the applicant can establish a causal and beneficial relationship with smelter operations pursuant to instructions in Section 2.1. The line items in Schedule A.3 are explained in the following instructions.

Line 01—Primary Metal Sales. Enter the totals reported in Schedule A.1, Line 40.

Line 02—Co-Product and By-Product Sales. Report for each year annual revenues, net or returns and allowances, derived from smelter sales and/or transfers of co-products and by-products to both unaffiliated and affiliated customers. Attach as part of Exhibit B a supporting schedule for each major co-product and by-product component of smelter revenues. Segregate the revenues reported by major co-product and by-product components into their unaffiliated customer and affiliated customer elements. Report for each component's unaffiliated and affiliated customer revenue elements the (1) average grade of product sold, (2) actual quantity sold, (3) average price per unit, and (4) total smelter revenues. Also show for each product line any adjustments required to restate transfer prices and explain the basis for such adjustments. Refer to Section 2.2 for instructions on the restatement of affiliated customer revenues.

Line 03—Tolling Service Revenues. Enter the totals reported in Schedule A.1, Line 53.

Line 04—Other Operating Revenues. Report for each year annual revenues directly associated with smelter operations that have not previously been reported on Lines 01 through 03. Attach as part of Exhibit B a schedule

showing the types and amounts of sales reported as other operating revenue. The following non-operating revenue and income items should *not* be included as other operating revenue or as a part of revenues reported on Lines 01 through 03.

Royalties, licensing fees and other income from intangibles.
Interest and dividend income on portfolio investments.
Equity in income (loss) of unconsolidated subsidiaries and affiliates.
Gain (loss) from discontinued operations and disposal of property.
Minority interest adjustment to consolidated subsidiary income.
Extraordinary items.

Line 05—Total Operating Revenue. Enter for each year the total of Lines 01 through 04.

Line 06—Concentrates Processed. Report the cost of concentrates processed and sold or transferred to unaffiliated and affiliated customers from Schedule A.2, Line 13. Concentrates purchased from unaffiliated suppliers should be valued at the actual prices paid. Concentrates purchased from affiliated suppliers should be valued at or, if necessary, restated to equivalent prices quoted by unaffiliated suppliers. If prices used to report revenues are c.i.f. and concentrate costs are f.o.b. smelter, all transportation charges paid on the smelter's or buyer's account should be excluded from smelter expense. Attach as part of Exhibit B supporting schedules showing the:

Annual value of concentrate purchases classified according to purchases from unaffiliated and affiliated suppliers.
Cost of sales adjustments to concentrate purchases for net annual additions to or withdrawals from concentrate inventories, freight-in on concentrate purchases and inventory spoilage.
Impact on cost of sales for restating, where applicable, the cost of concentrate purchases from affiliated suppliers to the equivalent prices paid to unaffiliated suppliers.
Volumes, grades and net prices of concentrate purchases from unaffiliated and affiliated suppliers by type of concentrate purchased.
Volumes, grades and net prices associated with toll concentrates processed by type of concentrate.

Line 07—Other Materials Costs. Report for each year annual costs incurred for flux, refractories, coke and other materials used by the smelter in its processing of concentrates. Materials purchased from unaffiliated suppliers should be valued at the actual prices paid after adjustment for transportation costs incurred. Materials purchased from affiliated suppliers should be valued at or, if necessary, restated to equivalent prices quoted by unaffiliated suppliers. Include in Exhibit B supporting schedules showing the:

Annual value of material purchases classified according to purchases from unaffiliated and affiliated suppliers.
Cost of sales adjustments to material purchases for net annual additions to or withdrawals from material inventories, freight costs on material purchases and inventory loss.
Impact on cost of sales for restating, where applicable, the costs of material purchases from affiliated suppliers to equivalent prices paid to unaffiliated suppliers.
Classification of other material costs by major cost factors for each cost component that exceeds 20 percent of any line item in the cost of sales schedule.

Line 08—Production Labor Costs. Report for each year total direct labor costs incurred by the smelter for processing purchased and toll concentrates, Schedule A.2, Line 18. Include in Exhibit B supporting schedules showing the:

Manhours and wage rates for major labor classifications.
Potential impact on wage rates of provision in the smelter's current labor contracts.
Explanation of major variances observed in direct labor costs over the five-year period as a result of factors such as strikes or new labor contracts.

Line 09—Energy Costs. Enter the totals reported in Schedule A.2, Line 34.

Line 10—Pollution Control Costs. Report for each year expenses incurred for operating and maintaining pollution control facilities. All by-product credits associated with pollution control facility operations should be eliminated and reported on Line 02. Depreciation and amortization charges against the smelter's pollution control facilities should be reported separately on Line 18. Attach as part of Exhibit B supporting schedules showing the:

Major pollution control cost elements with their values classified according to direct and indirect cost factors.
Techniques used to allocate indirect pollution control costs to major cost pools.

Line 11—Production Overhead. Report for each year the total costs for indirect labor, indirect materials and other production overhead costs associated with the smelter. Attach as part of Exhibit B a schedule showing annual overhead costs by major cost components associated with the smelter's operations. For each cost component, where appropriate, identify the quantity and unit price element of overhead costs.

Line 12—Other Production Costs. Report for each year annual smelter overhead and other production costs not previously reported on Lines 06 through 11. By-product credits, if any, should be eliminated and reported on

Line 02 as operating revenues. Attach as part of Exhibit B supporting schedules showing the:

Major cost elements classified according to direct and indirect production costs.

Disaggregation of major overhead cost components into their fixed and variable cost elements.

Allocation techniques used in assigning indirect overload costs to the major cost components.

Elements of overhead costs represented by purchases from affiliated suppliers and adjustments, if any, required to restate these costs on the basis of equivalent prices paid to unaffiliated supplier.

Line 13—Total Cost of Sales. Enter for each year the total of Lines 06 through 12.

Line 14—Gross Operating Profit. Enter for each year the difference between Lines 05 and 13.

Line 15—Selling, General & Administrative (SG&A) Expenses. Report for each year SG&A expenses attributable to the smelter's annual operating activities. Exclude those operating costs to be reported separately on Lines 16 through 21 and those costs for which causal and beneficial relationships to the smelter cannot be established. Attach as part of Exhibit B supporting schedules (1) segregating SG&A expenses by major expense components, (2) classifying the major expense components according to those costs incurred directly by smelter operations and costs allocated to the smelter from indirect cost pools, and (3) explaining the basis used for indirect cost allocations.

Line 16—Taxes, Other Than Income Tax. Report for each year all taxes (exclusive of Federal, State, local and foreign income taxes) assignable to the smelter's operations. Attach as part of Exhibit B, a schedule that (1) segregates these operating taxes by major component, (2) classifies each component according to direct and indirect cost elements, and (3) explains the basis used for indirect cost allocations.

Line 17—Research Costs. Report for each year research costs (exclusive of capitalized costs reported in Schedule A.4) that are assignable to the smelter's annual operations. Attach as part of Exhibit B a schedule (1) segregating exploration and research costs by major expense components, (2) classifying each expense component according to direct and indirect cost elements, and (3) explaining the basis used for indirect cost allocations.

Line 18—Pollution Control Depreciation and Amortization. Report for each year annual depreciation and amortization charges attributable to the smelter's investment in pollution control facilities and equipment. Reported charges should be computed in accordance with depreciation and amortization methods adopted for tax reporting purposes by the firm. Attach explanatory supporting schedules as part of Exhibit B.

Line 19—Other Facility Depreciation and Amortization. Report for each year annual depreciation and amortization charges (exclusive of charges reported on Line 18) assignable to the smelter's operations. Attach explanatory supporting schedules as part of Exhibit B.

Line 20—Interest on Short-Term Debt. Report for each year interest expense and associated financial charges on current liabilities in accordance with the assignment instructions in Section 2.1. Do not include interest on the portion of long-term debt due within the current year for each reporting period.

Line 21—Miscellaneous Operating Expenses. Report for each year any additional expenses assignable to the smelter's annual operations. Attach as part of Exhibit B a schedule (1) segregating these additional expenses into major expense components, (2) classifying each expense component according to costs incurred directly by the smelter and costs allocated to the smelter from indirect cost pools, and (3) explaining the basis used for indirect cost allocations.

Line 22—Total Other Operating Expenses. Enter for each year the total of Lines 15 through 21.

Line 23—Income from Operations. Enter for each year the difference between Lines 14 and 22.

Line 24—Gain/(Loss) from Disposition of Property. Report net gains or losses recognized during each year from disposition of property, plant and equipment. Report such gains or losses in accordance with the firm's normal practice for certified financial statement reporting. If such gains or losses are not significant and are classified otherwise, no reclassification need be made. A note to this effect must be included in Exhibit B.

Line 25—Miscellaneous Income and Expenses. Report minority interest in income, foreign currency translation effects, and other nonoperating income and expenses directly assignable to the smelter and not recognized elsewhere on this schedule. Report such items in accordance with the accounting methods used for certified financial reporting purposes.

Line 26—Total Other Income and Expenses. Enter for each year the sum of Lines 24 and 25.

Line 27—Net Taxable Income. Enter for each year the difference between Lines 23 and 26.

Schedule A.4—Historical Capital Investment Summary

General. Use Schedule A.4 to report annual end-of-period asset investments and current liabilities for fiscal years 1979 through 1983. These figures must correspond with the revenues and costs associated with operation of the smelter subject to this NSO application as reported in Schedule A.3.

The amounts assigned to the subject smelter should include both (1) investments and liabilities directly identifiable with the smelter's operating activities and (2) asset investments shared with other segments to the extent that a specific causal and beneficial relationship can be established for the intersegment allocation of such investments. Do not allocate to the smelter the costs of assets maintained for general corporate purposes. Provide a detailed explanation of amounts classified as nontraceable on a separate schedule and attach as part of Exhibit B.

Applicants shall also restate trade receivables and payables for transfer price adjustments on the smelter's transactions with affiliated customers. The line items in Schedule A.4 are explained in the following instructions.

Line 01—Cash on Hand and Deposit. Report for each year total cash balances assignable to the smelter's operations at the end of each year on the basis of causal and beneficial relationships with total corporate activities. Attach as part of Exhibit B in explanation of the basis used for allocation.

Line 02—Temporary Cash Investments. Report for each year temporary cash investments in time deposits or other short-term securities. Include only those investments either held by the smelter to meet current-period tax payments or other budgeted expenditures specifically identifiable with the smelter's continued operation. Exclude any temporary cash investments for which no specific future outlay requirement can be identified.

Attach as part of Exhibit B a schedule classifying temporary cash investments according to identifiable budgeted expenditure requirements.

Lines 03 and 04—Net Trade Receivables. Report for each year trade accounts and notes, net of reserves for uncollectible items, assignable to the smelter in relation to its unaffiliated (Line 03) and affiliated (Line 04) customer sales and transfers. Trade receivables reported by the smelter as due from affiliated customers should be stated or, if necessary, restated on credit terms equivalent to those received by unaffiliated customers on a sale of comparable products. Attach as part of Exhibit B a schedule showing adjustments in the smelter's receivables investments required to equate trade credit terms extended to affiliated and unaffiliated customers.

Lines 05 and 06—Inventory Investments. Report for each year respective end-of-period investments in raw material, work-in-process and finished good inventories held to support the smelter's production and sale of products (Line 05) and associated inventories of other materials and supplies (Line 06). These inventories must be valued at current market prices. Inventory purchases from affiliated suppliers should also be stated at current market prices or, if necessary, restated at current market prices prevailing on purchases from unaffiliated suppliers. Attach explanatory supporting schedules as part of Exhibit B.

Line 07—Other Current Assets. Report for each year prepaid expenses, deferred charges, non-trade notes and accounts receivable, and other assets classified as current for certified financial statement reporting purposes that are assignable to the smelter's operations. Attach as part of Exhibit B a schedule classifying these other current assets according to their types and amounts.

Line 08—Total Current Assets. Enter for each year the total of Lines 01 through 07.

Lines 09 to 14—Property, Plant and Equipment. Report for each year by individual line item property, plant and equipment investments assignable to smelter operations. Include in gross facility investments at the end of each period both (1) property, plant and equipment directly associated with the smelter's operations and (2) facilities shared with other operating segments to the extent that a causal and beneficial relationship can be established for the inter-segment allocation of such facility investments.

Attach as part of Exhibit B a schedule reporting by individual line item the annual capital expenditures on additional property, plant and equipment investments in the smelter's operations. Further classify these annual capital expenditures into both (1) investments required to maintain the smelter versus investments in smelter expansion and improvement and (2) direct facility versus joint-use facility investments. Explain the method used for allocating capital expenditures on joint-use facilities to the smelter's operations. Refer to Line 17 instructions for additional reporting requirements on the smelter's facility investments.

Line 15—Total Smelter Investment. Enter for each year the total of Lines 09 through 14.

Line 16—Accumulated Depreciation and Amortization. Report for each year accumulated depreciation, amortization and other valuation charges recorded for certified financial statement reporting purposes in relation to smelter investment as reported on Line 15. Other valuation charges are defined in Financial Accounting Standards Board (FASB) Statement No. 19 as losses recognized in connection with an impairment in the value of an unimproved property below its acquisition cost. Refer to Line 17 instructions for additional reporting requirements on smelter facility investments.

Line 17—Net Smelter Investment. Enter for each year the difference between Lines 15 and 16. Attach as part of Exhibit B a schedule classifying gross facility investments, accumulated depreciation, amortization charges, and net facility investments by major pollution control and non-pollution

control components. Identify for each asset component the direct versus joint-use investments assigned to the smelter and explain the basis used to allocate amounts associated with joint-use facilities to the smelter.

Line 18—Other Non-Current Assets. Report for each year other assets assignable to the smelter's operations. Attach as part of Exhibit B a schedule reporting by type and amount the major components of such investments.

Line 19—Total Smelter Capital Investment. Enter for each year the total of Lines 08, 17 and 18.

Line 20 and 21—Trade Accounts and Notes Payable. Report for each year trade accounts and notes due on the smelter's purchases from unaffiliated suppliers (Line 20) and on its intersegment transfers or purchases from affiliated suppliers (Line 21). Trade payables reported by the smelter as due to affiliated suppliers should be stated or, if necessary, restated on terms equivalent to those received from unaffiliated suppliers on a purchase of comparable materials. Attach as part of Exhibit B a schedule showing adjustments required on the smelter's trade payables to equate trade credit terms received from affiliated and unaffiliated suppliers.

Line 22—Other Expense Accruals. Report for each year payments classified as current for salaries and wages, other employee benefits, operating taxes and related operating expenses assignable to the smelter's operations. Attach as part of Exhibit B a schedule classifying by type and amount the major components of such accruals.

Line 23—Current Notes Payable. Report for each year payments due to nontrade creditors on short-term financing arrangements directly associated with the smelter's operations. Exclude current installments due on long-term debt financing arrangements, notes due to offices and directors, intersegment loans or advances and loans or advances from affiliated operating segments.

Line 24—Other Current Liabilities. Report for each year other nontrade payables classified as current obligations assignable to the smelter's operations.

Line 25—Total Current Liabilities. Enter for each year the total of Lines 20 through 24.

Line 26—Net Smelter Capital Investment. Enter for each year the difference between Lines 19 and 25.

Schedule B.1—Pre-Control Revenue Forecast

General. Use Schedule B.1 to report annual forecasts of operating revenues anticipated during the years 1984 through 1990 from operation of the smelter subject to this NSO application. These pre-control revenue projections should be based on revenues and production associated with operating the smelter without any SO_2 air pollution controls that have not been installed as of the NSO application date. Forecast smelter revenues should be expressed on a tolling service equivalent basis as described in Section 2.3.4.

Copper smelters that will process concentrates containing an average of 1,000 pounds per hour or more of arsenic during the forecast period should assume that they will use best engineering techniques to control fugitive emissions of arsenic. All smelters should also assume that they will be required to meet all other regulatory requirements in effect at the time the application is made.

The line items in Schedule B.1 are explained in the following instructions. Attach as part of Exhibit B schedules to (1) explain the methods used to make the required forecasts, (2) explain differences, if any, between historical trends and the forecasts and (3) provide data and information to support the forecasts.

Lines 01 and 05—Concentrates Processed. Report for each year the forecast quantity of concentrates processed for unaffiliated parties (Line 01) and affiliated parties (Line 05).

Lines 02 and 06—Smelting Charge. Report for each year the forecast smelting charge for unaffiliated parties (Line 02) and affiliated parties (Line 06). See Section 2.4 for forecast copper smelting charges furnished by EPA.

Lines 03 and 07—Total Smelter Revenues. Report for each year the forecast total operating revenues derived from processing concentrates. The total for unaffiliated parties (Line 03) is equal to the product of Lines 01, 02, and 04, and for affiliated parties (Line 07), the product of Lines 05, 06, and 08.

Lines 04 and 08—Average Product Grade. Report for each year the forecast average quality rating assigned to concentrates processed for unaffiliated parties (Line 04) and affiliated parties (Line 08).

Line 09—Total Co-Product Revenues. Report for each year the forecast net revenues from sales of co-products derived from the smelter's operations. Attach as part of Exhibit B a schedule showing by individual type of co-product, the forecast quantity produced and sold, forecast market price per unit of sales, and forecast total revenues derived from the co-product sales.

Line 10—Total By-product Revenues From Pollution Control Facilities. Report for each year forecast revenues from the sale of by-products derived from operation of the smelter's pollution control facilities, excluding any SO_2 air pollution controls that have not been installed as of the NSO application date. Attach as part of Exhibit B a schedule showing by type of by-product produced (e.g., sulfuric acid) the forecast quantity of output, forecast market price per unit of output sold, and forecast total revenue derived from the by-product sales.

Line 11—Total By-product Revenues From Other Smelter Processing. Report forecast revenues from the sales of gold, silver, and

other by-products derived from the smelter's operations. Attach as part of Exhibit B a schedule providing additional documentation as specified in the instructions for Line 10.

Line 12—Total Co-product and By-product Revenues. Enter for each year the total of Lines 09 through 11.

Schedule B.2—Pre-Control Cost Forecast

General. Use Schedule B.2 to report annual forecasts of operating costs anticipated during the years 1984 through 1990 from operation of the smelter subject to this NSO application. These pre-control cost projections should be based on costs and production associated with operating the smelter without any SO_2 air pollution controls that have not been installed as of the NSO application date.

Copper smelters that will process concentrates containing an average of 1,000 pounds per hour or more of arsenic during the forecast period should assume that they will use best engineering techniques to control fugitive emissions of arsenic. All smelters should also assume that they will be required to meet all other regulatory requirements in effect at the time the application is made.

The line items in Schedule B.2 are explained in the following instructions. Attach as part of Exhibit B schedules to (1) explain the methods used to make the required forecasts, (2) explain differences, if any, between historical trends and the forecasts, and (3) provide data and information to support the forecasts.

Line 01—Direct Labor Hours. Report for each year the quantity of direct labor hours required to support the processing levels previously reported. Attach as part of Exhibit B an explanation of the labor productivity factors involved.

Line 02—Average Hourly Wage Rate. Report for each year the forecast average wage rate per unit of direct labor input. Attach as part of Exhibit B a description of direct labor cost factors under any existing labor contracts that extend to the forecast period and an explanation of the methodology used to forecast wage rates. EPA-provided forecast wage indices are reported in Section 2.4.

Line 03—Total Wage Payments. Enter for each year the product of Lines 01 and 02.

Line 04—Supplemental Employee Benefits. Report for each year adjustments required to direct labor costs for other employee compensation under supplemental benefit plans. Attach as part of Exhibit B a description of such plans and their costs and an explanation of the methodology used to forecast such costs. EPA-provided forecast wage indices are reported in Section 2.4.

Line 05—Total Production Labor Cost. Enter for each year the total of Lines 03 and 04.

Lines 06, 09, 12, 15 and 18—Energy Quantities. Report for each year the quantity of energy by type required to support the processing levels reported in the smelter's revenue. Attach as part of Exhibit B an explanation of energy characteristics and use factors considered in forecasting the smelter's future energy requirements.

Lines 07, 10, 13, 16, and 19—Unit Prices. Report for each year the forecast price per unit of energy input by type of energy. Attach as part of Exhibit B a description of the energy price factors under any existing energy contracts that extend to the forecast period and an explanation of the methodology used to forecast unit energy prices. EPA-provided forecast energy indices are reported in Section 2.4.

Lines 08, 11, 14, 17, and 20—Total Payments. Enter for each year the products of quantity and prices paid for electricity (Lines 06×07), natural gas (Lines 09×10), coal (Lines 12×13), fuel oil (Lines 15×16), and other (Lines 18×19).

Line 21—Total Energy Costs. Enter for each year the total of Lines 08, 11, 14, 17, and 20.

Schedule B.3—Pre-Control Forecast Profit and Loss Summary

General. Use Schedule B.3 to report annual forecasts of operating revenues and operating costs derived in Schedules B.1 and B.2 for the years 1984 through 1990. The transfer of line items from Schedules B.1 and B.2 to this Schedule is explained in the following instructions.

Line 01—Smelter Revenues-Unaffiliated Parties. Enter the totals reported in Schedule B.1, Line 03.

Line 02—Smelter Revenues-Affiliated Parties. Enter the totals reported in Schedule B.1, Line 07.

Line 03—Co-product and By-product Sales Revenues. Enter the totals reported in Schedule B.1, Line 12.

Line 04—Other Operating Revenues. Report operating revenues anticipated from sources not accounted for under Lines 01 through 03. Refer to instructions for Line 04 of Schedule A.3 for items that should not be included in ''Other Operating Revenues.'' Attach as part of Exhibit B a schedule showing annual amounts forecast by individual revenue component for ''other'' operating revenues associated with the smelter's forecast pre-control operations. Identify in the supporting schedule any differences in the ''other'' revenue components reported in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 05—Total Operating Revenues. Enter for each year the total of Lines 01 through 04.

Line 06—Material Costs. Report total costs forecast for flux, refractories, coke and other materials directly associated with the smelter's processing of concentrates. Attach as part of Exhibit B a schedule showing the annual amounts forecast by major material cost components. For each cost component, identify the forecast quantity and unit price

elements of material cost and explain the basis for forecasting these quantity and price elements. Identify in the supporting schedule any differences in the ''other'' material cost components shown in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 07—Production Labor Costs. Enter the totals reported in Schedule B.2, Line 05.

Line 08—Energy Costs. Enter the totals reported in Schedule B.2, Line 21.

Line 09—Pollution Control Costs. Report the total costs forecast for expenses identifiable with operation and maintenance of all pollution control equipment and facilities except any SO2 air pollution controls that have not been installed as of the NSO application date. By-product credits associated with operation of the pollution control facilities should be eliminated from the cost accounts, reclassified to Schedule B.1, Line 10 and included in Line 03 of this Schedule. Attach a schedule as part of Exhibit B classifying pollution control costs by major cost components. Explain the basis used for estimating each of the cost components.

Line 10—Production Overhead Costs. Report the total costs forecast for indirect labor, indirect materials and other production overhead costs associated with the smelter's operations. Attach as part of Exhibit B a schedule showing annual overhead costs projected by major cost components associated with the smelter's operations. For each cost component, where appropriate, identify the forecast quantity and unit price elements of overhead costs and explain the basis for estimating these quantity and price elements. Also identify in the supporting schedule any differences in production overhead cost classifications used in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 11—Other Production Costs. Report other forecast production costs not previously reported on Lines 06 through 10. Attach as part of Exhibit B supporting schedules showing the basis of the forecasts.

Line 12—Total Cost of Sales. Enter for each year the sum of operating costs reported on Lines 06 through 11.

Line 13—Gross Operating Profit. Enter for each year the difference between Lines 05 and 12.

Line 14—Selling, General and Administrative Expenses. Report the total costs forecast for administrative, marketing and general corporate overhead functions that directly or indirectly support the smelter's operations. Refer to the NSO Financial Reporting Overview for a general discussion of indirect cost allocations from overhead cost pools. Attach as part of Exhibit B a schedule classifying selling, general and administrative expenses into major cost components. Indicate whether each component represents costs directly assignable to the smelter or indirect costs allocated from other business segments to the smelter. Explain the basis used for estimating the amount of expected costs included in each component and the basis used for allocating indirect cost elements to the smelter. Identify and explain any differences between the selling, general and administrative cost classification used in this Schedule and that used in Line 15 of Schedule A.3.

Line 15—Taxes, Other than Income Taxes. Report the total costs forecast for property taxes and associated levies paid to governmental units by or for the benefits of the smelter operation. Attach as part of Exhibit B a schedule classifying operating taxes by major component. Indicate whether each component represents taxes directly assignable to the smelter or taxes that have been allocated among more than one facility. Explain the basis used for estimating taxes and the basis for any allocation of taxes to the smelter. Identify and explain any differences between the component classifications used in this Schedule and those used in Line 16 of Schedule A.3.

Line 16—Research Costs. Report the estimates of research costs incurred directly by or for the benefit of the smelter operations. Attach as part of Exhibit B a schedule classifying the costs by major direct and indirect assigned components. Explain the basis for estimating the costs assigned to each component. Identify and explain any differences between classifications used in this Schedule and those used in Line 17 of Schedule A.3.

Line 17—Pollution Control Facility Depreciation and Amortization. Report the estimates of depreciation and amortization charges associated with the smelter's actual and forecast investment in all pollution control equipment and facilities except any SO_2 air pollution controls that have not been installed as of the NSO application date. Reported charges should be computed in accordance with depreciation and amortization methods adopted for certified financial statement reporting purposes by the firm. Attach explanatory supporting schedules as part of Exhibit B.

Line 18—Other Smelter Facility Depreciation and Amortization. Report the pro forma estimates of depreciation and amortization charges associated with the smelter's investment in equipment and facilities other than those classified as pollution control facilities. Attach explanatory supporting schedules as part of Exhibit B.

Line 19—Interests. Report the estimates of interest and other financing charges on the smelter's current and long-term liabilities. Attach as part of Exhibit B a schedule showing the interest-bearing debt contracts identifiable with the smelter's operations, the interest rate projected for these contracts, and the estimated annual interest charges.

Line 20—Miscellaneous Operating Expenses. Report only the total operating expenses associated with or allocated to the smelter that cannot be appropriately classified in one of the preceding line items. Attach as part of Exhibit B a schedule showing the classification of these residual operating expenses into major cost components. Explain the basis used for forecasting the cost under each component. Identify each cost component in terms of direct or indirect cost and explain the basis used for allocating the indirect costs to smelter operations. Identify and explain any differences between cost classifications included in this Schedule and those used in Line 21 of Schedule A.3.

Line 21—Total Other Operating Expenses. Enter for each year the sum of operating costs reported on Lines 14 through 20.

Line 22—Income From Operations. Enter for each year the difference between Lines 21 and 13.

Schedule B.4—Constant Controls Revenue Forecast

General. Use Schedule B.4 to report annual forecasts of operating revenues anticipated during the years 1984 through 1990 from operation of the smelter subject to this NSO application. These constant controls revenue forecasts should be based on an assumption that the applicant immediately implements a program of additional pollution control facility investments sufficient to achieve full compliance with the smelter's SIP stack emission limitations for sulfur dioxide. Forecast smelter revenues should be expressed on a tolling service equivalent basis as described in Section 2.3.4.

The assumed investment program should be based on whichever adequately demonstrated system, applicable to the smelter, that would be most economically beneficial subsequent to installation of the system. For this purpose, adequately demonstrated systems include those specified in Section 57.102(b)(1).

Copper smelters that will process concentrates containing an average of 1,000 pounds per hour or more of arsenic during the forecast period should assume that they will use best engineering techniques to control fugitive emissions of arsenic. All smelters should also assume that they will be required to meet all other regulatory requirements in effect at the time the application is made.

The line items in Schedule B.4 are explained in the following instructions. Attach as part of Exhibit B schedules to (1) explain the methods used to make the required forecasts, (2) explain differences, if any, between historical trends and the forecasts, and (3) provide data and information to support the forecasts.

Lines 01 and 05—Concentrates Processed. Report for each year the forecast quantity of concentrates processed for unaffiliated parties (Line 01) and affiliated parties (Line 05).

Lines 02 and 06—Smelting Charge. Report for each year the forecast smelting charge for unaffiliated parties (Line 02) and affiliated parties (Line 06). See Section 2.4 for forecast copper smelting charges furnished by EPA.

Lines 03 and 07—Total Smelter Revenues. Report for each year the forecast total operating revenues derived from processing concentrates. The total for unaffiliated parties (Line 03) is equal to the product of Lines 01, 02, and 04, and for affiliated parties (Line 07), the product of Lines 05, 06, and 08.

Lines 04 and 08—Average Product Grade. Report for each year the forecast average quality rating assigned to concentrates processed for unaffiliated parties (Line 04) and affiliated parties (Line 08).

Line 09—Total Co-Product Revenues. Report for each year the forecast net revenues from sales of co-products derived from the smelter's operations. Attach as part of Exhibit B a schedule showing by individual type of co-product, the forecast quantity produced and sold, forecast market price per unit of sales, and forecast total revenues derived from the co-product sales.

Line 10—Total By-product Revenues From Pollution Control Facilities. Report for each year forecast revenues from the sale of by-products derived from operation of the smelter's pollution control facilities. Attach as part of Exhibit B a schedule showing by type of by-product produced (e.g., sulfuric acid) the forecast quantity of output, forecast market price per unit of output sold, and forecast total revenue derived from the by-product sales.

Line 11—Total By-product Revenues From Other Smelter Processing. Report forecast revenues from the sales of gold, silver, and other by-products derived from the smelter's operations. Attach as part of Exhibit B a schedule providing additional documentation as specified in the instructions for Line 10.

Line 12—Total Co-product and By-product Revenues. Enter for each year the total of Lines 09 through 11.

Schedule B.5—Constant Controls Cost Forecast

General. Use Schedule B.5 to report annual forecasts of operating costs anticipated during the years 1984 through 1990 from operation of the smelter subject to this NSO application. These constant controls cost forecasts should be based on an assumption that the applicant immediately implements a program of additional pollution control facility investments sufficient to achieve full compliance with the smelter's SIP stack emission limitations for sulfur dioxide.

The assumed investment program should be based on whichever adequately demonstrated system, applicable to the smelter,

would be most economically beneficial subsequent to installation of the system. For this purpose, adequately demonstrated systems include those specified in §57.102(b)(1).

Copper smelters that will process concentrates containing an average of 1,000 pounds per hour or more of arsenic during the forecast period should assume that they will use best engineering techniques to control fugitive emissions of arsenic. All smelters should also assume that they will be required to meet all other regulatory requirements in effect at the time the application is made.

The line items in Schedule B.5 are explained in the following instructions. Attach as part of Exhibit B schedules to (1) explain the methods used to make the required forecasts, (2) explain differences, if any, between historical trends and the forecasts, and (3) provide data and information to support the forecasts.

Line 01—Direct Labor Hours. Report for each year the quantity of direct labor hours required to support the processing levels previously reported. Attach as part of Exhibit B an explanation of the labor productivity factors involved.

Line 02—Average Hourly Wage Rate. Report for each year the forecast average wage rate per unit of direct labor input. Attach as part of Exhibit B a description of direct labor cost factors under any existing labor contracts that extend to the forecast period and an explanation of the methodology used to forecast wage rates. EPA-provided forecast wage indices are reported in Section 2.4.

Line 03—Total Wage Payments. Enter for each year the product of Lines 01 and 02.

Line 04—Supplemental Employee Benefits. Report for each year adjustments required to direct labor costs for other employee compensation under supplemental benefit plans. Attach as part of Exhibits B a description of such plans and their costs and an explanation of the methodology used to forecast such costs. EPA-provided forecast wage indices are reported in Section 2.4.

Lines 05—Total Production Labor Cost. Enter for each year the total of Lines 03 and 04.

Lines 06, 09, 12, 15 and 18—Energy Quantities. Report for each year the quantity of energy by type required to support the processing levels reported in the smelter's revenue. Attach as part of Exhibit B an explanation of energy characteristics and use factors considered in forecasting the smelter's future energy requirements.

Lines 07, 10, 13, 16, and 19—Unit Prices. Report for each year the forecast price per unit of energy input by type of energy. Attach as part of Exhibit B a description of the energy price factors under any existing energy contracts that extend to the forecast period and an explanation of the methodology used to forecast unit energy prices. EPA-provided forecast energy indices are reported in Section 2.4.

Lines 08, 11, 14, 17, and 20—Total Payments. Enter for each year the products of quantity and prices paid for electricity (Lines 06×07), natural gas (Lines 09×10), coal (Lines 12×13), fuel oil (Lines 15×16), and other (Lines 18×19).

Lines 21—Total Energy Costs. Enter for each year the total of Lines 08, 11, 14, 17, and 20.

Schedule B.6—Constant Controls Forecast Profit and Loss Summary for the Profit Protection Test

General. Use Schedule B.6 to report annual forecasts of operating revenues and operating costs derived in Schedules B.4 and B.5 for the years 1984 through 1990. These constant controls forecasts should be based on an assumption that the applicant immediately implements a program of additional pollution control facility investments sufficient to achieve full compliance with the smelter's SIP stack emission limitations for sulfur dioxide. The transfer of line items from Schedules B.4 and B.5 to this Schedule is explained in the following instructions.

Line 01—Smelter Revenues-Unaffiliated Parties. Enter the totals reported in Schedule B.4, Line 03.

Line 02—Smelter Revenues-Affiliated Parties. Enter the totals reported in Schedule B.4, Line 07.

Line 03—Co-product and By-product Sales Revenues. Enter the totals reported in Schedule B.4, Line 12.

Line 04—Other Operating Revenues. Report operating revenues anticipated from sources not accounted for under Lines 01 through 03. Refer to instructions for Line 04 of Schedule A.3 for items that should not be included in ''Other Operating Revenues.'' Attach as part of Exhibit B a schedule showing annual amounts forecast by individual revenue component for ''other'' operating revenues associated with the smelter's forecast constant controls operations. Identify in the supporting schedule any differences in the ''other'' revenue components reported in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 05—Total Operating Revenues. Enter for each year the total of Lines 01 through 04.

Line 06—Material Costs. Report total costs forecast for flux, refractories, coke and other materials directly associated with the smelter's processing of concentrates. Attach as part of Exhibit B a schedule showing the annual amounts forecast by major material cost components. For each cost component, identify the forecast quantity and unit price elements of material cost and explain the basis for forecasting these quantity and price elements. Identify in the supporting schedule any differences in the ''other'' material cost components shown in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 07—Production Labor Costs. Enter the totals reported in Schedule B.5, Line 05.

Line 08—Energy Costs. Enter the totals reported in Schedule B.5, Line 21.

Line 09—Pollution Control Costs. Report the total costs forecast for expenses identifiable with operation and maintenance of all pollution control equipment and facilities. Byproduct credits associated with operation of the pollution control facilities should be eliminated from the cost accounts, reclassified to Schedule B.4, Line 10 and included in Line 03 of this Schedule. Attach a schedule as part of Exhibit B classifying pollution control costs by major cost components. Explain the basis used for estimating each of the cost components.

Line 10—Production Overhead Costs. Report the total costs forecast for indirect labor, indirect materials and other production overhead costs associated with the smelter's constant controls forecasts. Attach as part of Exhibit B a schedule showing annual overhead costs projected by major cost components associated with the smelter's operations. For each cost component, where appropriate, identify the forecast quantity and unit price elements of overhead costs and explain the basis for estimating these quantity and price elements. Also identify in the supporting schedule any differences in production overhead cost classifications used in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 11—Other Production Costs. Report other forecast production costs not previously reported on Lines 06 through 10. Attach as part of Exhibit B supporting schedules showing the basis of the forecasts.

Line 12—Total Cost of Sales. Enter for each year the sum of operating costs reported on Lines 06 through 11.

Line 13—Gross Operating Profit. Enter for each year the difference between Lines 05 and 12.

Line 14—Selling, General and Administrative Expenses. Report the total costs forecast for administrative, marketing and general corporate overhead functions that directly or indirectly support the smelter's operations. Refer to the NSO financial Reporting Overview for a general discussion of indirect cost allocations from overhead cost pools. Attach as part of Exhibit B a schedule classifying selling, general and administrative expenses into major cost components. Indicate whether each component represents costs directly assignable to the smelter or indirect costs allocated from other business segments to the smelter. Explain the basis used for estimating the amount of expected costs included in each component and the basis used for allocating indirect cost elements to the smelter. Identify and explain any differences between the selling, general and administrative cost classification used in this Schedule and that used in Line 15 of Schedule A.3.

Line 15—Taxes, Other than Income Taxes. Report the total costs forecast for property taxes and associated levies paid to governmental units by or for the benefit of the smelter operation. Attach as part of Exhibit B a schedule classifying operating taxes by major component. Indicate whether each component represents taxes directly assignable to the smelter or taxes that have been allocated among more than one facility. Explain the basis used for estimating taxes and the basis for any allocation of taxes to the smelter. Identify and explain any differences between the component classifications used in this Schedule and those used in Line 16 of Schedule A.3.

Line 16—Research Costs. Report the estimates of research costs incurred directly by or for the benefit of the smelter operations. Attach as part of Exhibit B a schedule classifying the costs by major direct and indirect cost components. Explain the basis for estimating the costs assigned to each component. Identify and explain any differences between classifications used in this Schedule and those used in Line 17 of Schedule A.3.

Line 17—Pollution Control Facility Depreciation and Amortization. Report the estimates of depreciation and amortization charges associated with the smelter's actual and forecast investment in all pollution control equipment and facilities. Reported charges should be completed in accordance with depreciation and amortization methods adopted for certified financial statement reporting purposes by the firm. Attach explanatory supporting schedules as part of Exhibit B.

Line 18—Other Smelter Facility Depreciation and Amortization. Report the pro forma estimates of depreciation and amortization charges associated with the smelter's investment in equipment and facilities other than those classified as pollution control facilities. Attach explanatory supporting schedules as part of Exhibit B.

Line 19—Interest. Report the estimates of interest and other financing charges on the smelter's current and long-term liabilities. Attach as part of Exhibit B a schedule showing the interest-bearing debt contracts identifiable with the smelter's operations, the interest rate projected for these contracts, and the estimated annual interest charges.

Line 20—Miscellaneous Operating Expenses. Report only the total operating expenses associated with or allocated to the smelter that cannot be appropriately classified in one of the preceding line items. Attach as part of Exhibit B a schedule showing the classification of these residual operating expenses into major cost components. Explain the basis used for forecasting the cost under each component. Identify each cost component in terms of direct or indirect cost and explain the basis used for allocating the indirect costs to smelter operations. Identify and

explain any differences between cost classifications included in this Schedule and those used in Line 21 of Schedule A.3.

Line 21—Total Other Operating Expenses. Enter for each year the sum of operating costs reported on Lines 14 through 20.

Line 22—Income From Operations. Enter for each year the difference between Lines 21 and 13.

Schedule B.7—Profit Protection Test

General. Applicants must complete this Schedule and/or Schedule C.4 and the accompanying schedules if they seek eligibility for an NSO. The line items in Schedule B.7 are explained in the following instructions.

Line 01—Net Income from Operations. Enter for each year the amounts reported in Schedule B.3, Line 22.

Line 02—Discount Factors. Enter the discount factor for each year, computed as described in the instructions under Section 2.6.

Line 03—Present Value of Future Net Income. Enter for each year the product of Lines 01 and 02.

Line 04—Horizon Value. Enter under the Total column, the estimated horizon value of the smelter. This shall be computed by capitalizing the forecast net income from operations in Line 01 as described in the instructions under Section 2.7.

Line 05—Discount Factor. Enter under the Total column the appropriate discount factor corresponding to the weighted cost of capital, computed as described in the instructions under Section 2.6.

Line 06—Present Value of Horizon Value. Enter under the Total column the product of Lines 04 and 05.

Line 07—Present Value of Future Net Income. Enter under the Total Column the sum of amounts previously reported on Line 03 for 1984 through 1990.

Line 08—Total Present Value. Enter for each year the sum of Lines 06 and 07.

Line 09—Net Income from Operations. Enter for each year the amount reported in Schedule B.6, Line 22.

Line 10—Discount Factors. Follow the instructions for Line 02.

Line 11—Present Value of Future Net Income. Enter for each year the product of Lines 09 and 10.

Line 12—Horizon Value. Enter under the Total column, the estimated horizon value of the smelter. This shall be computed by capitalizing the forecast net income from operations in Line 09 as described in the instructions under Section 2.7.

Line 13—Discount Factor. Follow the instructions for Line 05.

Line 14—Present Value of Horizon Value. Enter under the Total column the product of Lines 12 and 13.

Line 15—Present Value of Future Net Income. Enter under the Total column the sum of amounts previously reported on Line 11 for 1984 through 1990.

Line 16—Total Present Value. Enter the sum of Lines 14 and 15.

Line 17—Ratio for Total Present Value of Constant Controls Case to Total Present Value of Pre-Control Case. Enter the ratio of Lines 16 to 08. If this ratio is less than .50, the smelter passes the Profit Protection Test. An applicant also passes the Profit Protection Test if the reported total present value of pre-tax profits for the pre-control case on Line 08 is a negative value.

Schedule C.1—Constant Controls Forecast Profit and Loss Summary for the Rate of Return Test

General. Use Schedule C.1 to report forecast revenue and cost information derived in Schedules B.4 and B.5 for the years 1984 through 1990. These constant controls forecasts should be based on an assumption that the applicant immediately implements a program of additional pollution control facility investments sufficient to achieve full compliance with the smelter's SIP stack emission limitations for sulfur dioxide. The transfer of line items from Schedules B.4 and B.5 to this Schedule is explained in the following instructions.

Line 01—Smelter Revenues-Unaffiliated Parties. Enter the totals reported in Schedule B.4, Line 03.

Line 02—Smelter Revenues-Affiliated Parties. Enter the totals reported in Schedule B.4, Line 07.

Line 03—Co-product and By-product Sales Revenues. Enter the totals reported in Schedule B.4, Line 12.

Line 04—Other Operating Revenues. Report operating revenues anticipated from sources not accounted for under Lines 01 through 03. Refer to instructions for Line 04 of Schedule A.3 for items that should not be included in ''Other Operating Revenues.'' Attach as part of Exhibit B a schedule showing annual amounts forecast by individual revenue component for ''other'' operating revenues associated with the smelter's forecast constant controls operations. Identify in the supporting schedule any differences in the ''other'' revenue components reported in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 05—Total Operating Revenues. Enter for each year the total of Lines 01 through 04.

Line 06—Material Costs. Report total costs forecast for flux, refractories, coke and other materials directly associated with the smelter's processing of concentrates. Attach as part of Exhibit B a schedule showing the annual amounts forecast by major material cost components. For each cost component, identify the forecast quantity and unit price elements of material cost and explain the basis for forecasting these quantity and price elements. Identify in the supporting schedule

any differences in the ''other'' material cost components shown in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 07—Production Labor Costs. Enter the totals reported in Schedule B.5, Line 05.

Line 08—Energy Costs. Enter the totals reported in Schedule B.5, Line 21.

Line 09—Pollution Control Costs. Report the total costs forecast for expenses identifiable with operation and maintenance of all pollution control equipment and facilities. By-product credits associated with operation of the pollution control facilities should be eliminated from the cost accounts, reclassified to Schedule B.4, Line 10 and included in Line 03 of this Schedule. Attach a schedule as part of Exhibit B classifying pollution control costs by major cost components. Explain the basis used for estimating each of the cost components.

Line 10—Production Overhead Costs. Report the total costs forecast for indirect labor, indirect materials and other production overhead costs associated with the smelter's constant controls forecasts. Attach as part of Exhibit B a schedule showing annual overhead costs projected by major cost components associated with the smelter's operations. For each cost component, where appropriate, identify the forecast quantity and unit price elements of overhead costs and explain the basis for estimating these quantity and price elements. Also identify in the supporting schedule any differences in production overhead cost classifications used in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 11—Other Production Costs. Report other forecast production costs not previously reported on Lines 06 through 10. Attach as part of Exhibit B supporting schedules showing the basis of the forecasts.

Line 12—Total Cost of Sales. Enter for each year the sum of operating costs reported on Lines 06 through 10.

Line 13—Gross Operating Profit. Enter for each year the difference between Lines 05 and 12.

Line 14—Selling, General and Administrative Expenses. Report the total costs forecast for administrative, marketing and general corporate overhead functions that directly or indirectly support the smelter's operations. Refer to the NSO Financial Reporting Overview for a general discussion of indirect cost allocations from overhead cost pools. Attach as part of Exhibit B a schedule classifying selling, general and administrative expenses into major cost components. Indicate whether each component represents costs directly assignable to the smelter or indirect costs allocated from other business segments to the smelter. Explain the basis used for estimating the amount of expected costs included in each component and the basis used for allocating indirect cost elements to the smelter. Identify and explain any differences between the selling, general and administrative cost classification used in this Schedule and that used in Line 15 of Schedule A.3.

Line 15—Taxes, Other than Income Taxes. Report the total costs forecast for property taxes and associated levies paid to governmental units by or for the benefit of the smelter operation. Attach as part of Exhibit B a schedule classifying operating taxes by major component. Indicate whether each component represents taxes directly assignable to the smelter or taxes that have been allocated among more than one facility. Explain the basis used for estimating taxes and the basis for any allocation of taxes to the smelter. Identify and explain any differences between the component classifications used in this Schedule and those used in Line 16 of Schedule A.3.

Line 16—Research Costs. Report the estimates of research costs incurred directly by or for the benefit of the smelter operations. Attach as part of Exhibit B a schedule classifying the costs by major direct and indirect costs components. Explain the basis for estimating the costs assigned to each component. Identify and explain any differences between classifications used in this Schedule and those used in Line 17 of Schedule A.3.

Line 17—Pollution Control Facility Depreciation and Amortization. Report the estimates of depreciation and amortization charges associated with the smelter's actual and forecast investment in all pollution control equipment and facilities. Reported charges should be computed in accordance with depreciation and amortization methods adopted for tax reporting purposes by the firm. Attach explanatory supporting schedules as part of Exhibit B.

Line 18—Other Smelter Facility Depreciation and Amortization. Report the pro forma estimates of depreciation and amortization charge associated with the smelter's investment in equipment and facilities other than those classified as pollution control facilities. Attach explanatory supporting schedules as part of Exhibit B.

Line 19—Interest on Short-Term Debt. Report the estimates of interest and other financing charges on forecast short-term obligations as classified in the smelter's current liabilities on Schedule A.4. Interest and associated financing charges on long-term debt should not be included as an expense identifiable with the smelter's operations. Attach as part of Exhibit B a schedule showing the interest-bearing, short-term debt contracts identifiable with the smelter's operations, the interest rate projected for these contracts, and the estimated annual interest charges. Identify and explain any differences between the classifications used in this Schedule and those used in Line 20 of Schedule A.3.

Line 20—Miscellaneous Operating Expenses. Report only the total operating expenses associated with or allocated to the smelter that cannot be appropriately classified in one of the preceding line items. Attach as part of Exhibit B a schedule showing the classification of these residual operating expenses into major cost components. Explain the basis used for forecasting the cost under each component. Identify each cost component in terms of direct or indirect cost and explain the basis used for allocating the indirect costs to smelter operations. Identify and explain any differences between cost classification included in this Schedule and those used in Line 21 of Schedule A.3.

Line 21—Total Other Operating Expenses. Enter for each year the sum of operating costs reported on Lines 14 through 20.

Line 22—Income From Operations. Enter for each year the difference between Lines 21 and 13.

Line 23—Income Taxes. Enter the product of income from operations (Line 22) and the sum of the Federal, State and local marginal tax rates. Attach as part of Exhibit B a schedule detailing the estimated marginal tax rate by taxing entity.

Line 24—Net Income From Operations. Enter for each year the difference between Lines 23 and 22.

Schedule C.2—Constant Controls Sustaining Capital Investment Forecast

General. The applicant should estimate and report, in Schedule C.2, yearly sustaining capital outlays for maintenance of the smelter's existing productive capability. These estimates should be forecast under the assumption that full compliance with SIP emission limitations for SO_2 will be achieved. Major elements of these outlays should be disclosed, as well as the total of such outlays. Estimates shall be restricted to those items that will be capitalized for tax purposes. These outlays shall primarily be for plant replacement, although outlays for improvements and expansion may be included to the extent that improvements and/or expansion, exclusive of required pollution control outlays, can be justified as economically feasible. Estimates of sustaining capital shall exclude any incremental investment for constant control requirements. Sustaining capital investments in facilities shared with other operating segments shall be allocated in accordance with the instructions given below.

Estimates of sustaining capital shall be compatible with productive capacity and pollution control requirements underlying the operating revenue and cost forecasts incorporated in Schedule C.1.

Lines 01 to 06—Sustaining Capital. Report for each year by individual line item property, plant and equipment sustaining capital investments assignable to smelter operations. Include both (1) property, plant and equipment directly associated with the smelter's operations and (2) facilities shared with other operating segments to the extent that a causal and beneficial relationship can be established for the intersegment allocations of such facility investments.

Attach as part of Exhibit B an explanatory schedule disclosing and supporting by individual line item the major elements of annual capital expenditures for sustaining capital. Further classify these annual capital expenditures into both (1) investments required to maintain the smelter versus investments in smelter expansion and improvements and (2) direct facility versus joint-use facility investments. Explain the method used for allocating capital expenditures on joint-use facilities to the smelter's operations.

Line 07—Total Smelter Sustaining Capital. Enter for each year the total of Lines 01 through 06. Transfer the reported total for each year to Schedule C.4, Line 06.

Schedule C.3—Historical Capital Investment In Constant Dollars

General. Use Schedule C.3 to report the end-of-period asset investments and current liabilities for the most recent fiscal year: (a) expressed in nominal dollars as of the date of the original transaction, and (b) expressed in the current year's dollars, i.e. 1984 dollars. The value of net investment in constant dollars (1984 dollars for smelters applying for an NSO in 1984) is used in Schedule C.4 as the benchmark of the Rate of Return Test.

Applicants should complete Schedule C.3 according to the following instructions. Transfer into the first column of Schedule C.3 the historical cost figures that are reported in the last (1983) column of Table A.4. In the second column of Schedule C.3, report the figures from the first column of Schedule C.3, expressed in constant (1984) dollars.

Convert each nominal dollar figure of the first column into constant (1984) dollars in accordance with the historical cost/constant dollar accounting method defined in Financial Accounting Standards Board (FASB) Statement No. 33 (Docket Item No. IV-A-6d), with the following exception: the applicant must not report the lower recoverable amount as required by FASB No. 33. Attach explanatory supporting schedules as part of Exhibit B.

Schedule C.4—Rate of Return Test

General. Applicants must complete this Schedule and/or Schedule B.7 and the accompanying schedules if they seek eligibility for an NSO. The line items in Schedule C.4 are explained in the following instructions.

Line 01—Net Income from Operations. Enter for each year the amounts reported in Schedule C.1, Line 24.

Lines 02 and 03—Depreciation and Amortization. Enter for each year the amounts reported in Schedule C.1, Lines 17 and 18, respectively.

Line 04—Operating Cash Flow. Enter for each year the total of amounts reported on Lines 01 through 03.

Line 05—Constant Controls Capital Investment. Enter the estimated capital outlays for constant controls for the years during which outlays would be made. These values shall correspond to the constant control investment estimates shown in the supporting schedules for Line 17 of Schedule C.1. Changes in working capital investment due to investment in constant controls facilities may be added to the capital investment estimates shown in the supporting schedules for Schedule C.1.

Line 06—Sustaining Capital. Enter for each year the amounts reported in Schedule C.2, Line 07.

Line 07—Total. Enter for each year the sum of Lines 05 and 06.

Line 08—Net Cash Flow Projections. Enter for each year the difference between Lines 04 and 07.

Line 09—Discount Factors. Enter the discount factor for each year, computed as described in the instructions under Section 2.6.

Line 10—Present Value of Future Cash Flows. Enter for each year the product of Lines 08 and 09.

Line 11—Horizon Value. Enter under the Total column the estimated horizon value of the smelter reported in Schedule C.5, Line 16.

Line 12—Discount Factor. Enter under the Total column the appropriate discount factor, computed as described in the instructions under Section 2.6.

Line 13—Present Value of Horizon Value. Enter under the Total column the product of Lines 11 and 12.

Line 14—Present Value of Future Cash Flows. Enter under the Total column the sum of amounts previously reported on Line 10 for 1984 through 1990.

Line 15—Total Present Value. Enter the sum of Lines 13 and 14.

Line 16—Net Smelter Capital Investment in Constant Dollars. Enter under the Total column the amount reported in the second (Constant Dollar) column of Schedule C.3, Line 26 if the value is greater than zero. If the value is zero or less, enter zero.

Line 17—Net Present Value. Enter the difference between Lines 15 and 16. Applicants reporting a negative net present value will pass the Rate of Return Test.

Schedule C.5—Horizon Value of Cash Flows for the Rate of Return Test

General. The applicant should use Schedule C.5 to calculate the horizon value of net cash flow projections for the Rate of Return Test. This horizon value is used in Schedule C.4. The computation of the horizon value is different for this test than for the Profit Protection Test because this test requires the reporting of depreciation for tax purposes.

In Schedule C.5, the applicant removes the tax savings of constant controls depreciation from the cash flows for the last two forecast years. A depreciation-free horizon value is then calculated from these depreciation-free cash flows. The tax savings of constant controls depreciation during the horizon years are then calculated separately. The final horizon value is equal to the sum of the depreciation-free horizon value and the tax savings from depreciation of constant controls accruing over the horizon years. The line items in Schedule C.5 are explained in the following instructions.

Line 01—Net Cash Flow Projections. Enter for each of the final two forecast years the values in Schedule C.4, Line 08, for the corresponding years.

Line 02—Depreciation and Amortization. Enter for each of the final two forecast years the value in Schedule C.4, Line 02, for the corresponding years.

Line 03—Marginal Tax Rate. Enter for each of the final two forecast years the marginal income tax rate applicable to the smelter. This rate should incorporate both Federal and State tax liability.

Line 04—Tax Savings. Enter for each of the final two forecast years the product of Lines 02 and 03.

Line 05—Nominal Dollar Values. Enter for each of the final two forecast years the difference between Lines 01 and 04.

Line 06—1990 Dollar Values. For each of the final two forecast years the nominal dollar values must be expressed in the last forecast year's dollars (1990 dollars). Transfer the 1990 amount in Line 05 directly to Line 06. Inflate the 1989 amount to 1990 dollars using the forecast GNP price deflator.

Line 07—Average. Enter under the Total column the average of the two values in Line 06.

Line 08—Horizon Factor. Enter under the Total column the horizon factor provided in Section 2.7.

Line 09—Depreciation-free Horizon Value. Enter under the Total column the product of Lines 07 and 08.

Line 10—Depreciation and Amortization. Enter for each year of the horizon period depreciation charges associated with the smelter's investment in equipment and facilities related to pollution controls. These investments should include those actually made and those required to be made by the end of the forecast period. Reported charges should be computed in accordance with depreciation and amortization methods adopted for tax reporting purposes by the firm. Attach as part of Exhibit B supporting schedules consistent with those supporting Line 17 in Schedule C.1.

Line 11—Marginal Tax Rate. Enter for each year of the horizon period the marginal income tax rate applicable to the smelter. This rate should incorporate both Federal and State tax liability.

Line 12—Tax Savings. Enter for each year of the horizon period the product of Lines 10 and 11.

Line 13—Discount Factors. Enter the discount factor for each year of the horizon period. This shall be computed according to the instructions under Section 2.6, except that the variable N found in the discount factor formula represents the number of years in the future, *counting from the last forecast year.* For example, N=1 for the first year of the horizon period.

Line 14—Present Value of Tax Savings. Enter for each year of the horizon period the product of Lines 12 and 13.

Line 15—Total Present Value of Tax Savings. Enter under the Total column the sum of values on Line 14 for the horizon years.

Line 16—Horizon Value. Enter under the Total column the sum of Lines 09 and 15.

Schedule D.1—Interim Controls Revenue Forecast

General. Use Schedule D.1 to report annual forecasts of operating revenues anticipated during the years 1984 through 1990 from operation of the smelter applying for an interim controls waiver. The applicant applying for a permanent waiver should complete Schedule D.1 twice, with revenue and production projections based on two alternative assumptions: (1) Installation of interim constant control equipment, no installation of any additional SO_2 controls that the smelter would otherwise be required to install but for the issuance of an NSO, and closure after January 1, 1988, and (2) installation of interim constant control equipment and any additional SO_2 controls required to comply with the smelter's SIP emission limitation by January 2, 1988, so that the smelter will remain open through the horizon period. The applicant applying for a temporary waiver should use only the first assumption. For a smelter that has no continuous emission controls, the assumed interim control investment program should be based on the installation and operation of a well-designed sulfuric acid plant to treat all strong gas streams. For a smelter that already has some continuous emission controls, the assumed interim constant control investment should be based on the installation and operation of any additional acid plant capacity that would be necessary for treatment of all strong streams with interim constant controls. The interim controls projections should account for other regulatory requirements on the same basis as provided for in the NSO eligibility tests.

Forecast smelter revenues should be expressed on a tolling service equivalent basis as described in Section 2.3.4. The line items in Schedule D.1 are explained in the following instructions. Attach as part of Exhibit B schedules to (1) explain the methods used to make the required forecasts, (2) explain differences, if any, between historical trends and the forecasts, and (3) provide data and information to support the forecasts.

Lines 01 and 05—Concentrates Processed. Report for each year the forecast quantity of concentrates processed for unaffiliated parties (Line 01) and affiliated parties (Line 05).

Lines 02 and 06—Smelting Charge. Report for each year the forecast smelting charge for unaffiliated parties (Line 02) and affiliated parties (Line 06). See Section 2.4 for forecast copper smelting charges furnished by EPA.

Lines 03 and 07—Total Smelter Revenues. Report for each year the forecast total operating revenues derived from processing concentrates. The total for unaffiliated parties (Line 03) is equal to the product of Lines 01, 02, and 04, and for affiliated parties (Line 07), the product of Lines 05, 06, and 08.

Lines 04 and 08—Average Product Grade. Report for each year the forecast average quality rating assigned to concentrates processed for unaffiliated parties (Line 04) and affiliated parties (Line 08).

Line 09—Total Co-Product Revenues. Report for each year the forecast net revenues from sales of co-products derived from the smelter's operations. Attach as part of Exhibit B a schedule showing by individual type of co-product the forecast quantity produced and sold, forecast market price per unit of sales, and forecast total revenues derived from the co-product sales.

Line 10—Total By-product Revenues From Pollution Control Facilities. Report for each year forecast revenues from the sale of by-products derived from operation of the smelter's pollution control facilities. Attach as part of Exhibit B a schedule showing by type of by-product produced (e.g., sulfuric acid) the forecast quantity of output, forecast market price per unit of output sold, and forecast total revenue derived from the by-product sales.

Line 11—Total By-product Revenues From Other Smelter Processing. Report forecast revenues from the sales of gold, silver, and other by-products derived from the smelter's operations. Attach as part of Exhibit B a schedule providing additional documentation as specified in the instructions for Line 10.

Line 12—Total Co-product and By-product Revenues. Enter for each year the total of Lines 09 through 11.

Schedule D.2—Interim Controls Cost Forecast

General. Use Schedule D.2 to report annual forecasts of operating costs anticipated during the years 1984 through 1990 from operation of the smelter applying for an interim controls waiver. The applicant applying for a

permanent waiver should complete Schedule D.2 twice, with cost and production projections based on two alternative assumptions: (1) Installation of interim constant control equipment, no installation of any additional SO_2 controls that the smelter would otherwise be required to install but for the issuance of an NSO, and closure after January 1, 1988, and (2) installation of interim constant control equipment and any additional SO_2 controls required to comply with the smelter's SIP emission limitation by January 2, 1988, so that the smelter will remain open through the horizon period. For a smelter that has no continuous emission controls, the assumed interim control investment program should be based on the installation and operation of a well-designed sulfuric acid plant to treat all strong gas streams. For a smelter that already has some continuous emission controls, the assumed interim constant control investment should be based on the installation and operation of any additional acid plant capacity that would be necessary for treatment of all strong streams with interim constant controls. The interim controls projections should account for other regulatory requirements on the same basis as provided for in the NSO eligibility tests.

The line items in Schedule D.2 are explained in the following instructions. Attach as part of Exhibit B schedules to (1) explain the methods used to make the required forecasts, (2) explain differences, if any, between historical trends and the forecasts, and (3) provide data and information to support the forecasts.

Line 01—Direct Labor Hours. Report for each year the quantity of direct labor hours required to support the processing levels previously reported. Attach as part of Exhibit B an explanation of the labor productivity factors involved.

Line 02—Average Hourly Wage Rate. Report for each year the forecast average wage rate per unit of direct labor input. Attach as part of Exhibit B a description of direct labor cost factors under any existing labor contracts that extend to the forecast period and an explanation of the methodology used to forecast wage rates. EPA-provided forecast wage indices are reported in Section 2.4.

Line 03—Total Wage Payments. Enter for each year the product of Lines 01 and 02.

Line 04—Supplemental Employee Benefits. Report for each year adjustments required to direct labor costs for other employee compensation under supplemental benefit plans. Attach as part of Exhibit B a description of such plans and their costs and an explanation of the methodology used to forecast such costs. EPA-provided forecast wage indices are reported in Section 2.4.

Line 05—Total Production Labor Costs. Enter for each year the total of Lines 03 and 04.

Lines 06, 09, 12, 15, and 18—Energy Quantities. Report for each year the quantity of energy by type required to support the processing levels reported in the smelter's revenue. Attach as part of Exhibit B an explanation of energy characteristics and use factors considered in forecasting the smelter's future energy requirements.

Lines 07, 10, 13, 16, and 19—Unit Prices. Report for each year the forecast price per unit of energy input by type of energy. Attach as part of Exhibit B a description of the energy price factors under any existing energy contracts that extend to the forecast period and an explanation of the methodology used to forecast unit energy prices. EPA-provided forecast energy indices are reported in Section 2.4.

Lines 08, 11, 14, 17, and 20—Total Payments. Enter for each year the products of quantity and prices paid for electricity (Lines 06×07), natural gas (Lines 09×10), coal (Lines 12×13), fuel oil (Lines 15×16), and other (Lines 18×19).

Line 21—Total Energy Costs. Enter for each year the total of Lines 08, 11, 14, 17, and 20.

Schedule D.3—Interim Controls Forecast Profit and Loss Summary

General. Use Schedule D.3 to report forecast revenue and cost information summed in Schedules D.1 and D.2 for the years 1984 through 1990. Applicants applying for a permanent waiver must complete Schedule D.3 twice. Forecast revenues and costs in Schedule D.3 shall be compatible with productive capacity and pollution control assumptions underlying the operating revenue and cost forecasts incorporated into each set of Schedules D.1 and D.2. Applicants applying for a temporary waiver should use only the first assumption: installation of interim constant control equipment and no installation of any additional SO2 controls that the smelter would otherwise be required to install but for the issuance of an NSO. The transfer of line items from Schedules D.1 and D.2 to this Schedule is explained in the following instructions.

Line 01—Smelter Revenues—Unaffiliated Parties. Enter the totals reported in Schedule D.1, Line 03.

Line 02—Smelter Revenues-Affiliated Parties. Enter the totals reported in Schedule D.1, Line 07.

Line 03—Co-product and By-product Sales Revenues. Enter the totals reported in Schedule D.1, Line 12.

Line 04—Other Operating Revenues. Report operating revenues anticipated from sources not accounted for under Lines 01 through 03. Refer to instructions for Line 04 of Schedule A.3 for items that should not be included in ''Other Operating Revenues.'' Attach as part of Exhibit B a schedule showing annual amounts forecast by individual revenue component for ''other'' operating revenues associated with the smelter's forecast interim

controls operations. Identify in the supporting schedule any differences in the ''other'' revenue components reported in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 05—Total Operating Revenues. Enter for each year the total of Lines 01 through 04.

Line 06—Material Costs. Report total costs forecast for flux, refractories, coke and other materials directly associated with the smelter's processing of concentrates. Attach as part of Exhibit B a schedule showing the annual amounts forecast by major material cost components. For each cost component, identify the forecast quantity and unit price elements of material cost and explain the basis for forecasting these quantity and price elements. Identify in the supporting schedule any differences in the ''other'' material cost components shown in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 07—Production Labor Costs. Enter the totals reported in Schedule D.2, Line 05.

Line 08—Energy Costs. Enter the totals reported in Schedule D.2, Line 21.

Line 09—Pollution Control Costs. Report the total costs forecast for operation and maintenance of all pollution control equipment and facilities under the two alternative sets of assumptions made in corresponding Schedules D.1 and D.2. Byproduct credits associated with operation of the pollution control facilities should be eliminated from the cost accounts, reclassified to Schedule D.1, Line 10 and included in Line 03 of this Schedule. Attach a schedule as part of Exhibit B classifying pollution control costs by major cost components. Explain the basis used for estimating each of the cost components.

Line 10—Production Overhead Costs. Report the total costs forecast for indirect labor, indirect materials and other production overhead costs associated with the smelter's constant controls forecasts. Attach as part of Exhibit B a schedule showing annual overhead costs projected by major cost components associated with the smelter's operations. For each cost component, where appropriate, identify the forecast quantity and unit price elements of overhead costs and explain the basis for estimating these quantity and price elements. Also identify in the supporting schedule any differences in production overhead cost classifications used in this Schedule and Schedule A.3 and explain the reasons for such differences.

Line 11—Other Production Costs. Report other forecast production costs not previously reported on lines 06 through 10. Attach as part of Exhibit B supporting schedules showing the basis of the forecasts.

Line 12—Total Cost of Sales. Enter for each year the sum of operating costs reported on Lines 06 through 11.

Line 13—Gross Operating Profit. Enter for each year the difference between Lines 05 and 12.

Line 14—Selling, General and Administrative Expenses. Report the total costs forecast for administrative, marketing and general corporate overhead functions that directly or indirectly support the smelter's operations. Refer to the NSO Financial Reporting Overview for general discussion of indirect cost allocations from overhead cost pools. Attach as part of Exhibit B a schedule classifying selling, general and administrative expenses into major cost components. Indicate whether each component represents costs directly assignable to the smelter or indirect costs allocated from other business segments to the smelter. Explain the basis used for estimating the amount of expected costs included in each component and the basis used for allocating indirect cost elements to the smelter. Identify and explain any differences between the selling, general and administrative cost classification used in this Schedule and that used in Line 15 of Schedule A.3.

Line 15—Taxes, Other than Income Taxes. Report the total costs forecast for property taxes and associated levies paid to governmental units by or for the benefit of the smelter operation. Attach as part of Exhibit B a schedule classifying operating taxes by major component. Indicate whether each component represents taxes directly assignable to the smelter or taxes that have been allocated among more than one facility. Explain the basis used for estimating taxes and the basis for any allocation of taxes to the smelter. Identify and explain any differences between the component classifications used in this Schedule and those used in Line 16 of Schedule A.3.

Line 16—Research Costs. Report the estimates of research costs incurred directly by or for the benefit of the smelter operations. Attach as part of Exhibit B a schedule classifying the costs by major direct and indirect cost components. Explain the basis for estimating the costs assigned to each component. Identify and explain any differences between classifications used in this Schedule and those used in Line 17 of Schedule A.3.

Line 17—Pollution Control Facility Depreciation and Amortization. Report the estimates of depreciation and amortization charges associated with the smelter's actual and forecast investment in all pollution control equipment and facilities under the two alternative sets of assumptions made in corresponding Schedules D.1 and D.2. Reported charges should be computed in accordance with depreciation and amortization methods adopted for tax reporting purposes by the firm. Attach explanatory supporting schedules as part of Exhibit B.

Line 18—Other Smelter Facility Depreciation and Amortization. Report the pro forma estimates of depreciation and amortization

charges associated with the smelter's investment in equipment and facilities other than those classified as pollution control facilities. Attach explanatory supporting schedules as part of Exhibit B.

Line 19—Interest on Short-Term Debt. Report the estimates of interest and other financing charges on forecast short-term obligations as classified in the smelter's current liabilities on Schedule A.4. Interest and associated financing charges on long-term debt should not be included as an expense identifiable with the smelter's operations. Attach as part of Exhibit B a schedule showing the interest-bearing, short-term debt contracts identifiable with the smelter's operations, the interest rate projected for these contracts, and the estimated annual interest charges. Identify and explain any differences between the classifications used in this Schedule and those used in Line 20 of Schedule A.3.

Line 20—Miscellaneous Operating Expenses. Report only the total operating expenses associated with or allocated to the smelter that cannot be appropriately classified in one of the preceding line items. Attach as part of Exhibit B a schedule showing the classification of these residual operating expenses into major cost components. Explain the basis used for forecasting the cost under each component. Identify each cost component in terms of direct or indirect cost and explain the basis used for allocating the indirect costs to smelter operations. Identify and explain any differences between cost classifications included in this Schedule and those used in Line 21 of Schedule A.3.

Line 21—Total Other Operating Expenses. Enter for each year the sum of operating costs reported on Lines 14 through 20.

Line 22—Income From Operations. Enter for each year the difference between Lines 21 and 13.

Line 23—Income Taxes. Enter the product of income from operations (Line 22) and the sum of the Federal, State and local marginal tax rates. Attach as part of Exhibit B a schedule detailing the estimated marginal tax rate by taxing entity.

Line 24—Net Income From Operations. Enter for each year the difference between Lines 23 and 22.

The temporary waiver from interim controls test is on Line 13 of Schedule D.3 that was completed under the assumption of installation of interim constant control equipment and no installation of any additional SO_2 controls that the smelter would otherwise be required to install but for the issuance of an NSO. Applicants will be eligible for a temporary waiver from the interim development of constant control technology for sulfur dioxide emissions if the reported gross operating profit on Line 13 is a negative value for one or more years during which the NSO is in effect.

Schedule D.4—Interim Controls Sustaining Capital Investment Forecast

General. Use Schedule D.4 to report yearly sustaining capital outlays for maintenance of the smelter's existing productive capability. The applicant should complete Schedule D.4 twice, under two alternative assumptions: (1) Installation of interim constant control equipment, no installation of any additional SO_2 controls that the smelter would otherwise be required to install but for the issuance of an NSO, and closure after January 1, 1988, and (2) installation of interim constant equipment and any additional SO_2 controls required to comply with the smelter's SIP emission limitation by January 2, 1988, so that the smelter will remain open through the horizon period.

Major elements of these outlays should be disclosed, as well as the total of such outlays. Estimates shall be restricted to those items that will be capitalized for tax purposes. These outlays shall primarily be for plant replacement, although outlays for improvements and expansion may be included to the extent that improvements and/or expansion, exclusive of required pollution control outlays, can be justified as economically feasible. Estimates of sustaining capital investments shall exclude any incremental investment for sulfur dioxide emission controls reported in Line 06 of Schedule D.6. Sustaining capital investments in facilities shared with other operating segments shall be allocated in accordance with the instructions given below.

Estimates of sustaining capital shall be compatible with productive capacity and pollution control requirements underlying the operating revenue and cost forecasts incorporated in Schedule D.3.

Line 01 to 06—Sustaining Capital. Report for each year by individual line item property, plant and equipment sustaining capital investments assignable to smelter operations. Include both (1) property, plant and equipment directly associated with the smelter's operations and (2) facilities shared with other operating segments to the extent that a causal and beneficial relationship can be established for the intersegment allocations of such facility investments.

Attach as part of Exhibit B an explanatory schedule disclosing and supporting by individual line item the major elements of annual capital expenditures for sustaining capital. Further classify these annual capital expenditures into both (1) investments required to maintain the smelter versus investments in smelter expansion and improvements and (2) direct facility versus joint-use facility investments. Explain the method used for allocating capital expenditures on joint-use facilities to the smelter's operations.

Line 07—Total Smelter Sustaining Capital. Enter for each year the total of Lines 01 through 06. Transfer the reported total for each year to Schedule D.6, Line 06.

Schedule D.5—Cash Proceeds From Liquidation

General. Use Schedule D.5 to calculate cash proceeds from liquidation. Applicants should determine the current salvage value of their existing investment in the smelter as the net proceeds that could be derived through an orderly liquidation of the smelter's assets. The net cash proceeds should be reported after an appropriate allowance for disposal costs, contractual claims against the smelter (e.g., labor termination penalties), and income tax effects on the corporation of such liquidation costs.

The applicant must stipulate the most advantageous alternative market (use) for the smelter's facilities. Generally, this market will be:

Secondary market for used plant and equipment.

Sale for scrap.

Abandonment where the disposal cost exceeds scrap value.

The current net salvage value should be disaggregated into the same property, plant and equipment asset groups reported under the historical capital investment summary, Schedule A.4. The line items in Schedule D.5 are explained in the following instructions.

Line 01—Current Assets. Enter in Columns 1 and 2, the value of total current assets shown in Line 08 of Schedule A.4 (Historical Capital Investment Summary) for 1983. No gain or loss should be reported in Columns 3 through 5 for the liquidation of current asset investments.

Lines 02–07—Property Plant and Equipment. Enter in Column 1 the appraised liquidation value (in terms of pretax cash proceeds) of the smelter by asset group. This estimate should be certified by a qualified third party professional appraiser and shall represent the best use and highest alternative value of these assets. The liquidation value of any assets which are jointly used by the smelter and other operating segments shall be excluded if, upon closure of the smelter, such assets would continue in service for the non-smelter activity.

In Column 2, report the net book value of these assets for which liquidation values have been reported in Column 1. The reported values should correspond with amounts reported for 1982 in lines 09 through 15 in Schedule A.4 as adjusted for appropriate eliminations of joint-use facilities and reconciliation to a net book value as reported for income taxes. Attach as part of Exhibit B supporting schedules showing all adjustments and conversion of the net book value as reported on the financial statements, to net book value that would be used for income tax purposes.

Compute Column 3 as Column 1 less Column 2. The gain (or loss) shown in Column 3 shall be segregated into ordinary income and capital gains components subject to taxation pursuant to applicable income tax rules. Enter ordinary income in Column 4 and capital gains in Column 5.

Line 08—Total Smelter Investment. Enter the sum of Lines 02 through 07 for each of the columns.

Line 09—Other Non-current Assets. In Column 1, report the appraised value of other non-current assets in accordance with the instructions for Line 18, Schedule A.4, except that any joint asset(s) that would continue in the event of smelter liquidation shall be excluded. This estimate shall be certified by a qualified third-party professional appraiser.

In Column 2, report the net book value of the non-current assets directly corresponding to those assets included in the liquidation value estimated under Column 1.

The remaining columns shall be completed in accordance with the instructions given above for Lines 02 and 06.

Line 10—Total Smelter Value. Enter the sum of Lines 01, 08 and 09.

Line 11—Total Current Liabilities. Report in both Columns 1 and 2, the value of total current liabilities shown in Line 25 of Schedule A.4 for 1983.

Line 12—Gross Liquidation Value. Enter the difference between Lines 10 and 11.

Line 13—Liquidation Costs. In Columns 1, 3 and 4, report the value of any liquidation costs such as labor contract termination penalties, severance pay and related costs, associated with closure of the smelter.

Line 14—Taxable Gain (or Loss). Enter in Columns 4 and 5, the differences between Lines 12 and 13.

Line 15—Income Tax Rate. Enter the sum of the Federal, State and local marginal tax rates of the firm for ordinary income and capital gains in Columns 4 and 5, respectively. Attach as part of Exhibit B a schedule detailing the estimated marginal tax rate by taxing entity.

Line 16—Income Tax on Gain (or Loss). In Columns 4 and 5, enter the product of Line 14 and the marginal income tax rates reported in Line 15. In Column 1, enter the sum of Columns 4 and 5.

Line 17—After Tax Cash Proceeds. Enter in Column 1 the difference between Line 12 and the sum of Lines 13 and 16.

Schedule D.6—Permanent Waiver from Interim Controls Test

General. Applicants must complete this Schedule and its supporting schedules if they seek a permanent waiver from interim control requirements. The applicant should complete Schedule D.6 twice, with revenue

and production projections based on two alternative assumptions: (1) Installation of interim constant control equipment, no installation of any additional SO_2 controls that the smelter would otherwise be required to install but for the issuance of an NSO, and closure after January 1, 1988, and (2) installation of interim constant control equipment and any additional SO_2 controls required to comply with the smelter's SIP emission limitation by January 2, 1988, so that the smelter will remain open through the horizon period. Forecasts in Schedule D.6 shall be compatible with assumptions and forecasts in each set of Schedules D.1 through D.4. The line items in Schedule D.6 are explained in the following instructions.

Line 01—Net Income from Operations. Enter for each year the amounts reported in Schedule D.3, Line 24.

Line 02—Net Income Adjustments. Enter any adjustments to net income not included in Schedule D.3. When assuming closure after January 1, 1988, the applicant must include the proceeds from liquidation in 1988. The applicant must estimate liquidation value as of 1988 using one of two methods: (1) the applicant may complete Schedule D.5 assuming liquidation in 1988 and report the value of after-tax cash proceeds in Line 17; or (2) the applicant may use the value of after-tax cash proceeds in Line 17 of Schedule D.5, as already completed, assuming liquidation in the current (application) year, and expressing values in 1988 dollars. The current liquidation value must be inflated to 1988 dollars by applying the appropriate forecast percentage rate changes in the GNP price deflator. Attach explanatory supporting schedules in Exhibit B.

Lines 03 and 04—Depreciation and Amortization. Enter for each year the amounts reported in Schedule D.3, Lines 17 and 18, respectively.

Line 05—Operating Cash Flow. Enter for each year the total of amounts reported on Lines 01 through 04.

Line 06—Pollution Controls Capital Investment. Enter the estimated pollution control capital outlays projected to be made under the two alternative sets of assumptions described in the *General* section of this schedule. These controls shall include only interim control equipment for the first set of assumptions and both interim control equipment and any additional SO_2 controls required to comply with the smelter's SIP emission limitation by January 2, 1988, for the second set of assumptions. The values assumed in this schedule shall correspond to the investment estimates shown in each set of supporting schedules for Line 17 of Schedule D.3. For purposes of allocating costs of the additional SO_2 controls under the second set of assumptions, applicants must provide information establishing the period over which capital outlays for such controls would be made if installation of the controls begins the latest date that would still allow compliance to be achieved by January 2, 1988. Changes in working capital investment due to investment in control facilities may be added to the capital investment estimates shown in the corresponding supporting schedules for Schedule D.3.

Line 07—Sustaining Capital. Enter for each year the amounts reported in Schedule D.4, Line 07.

Line 08—Total. Enter for each year the sum of Lines 05 and 06.

Line 09—Net Cash Flow Projections. Enter for each year the difference between Lines 04 and 07.

Line 10—Discount Factors. Enter the discount factor for each year, computed as described in the instructions under Section 2.6.

Line 11—Present Value of Future Cash Flows. Enter for each year the product of Lines 08 and 09.

Line 12—Horizon Value. Enter under the Total column the estimated horizon value of the smelter reported in Schedule D.7, Line 16.

Line 13—Discount Factor. Enter under the Total column the appropriate discount factor, computed as described in the instructions under Section 2.6.

Line 14—Present Value of Horizon Value. Enter under the Total column the product of Lines 11 and 12.

Line 15—Present Value of Future Cash Flows. Enter under the Total column the sum of amounts previously reported on Line 10 for 1984 through 1990.

Line 16—Total Present Value. Enter the sum of Lines 13 and 14.

Line 17—Current Salvage Value. Enter the amount reported in Schedule D.5, Line 17, if the value is greater than zero. If the value is zero or less, enter zero.

Line 18—Net Present Value. Enter the difference between Lines 16 and 17. In determining eligibility for a permanent waiver from interim control requirements, an applicant must use the higher of the two net present value figures computed under the two alternative assumptions. Applicants reporting a negative value for the higher net present value figure will be eligible for a permanent waiver from interim use of a constant control system for sulfur dioxide emissions.

Schedule D.7—Horizon Value of Cash Flows for the Interim Controls Test

General. Use Schedule D.7 to calculate the horizon value of net cash flow projections for the Interim Controls Test. This horizon value is used in Schedule D.6. The computation of the horizon value is different for this test than for the Profit Protection Test because this test requires the reporting of depreciation for tax purposes.

In Schedule D.7, the applicant removes the tax savings of control equipment depreciation from the cash flows for the last two forecast years. A depreciation-free horizon value is then calculated from these depreciation-free cash flows. The tax savings of constant controls depreciation during the horizon years are then calculated separately. The final horizon value is equal to the sum of the depreciation-free horizon value and the tax savings from depreciation of constant controls accruing over the horizon years. The line items in Schedule D.7 are explained in the following instruction.

Line 01—Net Cash Flow Projections. Enter for each of the final two forecast years the values in Schedule D.6, Line 09, for the corresponding years.

Line 02—Depreciation and Amortization. Enter for each of the final two forecast years the value in Schedule D.6, Line 03, for the corresponding years.

Line 03—Marginal Tax Rate. Enter for each of the final two forecast years the marginal income tax rate applicable to the smelter. This rate should incorporate both Federal and State tax liability.

Line 04—Tax Savings. Enter for each of the final two forecast years the product of Lines 02 and 03.

Line 05—Nominal Dollar Values. Enter for each of the final two forecast years the difference between Lines 01 and 04.

Line 06—1990 Dollar Values. For each of the final two forecast years the nominal dollar values must be expressed in the last forecast year's dollars (1990 dollars). Transfer the 1990 amount in Line 05 directly to Line 06. Inflate the 1989 amount to 1990 dollars using the forecast GNP price deflator.

Line 07—Average. Enter under the Total column the average of the two values in Line 06.

Line 08—Horizon Factor. Enter under the Total column the horizon factor provided in Section 2.7.

Line 09—Depreciation-free Horizon Value. Enter under the Total column the product of Lines 07 and 08.

Line 10—Depreciation and Amortization. Enter for each year of the horizon period depreciation charges associated with the smelter's investment in equipment and facilities related to pollution controls. These investments should include those actually made and those forecast to be made by the end of the forecast period. Reported charges should be computed in accordance with depreciation and amortization methods adopted for tax reporting purposes by the firm. Attach as part of exhibit B supporting schedules consistent with those supporting Line 17 in Schedule D.3.

Line 11—Marginal Tax Rate. Enter for each year of the horizon period the marginal income tax rate applicable to the smelter. This rate should incorporate both Federal and State tax liability.

Line 12—Tax Savings. Enter for each year of the horizon period the product of Lines 10 and 11.

Line 13—Discount Factors. Enter the discount factor for each year of the horizon period. This shall be computed according to the instructions under Section 2.6, except that the variable N found in the discount factor formula represents the number of years in the future, *counting from the last forecast year.* For example, N=1 for the first year of the horizon period.

Line 14—Present Value of Tax Savings. Enter for each year of the horizon period the product of Lines 12 and 13.

Line 15—Total Present Value of Tax Savings. Enter under the Total column the sum of values on Line 14 for the horizon years.

Line 16—Horizon Value. Enter under the Total column the sum of Lines 09 and 15.

ENVIRONMENTAL PROTECTION AGENCY

Primary Nonferrous Smelter Order Application

Part I—Identification Information

1. Firm name _____
2. Street/Box/RFD _____
3. City _____
4. State _____
5. Zip Code _____
6. IRS Employer Identification No. _____
7. SEC 1934 Act Registration No. _____
8. Smelter Name _____
9. Street/Box/RFD _____
10. City _____
11. State _____
12. Zip Code _____
13. Contact Person _____
14. Title _____
15. Street/Box/RFD _____
16. City _____
17. State _____
18. Zip Code _____
19. Telephone _____

Part II—Certification

I certify that the information provided herein and appended hereto is true and accurate to the best of my knowledge. I understand that this information is being required, in part, under the authority of Section 114 of the Clean Air Act, 42 U.S.C. 7414.

Name _____
Title _____
Signature _____
Date _____

SCHEDULE A.1—HISTORICAL REVENUE DATA

[Smelter identification]

	Line	1979	1980	1981	1982	1983
A. Copper product sales:						
1. Total quantity sold	01					
2. Unaffiliated customer sales:						
a. Quantity sold	2					
b. Operating revenue	03					
c. Average unit price	04					
d. Average product grade	05					
3. Affiliated customers sales:						
a. Quantity sold	06					
b. Operating revenue	07					
c. Average unit price	08					
d. Average product grade	09					
4. Adjusted copper revenues:						
a. Total copper revenues	10					
b. Transfer price adjustment	11					
c. Other revenue adjustments	12					
d. Adjusted copper revenues	13					
B. Lead product sales:						
1. Total quantity sold	14					
2. Unaffiliated customer sales:						
a. Quantity sold	15					
b. Operating revenue	16					
c. Average unit price	17					
d. Average product grade	18					
3. Affiliated customer sales:						
a. Quantity sold	19					
b. Operating revenue	20					
c. Average unit price	21					
d. Average product grade	22					
4. Adjusted lead revenues:						
a. Total lead revenues	23					
b. Transfer price adjustment	24					
c. Other revenue adjustments	25					
d. Adjusted lead revenues	26					
C. Zinc product sales:						
1. Total quantity sold	27					
2. Unaffiliated customer sales:						
a. Quantity sold	28					
b. Operating revenue	29					
c. Average unit price	30					
d. Average product grade	31					
3. Affiliated customer sales:						
a. Quantity sold	32					
b. Operating revenue	33					
c. Average unit price	34					
d. Average product grade	35					
4. Adjusted zinc revenues:						
a. Total zinc revenues	36					
b. Transfer price adjustment	37					
c. Other revenue adjustments	38					
d. Adjusted zinc revenues	39					
D. Molybdenum or other nonferrous metal sales:						
1. Total quantity sold	40					
2. Unaffiliated customer sales:						
a. Quantity sold	41					
b. Operating revenue	42					
c. Average unit price	43					
d. Average product grade	44					
3. Affiliated customer sales:						
a. Quantity sold	45					
b. Operating revenue	46					
c. Average unit price	47					
d. Average product grade	48					
4. Adjusted molybdenum or other nonferrous metal revenues:						
a. Total molybdenum or other nonferrous metal revenues	49					
b. Transfer price adjustment	50					
c. Other revenue adjustments	51					
d. Adjusted molybdenum or other nonferrous metal revenues	52					

SCHEDULE A.1—HISTORICAL REVENUE DATA—Continued

[Smelter identification]

	Line	1979	1980	1981	1982	1983
E. Primary metal revenues	53					
F. Tolling service revenues:						
1. Total toll concentrates processed	54					
2. Unaffiliated customer revenues:						
a. Concentrates processed	55					
b. Operating revenue	56					
c. Average unit price	57					
d. Average product grade	58					
3. Affiliated customer revenues:						
a. Concentrates processed	59					
b. Operating revenue	60					
c. Average unit price	61					
d. Average product grade	62					
4. Adjusted tolling service revenues:						
a. Total tolling service revenue	63					
b. Transfer price adjustment	64					
c. Other revenue adjustments	65					
d. Adjusted tolling service revenues	66					
G. Coproduct and byproduct sales:						
1. Total coproduct revenues	67					
2. Total byproduct revenues:						
a. Pollution control facilities	68					
b. Other smelter processing	69					
3. Total coproduct and byproduct revenues	70					

SCHEDULE A.2—HISTORICAL COST DATA

[Smelter identification]

	Line	1979	1980	1981	1982	1983
A. Concentrate costs:						
1. Total quantity purchased	01					
2. Unaffiliated purchases:						
a. Quantity purchased	02					
b. Concentrate cost	03					
c. Average unit price	04					
d. Average concentrate grade	05					
3. Affiliated purchases:						
a. Quantity purchased	06					
b. Concentrate cost	07					
c. Average unit price	08					
d. Average concentrate grade	09					
4. Adjusted concentrate costs:						
a. Total concentrate costs	10					
b. Transfer price adjustment	11					
c. Other cost adjustments	12					
d. Adjusted concentrate cost	13					
B. Production labor cost:						
1. Direct labor hours	14					
2. Average hourly wage rate	15					
3. Total wage payments	16					
4. Supplemental employee benefits	17					
5. Total production labor cost	18					
C. Energy costs:						
1. Electricity:						
a. Quantity in kilowatt hours	19					
b. Price per kwh	20					
c. Total electricity payments	21					
2. Natural gas:						
a. Quantity in mcf	22					
b. Price per mcf	23					
c. Total natural gas payments	24					
3. Coal:						
a. Quantity in tons	25					
b. Price per ton	26					
c. Total coal payments	27					
4. Fuel oil:						
a. Quantity in gallons	28					
b. Price per gallon	29					
c. Total fuel oil payments	30					

SCHEDULE A.2—HISTORICAL COST DATA—Continued

[Smelter identification]

	Line	1979	1980	1981	1982	1983
5. Other (specify):						
a. Quantity (specific units)	31					
b. Price per unit	32					
c. Total payments	33					
6. Total energy costs	34					

SCHEDULE A.3—HISTORICAL PROFIT AND LOSS SUMMARY

[Smelter identification]

	Line	1979	1980	1981	1982	1983
A. Operating revenues:						
1. Primary metal sales	01					
2. Coproduct and byproduct sales	02					
3. Tolling service revenues	03					
4. Other operating revenues	04					
5. Total operating revenues	05					
B. Cost of sales:						
1. Concentrates processed	06					
2. Other materials	07					
3. Production labor	08					
4. Energy costs	09					
5. Pollution control cost	10					
6. Production overhead	11					
7. Other production costs	12					
8. Total cost of sales	13					
C. Gross operating profit	14					
D. Other operating expenses:						
1. Selling general and administrative	15					
2. Taxes, other than income tax	16					
3. Research costs	17					
4. Depreciation and amortization:						
a. Pollution control facilities	18					
b. Other smelter facilities	19					
5. Interest on short term debt	20					
6. Miscellaneous operating expenses	21					
7. Total other operating expenses	22					
E. Income from operations	23					
F. Other income and (expense):						
1. Gain/(loss) on disposition of property	24					
2. Miscellaneous other income and (expense)	25					
3. Total other income and (expense)	26					
G. Net taxable income	27					

SCHEDULE A.4—HISTORICAL CAPITAL INVESTMENT SUMMARY

[Smelter identification]

	Line	1979	1980	1981	1982	1983
A. Current assets:						
1. Cash on hand and deposit	01					
2. Temporary cash investments	02					
3. Trade receivables, net:						
a. Unaffiliated customers	03					
b. Affiliated customers	04					
4. Inventories:						
a. Raw materials and products	05					
b. Other materials and supplies	06					
5. Other current assets	07					
6. Total current assets	08					
B. Property, plant and equipment:						
1. Land	09					
2. Buildings and improvements	10					
3. Machinery and equipment	11					
4. Transportation equipment	12					
5. Pollution control facilities	13					
6. Other fixed assets	14					
7. Total smelter investment	15					
8. Less: Accumulated depreciation and amortization	16					

SCHEDULE A.4—HISTORICAL CAPITAL INVESTMENT SUMMARY—Continued

[Smelter identification]

	Line	1979	1980	1981	1982	1983
9. Net smelter investment	17					
C. Other noncurrent assets	18					
D. Total smelter capital investment	19					
E. Current liabilities:						
1. Trade accounts and notes payable:						
a. Unaffiliated suppliers	20					
b. Affiliated suppliers	21					
2. Other expense accruals	22					
3. Notes payable, current	23					
4. Other current liabilities	24					
5. Total current liabilities	25					
F. Net smelter capital investment	26					

SCHEDULE B—PRE-CONTROL REVENUE FORECAST

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast smelter revenues—unaffiliated parties:								
1. Concentrates processed	01							
2. Smelting charge	02							
3. Total smelter revenues	03							
4. Average product grade	04							
B. Forecast smelter revenues—affiliated parties:								
1. Concentrates processed	05							
2. Smelting charge	06							
3. Total smelter revenues	07							
4. Average product grade	08							
C. Forecast co-product and by-product sales:								
1. Total co-product revenues	09							
2. Total by-product revenues from:								
a. Pollution control facilities	10							
b. Other smelter processing	11							
3. Total co-product and by-product revenues	12							

SCHEDULE B.2—PRE-CONTROL COST FORECAST

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast production labor cost:								
1. Direct labor hours	01							
2. Average hourly wage rate	02							
3. Total wage payments	03							
4. Supplemental employee benefits	04							
5. Total production labor cost	05							
B. Forecast energy costs:								
1. Electricity:								
a. Quantity in kilowatt hours	06							
b. Price per kwh	07							
c. Total electricity payments	08							
2. Natural gas:								
a. Quantity in mcf	09							
b. Price per mcf	10							
c. Total natural gas payments	11							
3. Coal:								
a. Quantity in tons	12							
b. Price per ton	13							
c. Total coal payments	14							
4. Fuel oil:								
a. Quantity in gallons	15							
b. Price per gallon	16							
c. Total fuel oil payments	17							
5. Other (specify):								
a. Quantity (specific units)	18							
b. Price per unit	19							
c. Total payments	20							

SCHEDULE B.2—PRE-CONTROL COST FORECAST—Continued

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
6. Total energy costs	21							

SCHEDULE B.3—PRE-CONTROL FORECAST PROFIT AND LOSS SUMMARY

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast operating revenues:								
1. Smelter revenues—unaffiliated parties	01							
2. Smelter revenues—affiliated parties	02							
3. Co-product and by-product sales	03							
4. Other operating revenues	04							
5. Total operating revenues	05							
B. Forecast cost of sales:								
1. Material costs	06							
2. Production labor costs	07							
3. Energy costs	08							
4. Pollution control costs	09							
5. Production overhead	10							
6. Other production costs	11							
7. Total cost of sales	12							
C. Forecast gross operating profit	13							
D. Forecast other operating expenses:								
1. Selling, general and administrative expenses	14							
2. Taxes, other than income tax	15							
3. Research costs	16							
4. Depreciation and amortization:								
a. Pollution control facilities	17							
b. Other smelter facilities	18							
5. Interest	19							
6. Miscellaneous operating expenses	20							
7. Total other operating expenses	21							
E. Forecast income from operations	22							

SCHEDULE B.4—CONSTANT CONTROLS REVENUE FORECAST

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast smelter revenues—unaffiliated parties:								
1. Concentrates processed	01							
2. Smelting charge	02							
3. Total smelter revenues	03							
4. Average product grade	04							
B. Forecast smelter revenues—affiliated parties:								
1. Concentrates processed	05							
2. Smelting charge	06							
3. Total smelter revenues	07							
4. Average product grade	08							
C. Forecast co-product and by-product sales:								
1. Total co-product revenues	09							
2. Total by-product revenues from:								
a. Pollution control facilities	10							
b. Other smelter processing	11							
3. Total co-product and by-product revenues	12							

SCHEDULE B.5—CONSTANT CONTROLS COST FORECAST

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast production labor cost:								
1. Direct labor hours	01							

SCHEDULE B.5—CONSTANT CONTROLS COST FORECAST—Continued

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
2. Average hourly wage rate	02							
3. Total wage payments	03							
4. Supplemental employee benefits	04							
5. Total production labor cost	05							
B. Forecast energy costs:								
1. Electricity:								
a. Quantity in kilowatt hours	06							
b. Price per kwh	07							
c. Total electricity payments	08							
2. Natural gas:								
a. Quantity in mcf	09							
b. Price per mcf	10							
c. Total natural gas payments	11							
3. Coal:								
a. Quantity in tons	12							
b. Price per ton	13							
c. Total coal payments	14							
4. Fuel oil:								
a. Quantity in gallons	15							
b. Price per gallon	16							
c. Total fuel oil payments	17							
5. Other (specify):								
a. Quantity (specific units)	18							
b. Price per unit	19							
c. Total payments	20							
6. Total energy costs	21							

SCHEDULE B.6—CONSTANT CONTROLS PROFIT AND LOSS SUMMARY FOR THE PROFIT PROTECTION TEST

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast operating revenues:								
1. Smelter revenues—unaffiliated parties	01							
2. Smelter revenues—affiliated parties	02							
3. Co-product and by-product sales	03							
4. Other operating revenues	04							
5. Total operating revenues	05							
B. Forecast cost of sales:								
1. Material costs	06							
2. Production labor costs	07							
3. Energy costs	08							
4. Pollution control costs	09							
5. Production overhead	10							
6. Other production costs	11							
7. Total cost of sales	12							
C. Forecast gross operating profit	13							
D. Forecast other operating expenses:								
1. Selling, general and administrative expenses	14							
2. Taxes, other than income tax	15							
3. Research costs	16							
4. Depreciation and amortization:								
a. Pollution control facilities	17							
b. Other smelter facilities	18							
5. Interest	19							
6. Miscellaneous operating expenses	20							
7. Total other operating expenses	21							
E. Forecast income from operations	22							

SCHEDULE B.7—PROFIT PROTECTION TEST

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990	Total
A. Pre-control case:									
1. Net income from operations	01								XXXX

SCHEDULE B.7—PROFIT PROTECTION TEST—Continued

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990	Total
2. Discount factors	02	.....	.....	.....	.....	.....	.....	.....	XXXX
3. Present value of future net income	03	.....	.....	.....	.....	.....	.....	.....	XXXX
4. Horizon value	04	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
5. Discount factor	05	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
6. Present value of horizon value	06	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
7. Present value of future net income	07	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
8. Total present value	08	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
B. Constant controls case:									
1. Net income from operations	09	.....	.....	.....	.....	.....	.....	.....	XXXX
2. Discount factors	10	.....	.....	.....	.....	.....	.....	.....	XXXX
3. Present value of future net income	11	.....	.....	.....	.....	.....	.....	.....	XXXX
4. Horizon value	12	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
5. Discount factor	13	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
6. Present value of horizon value	14	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
7. Present value of future net income	15	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
8. Total present value	16	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
C. Ratio of total present value of constant controls case to total, present value of base case	17	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....

SCHEDULE C.1—CONSTANT CONTROLS PROFIT AND LOSS SUMMARY FOR THE RATE OF RETURN TEST

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast operating revenues:								
1. Smelter revenues—unaffilated parties	01	.....	.....	.....	.....	.....	.....	.....
2. Smelter revenues—affiliated parties	02	.....	.....	.....	.....	.....	.....	.....
3. Co-product and by-product sales	03	.....	.....	.....	.....	.....	.....	.....
4. Other operating revenues	04	.....	.....	.....	.....	.....	.....	.....
5. Total operating revenues	05	.....	.....	.....	.....	.....	.....	.....
B. Forecast cost of sales:								
1. Material costs	06	.....	.....	.....	.....	.....	.....	.....
2. Production labor costs	07	.....	.....	.....	.....	.....	.....	.....
3. Energy costs	08	.....	.....	.....	.....	.....	.....	.....
4. Pollution control costs	09	.....	.....	.....	.....	.....	.....	.....
5. Production overhead	10	.....	.....	.....	.....	.....	.....	.....
6. Other production costs	11	.....	.....	.....	.....	.....	.....	.....
7. Total cost of sales	12	.....	.....	.....	.....	.....	.....	.....
C. Forecast gross operating profit	13	.....	.....	.....	.....	.....	.....	.....
D. Forecast other operating expenses:								
1. Selling, general and administrative expenses	14	.....	.....	.....	.....	.....	.....	.....
2. Taxes, other than income tax	15	.....	.....	.....	.....	.....	.....	.....
3. Research costs	16	.....	.....	.....	.....	.....	.....	.....
4. Depreciation and amortization								
a. Pollution control facilities	17	.....	.....	.....	.....	.....	.....	.....
b. Other smelter facilities	18	.....	.....	.....	.....	.....	.....	.....
5. Interest on short-term debt	19	.....	.....	.....	.....	.....	.....	.....
6. Miscellaneous operating expenses	20	.....	.....	.....	.....	.....	.....	.....
7. Total other operating expenses	21	.....	.....	.....	.....	.....	.....	.....
E. Forecast income from operations	22	.....	.....	.....	.....	.....	.....	.....
F. Forecast income taxes	23	.....	.....	.....	.....	.....	.....	.....
G. Forecast net income from operations	24	.....	.....	.....	.....	.....	.....	.....

SCHEDULE C.2—CONSTANT CONTROLS SUSTAINING CAPITAL INVESTMENT FORECAST

[Smelter identification]

Sustaining capital	Line	1984	1985	1986	1987	1988	1989	1990
1. Land	01	.....	.....	.....	.....	.....	.....	.....

SCHEDULE C.2—CONSTANT CONTROLS SUSTAINING CAPITAL INVESTMENT FORECAST—Continued

[Smelter identification]

Sustaining capital	Line	1984	1985	1986	1987	1988	1989	1990
2. Buildings and improvements	02							
2. Machinery and equipment	03							
4. Transportation equipment	04							
5. Pollution control facilities	05							
6. Other fixed assets	06							
7. Total smelter sustaining capital	07							

SCHEDULE C.3—HISTORICAL CAPITAL INVESTMENT IN CONSTANT DOLLARS

[Smelter identification]

Items from 1983 balance sheet	Line	Nominal dollars	Constant dollars
A. Current assets:			
1. Cash on hand and deposit	01		
2. Temporary cash investments	02		
3. Trade receivables, net:			
a. Unaffiliated customers	03		
b. Affiliated customers	04		
4. Inventories:			
a. Raw materials and products	05		
b. Other materials and supplies	06		
5. Other current assets	07		
6. Total current assets	08		
B. Property, plant and equipment:			
1. Land	09		
2. Buildings and improvements	10		
3. Machinery and equipment	11		
4. Transportation equipment	12		
5. Pollution control facilities	13		
6. Other fixed assets	14		
7. Total smelter investments	15		
8. Less: Accumulated depreciation and amortization	16		
9. Net smelter investment	17		
C. Other noncurrent assets	18		
D. Total smelter capital investment	19		
E. Current liabilities:			
1. Trade accounts and notes payable:			
a. Unaffiliated suppliers	20		
b. Affiliated suppliers	21		
2. Other expense accruals	22		
3. Notes payable, current	23		
4. Other current liabilities	24		
5. Total current liabilities	25		
F. Net smelter capital investment	26		

SCHEDULE C.4—RATE OF RETURN TEST

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990	Total
A. Operating cash flow projection:									
1. Net income from operations	01								XXXX
2. Depreciation and amortization:									
a. Pollution control facilities	02								XXXX
b. Other smelter facilities	03								XXXX
3. Operating cash flow	04								XXXX
4. Capital expenditure projections:									
a. Constant controls	05								XXXX
b. Sustaining capital	06								XXXX
c. Total	07								XXXX
5. Net cash flow projections	08								XXXX
6. Discount factors	09								XXXX
7. Present value of future cash flows	10								XXXX

SCHEDULE C.4—RATE OF RETURN TEST—Continued

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990	Total
B. Net present value:									
1. Horizon value	11	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
2. Discount factor	12	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
3. Present value of horizon value	13	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
4. Present value of future cash flows	14	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
5. Total present value	15	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
6. Net smelter capital investment in constant dollars	16	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
7. Net present value	17	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....

SCHEDULE C.5—HORIZON VALUE OF CASH FLOWS

[Smelter identification]

	Line	Final forecast years		Horizon years					
		1989	1990	1991	1992	1993	1994	1995	Total
A. Depreciation-free horizon value:									
1. Net cash flow projections	01	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
2. Depreciation tax savings:									
a. Depreciation and amortization	02	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
b. Marginal tax rate	03	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
c. Tax savings	04	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
3. Depreciation-free net cash flows:									
a. Nominal dollar values	05	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
b. 1990 dollar values	06	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
c. Average	07	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
4. Horizon factor	08	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
5. Depreciation-free horizon value	09	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
B. Depreciation tax savings over the horizon period:									
1. Depreciation and amortization	10	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
2. Marginal tax rate	11	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
3. Tax savings	12	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
4. Discount factors	13	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
5. Present value of tax savings	14	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
6. Total present value of tax savings	15	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
C. Horizon Value	16	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....

SCHEDULE D.1—INTERIM CONTROLS REVENUE FORECAST

[Smelter Identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast smelter revenues—unaffiliated parties:								
1. Concentrates processed	01	.....	.....	.....	.....	.....	.....	.....
2. Smelting charge	02	.....	.....	.....	.....	.....	.....	.....
3. Total smelter revenues	03	.....	.....	.....	.....	.....	.....	.....
4. Average product grade	04	.....	.....	.....	.....	.....	.....	.....
B. Forecast smelter revenues—affiliated parties:								
1. Concentrates processed	05	.....	.....	.....	.....	.....	.....	.....
2. Smelting charge	06	.....	.....	.....	.....	.....	.....	.....
3. Total smelter revenues	07	.....	.....	.....	.....	.....	.....	.....
4. Average product grade	08	.....	.....	.....	.....	.....	.....	.....
C. Forecast co-product and by-product sales:								
1. Total co-product revenues	09	.....	.....	.....	.....	.....	.....	.....
2. Total by-product revenues from:								
a. Pollution control facilities	10	.....	.....	.....	.....	.....	.....	.....

SCHEDULE D.1—INTERIM CONTROLS REVENUE FORECAST—Continued

[Smelter Identification]

	Line	1984	1985	1986	1987	1988	1989	1990
b. Other smelter processing	11							
3. Total co-product and by-product revenues:	12							

SCHEDULE D.2—INTERIM CONTROLS COST FORECAST

[Smelter Identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast production labor cost:								
1. Direct labor hours	01							
2. Average hourly wage rate	02							
3. Total wage payments	03							
4. Supplemental employee benefits	04							
5. Total production labor cost	05							
B. Forecast energy costs:								
1. Electricity:								
a. Quantity in kilowatt hours	06							
b. Price per kwh	07							
c. Total electricity payments	08							
2. Natural gas:								
a. Quantity in mcf	09							
b. Price per mcf	10							
c. Total natural gas payments	11							
3. Coal:								
a. Quantity in tons	12							
b. Price per ton	13							
c. Total coal payments	14							
4. Fuel oil:								
a. Quantity in gallons	15							
b. Price per gallon	16							
c. Total fuel oil payments	17							
5. Other (specify):								
a. Quantity (specific units)	18							
b. Price per unit	18							
c. Total payments	20							
6. Total energy costs	21							

SCHEDULE D.3—INTERIM CONTROLS FORECAST PROFIT AND LOSS SUMMARY

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
A. Forecast operating revenues:								
1. Smelter revenues—unaffiliated parties	01							
2. Smelter revenues—affiliated parties	02							
3. Co-product and by-product sales	03							
4. Other operating revenues	04							
5. Total operating revenues	05							
B. Forecast cost of sales:								
1. Material costs	06							
2. Production labor costs	07							
3. Energy costs	08							
4. Pollution control costs	09							
5. Production overhead	10							
6. Other production costs	11							
7. Total cost of sales	12							
C. Forecast gross operating profit	13							
D. Forecast other operating expenses:								
1. Selling, general and administrative expenses	14							
2. Taxes, other than income tax	15							
3. Research costs	16							
4. Depreciation and amortization:								
a. Pollution control facilities	17							
b. Other smelter facilities	18							
5. Interest on short-term debt	19							
6. Miscellaneous operating expenses	20							

SCHEDULE D.3—INTERIM CONTROLS FORECAST PROFIT AND LOSS SUMMARY—Continued

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990
7. Total other operating expenses	21							
E. Forecast income from operations	22							
F. Forecast income taxes	23							
G. Forecast net income from operations	24							

SCHEDULE D.4—INTERIM CONTROL SUSTAINING CAPITAL INVESTMENT FORECAST

[Smelter identification]

Sustaining capital	Line	1984	1985	1986	1987	1988	1989	1990
1. Land	01							
2. Buildings and improvements	02							
3. Machinery and equipment	03							
4. Transportation equipment	04							
5. Pollution control facilities	05							
6. Other fixed assets	06							
7. Total smelter sustaining capital	07							

SCHEDULE D.5—CASH PROCEEDS FROM LIQUIDATION

[Smelter identification]

	Line	(1) Estimated Liquidation value	(2) Reported net book value	(3) Total gain (loss)	Gain (loss) subject to taxation as—	
					(4) Ordinary income	(5) Capital gain
A. Total current assets	01			XXXXX	XXXXX	XXXXX
B. Property, plant and equipment:						
1. Land	02					
2. Buildings and improvements	03					
3. Machinery and equipment	04					
4. Transportation equipment	05					
5. Pollution control facilities	06					
6. Other fixed assets	07					
7. Total	08					
C. Other noncurrent assets.	09					
D. Total smelter value	10					
E. Total current liabilities	11			XXXXX	XXXXX	XXXXX
F. Gross liquidation value	12					
G. Liquidation costs	13		XXXXX			XXXXX
H. Net Taxable Gain (or loss)	14	XXXXX	XXXXX	XXXXX		
I. Income tax rate	15	XXXXX	XXXXX	XXXXX		
J. Income tax on gain (loss)	16	XXXXX	XXXXX	XXXXX		
K. After tax cash proceeds from liquidation	17		XXXXX	XXXXX	XXXXX	XXXXX

SCHEDULE D.6—PERMANENT WAIVER FROM INTERIM CONTROLS TEST

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990	Total
A. Operating Cash flow projection:									
1. Net income from operations	01								XXXX
2. Net income adjustments	02								XXXX
3. Depreciation and amortization:									
a. Pollution control facilities	03								XXXX
b. Other smelter facilities	04								XXXX
4. Operating cash flow	05								XXXX
5. Capital expenditure projections:									
a. Interim controls	06								XXXX
b. Sustaining capital	07								XXXX
c. Total	08								XXXX
6. Net cash flow projections	09								XXXX

SCHEDULE D.6—PERMANENT WAIVER FROM INTERIM CONTROLS TEST—Continued

[Smelter identification]

	Line	1984	1985	1986	1987	1988	1989	1990	Total
7. Discount factors	10	.....	.....	.....	.....	.....	.....	.....	XXXX
8. Present value of future cash flows	11	.....	.....	.....	.....	.....	.....	.....	XXXX
B. Net present value:									
1. Horizon value	12	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
2. Discount factor	13	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
3. Present value of horizon value	14	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
4. Present value of future cash flows	15	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
5. Total present value	16	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
6. Current salvage value	17	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
7. Net present value	18	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....

SCHEDULE D.7—HORIZON VALUE OF CASH FLOWS

[Smelter identification]

	Line	Final forecast years		Horizon years					Total
		1989	1990	1991	1992	1993	1994	1995	
A. Depreciation-free horizon value:									
1. Net cash flow projections	01	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
2. Depreciation tax savings:									
a. Depreciation and amortization	02	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
b. Marginal tax rate	03	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
c. Tax savings	04	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
3. Depreciation-free net cash flows:									
a. Nominal dollar values	05	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
b. 1990 dollar values	06	.....	.....	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
c. Average	07	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
4. Horizon factor	08	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
5. Depreciation-free horizon value	09	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
B. Depreciation tax savings over the horizon period:									
1. Depreciation and amortization	10	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
2. Marginal tax rate	11	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
3. Tax savings	12	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
4. Discount factors	13	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
5. Present value of tax savings	14	XXXX	XXXX	.....	.....	.....	.....	.....	XXXX
6. Total present value of tax savings	15	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....
C. Horizon Value	16	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	.....

PART 58—AMBIENT AIR QUALITY SURVEILLANCE

Subpart A—General Provisions

Sec.

58.1 Definitions.
58.2 Purpose.
58.3 Applicability.

Subpart B—Monitoring Network

58.10 Annual monitoring network plan and periodic network assessment.
58.11 Network technical requirements.
58.12 Operating schedules.
58.13 Monitoring network completion.
58.14 System modification.
58.15 Annual air monitoring data certification.
58.16 Data submittal and archiving requirements.

Subpart C—Special Purpose Monitors

58.20 Special purpose monitors (SPM).