EPA453/R-93-052

United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park, NC 27711

EPA-453/R-93-052
November 1993

Air

EPA

Enabling Document for National Emission Standards for Coke Oven Batteries (40 CFR Part 63, Subpart L)

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1.0 INTRODUCTION

On October 27, 1993 (58 FR 57898), the U. S. Environmental Protection Agency (EPA) promulgated national emission standards for the control of emissions from all existing and new coke oven batteries. This document serves to assist enforcement and permitting personnel in EPA and State or local air pollution control agencies with implementing the regulation and responding to questions and comments on the rule and its requirements.

Chapter 2.0, "Summary of the Standard," provides an overview of the requirements included in the Clean Air Act (Act) and the rule to provide a quick reference tool for determining applicable requirements for each type of battery. Visible emission limits, dates, exemptions, alternatives, and rolling average calculation procedures also are discussed, as well as work practice requirements and provisions for obtaining an alternative standard for coke oven doors under sheds.

Chapter 3.0 discusses the provisions in the rule for conducting daily performance tests. Requirements, inspections, payment responsibilities, and Method 303 observation and certification procedures also are described.

Startups, shutdowns, and malfunctions are discussed in Chapter 4.0. In addition to a summary of plan requirements, this chapter defines actions required to be taken in the event of a malfunction.

Chapter 5.0 provides a summary of recordkeeping and reporting requirements, followed by a more detailed description of the information required and applicable dates for records and reports.

Chapter 6.0 describes the relationship of the NESHAP to existing regulations.

More detailed information may be found in the appendices. Appendix A lists the dates and responsible party for actions required in the rule and the Act to implement the NESHAP. Informational contacts are included in Appendix B. The proposal preamble and the final NESHAP (preamble, regulation, and test methods) are reprinted in Appendix C. (The proposal preamble provides details on the background and development of the rule.) Questions and answers developed from inquiries from States, Regions, local agencies, and industry representatives are included in Appendix D. Appendix E contains a list of batteries, their operating characteristics, and a map to indicate their location.

2.0 SUMMARY OF THE STANDARD

2.1 OVERVIEW

Section 112 of the Act requires the EPA to establish national emission standards for hazardous air pollutants (NESHAP) listed under section 112(b), one of which is coke oven emissions. In addition, several individual components of coke oven emissions are listed separately. Provisions specific to the regulation of coke oven emissions also are included in sections 112(d), (f), and (i) of the Act. The requirements of the NESHAP and the Act extend over the next 20 years and include obligations affecting coke plant owners or operators, EPA, and delegated State or local agencies. A complete list of these actions, required dates, and the responsible party is included in Appendix A. The key dates from this list are summarized in Table 2-1.

The rule applies to all coke oven batteries, whether existing, new, reconstructed, rebuilt or restarted. It also applies to all batteries using the conventional by-product recovery process, the nonrecovery process, or any new recovery process.

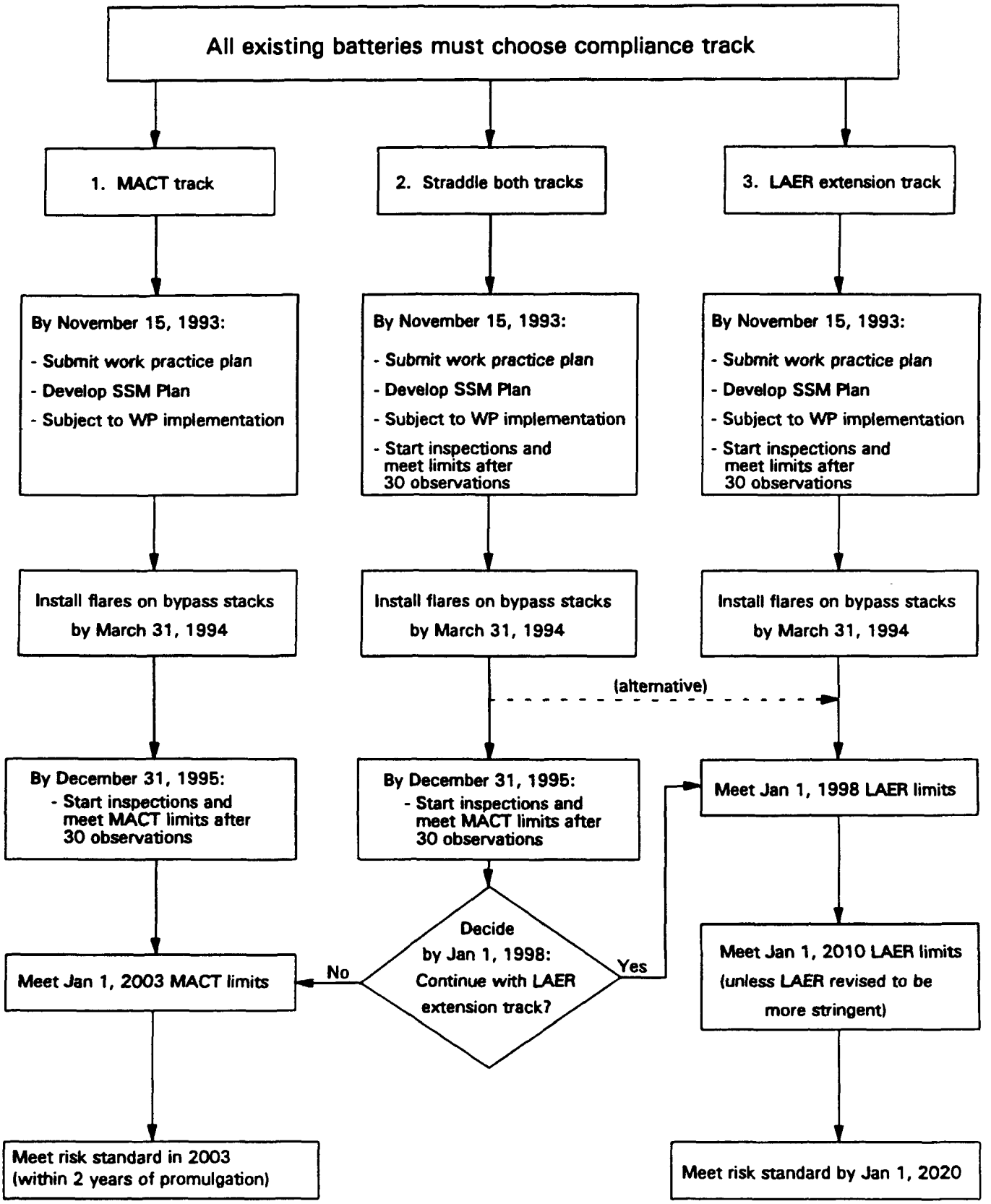
The rule establishes visible emissions limits for doors, lids, offtakes, and charging operations for all new and existing coke oven batteries and also includes control measures for bypass/bleeder stacks and collecting mains. Test methods 303 (for by-product batteries) and 303A (for nonrecovery batteries) are provided for measuring levels of visible emissions to determine compliance. Work practice training programs also are required and are enforceable under specified conditions.

TABLE 2-1. KEY DATES FOR THE COKE OVEN NESHAP

October 27, 1993	Promulgation of NESHAP
November 15, 1993	Begin inspections for extension track limits; prepare work practice plan and startup, shutdown, and malfunction plan
March 31, 1994	Install flares on bypass/bleeder stacks or commit to shutdown
December 31, 1995	Begin inspection for MACT track limits
January 1, 1998	Elect to meet LAER (extension track) or risk standards
October, 2001	EPA promulgates risk standard
January, 2002	Comply with risk standard unless on LAER extension track or 2-year waiver granted
January 1, 2007	EPA to review/revise LAER limits; compliance within 3 years
January 1, 2020	All batteries must meet risk standard

2.2 COMPLIANCE APPROACHES

The requirements of the NESHAP are displayed schematically in Figure 2-1. The figure illustrates that three compliance approaches are available under the rule: the "MACT (Maximum Achievable Control Technology) track," the "LAER extension track," and straddling both tracks (until January 1, 1998.) If the MACT track is selected, the coke plant owner/operator must comply with the MACT track visible emission limits and other requirements in the rule by December 31, 1995, and meet residual risk standards required to be promulgated by the year 2001. However, under section 112(i) of the Act, the owner/operator may obtain an extension of the compliance date for residual risk standards until the year 2020 by choosing the extension track. Under the LAER extension track, the owner/operator must meet a series of increasingly stringent emission limits by **November 15, 1993**; **January 1, 1998**; and **January 1, 2010**, and meet the risk standard by **January 1, 2020**. These limits are called lowest achievable emission rate (LAER) limits.



SSM = startup, shutdown, and malfunction

Figure 2-1. OVERVIEW OF NESHAP FOR EXISTING BY-PRODUCT BATTERIES

Up to **January 1, 1998**, an owner/operator on the LAER extension track may choose to comply with residual risk standards by the required date rather than comply with the LAER and revised LAER standards. In this way, the owner/operator can "opt out" of the LAER extension track, but must meet the 1995 MACT standards and the residual risk standards in 2001 (with a 2-year extension, 2003). If EPA has not finalized residual risk standards by then, the Agency must promulgate residual risk standards for those batteries that choose to meet residual risk standards. If the owner/operator chooses to continue on the LAER extension track, compliance with residual risk standards is deferred until 2020.

The owner/operator can also "straddle" until a binding declaration is made in 1998. This means the owner/operator has chosen to meet both the MACT and LAER limits, and monitoring would begin in November 1993 rather than December 1995. The owner/operator may continue to straddle both tracks by meeting all applicable requirements of each track until January 1998. At that time, the owner/operator must choose to meet the MACT limits and comply with the residual risk standard in 2003 or meet the LAER limits of the extension track.

In addition to the visible emission limits, the rule requires that controls be installed on bypass/bleeder stacks used to vent raw coke oven gas. A work practice (WP) plan and startup, shutdown, and malfunction (SSM) plan also must be prepared. The rule also specifies under what conditions the work practices are enforceable.

2.3 VISIBLE EMISSION LIMITS

The visible emission limits for percent leaking coke oven doors, topside port lids, and offtake systems are based on a 30-run rolling arithmetic average. Charging limits are based on the 30-day rolling logarithmic average of the seconds of visible emissions per charge. Compliance is determined on a daily basis using the calculated average of the observations for that day averaged with the previous 29 daily observations. Each daily

exceedance may be considered a violation. The first compliance determination is made after 30 daily observations are performed.

The visible emission limits for existing by-product batteries are summarized in Table 2-2 for both compliance tracks.

TABLE 2-2. EMISSION LIMITS FOR EXISTING BY-PRODUCT BATTERIES

Emission points	MACT track limits		LAER extension track limits		
	12/31/95	01/01/03	11/15/93	01/01/98	01/01/10
Tall doors, PLD	6.0	5.5	7.0	4.3	4.0
Foundry doors, PLD	5.5	5.0	7.0	4.3	4.0
All other doors, PLD	5.5	5.0	7.0	3.8	3.3
Lids, PLL	0.6	0.6	0.83	0.4	0.4
Offtakes, PLO	3.0	3.0	4.2	2.5	2.5
Charging, s/charge	12	12	12	12	12

Note: The dates in the table are the compliance dates for existing batteries. PLD = Percent leaking doors; PLL = Percent leaking lids; and PLO = Percent leaking offtake.

The limits shown in the table for door leaks depend on the type of battery. "Tall doors" are those on batteries that have ovens 6 meters or more in height. "Foundry doors" are doors on batteries that were not owned or operated by an integrated steel producer as of January 1, 1992 and had an annual capacity less than 1.25 million Mg/yr as of that date.

As part of the negotiation of the rule, special provisions were included for two coke plants owned by integrated steel

producers that might be sold to foundry coke producers: Bethlehem Steel's coke plant in Lackawanna, New York and Rouge Steel's plant in Dearborn, Michigan. If either of these plants is sold to a foundry coke producer before November 15, 1993, the plant(s) would be considered to be a foundry coke battery subject to the emission limits for "foundry" doors.

The door leak limits include an alternative for batteries that have 30 or less ovens. These small batteries may elect to comply with a limit of 2 leaking doors (maximum) based on a 30-day rolling average instead of the limits for percent leaking doors.

2.4 STARTUP OF NEW, GREENFIELD, COLD-IDLE, BROWNFIELD, AND PADUP REBUILD BATTERIES

The rule specifically addresses batteries that are restarted, either after cold-idle, reconstruction, or new construction. The "new" category is based primarily on the concept of creating new coke capacity or expanding existing capacity. The limits for new and rebuilt by-product batteries are summarized in Table 2-3. Figure 2-2 provides an overview of the NESHAP for batteries that are restarted or that commence operation for the first time.

2.4.1. New and Greenfield Batteries. A **new** by-product battery is one constructed or reconstructed at an existing coke plant on or after December 4, 1992, that results in an increase in the plant's coke capacity. A **greenfield** by-product battery is one constructed on or after December 4, 1992, at a new coke plant where no batteries previously existed. New and greenfield by-product batteries must meet the MACT limits for new batteries, or the risk standard (if it has been promulgated), and cannot qualify for the extension of the risk standard. In other words, new and greenfield batteries cannot choose the LAER extension track. If the new or greenfield battery represents a new technology, the limits or equivalent emissions must be more stringent than 4.0 PLD (tall batteries), 3.3 PLD (short batteries), 2.5 PLO, 0.4 PLL, and 12 s/charge. If the battery

does not represent new technology, the emission limits are 0 PLD, 0 PLO, 0 PLL, and 34 s/charge.

TABLE 2-3. LIMITS FOR NEW AND REBUILT BY-PRODUCT BATTERIES

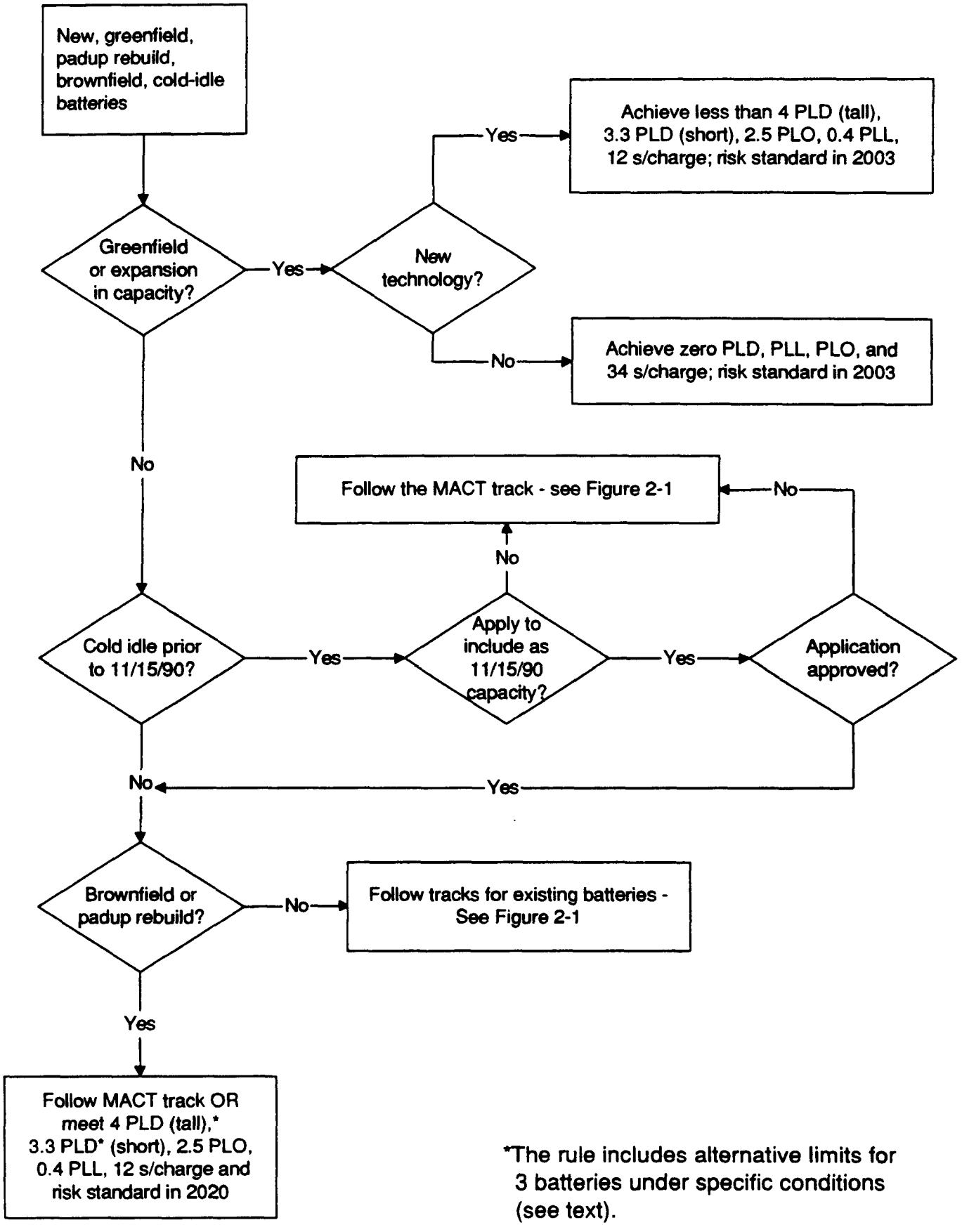
New or greenfield batteries[1]		Brownfield or padup rebuild batteries	
Same technology	New technology[2]	MACT track	LAER extension track[3]
0 PLD	4.0 PLD (tall) 3.3 PLD (short)	same as for existing batteries (see Table 2-2)	4.0 PLD (tall) 3.3 PLD (short)
0 PLL	0.4 PLL		0.4 PLL
0 PLO	2.5 PLO		2.5 PLO
34 s/charge	12 s/charge		12 s/charge

[1] New (expansion in coke capacity) and greenfield batteries cannot qualify for the LAER extension track and must meet the risk standard by 2003.

[2] Case-by-case limits are determined by the Administrator and must be more stringent than the limits shown or less than the equivalent level of mass emissions.

[3] Includes batteries that were shutdown on or after November 15, 1990. Those that shut down prior to November 15, 1990, must apply to be considered for the LAER extension track.

2.4.2. Cold-Idle Batteries. Batteries that were placed on **cold-idle** prior to November 15, 1990, must either meet the MACT track requirements and the risk standard in 2003 or make an application to qualify for the LAER extension track. The intent of the application is to have the battery's capacity included in the coke plant's capacity as of November 15, 1990, which has the effect of qualifying the cold idle battery as an existing battery. The EPA can accept applications for this process up to a total design capacity of 2.7 million Mg/yr. As shown in



*The rule includes alternative limits for 3 batteries under specific conditions (see text).

FIGURE 2-2. OVERVIEW OF NESHAP FOR BATTERIES THAT ARE RESTARTED

Figure 2-2, batteries approved by this process are treated in the rule the same as those batteries that were placed on cold idle after November 15, 1990. Applications for approval will be processed on a "first-come-first served" basis. If an approval lapses (i.e., a serious intention to use the capacity has not been demonstrated), the capacity of the battery is not included in the 2.7 million Mg/yr cap. An approval can lapse in one of two ways. If a construction permit is required, the approval will lapse if a construction permit is not issued within 3 years of approval or if the construction permit lapses. If a construction permit is not required, an approval will lapse if the battery is not restarted within 2 years following approval. If a cold-idle battery has been rebuilt, provisions described in the following paragraphs apply.

2.4.3. Brownfield and Padup Rebuild Batteries. Batteries that are rebuilt (e.g., padup rebuild) or that are brownfield batteries (new construction without an increase in the coke plant capacity) may qualify for the LAER extension track or may elect to meet the limits in the MACT track. A **brownfield** battery is one constructed on or after December 4, 1992, at an existing coke plant that does not result in an increase of the design capacity of the coke plant as of November 15, 1990. A **padup rebuild** battery is an existing battery completely reconstructed on or after December 4, 1992, on the same site and pad that does not result in an increase of the design capacity of the coke plant as of November 15, 1990. If questions arise, the EPA or delegated State or local agency is to determine if a project is a "padup rebuild." The visible emissions limits for padup rebuild and brownfield batteries on the LAER extension track are 3.3 PLD for short batteries and 4.0 PLD for tall batteries, 0.4 PLL, 2.5 PLO, and 12 s/charge.

Three brownfield or padup rebuild batteries were identified in the rule as exempt from the above limits and subject to the limits for existing batteries if construction starts no later than July 1, 1996, or 1 year after a construction permit is

obtained, whichever is earlier. If construction starts as indicated, these three batteries would be subject to the limits described earlier for existing batteries:

- Bethlehem Steel-Burns Harbor, Battery No. 2;
- National Steel-Great Lakes, Battery No. 4; and
- Koppers-Woodward, Battery No. 3.

Cold-idle batteries that are padup rebuild or brownfield batteries may also choose the LAER extension track if they were placed on cold idle on or after November 15, 1990, or if the previously-described application is approved. These batteries would be subject to the emission limits given previously for other padup rebuild or brownfield batteries. As shown in Figure 2-2, batteries that are restarted that were not shut down prior to November 15, 1990, or that are not new, greenfield, brownfield, or padup rebuild are treated as existing batteries.

2.5 NONRECOVERY BATTERIES

In September 1993, there was only one nonrecovery coke plant in operation (the 4 batteries at Jewell Coal and Coke in Vansant, Virginia). No new nonrecovery batteries were under construction. Existing or new nonrecovery batteries on either compliance track must achieve 0.0 percent leaking doors, or monitor and record the pressure in each oven or common battery tunnel to ensure negative pressure operation. Monitoring must be performed and recorded at least once per day.

For charging operations on an **existing** nonrecovery battery, the following work practices must be performed each day as included in the work practice plan:

- Procedures for charging coal into the oven, including any special procedures for minimizing air infiltration during charging, maximizing the draft on the oven, and for replacing the door after charging.
- Procedures for the capture and control of charging emissions (if applicable).

- Procedures for cleaning coke from the door sill area for both sides of the battery after completing the pushing operation and before replacing the coke oven door.

- Procedures for cleaning coke from the door sill area after charging and before replacing the push side door.

- Procedures for filling gaps around the door area with sealant material (if applicable).

- Procedures for detecting and controlling emissions from smoldering coal.

Performance must be recorded as required under the work practice rules.

For charging operations on a new nonrecovery battery, an emission control system for the capture and collection of emissions from charging is required. Limits of 0.0 percent leaking topside ports or offtake systems also are included, if the new battery has topside ports or offtakes.

2.6 WORK PRACTICE REQUIREMENTS

All owners or operators are required to prepare and submit to the delegated agency a written work practice plan for each battery by November 15, 1993. The plan components are summarized below and a checklist is provided in Table 2-4:

- Initial and refresher training program for all coke plant operating personnel with responsibilities that impact emissions, including contractors.

- Procedures for controlling emissions from doors, charging operations, topside port lids, and offtake systems. Special procedures are included for nonrecovery batteries.

- Procedures for maintaining a daily record of the performance of plan requirements; and

- Any additional work practices or requirements added by the Administrator according to the provisions for revisions to the plan contained in the rule.

2.6.1 Plan Implementation.

2.6.1.1 LAER Extension track batteries. For batteries on the LAER extension track, the work practice requirements become

TABLE 2-4. WORK PRACTICE PLAN AND PROCEDURES CHECKLIST FOR BY-PRODUCT COKE OVEN BATTERIES

Initial and refresher training course

- ☐ List of personnel to be trained
- ☐ Training course outline
- ☐ Description of training methods
- ☐ Duration/frequency of training
- ☐ Methods to demonstrate completion
- ☐ Procedure to document plan performance

Procedures for Door Emission Control

- ☐ Door inspection program
- ☐ Leak identification
- ☐ Door and jamb cleaning
- ☐ Supplemental gasketing and luting
- ☐ Luting and reluting
- ☐ Inventory of spare doors and jambs
- ☐ Monitoring of collecting main back pressure

Procedures for Charging Emissions Control

- ☐ Equipment inspection and repair program
- ☐ Larry car hopper filling process
- ☐ Larry car alignment
- ☐ Staged or sequential charging
- ☐ Coal leveling
- ☐ Offtake system inspection and cleaning

Procedures for Topside Port Lid Emissions Control

- ☐ Equipment inspection and repair program
- ☐ Leak identification

Procedures for Offtake System Emissions Control

- ☐ Equipment inspection and repair program
- ☐ Leak identification
- ☐ Dampering off ovens procedure

Procedures for Record of Plan Performance

- ☐ Recording procedures
- ☐ Certification of accuracy

☐ Any additional work practices or procedures specified by the Administrator (if applicable)

enforceable following the **second independent exceedance** of the visible emission limit for a particular emission point in any consecutive 6-month period. The second exceedance is independent if:

- it is separated from the first exceedance by at least 30 days, or
- the 29-run average, calculated after deleting the highest observation in the 30 day period, still exceeds the applicable emission limit.

The owner/operator must implement the work practice requirements for that emission point by no later than 3 days after written notification of the exceedance and must continue implementation until the limit for the emission point is achieved for 90 consecutive days.

2.6.1.2 MACT track batteries. For batteries on the MACT track, the owner/operator must implement the work practice requirements following the **second exceedance of a federally enforceable emission limit** in any consecutive 6-month period. Consequently, the work practice standard for batteries on the MACT track can become enforceable on November 15, 1993, even if the limits in the NESHAP are not in effect. The work practice requirements must be implemented within 3 days of receipt of written notification of the exceedance and must be continued for 90 consecutive days after the most recent written notification of an exceedance. The implementation of work practices for batteries on the MACT track is triggered by exceeding any federally enforceable limit in effect on November 15, 1993, because the MACT limits do not become effective until December 31, 1995. After December 31, 1995, implementation can be triggered by exceeding the MACT limits or any other federally enforceable limits.

2.6.2 Revisions to the Work Practice Plan. The Administrator may require changes to the plan if there are 2 independent exceedances in the 6-month period starting 30 days

after the work practices are required to be implemented. No more than 2 revisions a year may be requested.

The owner/operator must notify the EPA that a revision is not necessary because the work practices are not related to the cause or the solution of the problem. This notification must be made within 10 days of receiving a notification from the enforcement agency concerning the second independent exceedance.

The EPA has the authority to disapprove a finding that a revision is not needed. Changes made in response to a disapproval of a revision, voluntary revisions, and statements that a revision is not needed do not count toward the limit of 2 revisions per year.

2.7 CONTROLS FOR BYPASS/BLEEDER STACKS

By **March 31, 1994**, the owner/operator must install, operate, and maintain a flare system for the bypass/bleeder stack of each existing by-product coke oven battery that will be in operation as of December 31, 1995. New batteries must meet the control requirement when production operations start; flare systems for brownfield or padup rebuilds must be in place at startup.

The rule prohibits venting coke oven gas to the atmosphere through bypass/bleeder stacks, except through the flare system or approved alternative control system. A special report also is required in the event of a venting episode. [See Chapter 5.]

The flare system must be:

1) capable of combusting 120 percent of the normal gas flow generated by the battery;

2) designed for a net heating value of 8.9 MJ/scm (240 Btu/scf) if steam-assisted or air-assisted, or a net value of 7.45 MJ/scm (200 Btu/scf) if the flare is non-assisted;

3) designed to meet requirements for failsafe operation (which means that the flame detection thermocouples operate independently of the electronic ignition system and cannot prevent ignition), and

4) operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

The control requirements do not apply if the owner/operator makes a written commitment within 2 weeks of promulgation to close the battery permanently on or before December 31, 1995. Instead of using a flare, the owner/operator may apply to use an alternative control device or system that achieves at least 98 percent destruction or control of coke oven emissions vented to the system.

2.8 COLLECTING MAINS

The owner/operator is responsible for conducting inspections of the collecting main for leaks. Leak inspections begin for all by-product batteries by November 15, 1993, regardless of the compliance track selected. The basic requirements are given below:

- Leak inspections are to be conducted at least once daily using the procedures in Method 303.
- Any leak must be temporarily sealed within 4 hours of detection. Repairs must begin within 5 calendar days of initial detection of the leak and completed within 15 days unless an alternative schedule is approved by the Administrator.
- Daily inspection records are required. Note the time and date a leak is first detected, the time and date of initial repair, and the time and date of complete repair.

2.9 ALTERNATIVE STANDARD FOR DOORS UNDER COKESIDE SHEDS

The owner/operator may apply for an alternative emission limit for percent leaking doors for a new or existing battery equipped with a shed and emission control device. The alternative limit must achieve a reduction in coke oven emissions from the doors controlled by the shed that is equal to or greater than the emission reduction that would be achieved by the emission limit that would otherwise be applicable. The determination of equivalency is based on maintaining an equivalent or lower mass emission rate for coke oven emissions emitted from the shed's control device. An equation in the rule is used to compensate for the additional emissions of benzene, toluene, and other volatile compounds that are not removed by the

shed's control device. As the allowable door leak rate under the shed increases, the emissions of these volatile compounds increases.

There are two basic approaches provided to determine an equivalent emission limit. Both require measurement of the control device efficiency. In one approach, the ratio of benzene, toluene, and xylene to benzene soluble organics (BSO) is assumed to be 0.4. In the other approach, the owner/operator measures the ratio and uses this value in a second equation.

Following is a list of actions required to obtain approval of an alternative standard.

- **Submit a test plan** to the Administrator for measurement of emissions describing procedures to be used for particulate matter measurements, parameters to be measured that affect the shed exhaust rate (e.g., damper settings, fan power), procedures for measuring parameters that affect the exhaust rate, and (if applicable), the procedures for the measurement of BSO, benzene, toluene, and xylene emitted from the control device for the shed.

- Using the test methods and procedures in the rule, **measure the efficiency of the control device for particulate matter removal**, the visible emissions that escape capture from the shed, and the opacity of emissions from the control device. Also conduct an inspection of each air cleaning device for proper operation and signs of malfunction.

- The owner/operator may choose to measure the **ratio of benzene, toluene, and xylene to BSO**, or Equation 1 can be used, which assumes a ratio of 0.4.

- Using the measured test results, **determine the allowable percent leaking doors** under the shed using one of two procedures in the rule. The allowable percent leaking doors is not to exceed 15 percent (yard equivalent). A sample calculation using each of the equations given in the rule is given below.

2.9.1 Procedure 1. This procedure is based on control efficiency for particulate matter. Equation 1 in the rule for this case is:

$$PLD = \left[\frac{1.4\ (PLD_{std})^{2.5}}{(1.4 - eff/100)} \right]^{0.4} \qquad \text{(Eq. 1)}$$

where

PLD = Allowable percent leaking doors for alternative standard.

PLD_{std} = Applicable visible emission limitation of percent leaking doors that would otherwise apply to the coke oven battery, converted to the single-run limit according to Table 2-5.

eff = Measured percent control efficiency for particulate matter for the emission control device.

TABLE 2-5. CONVERSION TO SINGLE-RUN LIMIT

30-run limit	Single-pass limit (98 percent level)
7.0	11.0
6.0	9.5
5.5	8.7
5.0	8.1
4.3	7.2
4.0	6.7
3.8	6.4
3.3	5.8

Assume that a control efficiency of 95 percent was measured for the control device. For the 1993 extension track limit of 7.0 PLD, the single pass limit from Table 2-5 is 11.0 PLD. Substituting into Equation 1:

$$PLD = \left[\frac{1.4\ (11.0)^{2.5}}{(1.4 - 95/100)} \right]^{0.4}$$

$$PLD = [1.4\ (401.3)/0.45]]^{0.4}$$

$$PLD = 17.3$$

The allowable limit calculated from Equation 1 is 17.3 PLD; however, the allowable limit for this case is 15 PLD, which is the maximum allowed as an alternative for doors under sheds.

2.9.2 Procedure 2. This procedure is based on control efficiency and measured ratio of benzene, toluene, and xylene to BSO. In this case, Equation 2 is used:

$$PLD = \left[\frac{(R + 1)\,(PLD_{std})^{2.5}}{(R + 1 - eff/100)}\right]^{0.4} \qquad \text{(Eq. 2)}$$

where

R = Ratio of measured emissions of benzene, toluene, and xylene to measured emissions of BSO.

For the example calculation, assume that the measured ratio (R) is 0.3 and the measured control efficiency is 95 percent. Assume that the applicable standard is 3.3 PLD, which yields a single-pass limit of 5.8 PLD from Table 2-5. Substituting into Equation 2 yields:

$$PLD = \left[\frac{(0.3 + 1)\,(5.8)^{2.5}}{(0.3 + 1 - 95/100)}\right]^{0.4}$$

$$PLD = \left[\frac{(1.3)\,(81.0)}{0.35}\right]^{0.4}$$

$$PLD = 9.8$$

2.9.3 Requirements of the Alternative Standard. The owner/operator must submit a report to the Administrator including the measurements and calculations used to derive the

alternative door standard, the parameter(s) to be monitored, and other information specified in the rule. For a **new shed,** the application also must include:

- The modeled concentrations under the shed; or
- Particulate (including BSO) measurements at shed's perimeter, control device, and at bench level.

Quarterly inspections are required for the structural integrity of the shed, operation of the control device, and leaks.

Upon approval of the alternative standard, the owner/operator must monitor the visible coke oven emissions from the shed weekly using a certified observer. This limit is not to be exceeded for any single observation and is not in the 30-run average format of the other emission limits. If the alternative limit is achieved for 12 consecutive observations, inspections may be performed monthly rather than weekly. The owner/operator must also monitor the opacity of emissions from the control device using a continuous opacity monitor or daily visible emission observations. The continuous opacity monitor must meet the requirements of Performance Specification 1 in 40 CFR part 60, appendix B, and be operated and maintained according to the requirements of 40 CFR part 52. The owner/operator must perform quarterly visual inspections of the structural integrity of the shed for defects, monitor the parameter(s) affecting the shed exhaust flow rate, and maintain records.

2.10 DELEGATION OF AUTHORITY

The authority for implementation and enforcement of several provisions of the rule will be retained by EPA and not delegated to the States. The authorities not delegated to the States include:

- § 63.302(d) Case-by-case limits and requirements for a battery utilizing a new recovery technology
- § 63.304(b)(6) Request for restarting a cold-idle battery that shutdown prior to November 15, 1990

•	§ 63.305(b) § 63.305(d) § 63.305(e)	Approval of test plan, application, and numerical limit for alternative door standard
•	§ 63.307(d)	Approval of equivalent alternative to flare system for bypass/bleeder stacks
•	Section 2 of Method 303	Observer certification

3.0 TEST METHODS AND PERFORMANCE TESTS

Daily inspections by a certified observer are required to assess the emission control performance for charging emissions and leaks from doors, lids, and offtakes. This section describes the procedures for visible emission observations (Method 303 and Method 303A) and provides details on the inspection requirements.

3.1 METHODS 303 AND 303A

Method 303 is the inspection method for by-product coke oven batteries and Method 303A is for the one existing nonrecovery coke plant. Method 303A focuses only on doors at nonrecovery plants whereas Method 303 includes inspection procedures for charging, doors, lids, and offtakes.

3.1.1 Observer Certification. The NESHAP requires all Method 303 performance tests to be conducted by a certified observer. The observer cannot be an employee of the coke plant or parent company and also must complete any reasonable safety training course offered by the owner or operator before conducting an inspection. Certification requirements include:

- First-time observers must attend the lecture portion of the Method 9 certification course.
- The trainee must successfully complete the Method 303 training course, consisting of at least 12 hours of field observations prior to the certification course; classroom training including lecture, training materials, a demonstration video, and written test; and a demonstration of proficiency in the application of the method to a panel of experienced certified observers. See section 2.1.3 of Method 303 for panel member requirements.
- Certification is valid for 1 year from the date of issue. Annual recertification requirements include viewing the training video and successful completion of the written certification test. The observer must

successfully complete the proficiency demonstration test every 3 years to maintain certification.

- Certification is not required for performance test observations under Method 303A. Training requirements for nonrecovery batteries include attending the lecture portion of the Method 9 certification course for first-time observers and a minimum of 4 hours of familiarization with nonrecovery battery operations prior to conducting any performance test.

- The schedule of certification courses for Method 303 is given below:

September 27 - October 1	Gary, IN	Certification course at USX, Gary, IN
November 1 - 5	Birmingham, AL	Certification course at ABC Coke, Tarrant, AL
November 8 - 12	Pittsburgh, PA	Certification course at USX, Clairton, PA
December 6 - 10	Indianapolis, IN	Certification course at Citizen's Gas, Indianapolis, IN

The delegated enforcement agency also must maintain records reflecting a certified observer's successful completion of the proficiency test, including the completed proficiency test checklists used for the certification runs during the demonstration of proficiency for the certification panel.

3.1.2 Procedures. The procedures in Method 303 require the observer to determine the total time visible emissions occur from the charging operation and to traverse the battery at ground level to count leaking coke oven doors on the ovens. The observer also is required to walk the topside center line of by-product batteries and count the number of topside port lids and offtake systems from which any visible emissions are observed. Method 303 procedures for observing charging, door, topside port lid, and offtake systems are summarized below. Exemptions for each of the emission points are listed in Table 3-1.

Table 3-1. VISIBLE EMISSION EXEMPTIONS UNDER METHOD 303

Charging Observations	Do not include visible emissions from burning or smoldering coal spilled on the battery surface, from doors or the leveler bar operations, or from emissions that drift from the top of a larry car hopper if the emissions were observed at the drop sleeve.
Door Observations	Do not include visible emissions from ovens with doors removed, from ovens taken out of service, or from fugitive emissions not originating from the door area, such as from hot coke spilled on the bench.
Topside Port Lids	Do not include visible emissions from between the brickwork and oven lid casing, from cracks in the oven brickwork, from topside ports involved in a charging operation, ports undergoing maintenance, condensing water from wet-sealing material, and flue inspection ports and caps. Lid leaks on a recently charged oven cannot be counted until 5 minutes after charging was completed.
Offtake Systems	Do not include visible emissions from standpipe caps open for a decarbonization period or standpipes of an oven being charged.

3.1.2.1 Requirements for Observations. The following tables summarize the required procedures for observing charging operations (Table 3-2), door emissions (Table 3-3), and topside port lids and offtake systems (Table 3-4).

Two options are available for **blocked doors**: (1) stop the stopwatch and wait for the obstruction (i.e., equipment) to move or for the fugitive emissions to dissipate before completing the traverse, or (2) stop the stopwatch, skip the affected ovens, and move to a position to continue the traverse. If using the second option, the observer must return and inspect the affected ovens after completion of the traverse. If the equipment or fugitive emissions still prevent the observer from viewing the doors, then the affected doors may be counted as not observed. If the second option is used because of doors blocked by machines during charging operations, then, of the affected doors, the observer

Table 3-2. REQUIREMENTS FOR CHARGING OBSERVATIONS

Record required information on the top of the charging system inspection sheet (e.g., oven being charged, beginning time of the charge, etc.).
Obtain an unobstructed view of the emission points, including the larry car hoppers, drop sleeves, slide gate, and topside ports of the oven being charged. Any emissions from these points and from an open standpipe cap on the oven being charged during the charging period are counted as charging emissions.
The charging period starts when coal begins to flow into the oven and ends when the last charging port is recapped.
Using a stopwatch, determine the total time visual emissions are observed during the charging period. Record the total time that visible emissions were observed on the charging inspection sheet.
Observe 5 valid consecutive charges; 3 or 4 charging observations are considered valid only under specific conditions. Do not include incomplete charges in a daily set of observations that are lower than the lowest reading for a complete charge. If both complete and incomplete charges are included, the daily set of observations includes the 5 highest values observed.
Calculate and record the daily 30-day rolling logarithmic average of seconds of visible emissions from the charging operation for each battery using the recorded data and the 29 previous valid daily sets of observations.

Table 3-3. REQUIREMENTS FOR OBSERVING DOOR EMISSIONS

Record all information requested at the top of the door inspection sheet.
Conduct a traverse of both sides of the battery by walking the length of the battery on the outside of the pusher machine and quench car tracks at a steady, normal walking pace. The walking pace should not exceed 4 seconds per door plus 10 seconds per leak for recording, excluding time spent moving around obstructions.
Conduct one complete run of each battery; a single run includes 2 timed traverses, one for each side of the battery. Record observations on the door inspection sheet. A door is considered leaking if visible emissions are detected in the coke oven door area. Multiple emissions from the same door area (e.g., the chuck door and the push side door) count as a single door leak.
Measure actual traverse time using a stopwatch. A walking pace of about 3 seconds per oven is typical. Exclude interruptions required for waiting for obstructions to move or moving around stationary obstructions. Record the actual traverse time on the door inspection sheet.
Calculate the maximum time allowed to observe the ovens using the applicable equation in Method 303. If the total traverse time allowed is exceeded, conduct another run. (4 seconds per oven plus 10 seconds per leak observed)
Determine the total number of doors for which observations were made and calculate the percent leaking doors. For batteries subject to an approved alternative standard for coke oven doors controlled by shed, calculate the push side and the coke side separately. Use the equation in the method to calculate a yard-equivalent reading.
For each day a valid observation is obtained, calculate the daily 30-run rolling average for each battery using the daily data and the 29 previous valid daily observations using the applicable equation in the method.

Table 3-4. REQUIREMENTS FOR OBSERVING EMISSIONS FROM TOPSIDE PORT LIDS AND OFFTAKE SYSTEMS

Record all required information at the top of the topside inspection sheet.
Conduct one traverse while walking the topside center line of the battery. Simultaneous or separate runs for the topside port lids and offtake systems may be conducted. To observe offtake systems, allow 2 traverses for batteries with double mains.
To observe lids of ovens being charged, wait 5 minutes after completion of the charge. Count the number of topside ports, not the number of points, exhibiting visible emissions.
To observe offtake systems, count visible emissions from (1) the flange between the gooseneck and collecting main, (2) the junction point of the standpipe and oven, (3) the other parts of the offtake system (e.g., the standpipe cap), and (4) the junction points with ovens and flanges of jumper pipes. [If any part of an offtake system have visible emissions, count it as one emitting offtake system. Each stationary jumper pipe is considered a single offtake system. All visible emissions from closed standpipe caps count as offtake leaks, but emissions from open standpipes of an oven being charged count as charging emissions.]
Record observations, the actual traverse time, and if any oven is dampered off from the collecting main for decarbonization on the topside inspection sheet.
Calculate the maximum time allowed to observe the topside port lids and/or offtake systems using the applicable equations in the method. If the total allowable traverse time (4 seconds per oven plus 10 seconds per leak) is exceeded, conduct another run.
Calculate the percent leaking topside port lids and the percent leaking offtake systems on each battery using the applicable equations in the method. Do not include topside port lids or offtake systems with visible emissions from the following ovens in determining the percent leaking value: (1) empty ovens (including ovens undergoing maintenance, which are properly dampered off from the main), (2) ovens being charged or pushed, (3) up to 3 full ovens that have been dampered-off from the main prior to pushing, and (4) up to 3 additional full ovens in the pushing sequence that have been dampered off from the main for cleaning, decarbonization, safety reasons, charging scheduling, or maintenance near the end of the cycle.
For each day a valid observation is obtained, calculate the daily 30-run rolling average for each battery using the daily data and the 29 previous valid daily observations using the applicable equations in the method.

must exclude the door from the most recently charged oven from the inspection. The rule prohibits the owner/operator from deliberately blocking doors for the purpose of concealing door leaks during an inspection.

Following each daily performance test, the certified observer must compare the collecting main pressure during the inspection to the collecting main pressure during the previous 8 to 24 hours. The observer is to record:

- The pressure during the inspection.
- The presence of pressure deviation from normal operations.
- An explanation of any pressure deviation from normal operations, if any, offered by the owners or operators.

The rule prohibits the owner/operator from adjusting the pressure to a level below the range of normal operation during or prior to the inspection. (Temporarily decreasing collecting main pressure temporarily decreases leaks from the battery.) Upon request by the observer, the owner/operator must demonstrate the accuracy of the pressure measurement device. Method 303 requires the owner/operator to maintain the pressure recording equipment and conduct quality assurance/quality control as needed to ensure reliable pressure readings. The owner/operator must maintain these records for at least 6 months from the date of each record and provide access within 1 hour of the observer's request to check the records to determine their completeness.

The test method also addresses observation of doors that are covered by cokeside sheds, which may preclude observations outside the quench car tracks. In this case, observations are made from the bench and a correction factor of 6 PLD is subtracted to produce a "yard equivalent" (to account for the fact that more door leaks are observed from the bench than from the yard).

As of April 1992, there were a total of 6 plants with 13 batteries with cokeside sheds. (A single shed may cover multiple

batteries that are constructed in a line.) These batteries are listed in Table 3-5.

Table 3-5. BATTERIES WITH COKESIDE SHEDS

Bethlehem Steel, Lackawanna, NY	Batteries 7,8
Geneva Steel, Provo, UT	Batteries 1, 2, 3, 4
Inland Steel, East Chicago, IL	Battery 11
Shenango, Pittsburgh, PA	Batteries 1, 4
USX, Clairton, PA	Battery B
Wheeling-Pittsburgh, East Follansbee, WV	Batteries 1, 2, 3

3.1.2.2 Collecting Main Inspection. The owner/operator is responsible for daily leak inspections of the collecting mains. To perform the inspection, the observer traverses both the collecting main catwalk and the battery topside along the side closest to the collecting main. For a battery with a double main, conduct two sets of traverses for each run (i.e., one set for each main). If any visible emissions are noted, record the source, the approximate location of the source of the emissions, and time and date the leak was first detected. The owner/operator must also record the time and date of temporary sealing (required within 4 hours of detection) and the time and date of permanent repair (required within 15 days).

3.2 INSPECTION REQUIREMENTS

3.2.1 Daily Inspections. The rule requires a daily performance test for each coke oven battery to determine compliance with the visible emission limitations for coke oven doors, topside port lids, offtake systems, and charging operations. Performance tests for compliance with the visible emission limitations for by-product coke oven batteries are conducted by Method 303; Method 303A is for use with doors on nonrecovery batteries. Methods 303 and 303A are reprinted along with the rule in Appendix C of this document.

Daily tests for existing batteries begin on the applicable dates specified in the rule (i.e., November 15, 1993, for batteries on the extension track or straddling both tracks and December 31, 1995, for batteries on the MACT track alone). Daily performance tests for new, greenfield, brownfield, or padup build coke oven batteries apply on the first day the battery commences normal operation, excluding startup time. The startup period is determined by the Administrator and may not exceed 180 days. For each daily test, the observer must:

- Monitor and record five consecutive charges from each battery.
- Conduct one valid and complete inspection of all doors, topside port lids, and offtake system on each battery and record observations using the log sheets (or the equivalent) included in Methods 303 and 303A.
- Compute and record the 30-run rolling average of the percent leaking coke oven doors (or, if applicable, the number of leaking coke oven doors for a by-product coke oven battery subject to the alternative emission limitation for small batteries), topside port lids, and offtake systems on each battery.
- Compute and record the logarithmic 30-day rolling average of the seconds of visible emissions per charge for each by-product coke oven battery.

- Provide a copy of the daily test results to the owner or operator and the implementing agency by the end of the day. Also provide a copy of the calculated rolling average for each emission point to the owner or operator as soon as practicable after each test.

- Perform collecting main pressure check.

3.2.2 Inspections for Alternative Standards. If the battery is subject to an approved alternative emission limitation for coke oven doors controlled by a shed, performance tests for the doors are conducted on a **weekly or monthly** basis (if compliance on a weekly basis is achieved for 12 consecutive weeks). Under the alternative standard, the certified observer calculates and records the percent leaking coke oven doors under the shed. Each observation is compared to the limit because the alternative is based on a single run limit that is not to be exceeded. There is no rolling average used for the alternative standard. Method 9 is used to determine the percent opacity of visible emissions from the control device for the shed and Method 22 is used to determine the level of visible emissions from the shed.

3.2.3 Inspection Fees. All performance tests must be conducted by a certified observer at the expense of the owner/ operator. Inspection fees are paid to the enforcement agency each calendar quarter unless enforcement authority is not delegated or is withdrawn. In this case, the EPA Regional Office is responsible for performing the inspections, but the owner/ operator must enter into a contract and pay for the inspections and performance tests by a Method 303 certified observer during the period that EPA is the implementing agency. The inspection fee is determined according to the following formula:

$$F = H \times S$$

where

F = Fees to be paid by the owner or operator,

H = Total person hours for inspections: 4 hours for 1 coke oven battery, 6.25 hours for 2 coke oven batteries, 8.25 hours for 3 coke oven batteries. For more than 3 coke oven batteries, use these hours to calculate the appropriate number of person hours, and

S = Current average hourly rate for private visible emissions inspector in the relevant market.

The value used for total person hours for inspections (H) can be revised by the enforcement agency up to 3 years after promulgation of the NESHAP. The owner/operator is not required to pay any part of an inspection fee for any required monitoring or inspections that are covered by other fees collected by the agency.

3.2.4 Compliance Determinations. Following each daily performance test, the certified observer must calculate the 30-run rolling average of the percent leaking doors, topside port lids, and offtake systems for each battery and the 30-day rolling logarithmic average of the seconds of visible emissions per charge. For small batteries (fewer than 30 ovens) subject to the 2 leaking door limit, the observer must calculate the 30-run rolling average of the number of leaking doors.

If a run is invalidated (e.g., if the time requirements for conducting a traverse are not met), the observer may perform an additional run as needed to obtain and record a valid visible emissions value. For charging, three or four charging observations may be considered a valid set (instead of five) if it is not possible to obtain five charging observations because visual interferences or inclement weather prevent a clear view of the charging operation. The 30-day rolling log average is based on a total of at least 145 individual observations.

The rule requires that observations be made every day, including holidays, which allows up to 5 missed charging observations within the 30-day period. (See Section 3.9 and Equation 303-1 in Method 303.) Inclement weather that precludes visible emission observations may cause a daily inspection to be missed. If the regular observer is ill or there are other

problems, an alternate observer should be available to conduct the inspection. Observations should also be made during an event that may be a malfunction, unless safety considerations dictate otherwise, because the determination of whether a malfunction actually occurred is made later. If the observer misses an observation for a day, no compliance determination is made for that day; calculation of the rolling 30-run average (30-day for charging) proceeds with the next valid observation made by the observer.

For some sources such as collecting main leaks, bypass/bleeder stacks, and nonrecovery batteries with alternative standards (e.g., installing a charging hood and control device for charging emissions, daily oven pressure monitoring), the owner/operator must perform the monitoring and inspections. Table 3-6 summarizes the actions to be taken during the performance tests and at other times for compliance determinations.

Table 3-6. SUMMARY CHECKLIST FOR COMPLIANCE DETERMINATIONS

By-product Batteries	Requirement
Coke oven doors, topside port lids, offtake systems	• 1 valid run daily • Calculate 30-run rolling average of PLD, PLL, PLO
Charging operations	• 5 valid consecutive charges • Calculate logarithmic 30-day rolling average of the seconds of visible emissions per charge
Alternative door limit for doors under sheds	• 1 valid run weekly (or monthly) • Compare to single pass limit • Determine opacity of visible emissions from control device by Method 9 and visible emissions from the shed by Method 22
Shed physical integrity, shed maintenance, shed opacity monitor, shed flow rate monitor	• To be performed by owner or operator • Compliance determined by enforcement agency according to review of records and inspections
Small battery limit (30 or fewer ovens)	• 1 valid run daily • Calculate 30-run rolling average of the number of leaking doors
Collecting main pressure	• Pressure check after test
Bypass/bleeder stack	• Visible emission observation by Method 22 to be performed by owner or operator • Compliance determined by enforcement agency according to review of records and inspections
Collecting main leaks	• Daily inspection to be performed by owner or operator • Compliance determined by enforcement agency according to review or records and inspections

Nonrecovery batteries	Requirement
Doors	• 1 run daily • Calculate 30-run rolling average of the PLD for existing batteries OR • Daily pressure monitoring by owner or operator • Compliance determined by enforcement agency according to review or records and inspections
Charging	• For existing batteries, owner or operator performs and records work practices • Compliance determined by enforcement agency according to review of records and inspections
Other	**Requirement**
Work practice plans; startup, shutdown, and malfunction plan	• Owner or operator develops and implements plans as required • Compliance determined by enforcement agency according to review of records and inspections

4.0 STARTUPS, SHUTDOWNS, AND MALFUNCTIONS

4.1 REQUIREMENTS FOR STARTUPS, SHUTDOWNS, AND MALFUNCTIONS

These provisions require the owner/operator to develop a written startup, shutdown, and malfunction (SSM) plan that provides for the operation of the source in accordance with good air pollution control practices for minimizing emissions, and for procedures for correcting the malfunction as quickly as practicable. Associated reporting and recordkeeping provisions also are included. These provisions are particularly important because the visible emission limits in the rule will not apply if the enforcement agency determines a period of operation to be a startup, shutdown, or malfunction. **Malfunction** means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures caused in part by poor maintenance or careless operation are not malfunctions.

4.2 STARTUP, SHUTDOWN, AND MALFUNCTION PLAN

Each owner/operator of a coke oven battery must have a written startup, shutdown, and malfunction plan that describes the following:

- Procedures for operating the battery, including associated air pollution control equipment, during a period of a startup, shutdown, or malfunction in a manner consistent with good air pollution control practices for minimizing emissions.

- Procedures for correcting malfunctioning process and air pollution control equipment as quickly as practicable.

4.3 FACILITY'S RESPONSIBILITY DURING STARTUPS, SHUTDOWNS, AND MALFUNCTIONS

The owner/operator is responsible for operating the battery in accordance with the procedures specified in the SSM plan, as

well as in accordance with good air pollution control practices for minimizing emissions. Malfunctions must be corrected as soon as practicable after their occurrence, in accordance with the plan. Notification of a startup, shutdown, or a malfunction must be made by the owner/operator to the certified observer if the observer is at the facility during the occurrence. If not, the owner/operator must notify the enforcement agency, in writing, within 24 hours of the occurrence first being documented by a company employee, as well as an explanation of why no such notification was made to the certified observer. Within 14 days of the notification or after a startup or shutdown, the owner/operator must submit a written report to the applicable permitting authority that details the following:

- Description of the time and circumstances of the startup, shutdown, or malfunction.
- A description of the actions taken that might be considered inconsistent with the startup, shutdown, or malfunction plan.

If the owner/operator demonstrates to the satisfaction of the Administrator that a startup, shutdown, or malfunction has occurred, the visible emission observations made during the event cannot be used for compliance with the standard. The owner/operator must maintain a record of internal reports that form the basis of each malfunction notification. Visible emission observations are made on a daily basis (even if a potential malfunction occurs) if there are no safety problems associated with the inspection.

5.0 RECORDKEEPING AND REPORTING

The rule requires that all reports and notifications be sent to the Administrator until the owner/operator has an approved permit under 40 CFR part 70. After the effective date of an approved permit, the owner/operator must submit all notifications and reports required in the rule to the State permitting authority. These recordkeeping and reporting requirements in the rule are summarized in Table 5-1. Records must be maintained onsite for at least one year and must thereafter be accessible within 3 working days for at least 5 years. Copies of the work practice plan and the startup, shutdown, and malfunction plan must be kept onsite at all times. Records and reports required under this rule must be made available by the owner/operator to the authorized collective bargaining representative of the employees at a coke oven battery, for inspection and copying. The owner/operator must produce the reports for inspection and copying within a reasonable period of time, not to exceed 30 days.

There are two main reporting requirements for compliance with the coke oven NESHAP: an initial compliance certification and a semiannual compliance certification. In addition, the regulation requires the owner/operator to submit certain notifications and a report of bypassed emissions.

TABLE 5-1. RECORDKEEPING AND REPORTING REQUIREMENTS FOR COKE OVEN BATTERIES

Type of battery	Type of report/record	Date	Information required
All coke oven batteries	Notifications [§63.311(c)]	Must be received by either 11/15/93, or 12/31/95 and 1/1/98 (according to election)	Written notification of (1) the election to meet certain emission limitation(s) as follows: (a) received on or before November 15, 1993, notification of election to meet the LAER extension track limits either in lieu of or in addition to MACT track limits; or (b) received on or before December 31, 1995, notification of election to meet the MACT track limits; and (c) received on or before January 1, 1998, notification of election to meet the LAER extension track limits or election to meet residual risk standards to be developed and (2) the intention to construct a new battery (including reconstruction of an existing battery and construction of a greenfield battery), a brownfield battery, or a padup rebuild including the anticipated date of startup.
All coke oven batteries	Semiannual compliance certification [§63.311]	Every 6 months	Certification, signed by the owner/operator, that (1) no coke oven gas was vented, except through the bypass/bleeder stack flare system during the reporting period or that a venting report has been submitted; (2) a startup, shutdown, and malfunction event did not occur during the reporting period or that a startup, shutdown, and malfunction event did occur and a report was submitted; and (3) work practices were implemented if applicable
All coke oven batteries	Initial compliance certification [§63.311(b)]	12/30/93 (Within 45 days of the applicable compliance date for the emissions limitations or requirements)	Written statement including: (1) a statement certifying installation of either (a) bypass/bleeder stack flare system, or (b) an approved alternative control device or system, and (2) a statement certifying preparation of a written startup, shutdown, and malfunction plan

Type of battery	Type of report/record	Date	Information required
By-product coke oven batteries	Uncontrolled venting episode [§ 63.311(e)]	Report to the Administrator as soon as practicable after the beginning of the event but no later than 24 hours; written report submitted within 30 days of the event	A report of any venting of coke oven gas through a bypass/bleeder stack that was not controlled by the flare. Written report should include a description of the event and, if applicable, a copy of the notification for a hazardous substance release
All coke oven batteries	Work practice plan (or any revision) [§63.311(f)(4)]	On or before November 15, 1993; revision must be submitted within 60 days of notification from the Administrator	Plan must be designed to achieve compliance with visible emission limitations for coke oven doors, topside port lids, offtake systems, and charging operations. For the implementation of plan requirements for a particular emission point, the following records are required: (1) copies of all written and audiovisual materials used in the training, the dates of each class, the names of the participants in each class, and documentation that all appropriate personnel have successfully completed the required training, (2) the records required to be maintained by the plan provisions, (3) records resulting from audits of the effectiveness of the work practice program for the particular emission point, and (4) if the plan provisions for coke oven doors must be implemented, records of the inventory of doors and jambs

Type of battery	Type of report/record	Date	Information required
All coke oven batteries	Startups, shutdowns, or malfunctions [§63.310(e)]	Within 14 days of notification of event to applicable permitting authority	Written report must be submitted that describes the time and circumstances of the occurrence and actions that might be considered inconsistent with the startup, shutdown, or malfunction plan. The owner/operator must also keep a record of internal reports which form the basis of each malfunction notification
Any coke oven battery equipped with a shed and seeking an alternative standard for door leaks	Approved alternative emission limitation according to §63.305 [§63.311(f)(2)]	Submit test plan at least 30 days before any performance test is conducted	Test plan must include procedures an methods for the performance test. After approval of alternative standard, monitoring records for parameters that indicate the exhaust flow rate is maintained; if applicable, records of opacity readings from the continuous opacity monitor for the control device for the shed and records that demonstrate the continuous opacity monitoring system meets the requirements of Performance Specification 1 and meets the operation/maintenance requirements; records of quarterly visual inspections, including the time and date a defect is detected and repaired; and a brief description of repairs or corrective actions taken
By-product coke oven batteries	Report detailing bypass/bleeder stack flare system or approved alternative control device or system as required under §63.307 [§63.311(f)(5)]	Installation on or before March 31, 1994	Design drawings and engineering specifications

Type of battery	Type of report/record	Date	Information required
By-product coke oven batteries	Record of maintenance and inspection on the collecting main [§63.308]	Inspection on and after November 15, 1993	The owner/operator must record the time and date a leak is first observed, and the time and date the leak is temporarily sealed, and the time and date of repair
Nonrecovery coke oven batteries	Permanent records [§63.311(f)(1)]	See Note 3 below	The following records must be kept: (1) daily pressure monitoring; (2) records demonstrating the performance of work practice requirements; (3) design characteristics of each emission control system for the capture and collection of charging emissions; and (4) records related to a startup, shutdown or malfunction.

NOTES:

[1]For reference, regulation citations are listed in brackets.

[2]The owner/operator must submit all notifications and reports to the State permitting authority after the effective date of an approved permit, unless otherwise specified.

[3]The owner/operator must maintain files of all required information in a permanent form suitable for inspection at an onsite location for at least 1 year. After that time, files must be accessible within 3 working days for at least 5 years. Copies of the work practice plan and the startup, shutdown, and malfunction plan must be kept onsite at all times.

[4]The owner/operator must make records required to be maintained and reports required to be filed available to the authorized collective bargaining representative of the employees at a coke oven battery for inspection and copying [§63.311(g)].

5.1 INITIAL COMPLIANCE CERTIFICATION

The owner/operator of an existing or new coke oven battery must provide a written statement(s) for initial compliance certification attesting to the following:

- The installation of either a bypass/bleeder stack flare system or an approved alternative control device.
- Preparation of a written startup, shutdown, and malfunction (SSM) plan.

This certification statement must be submitted to the Administrator within 45 days of the applicable compliance date for the emission limitations or requirements. For existing batteries, the certification for the flare system must be submitted by May 15, 1994, and the certification for the SSM plan must be submitted by December 30, 1993.

5.2 SEMIANNUAL COMPLIANCE CERTIFICATION

The owner/operator of a coke oven battery must submit a signed semiannual compliance certification attesting to the following:

- No coke oven gas was vented.
- Coke oven gas was vented through the bypass/bleeder stack flare system which operated properly.
- A venting report was submitted because of problems with the bypass/bleeder flare system.

In addition, this must include certification attesting that:

- No startup, shutdown, or malfunction event occurred during the reporting period or that a startup, shutdown, and malfunction event did occur and a report was submitted.
- Work practices were implemented, if applicable.

5.3 NOTIFICATIONS

The owner/operator must provide written notification to EPA of the intention to construct a new coke oven battery, a brownfield coke oven battery or a padup rebuild coke oven battery, including the anticipated date of startup. The Administrator must also be notified of the owner/operator's decision for the compliance track election for each battery.

These elections are as follows:

- On or before November 15, 1993, intent to meet the 1993 extension track limits [§63.304(b)(1) or 63.304(c)] either in lieu of or in addition to the MACT track limits [§63.302(a) or §63.303(a)]; **or**

- On or before December 31, 1995, intent to meet the 1995 MACT track limits [§63.302(a)(1) or 63.303(a)]; **and**

- On or before January 1, 1998, intent to meet the 1998 extension track limits [§§63.304(b)(2) through (4) and §63.304(c)] or intent to meet residual risk standards.

5.4 REPORT FOR BYPASSED EMISSIONS

The owner/operator must report any venting of coke oven gas through a bypass/bleeder stack that was not vented through a flare system to the Administrator as soon as practicable, but no later than 24 hours after the beginning of the event. A written report describing the event must be submitted within 30 days of its occurrence.

6.0 EXISTING REGULATIONS

The provisions in the rule for existing regulations primarily address two issues: (1) the control of short-term or peak emissions and (2) the use of Method 303 results to enforce existing regulations. The format of the NESHAP with a 30-run average is designed to ensure control of long-term average emissions. Existing regulations are written in terms of not exceeding a limit for a single observation; consequently, a battery in compliance with the NESHAP may exceed a State's short-term limit on occasion. The effect may be most pronounced for charging emissions because the NESHAP is based on a 30-day average (of five observations per run) and a logarithmic approach, both of which dampen the effect of high readings. These provisions keep the existing short-term limits in effect and clarify the use of Method 303 to enforce them.

Emission sources at coke oven batteries are already regulated to some degree by State authorities or other agreements. Consequently, the coke oven NESHAP requires the owner/operator to comply with all applicable State implementation plan (SIP) emission limitations and (subject to any expiration date) all federally enforceable emission limitations contained in an order, decree, permit or settlement agreement in effect on September 15, 1992, for the control of emissions from charging operations, topside port lids, offtake system(s), and coke oven doors. Any change to these existing regulations must ensure that:

- the applicable emission limitations and format in effect on September 15, 1992, will continue in effect;
- the change includes a more stringent monitoring method and that no emission increase will occur; or

- the change makes the emission limitations more stringent while holding the format unchanged, makes the format more stringent while holding the emission limitations unchanged, or makes both more stringent.

These aspects of the rule also allow for flexibility in monitoring. For example, the rule provides for limits based on a 30-run observation average for the rule while maintaining single-run limits for SIP's and consent decrees.

In other ways, the rule works to improve enforcement of regulatory controls now in place. Data collected by Method 303 that are consistent with the SIP or consent decree inspection method can be used to enforce the SIP or consent decree.

Any industry application to make a SIP revision or other adjustment to account for differences between Method 303 and the State's method must be submitted by September 1994. Finally, a provision is included that states the modification requirements in the Act [section 112(g)] do not apply to these coke oven sources, except for batteries constructed with a new technology [§63.302(c)].

APPENDIX A

MAJOR DATES ASSOCIATED WITH THE COKE OVEN NESHAP

IMPLEMENTATION OF COKE OVEN NESHAP

DATE	ACTION	EPA/INDUSTRY
12/4/92	Coke oven NESHAP proposal	EPA
12/4/92 onward	Receive and review requests for shed alternative standards	EPA
	Receive and review applications for case-by-case determinations of limits for new/reconstructed by-product batteries using new technologies	EPA
12/31/92	CAAA requires promulgation of MACT, LAER, and work practice standards	EPA
10/27/93	Date of promulgation	EPA
	Establish certification panel and observer training course	EPA
	Receive and review requests for for State delegation of authority	EPA
	Develop startup, shutdown, and malfunction plan	Industry
11/10/93	Submit commitment for battery closure for flare exemption (2 weeks after promulgation)	Industry
11/15/93	Submit notification and comply with extension track limits	Industry
	Begin daily performance tests	Delegated agency
	Begin collecting main inspections	Industry
	Submit work practice plan to EPA and comply with work practice standards (as applicable)	Industry
	Submit initial compliance certification for startup, shutdown, and malfunction plan (45 days after required date or 12/30/93 for existing batteries)	Industry

DATE	ACTION	EPA/INDUSTRY
	Maintain specified records and submit reports as required	Industry
11/15/93 onward	Receive, review, and approve or disapprove requests for inclusion of cold-idle battery in design capacity of plant for LAER track	EPA
12/30/93	Submit initial compliance certification for 11/15/93 requirements	Industry
3/31/94	Install flare system on bypass/ bleeder stacks	Industry
4/15/94	Submit initial compliance certification for flares	Industry
5/15/94	Estimated deadline for approving or disapproving the delegation of authority to State programs (within 180 days after receipt)	EPA
6/30/94	Submit first semiannual compliance certification for 11/15/93 requirements	Industry
10/27/94	Estimated deadline for industry application to make SIP revision to account for differences in Method 303 and State method (within 12 months after promulgation)	Industry
11/15/94	Deadline for waiver of certification requirement for Method 303 panel member	EPA
11/15/94	Estimated date for submission of permit application (within 1 year of approval of State program)	Industry
12/31/95	Permanent battery closure pursuant to flare exemption	Industry
12/31/95	Submit notification of election to meet MACT and meet existing source MACT limits	Industry

DATE	ACTION	EPA/INDUSTRY
7/1/96	Specified brownfield or padup rebuilds must begin construction to retain exclusion from limits for new batteries (or within 1 year after obtaining construction permit, whichever is earlier)	Industry
10/27/96	Deadline for enforcement agency to revise inspection fee (within 3 years of promulgation date)	EPA/State
1/1/98	Submit notification of election to meet either LAER or residual risk standards	Industry
1/1/98	Meet more stringent LAER standard (if on extension track)	Industry
1/1/2000	Distribute any EPA risk assessment to surrounding communities (if on LAER extension track)	Industry
10/27/2001	Promulgate residual risk standard (8 years from promulgation)	EPA
1/27/2002	Comply with residual risk standards (if not on LAER extension track) unless 2 year waiver granted	Industry
12/31/1999	Promulgate MACT standards for pushing, quenching, combustion stacks, and other emission points and sources	EPA
1/1/2003	Promulgate residual risk standards for individual batteries if industry-wide residual risk standards are not promulgated by 2003	EPA
1/1/2003	Comply with more stringent MACT (unless residual risk standards are more stringent) if not on LAER track	Industry
10/27/2003	Comply with residual risk standard (if not on extension track) and if a 2 year waiver is granted	Industry
1/1/2007	Review/revise LAER standard	EPA

DATE	ACTION	EPA/INDUSTRY
1/1/2010	Comply with more stringent LAER standard or revised LAER standard (if on extension track)	Industry
1/1/2020	All batteries meet residual risk standards	Industry

APPENDIX B

LIST OF OFFICE OF AIR QUALITY PLANNING AND STANDARDS CONTACTS

List of Office of Air Quality Planning and Standards Contacts

	Telephone/FTS Number	Fax Number
Agnew, Amanda	(919) 541-5268	(919) 541-4028
Couturier, Dan (Enforcement)	(703) 308-8678	(703) 308-8739
Huntley, Roy (Test Method)	(919) 541-1060	(919) 541-1039
Roy, Sims	(919) 541-5263	(919) 541-4028
Walton, Tom (Economic Impacts)	(919) 541-5331	(919) 541-4028

APPENDIX C

REPRINT OF PROPOSAL PREAMBLE AND FINAL COKE OVEN NESHAP FROM FEDERAL REGISTER

federal register

Friday
December 4, 1992

Part II

Environmental Protection Agency

40 CFR Part 63
National Emission Standards for Hazardous Air Pollutants for Source Categories; Coke Oven Batteries; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[AD-FRL-4540-4]

RIN 2060-AD67

National Emission Standards for Hazardous Air Pollutants for Source Categories; Coke Oven Batteries

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and notice of public hearing.

SUMMARY: The proposed standards would establish visible emission limitations, equipment and performance standards, and work practice requirements for new and existing coke oven batteries. Test Methods 303 and 303A for the determination of visible emissions from byproduct and nonrecovery coke oven batteries also are proposed for addition to the regulations.

The proposed national emission standards for hazardous air pollutants (NESHAP) implement section 112 of the Clean Air Act as amended, which requires the Administrator to regulate emissions of hazardous air pollutants listed in section 112(b) of the Act, one of which is coke oven emissions. The proposed standards also implement section 112(d)(8) of the Act, which contains provisions specific to the regulation of coke oven emissions.

DATES: *Comments.* Written comments must be received on or before January 4, 1993, if there is no request for a public hearing. If there is a request for a public hearing, comments must be received on or before January 22, 1993.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by December 18, 1992, a public hearing will be held on December 28, 1992, beginning at 10 a.m. Persons interested in attending the hearing should call Ms. Julia Stevens at (919) 541-5578 to verify that a hearing will be held.

Request to Speak at Hearing. Persons wishing to present oral testimony at the public hearing must contact EPA by December 18, 1992.

ADDRESSES: *Comments.* Comments should be submitted (in duplicate if possible) to Air Docket Section (A-131), Attention, Docket No. A-79-15, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

Public Hearing. If anyone contacts EPA requesting a public hearing, it will be held at the EPA Office of Administration Auditorium, Research Triangle Park, North Carolina. Persons interested in attending the hearing or wishing to present oral testimony should notify Ms. Julia Stevens, Standards Development Branch (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-5578.

Background Information Document. The background information document (BID) for coke oven standards proposed by EPA in 1987 contains information gathered through 1985. The BID has not been updated and does not reflect the current regulatory negotiation process. A copy of the BID may be obtained from the docket or from the U.S. EPA Library (MD-35), Research Triangle Park, North Carolina 27711, telephone number (919) 541-2777. Please refer to "Coke Oven Emissions from Wet-Coal Charged Coke Oven Batteries—Background Information for Proposed Standards" (EPA-450/3-85-028a). Additional background information used to support today's proposed standards may be obtained from the docket.

Docket. Docket No. A-79-15, containing supporting information used in developing the proposed standard, is available for public inspection and copying between 8:30 a.m. and 3:30 p.m., Monday through Friday, at EPA's Air Docket Section, Waterside Mall, room 1500, 1st Floor, 401 M Street, SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For information concerning the proposed standard, contact Ms. Amanda Agnew at (919) 541-5268, Standards Development Branch, Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

SUPPLEMENTARY INFORMATION: The information presented in this preamble is organized as follows:

I. Background

A. Coke Oven Emissions

Coke is one of the basic materials used in blast furnaces for the conversion of iron ore to iron. In this country, the conversion of coal to coke is performed primarily in by-product coke oven batteries.

A by-product coke oven battery consists of a group of ovens connected by common walls. In this process, coal undergoes destructive distillation under positive pressure to produce coke and coke oven gas, from which by-products (e.g., tar, benzene, toluene, xylene, light oil) are recovered downstream in the by product plant.

Coke used in ironmaking is also produced by one plant with nonrecovery coke oven batteries. In the nonrecovery process, the coke oven gas is burned but by-products are not recovered. Nonrecovery coke oven batteries operate under a negative pressure; consequently, there is little outward leakage of hazardous emissions, only the inward leakage of air.

During the coking process, coke oven emissions escape from different emission points on the coke oven battery as leaks that can change in size and location over time. Raw coke oven gas is also emitted from bypass/bleeder stacks for by-product coke oven batteries when gases are vented directly to the atmosphere to relieve excess pressure. Nationwide coke oven emissions from coke oven batteries and bypass/bleeder stacks are estimated at 1,700 Mg/yr at the current level of control. This estimate includes benzene soluble organics (BSO), which is a measure of organic particulate matter, as well as benzene, toluene, xylene, and hydrogen sulfide.

Although each of the 29 plants with 82 by-product coke oven batteries are subject to emission limits via State regulations or consent decrees, the applicable emission limits and requirements vary widely. Of the 10 States currently regulating by-product coke oven emissions, limits on charging operations range from an average of 11 to about 60 seconds of visible emission

per charge, based on four to seven charging observations. The current baseline limits for by-product batteries range from 5 to 16 percent leaking doors; limits on topside port lids and offtake systems vary from 1 to 5 percent and 4 to 10 percent, respectively. The limits for percent leaking doors, topside port lids, and offtake system(s) are standards that are not to be exceeded based on any single observation. Coke oven emissions also are subject to regulation by the U.S. Occupational Safety and Health Administration (OSHA) (29 CFR 1910.1029); unregulated releases of coke oven emissions exceeding 1 pound also are subject to EPA hazardous substance release notification requirements (40 CFR 302.6) under the Comprehensive Environmental Response, Compensation, and Liability Act.

The oily, yellow-brown smoke characteristic of coke oven emissions contains organic particulate matter such as benzo(a)pyrene and other polycyclic organic compounds as well as hazardous pollutants that are volatile organics, including benzene and toluene. Other components include toxic gases, such as hydrogen sulfide (H_2S) and carbon monoxide (CO), and metals (arsenic, beryllium, cadmium, chromium, lead, and nickel). As discussed further in the EPA report, "Carcinogen Assessment of Coke Oven Emissions" (EPA–600/6–82–003F), occupational exposure studies have shown statistically significant excess mortality from cancers of the respiratory tract (lung, trachea or bronchus), kidney, prostate, and all cancer sites combined.

The EPA listed coke oven emissions as a hazardous air pollutant under Section 112(b)(1)(A) of the Act on September 18, 1984 (49 FR 36560). This listing decision was followed by proposal of a NESHAP for the control of coke oven emissions from wet-coal-charged batteries (52 FR 13586, April 23, 1987). These proposed standards were not promulgated because Congress revisited the issue during development and passage of the Clean Air Act Amendments of 1990. These amendments supersede the 1987 proposal, which EPA is consequently withdrawing in favor of today's proposed rule. A separate notice announcing withdrawal of the 1987 proposal is included in today's Federal Register.

B. 1990 Clean Air Act Amendments

The Clean Air Act Amendments of 1990 establish specific requirements for the development of regulations governing coke oven emissions. Under Section 112(d)(8), EPA must promulgate standards based on maximum achievable control technology (MACT) for coke oven batteries by December 31, 1992. MACT standards for existing sources can be no less stringent than the best performing 12 percent of existing sources and standards for new sources cannot be less stringent than the limit achieved in practice by the best controlled existing source. In addition, the MACT standards for coke oven batteries must require at a minimum that coke oven emissions from each battery not exceed the following short-term limits: 8 percent leaking doors, 1 percent leaking topside port lids, 5 percent leaking offtake system(s), and 16 seconds of visible emissions per charge (with no exclusion for emissions during the period after the closing of self-sealing oven doors). In establishing the standards, EPA must evaluate the use of luting compounds to prevent door leaks (Section 112(d)(8)(A)(i)). The EPA also must evaluate use of Thompson nonrecovery coke oven batteries and other nonrecovery technologies as the basis of standards for new batteries (Section 112(d)(8)(A)(ii)). The EPA is also to promulgate work practice regulations for new and existing coke oven batteries. These regulations are to require, as appropriate, the use of sodium silicate (or equivalent) luting compounds if EPA determines that the use of sodium silicate is an effective means of emissions control and is achievable, taking into account costs and reasonable commercial warranties for doors and related equipment and jamb cleaning practices.

In addition to these technology-based standards, EPA is required to promulgate standards to address the risk remaining after technology-based standards are imposed. The EPA is to issue these standards for coke oven batteries within 8 years of promulgation of the MACT standards (Section 112(f)(2)(C)).

Existing coke oven batteries must comply with the MACT standards by December 31, 1995 (§ 112(d)(8)(A)). The compliance date for meeting residual risk standards is within 90 days of promulgation, which may be extended for up to 2 years under certain circumstances (Sections 112(f) (3)–(4)). However, the Act provides an extension of the residual risk standards for coke oven batteries until January 1, 2020, provided the owner or operator of a coke oven battery complies with technology-based standards on an accelerated basis, and that these technology-based standards become more stringent over time.

Under this so-called extension track, to receive the deferral of the compliance date until the year 2020, the owner or operator must achieve the following short-term emission limitations by November 15, 1993: (1) 16 seconds of visible emissions per charge, (2) 8 percent leaking coke oven doors, (3) 1 percent leaking topside port lids, and (4) 5 percent leaking offtake systems. In addition, by January 1, 1998, the battery must meet an emission limitation that reflects the lowest achievable emission rate (LAER), as defined in section 171 of the Act. The LAER regulations, also to be promulgated by December 31, 1992, may be no less stringent than the following short-term limits: 3 percent leaking doors on batteries with doors less than 6 meters (m) in height (i.e., a "short" coke oven battery) and 5 percent leaking doors on batteries with doors 6 m or more in height (i.e., a "tall" coke oven battery); 1 percent leaking topside port lids; 4 percent leaking offtake systems; and 16 seconds of visible emissions per charge. (The Administrator may consider an exclusion for emissions from doors during the period after the closing of self-sealing doors or the total mass emissions equivalent).

In the LAER rulemaking, EPA must establish "an appropriate measurement methodology" for determining compliance for coke oven doors. The measurement methodology must consider alternative methods "that reflect the best technology and practices actually applied in the affected industries" and must ensure that the final test methods are consistent with the performance of such best technologies and practices. If the LAER standard is not promulgated by January 1, 1998, section 112(i)(8) states that the following short-term limits must be achieved: (1) 3 percent leaking doors (for short coke oven batteries), (2) 5 percent leaking doors (for tall coke oven batteries), (3) 1 percent leaking topside port lids, (4) 4 percent leaking offtake system(s), and (5) 16 seconds of visible emissions per charge, or the total mass emissions equivalent, with no exclusions for emissions during the period after the closing of self-sealing doors (section 112(i)(8)(B)(ii)).

The EPA must review and revise the LAER standard, as necessary, by January 1, 2007 (section 112(i)(8)(C)). To continue to qualify for the deferral of the compliance date for the residual risk standards, the owner or operator must meet any revised LAER limits by the year 2010 (section 112(i)(8)(C)). The owner or operator also must make available to the surrounding community by January 1, 2000, the results of any

risk assessment performed by EPA to determine the appropriate level of a residual risk standard (section 112(i)(8)(E)).

Section 112(i)(8)(D) of the Act provides that at any time prior to January 1, 1998, an owner or operator may elect to comply with residual risk standards under section 112(f) by the required date rather than comply with the LAER and revised LAER standards and compliance dates. Thus, coke oven batteries can opt out of the extension track. However, the owner or operator would be legally bound to comply with the 1995 MACT standards and the residual risk standards as of January 1, 2003. If EPA has not promulgated industrywide residual risk standards by that time, the Agency must promulgate residual risk standards for those batteries that choose to meet residual risk standards by 2003.

c. Regulatory Negotiation Approach

The EPA recognizes the need for Federal regulation of coke oven emissions and the many issues and challenges posed in developing, proposing, and promulgating standards to meet the requirements of the Act. During the spring and summer of 1991, EPA met with representatives of the industry, labor unions, States, and environmental groups to discuss available data to be used as the basis of the new regulations. A workshop format was used to explore and clarify the varying viewpoints. Following these informal discussions, EPA announced its intention to establish a committee to negotiate a new approach for the control of coke oven emissions (57 FR 1730, January 15, 1992), and conducted formal meetings and informal workshops over the next several months to identify and resolve the many issues associated with the regulation of coke oven emissions (57 FR 4025, February 3, 1992; 57 FR 5267, February 13, 1992; 57 FR 6830, February 28, 1992; 57 FR 19295, May 5, 1992). The Committee members are listed in Table 1.

TABLE 1.—COKE OVEN BATTERIES ADVISORY COMMITTEE MEMBERSHIP

Members	Affiliation
David Anderson	Bethlehem Steel Corporation.
William Becker	State and Territorial Air Pollution Program Administrators/ Association of Local Air Pollution Control Officials.
Larry Deve	Hoosier Environmental Council.
David Doniger	Natural Resources Defense Council.
Charles Drevna	Sun Coal Company.
Martin Dusel	Citizens Gas & Coke Utility.
Charles Goetz	Allegheny County Health Department.
Ralph Hall/Steve Lang	MD Department of the Environment.
Philip Harter	Facilitator.
Bruce Jordan	Environmental Protection Agency.
Ward Kelsey	PA Department of Environmental Resources.
Charles Knauss	Swidler & Berlin (representing the American Iron and Steel Institute)
Phillip Mascianonio	USS, A Division of USX Corporation.
Robert McNeils	Citizens Organized to Keep Employment.
David Menotti	Perkins Cole (representing the American Coke and Coal Chemicals Institute)
Tom Rarick	IN Department of Environmental Management.
John Seitz	Environmental Protection Agency.
Michael Shapiro	Environmental Protection Agency.
John Sheehan	United Steelworkers of America.
Bruce Steiner	American Iron and Steel Institute.
John Stinson	National Steel Corporation.
Shirley Vinostak	Group Against Smog and Pollution.
Michael Wright	United Steelworkers of America.

Using various forums, the Committee discussed many challenging issues, including the emission data to be used to select a standard, potential regulatory formats and numerical emission limits, visible emission monitoring methods, costs and economics, other emission sources, and work practices. Associated issues such as enforcement and implementation needs, legal aspects, future research, and integration of the proposed rule with EPA's new permitting system also were identified and discussed.

Several of the Committee meetings were attended by representatives of local citizens groups and members of the unions representing the workers at several coke plants. The union representatives made useful presentations to the Committee on several issues.

At the final negotiating session, the major issues were resolved conceptually. Thereafter, the Committee reviewed drafts of the regulatory language and the preamble, and resolved remaining issues. The Committee members have agreed to support the standard as long as EPA proposes and promulgates a regulation and preamble with the same substance and effect of the regulation and preamble that are the subject of the final agreement.

It is important to note that the parties to the negotiation concurred with the regulation and preamble when considered as a whole. Inevitably in a negotiation, this means that some parties may have made concessions in one area in exchange for concessions from other parties in other areas.

D. Summary of Proposed Standards

Applicability. The proposed standards would apply to all existing coke oven batteries, including by-product and nonrecovery coke oven batteries, and all new coke oven batteries constructed on or after December 4, 1992. A "by-product coke oven battery" is defined as a source consisting of a group of ovens connected by common walls, where coal undergoes destructive distillation under positive pressure to produce coke and coke oven gas, from which by-products are recovered. Table 2 in Section II—would be used to resolve any disputes that might arise concerning the application of this definition to these batteries.

Emission standards. The proposed standards would require that, by December 31, 1995, coke oven emissions from each existing by-product coke oven battery not exceed: (1) 5.5 percent leaking doors for short batteries and 6.0 percent leaking doors for tall batteries, (2) 0.8 percent leaking topside port lids, (3) 3.0 percent leaking offtake system(s), and 12 seconds of visible emissions per charge. On and after January 1, 2003, leaking doors for by-product coke oven batteries would be limited to 5.5 percent, and emissions from short batteries would decrease to 3.0 percent leaking doors. These 2003 standards will apply unless more stringent residual risk based standards are promulgated under section 112. Unless otherwise noted, compliance with visible emission standards would be determined on a 30 observation rolling average basis.

Visible emission limitations for by-product coke oven battery constructed at a new coke plant ("greenfield" construction) and the construction of a new battery at an existing coke plant if it results in an increase in the plant's coke capacity would be based on the emission control performance achieved by nonrecovery coke oven batteries, which are 0.4 percent leaking doors, topside ports and offtake system(s), and to 34 seconds of visible emissions per charge.

The proposed standards also apply to by-product recovery batteries that use a new technology in the future, as larger ovens, operation under negative pressure, or a process with emission points different from those identified in this rule. After December 4, 1992, an owner or operator who

constructs a new by-product coke oven battery or reconstructs a by-product coke oven battery and uses a new by-product recovery technology must apply for a case-by-case determination of applicable emission limitations. These case-by-case limits must be more stringent than 4.0 percent leaking doors for tall batteries, 3.3 percent leaking doors for short batteries, 0.4 percent leaking lids, 2.5 percent leaking offtakes, and 12 seconds per charge, or less than the equivalent level of mass emissions associated with these visible emission limits.

For door emissions from new and existing nonrecovery coke oven batteries, the proposed NESHAP provides an option of either (1) meeting and recording an emission limitation of 0.0 percent leaking doors, or (2) monitoring and recording the pressure in each oven or common battery tunnel at least once each day to ensure that the ovens are operated under a negative pressure. For charging on existing nonrecovery batteries, the owner or operator must implement specific work practices. New nonrecovery batteries must install, operate, and maintain an emission control system for the capture and control of charging emissions. If new nonrecovery batteries are constructed with lids or offtake systems, these batteries must meet limits of 0 percent leaking lids and 0 percent leaking offtakes.

Standards for extension of compliance. As provided under section 112(i)(8) of the Act, the owner or operator of an existing coke oven battery may choose to comply with alternative emission standards to qualify for an extension of the compliance date for residual risk standards. By November 15, 1993, coke oven emissions from existing by-product coke oven batteries could not exceed 7.0 percent leaking doors, 0.83 percent leaking topside port lids, 4.2 percent leaking offtake system(s), and 12 seconds of visible emissions per charge. For nonrecovery batteries seeking an extension of the compliance date for residual risk, the owner or operator would have to meet the MACT standards for nonrecovery batteries by November 15, 1993. No additional requirements are proposed for LAER for nonrecovery batteries.

The EPA is proposing a tiered approach for LAER for door leaks at existing by-product coke oven batteries on this compliance track, and is proposing one set of limits for LAER for the other emission points. By January 1, 1998, emissions would be limited to: (1) 4.3 percent leaking doors for tall batteries and batteries owned or operated by foundry coke producers, (2) 3.8 percent leaking doors for all other by-product coke oven batteries, (3) 0.4 percent leaking topside port lids, (4) 2.5 percent leaking offtakes, and (5) 12 seconds of visible emissions per charge. By January 1, 2010, emissions would have to be reduced to 4.0 percent leaking doors for tall batteries and batteries owned or operated by foundry coke producers and to 3.3 percent leaking doors for all other by-product coke oven batteries, unless the Administrator has established a more stringent emission limitation under section 112(i)(8)(C). As an alternative to the LAER limits for percent leaking doors, the owner or operator of a coke oven battery with fewer than 30 ovens may comply with a 30-run average of 2 or fewer leaking coke oven doors per battery in lieu of the emission limitations to be achieved by 1998 and 2010.

The construction of a new battery at an existing plant without an increase in the plant's design capacity for coke production is termed a "brownfield" battery, and the complete reconstruction of a battery from the existing pad, without an increase in the plant's design capacity for coke, is called a "padup rebuild." Visible emissions from all brownfield or padup rebuild by-product coke oven batteries (except specific grandfathered batteries noted below) would be limited to 3.3 percent leaking doors for short batteries, 4.0 percent leaking doors for tall batteries, 0.4 percent leaking topside port lids, 2.5 percent leaking offtake systems, and 12 seconds of visible emissions per charge. If these grandfathered batteries do not commence construction by July 1, 1996, or one year after approval of a construction permit (whichever is earlier), then they would be subject to more stringent LAER limits; otherwise, they are subject to the January 1, 1998, LAER limits. The batteries eligible to be rebuilt under this grandfather provision as proposed today are Bethlehem Steel's Burns Harbor Number 2 battery, National Steel's Great Lakes Number 4 battery, and Koppers' Woodward Number 3 battery. Comment is specifically invited on whether other coke oven batteries, not operated by companies represented on the Committee (either directly or through trade associations), are far enough along in planning replacement of current capacity to qualify for this grandfather.

Under customary industry practice, a "padup rebuild" occurs when the existing brickwork of a battery is removed and a replacement battery is constructed on the old pad. As proposed today, a "padup rebuild" includes any rebuilding project that effectively constitutes a replacement of the battery above the pad, even if some portion of the brickwork above the pad is retained (e.g., an end wall or several courses of bricks above the pad). Thus, a different test is contemplated than the traditional "reconstruction" test which focuses on whether the source is substantially rebuilt. In other words, the term "padup rebuild" is not synonymous with the traditional term "reconstruction." However, any attempt to circumvent inappropriately the more stringent door leak requirement applicable to padup rebuilds will be found to constitute a padup rebuild. Accordingly, the proposed rule provides the Administrator (or delegated State or local agency) the authority to determine whether a project is a "padup rebuild".

Batteries that were shut down but not dismantled ("cold-idle batteries") on or after November 15, 1990, can qualify for the extension track. Upon restarting, these batteries must meet the LAER limits for existing batteries, and, if they are brownfield or padup rebuild batteries, they must meet the more stringent LAER requirements for these types of batteries. Batteries that were placed on cold idle prior to November 15, 1990, may also qualify for the extension track up to a total design capacity for coke of 2.7 million Mg/yr, which is based on 10 percent of the total coke capacity at the end of 1990. The EPA will process applications on a "first come-first served basis." The procedures include provisions under which an approval will lapse, where a serious intention to use the capacity has not been demonstrated. If an approval lapses, the capacity of the battery is not included in the 2.7 million Mg/yr limit. After approval, the battery must meet the emission limits described above for other cold-idle batteries.

The proposed rules also provide alternative door leak standards, to be developed on a case-by-case basis, for coke oven batteries equipped with sheds. (Sheds are enclosures attached to the side of a battery, which capture emissions and route them to control devices.) Using the procedure described in the proposed rule, the owner or operator may use an alternative emission limitation for door leaks from a new or existing coke oven battery equipped with a shed and emission control device. The alternative is expressed as the allowable percent leaking doors for doors that are controlled by the shed, an opacity limit for the control device, requirements to ensure that the structural integrity of the shed is maintained, and requirements to ensure that the shed's evacuation rate is maintained. An alternative emission

limit will be approved if it is shown that the alternative achieves a reduction in coke oven emissions from the doors equal to or greater than the emission reduction that would be achieved by door leak emission controls installed to meet the emission limitations in the proposed standards. The determination of equivalency would be based on maintaining an equivalent or lower mass emission rate for coke oven emissions emitted from the shed's control device. Inspections for door leaks under the shed would be performed by the applicable enforcement agency on a specified schedule (weekly or monthly).

Inspections. Each performance test would be conducted by a visible emission observer, certified according to the requirements of the test method and provided by the applicable enforcement agency at the company's expense. (The formula for payment of expenses included in the proposed standard may be revised after a specified period to adjust the workload assumption, based on the enforcement agency's experience.) State agencies will be delegated authority ensuring that the inspections are conducted as required under the proposed rule.

Each of the proposed visible emission limitations is based on a 30-run average. To determine compliance, a daily (once a day for 7 days) performance test would be conducted for each coke oven battery using proposed Test Method 303, "Determination of Visible Emissions from By-product Coke Oven Batteries," or proposed Test Method 303A, "Determination of Visible Emissions from Nonrecovery Coke Oven Batteries."

For each daily test, the observer would monitor and record five consecutive charges from each battery and conduct one valid and complete inspection of all doors, topside port lids, and offtake systems on each coke oven battery. The daily test results and the calculated 30-run average would be provided to the owner or operator by the observer. If the observer missed an observation for a day, no compliance determination would be made for that day; calculation of the rolling 30-run average would proceed with the next valid observation made by the observer.

The inspection requirements for the alternative standard for sheds is different in that inspections will be conducted once a week for safety reasons. If compliance with the alternative standard is achieved for 12 consecutive weeks, the inspection frequency would be reduced to monthly observations. If the limit is exceeded in any monthly inspection, the monitoring frequency would increase to once a week. Because of the reduced inspection frequency, the alternative standard is not to be exceeded for any single observation and is not based on a 30-run rolling average.

Work practices. The proposed work practice standards would require the owner or operator of an existing or new coke oven battery to develop a written plan describing emission control work practices to be implemented for each battery. The plan, required by November 15, 1993, must include provisions for training and procedures for controlling emissions from coke oven doors, charging operations, topside port lids, and offtake system(s) on by-product coke oven batteries. Similar requirements are proposed for work practices at nonrecovery batteries for door leaks and charging emissions. Under specified conditions, the Agency may require revisions to the plan or the inclusion of additional work practices or requirements. The Agency expects work practice plans prepared for this rule and for OSHA requirements to be compatible and that the company will comply with both requirements.

For coke oven batteries subject to visible emission limitations under the NESHAP on November 15, 1993, (i.e., extension track batteries), the work practice requirements would become applicable following the second independent exceedance of the visible emission limitation for a particular emission point in any consecutive 6-month period. The second exceedance is independent if it is separated from the first by at least 30 days, or if the 29-run average, calculated after deleting the highest observation in the 30-day period still exceed the applicable emission limit. A similar procedure is used to calculate the independence in the case of charging emissions, under which the rolling logarithmic average is recomputed, excluding the daily set of observations with the highest daily arithmetic average. The owner or operator would be required to implement the work practice requirements applicable to the emission point by no later than 3 days after written notification of the exceedance. The rule would require that the work practices be implemented each day until the visible emission limitation for the emission point is achieved for 90 consecutive days.

The owner or operator of a coke oven battery not subject to visible emission limitations under the NESHAP until December 31, 1995, (i.e., a battery not on the extension track), would be required to implement the provision of the work practice plan for a particular emission point subject to visible emission limitations under this NESHAP (i.e., coke oven doors, topside port lids, offtake system(s), and charging operations) following the second exceedance of a federally enforceable State or local ordinance, regulation, order, or agreement for that emission point. The proposed standards would require that the work practice provisions be implemented within 3 days of receipt of written notification from the applicable enforcement agency and continued until compliance with the visible emission limitation is achieved for 90 days from the last exceedance.

For coke oven batteries with an approved alternative standard for sheds work practices for doors under the shed must be implemented based on exceedances of the alternative standard for percent leaking doors under the shed. If one side of the coke oven battery does not have a shed, work practices for coke oven doors must be implemented based on exceedances of the applicable emission limitation for that side of the battery.

The Administrator may require revisions to the work practice plan for a particular emission point if there are two independent exceedances in the 6-month period starting 30 days after the work practices are required to be implemented. The owner or operator must notify the Administrator of any finding whether the work practices are not related to the cause or the solution of the problem within 10 days of receiving a notification from the enforcement agency concerning the second independent exceedance. The Administrator may disapprove a revision or a statement that a revision not needed. No more than two revisions per year may be requested; however, a revision in response to a disapproval of a revision, voluntary revisions, and statements that a revision is not needed do not count toward this limit.

Flares. The proposed standards also would require the installation, operation, and maintenance of a flare system (or equivalent alternative control device or system) by March 31, 1994, the bypass/bleeder stacks of each existing by-product coke oven battery in operation as of December 31, 1995, that is capable of combusting 120 percent of the normal gas flow generated by the battery. New batteries must meet the flare requirements when production operations start.

The flare system would be required to be designed to meet EPA flare specifications in part 60 (New Source Performance Standards), with certain modifications to take into account th

special characteristics of the gas stream. For example, the specification for net heating values in 40 CFR 60.18(c)(3) is revised under the proposed rule to establish a design specification for the net heating value of coke oven emissions for steam-assisted or air-assisted flares of 8.9 MJ/scm (240 Btu/scf) or greater. Installation of the flare will not constitute a physical or operational change for the purposes of determining the applicability of new source review requirements. To qualify for an exemption from the flare installation requirement, the owner or operator must submit, by April 30, 1993, a formal commitment to permanent closure of the battery. In no case may a battery for which the owner or operator has submitted such a closure notification operate past December 31, 1995.

Collecting main. The collecting main would be inspected for leaks at least once daily under the proposed standards. Any leaks detected would be temporarily sealed within 4 hours, permanent repair would have to be initiated within 5 calendar days of detection and complete repair within 15 calendar days of detection unless extended by the Administrator. The time and date of collecting main leaks, temporary sealing, and repair also would be recorded.

Startups, shutdowns, and malfunctions. These provisions would require the owner or operator to develop a written startup, shutdown, and malfunction plan, which provides for the operation of the source in accordance with good air pollution control practices for minimizing emissions, and for procedures for correcting the malfunction, as quickly as practicable. Associated reporting and recordkeeping provisions also are included.

Reporting and recordkeeping requirements. The proposed regulation would require that certain records be maintained and the following reports be submitted: Compliance certifications, notifications, and reports of uncontrolled venting episodes and certain startups, shutdowns, and malfunctions.

These requirements have all been tailored to reflect the fact that the enforcement agency (or its designated agent) will be responsible for conducting almost all of the performance tests and compliance determinations required under the rule. Thus, there is no need for owners or operators to inform the enforcement agency about these matters. Moreover, requiring owners or operators to report back to the enforcement agency information reported by the enforcement agency to them would be pointless, and impose unnecessary additional financial burdens. In light of these considerations, the compliance certification, reporting and recordkeeping requirements address information needed by the enforcement agency, that will be generated by the owner or operator.

For each 6-month period following promulgation, the owner or operator would submit a semiannual compliance certification attesting that: (1) No coke oven gas was vented through the bypass/bleeder stack, (2) coke oven gas was vented through the bypass/bleeder flare system, which operated properly, or (3) a venting report was submitted because of problems with the bypass/bleeder flare system. Semiannual compliance certifications are also required to attest that: (1) No startup, shutdown, or malfunction event occurred, or such an event did occur and a report was provided as required; and (2) work practices were implemented according to the work practice provisions, if applicable.

The notification provisions include requirements for owners or operators to notify the Administrator of the compliance track election that has been made for each battery. In general, these provisions allow batteries to "straddle" (i.e., elect both tracks) up until 1998, when a binding commitment to one compliance track or the other must be made.

The recordkeeping provisions require owners or operators to keep specified records and make them accessible to the Administrator. These include certain monitoring records, records reflecting the implementation of work practice plan provisions, and records related to a startup, shutdown, or malfunction. Records also would be maintained of data for the alternative emission standard for doors, including opacity data of the shed's control device, parameters that indicate the evacuation rate is maintained, records of visual inspections, and operation/maintenance records for a continuous opacity monitoring system. For nonrecovery batteries, records would be required for daily pressure monitoring and work practices for charging or, for new nonrecovery batteries, design information for the charging emission control system. In addition, design information for flares or approved alternative control devices or systems would be maintained.

Provisions are also included requiring the owner or operator to make records or reports required to be maintained or required to be submitted to the enforcement agency available to the authorized collective bargaining representative, for inspection and copying. The owner or operator must respond to a request within a reasonable period of time. Except for emission data as defined in 40 CFR part 2, documents (or parts of documents) containing trade secrets or confidential business information do not have to be produced, and the inspection or copying of documents will not affect any intellectual property rights of the owner or operator in the documents.

Relationship to existing regulations and requirements. Provisions also are included in the proposed NESHAP that would require the owner or operator to comply with all applicable State implementation plan (SIP) emission limitations (or subject to any expiration date, federally enforceable emission limitations contained in an order, decree, permit or settlement agreement) for the control of emissions from charging operations, topside port lids, offtake system(s), and coke oven doors in effect on September 15, 1992. As discussed further in Section II–D, any change to these existing regulations must ensure that the applicable emission limitations and format in effect on September 15, 1992, will continue in effect; that the change includes a more stringent monitoring method and that no emission increase will occur; or that such modification makes the emission limitations more stringent while holding the format unchanged, makes the format more stringent while holding the emission limitations unchanged, or makes both more stringent. A provision also is included which addresses the relationship of the coke oven NESHAP to § 112(g) and which concludes that, except in one specific instance, § 112(g) requirements will not apply to sources subject to the coke oven NESHAP.

II. Development of Proposed Standards

A. Applicability

1. Which Batteries Can Be Subject to New Source Standards?

The proposed standards would apply to new and existing coke oven batteries. All types of coke oven batteries would be subject to the NESHAP, including by-product coke oven batteries (using current or new technology) and nonrecovery coke oven batteries. By-product coke oven batteries operate under a positive pressure and recover by-products from the coke oven gas. Nonrecovery coke oven batteries operate under a negative pressure and burn the coke oven gas for its fuel value; by-products are burned and are not recovered from the coke oven gas.

Section 112(a) of the Act defines an "existing source" as any stationary source other than a new source. The stationary source to which the proposed standards apply is each coke oven battery at a plant site. There are 30 existing coke plants in operation (some consisting of several coke oven batteries). The EPA does to expect many new sources to be constructed.

Under today's proposal, the Committee agreed that two types of coke oven batteries, with one exception, would be subject to new source MACT standards based on performance achievable by nonrecovery coke oven batteries. The first type includes any coke oven battery for which construction is commenced after the date of this proposal at a plant site where no other coke oven batteries have existed prior to this proposal. This type of battery is termed a "greenfield" battery. The second type of battery subject to such standards is a new or reconstructed battery built at a plant site where other batteries are located which results in expansion of coke production capacity there. (The only situation in which new batteries of either the first or second types would not be subject to standards based on nonrecovery technology would be a new battery using a new recovery technology (see § 63.302(c)). Performance standards for such a battery would be developed on a case-by-case basis, under section 112(g) of the Act.)

The Committee also agreed on other standards, based on performance achievable by by-product recovery coke oven batteries, for certain new or reconstructed batteries built within plant sites where existing coke ovens are located. These include a "padup rebuild" of an existing battery, or a new battery constructed to replace one or more existing batteries (a brownfield battery), so long as the design capacity of the padup rebuild or replacement does not exceed that of the existing battery (or batteries) that is rebuilt or replaced. (The term "padup rebuild" is discussed in section I–D, above.) The Committee further agreed to subdivide these batteries into two groups.

The first of these groups, composed of several designated batteries, is subject to standards identical to the standards for existing batteries on the extension track. For the second group, which includes other padup rebuilds and brownfield batteries the standards include a more stringent emission limitation for doors, but are otherwise identical to the existing battery extension track standards.

The following considerations support these distinctions. First, section 112(d)(3) states that, at a minimum, new source MACT standards shall reflect the emission limitation achieved in practice by the best controlled similar existing battery. Section 122(d)(8)(A) further states that EPA must consider basing new source MACT standards for coke ovens on the performance of nonrecovery coke ovens. Section 112(i)(8)(B) and (C) specify that the 1993 and 2010 standards for coke oven batteries on the extension track must be based on the lowest emission rate that is achievable for a coke oven battery that is rebuilt or a replacement at a coke plant for an existing battery.

Finally Section 112(i)(8)(F) establishes the following special rule that reconstruction of any source of coke oven emissions qualifying for an extension under that paragraph shall not subject such source to emission limitations under subsection (f) more stringent than those established under subparagraphs (B) and (C) of the LAER standards until January 1, 2020. For the purposes of that subparagraph, the term "reconstruction" includes the replacement of existing coke oven battery capacity with new coke oven batteries of comparable or lower capacity and lower potential emissions.

After much discussion of these provisions and the appropriate basis for new source MACT standards, the Committee agreed upon different standards for the various types of new and reconstructed batteries described above. Where a new battery is built at a new plant site, or where cokemaking design capacity is increased at a plant site where there have been existing batteries, the new source standards are appropriately based on nonrecovery technology (unless a new recovery technology is being used and standards are developed under Section 112(g)). For the first group of "padup rebuilds" or replacement batteries (several batteries scheduled to be rebuilt in the near term), the Committee decided that the standards should be equivalent to the standards for existing batteries on the extension track. For the second group of "padup rebuilds" or replacement batteries, the Committee agreed upon a more stringent limitation for doors, recognizing that these batteries are capable of a greater degree of control for door emissions than existing batteries on the extension track.

These standards, in effect, tailor the traditional "reconstruction" definition to the special needs of the coke oven emissions standards. Currently, a reconstruction occurs when components of a source are replaced or refurbished to such an extent that (1) the fixed capital cost of the replaced or refurbished components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source, and (2) it is technologically and economically feasible to meet the relevant standard(s), alternative emission limitation(s), or equivalent emission limitation(s) established by the Administrator or State authorities. Today's proposal uses this traditional definition where such a project results in increased capacity at the coke plant. Although today's proposal includes a definition of "padup rebuild" that differs from the current reconstruction definition, this rule will establish no precedent for other categories of emission sources.

Industry representatives were concerned about the possible application of section 112(g) of the statute to sources subject to the coke oven NESHAP. Section 112(g) indicates that after the effective date of the Title V permit program in a State, major sources in the State that are modified, constructed, or reconstructed may be subject to case-by-case MACT determinations. However section 112(g) clearly requires such case-by-case determinations of MACT only "where no applicable emission limitations have been established by the Administrator". The EPA will establish MACT standards for coke oven batteries in this rulemaking, and once a MACT standard exists, case-by-case MACT determinations for sources subject to a national standard are not required. The EPA also views case-by-case MACT determinations for coke oven batteries as potentially disrupting the detailed compliance schedule for these sources established in section 112(d), which is another reason to avoid making such determinations. Therefore, except for one specific instance noted below, the Committee agreed that section 112(g) should not apply to coke oven batteries.

2. Standards for Cold-idle Batteries, Innovative Recovery Batteries, and Foundry Coke Oven Batteries

Some batteries have been shutdown because of reduced demand for coke, repairs, or other reasons. Those shutdown batteries that have not been dismantled are referred to in the proposed rule as "cold-idle" batteries. Cold-idle batteries that are shutdown on or after November 15, 1990, are considered existing batteries that may qualify for the extension track, and these batteries must meet the applicable LAER limits when coke production starts again. As discussed above, the LAER limits that apply will be determined by the general applicability rules that govern the extension track.

For example, if a padup rebuild was undertaken, the more stringent limits applicable to padup rebuilds would apply, except for several coke oven batteries specified in the rule (See Section I–D above). Cold-idle batteries that shutdown before November 15, 1990, must request special permission to quality for the extension track, and only a limited number will be approved. (No more than 2.7 million Mg/yr—10 percent of the industry's coke capacity as of the end of 1990.) Once again, the applicable LAER limits will be determined under the general applicability rules that govern the extension track. The Committee also agreed to procedures for determining how to allow the limited number of cold-idle batteries that qualify for the extension track. In general, these procedures allocate capacity on a "first-come, first-served" basis, and include provisions to rescind allocations of capacity where a serious intention to utilize the allocation has not been demonstrated.

If a new recovery cokemaking process is constructed in the future, case-by-case emission determinations would be made under section 112(g)(2)(B) to establish emission limits that represent a level of emission control performance more stringent than LAER. Examples of potential technologies include larger oven designs, ovens that operate under negative pressure, and new processes that may have emission points different from those on conventional by-product recovery ovens. The case-by-case determinations for these batteries must result in a level of emission control that is more stringent than that obtained by LAER.

Under the proposed rule, the LAER limits for door leaks from a battery that is owned or operated by a foundry coke producer are slightly less stringent than the LAER limits for other coke oven batteries. In order to qualify for the foundry coke producer LAER limits, a battery also must have been owned by a foundry coke producer on January 1, 1992. For the purposes of this limitation, a foundry coke producer is defined as a coke producer (i.e., a producer of coke of any kind) that is not and was not on January 1, 1992, owned or operated by an integrated steel producers, and had on January 1, 1992, an annual coke design capacity less than 1.25 million Mg/yr. Specified batteries owned or operated by an integrated steel producer on January 1, 1992, that are sold to a foundry coke producer before November 15, 1993, are considered to be owned or operated by a foundry coke producer on January 1, 1992.

The applicability section of the proposed rule also specifies when coke oven batteries that are new, padup rebuild, brownfield, or cold-idle (if production is resumed) are subject to compliance determinations. The requirements of the proposed rule become applicable in a period after startup that is to be determined by the Administrator, but the period may not exceed 180 days from the time that production starts.

3. Definition of By-product Coke Oven Battery

The proposed regulation defines "by-product coke oven battery" as:

> "[A] source consisting of a group of ovens connected by common walls, where coal undergoes destructive distillation under positive pressure to produce coke and coke oven gas, from which by-products are recovered."

The Committee recognized that there may be instances where this language does not precisely describe sources that were considered during the negotiations to be a single coke oven battery. Accordingly, the Committee agreed that Table 2 given below and titled "Operating By-product Coke Oven Batteries as of April 1992" would be used to resolve any disputes that may arise concerning whether particular groups of ovens should be regarded as a single battery under these regulations.

In adopting this definition of "by-product coke oven battery", the Committee recognized that different definitions are being used in other programs. There was agreement that the selection of the definition for this regulation was not to be interpreted as indicating that other definitions were inappropriate, or that these other definitions should be conformed to the definition in this regulation.

TABLE 2.—OPERATING BY-PRODUCT COKE OVEN BATTERIES AS OF APRIL 1, 1992

No.	Plant	Battery
1	ABC Coke, Tarrant, AL	A
		5
		6
2	Acme Steel, Chicago, IL	1
		2
3	Armco, Inc., Middletown, OH	1
		2
		3
4	Armco, Inc., Ashland, KY	3
		4
5	Bethlehem Steel, Bethlehem, PA	A
		2
		3
6	Bethlehem Steel, Burns Harbor, IN.	1
		2
7	Bethlehem Steel, Lackawanna, NY.	7
		8
8	Citizens Gas, Indianapolis, IN	E
		H
		1

TABLE 2.—OPERATING BY-PRODUCT COKE OVEN BATTERIES AS OF APRIL 1, 1992—Continued

No.	Plant	Battery
9	Empire Coke, Holt, AL	1
		2
10	Erie Coke, Erie, PA	A
		B
11	Geneva Steel, Provo, UT	1
		2
		3
		4
12	Gulf States Steel, Gadsden, AL	2
		3
13	Inland Steel, East Chicago, IN	6
		7
		8
		10
		11
14	Koppers, Woodward, AL	1
		2A
		2B
		4A
		4B
		5
15	LTV Steel, Cleveland, OH	6
		7
16	LTV Steel, Pittsburgh, PA	P1
		P2
		P3N
		P3S
		P4
17	LTV Steel, Chicago, IL	2
18	LTV Steel, Warren, OH	4
19	National Steel, Ecorse, MI	5
20	National Steel, Granite City, IL	A
		B
21	New Boston Coke, Portsmouth, OH.	1
22	Sharon Steel, Monessen, PA	1B
		2
23	Shenango, Pittsburgh, PA	1
		4
24	Sloss Industries, Birmingham, AL	3
		4
		5
25	Toledo Coke, Toledo, OH	C
26	Tonawanda Coke, Buffalo, NY	1
27	USX, Clairton, PA	1
		2
		3
		7
		8
		9
		13
		14
		15
		19
		20
		B
28	USX, Gary, IN	23
		5
		7
29	Wheeling-Pittsburgh, East Steubenville, WV.	1
		2
		3
		8

B. Selection of Emission Points

Six emission points associated with by-product coke oven batteries would b subject to the proposed NESHAP. Thes emission points include the charging operation, coke oven doors, topside por lids and offtake systems on the top side of the battery, collecting mains, and bypass/bleeder stacks. Charging and doors are potential emission points for nonrecovery batteries; however,

nonrecovery coke oven batteries do not have topside port lids, offtake systems, collecting mains, or bypass/bleeder stacks with the potential leakage points typical of by-product batteries.

During the coking cycle, coke oven emissions are released from leaks around the doors at the ends of each oven on by-product batteries. Leaks from coke oven doors account for the majority (about 81 percent) of nationwide emissions from coke oven batteries at the baseline level. During the coke oven production cycle, emissions can escape during the charging operation when the hot oven is being filled with coal and during the coking period when the coal is heated. Nationwide BSO emissions from the charging system account for about 5 percent of national BSO emissions from coke oven batteries at the baseline level.

Fugitive emissions from topside battery leaks on by-product batteries may occur from the offtake system that ducts the off-gases to the collecting main(s), from the topside or charging ports that are covered with lids during the coking period (but which may not be sealed completely), and from the collecting main. Because the offtake system is composed of numerous closely associated emission points, the combined system (standpipes and caps, goosenecks, stationary jumper pipes, and connection flanges) is considered a single emission point under the proposed standard. Emissions from topside port lids and offtake systems account for about 14 percent of nationwide BSO emissions from by-product coke oven batteries at the baseline level.

No data are available to estimate a mass emission factor and associated nationwide emissions from collecting mains. However, leak detection and repair procedures similar to those promulgated for coke by-product recovery plants and other industries can be applied to ensure that leaks are repaired promptly when or if they do occur.

Raw coke oven gas also may be released from bypass or bleeder stacks on by-product batteries, usually due to a process upset or an equipment failure. These releases are to relieve pressure and to vent gas, which otherwise could result in damage to the battery or the by-product recovery plant. These events are unpredictable, and the frequency and duration are expected to vary widely from battery to battery. Emission estimates based on venting information received from one local agency indicate that the BSO emissions from uncontrolled bypassing of coke oven gas are about the same order of magnitude as the combined BSO emissions from the other emission points.

For nonrecovery batteries, charging emissions can originate from the oven when it is being charged by a coal conveyor. Limited testing of charging emissions from a nonrecovery battery yielded BSO measurements below detectable levels. However, emission control equipment has been installed at the existing nonrecovery plant to collect and capture any charging emissions and to route them to a control device. Doors on nonrecovery batteries do not leak because the ovens in the battery are maintained under negative pressure for most or all of the coking cycle.

Emission tests of the combustion stacks of nonrecovery ovens indicate that, although BSO emissions are below detectable levels, other pollutants, such as particulate matter and sulfur dioxide (SO_2), can be emitted from an uncontrolled stack. However, pollution control equipment is available to control the emissions of particulate matter and SO_2 as needed. The testing data currently available indicate that the nonrecovery process has lower emissions of toxic air pollutants than the by-product recovery process.

The Committee discussed whether emissions from pushing, quenching, and combustion stacks should be regulated under the proposed rule. Hazardous coke oven emissions can be released from these sources due to an equipment failure or poor operation. If problems occur in the underfiring system of an oven, cracks develop in the oven wall, or if the oven is pushed out of sequence or is on an accelerated schedule, the coal may not be completely converted to coke. When this happens, inadequately coked coal (called "green coke") may be pushed from the oven. Pushing emissions from inadequate coking or green coke are likely to contain BSO and the organic carcinogens typical of coke oven emissions. These compounds may continue to be emitted when the green coke is quenched with water. If cracks develop in the oven wall, raw coke oven gas can enter the flue system and be transported out of the stack.

Other minor emissions points were identified as potential but very infrequent sources of coke oven emissions. One is flue caps on top of the battery that can be used to examine the flue system for gas combustion. If there are cracks in the oven wall and these caps have any openings, raw coke oven gas can leak from the oven. Leaks also can occur from cracks in the brickwork on the top of the oven or between the refractory and the lid ring casting. These leaks are very infrequent and are not usually found on well-maintained batteries. Another potential source is the open standpipe of a dampered-off oven if the oven is not completely or properly dampered-off from the collecting main.

Pushing, quenching, combustion stacks, and the minor emission points were not selected as emission points for regulation under the proposed NESHAP. However, these emission sources are listed as a category for which EPA will develop and promulgate MACT standards before the year 2000 (57 FR 31576, July 16, 1992).

C. Selection of Visible Emission Format

Section 112(h)(1) of the Act allows EPA to promulgate a design, equipment, work practice, or operational standard if it is not feasible to prescribe or enforce an emission standard. Under section 112(h)(2), "not feasible to prescribe or enforce an emission standard" means that the pollutant cannot be emitted through a conveyance designed and constructed to emit or capture the pollutant (or that such a conveyance would be inconsistent with Federal, State, or local law), or (2) the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.

The EPA has concluded that visible emission limits are the most practical means of assessing emission control performance for coke oven emissions. This approach is used in all States regulating coke oven emissions and at cokemaking facilities around the world. Moreover, the data considered by the Committee in developing the proposed emission limits were collected by visible emission test procedures.

Section 112(i)(5)(B) of the Act requires EPA to develop the LAER standards using a mass emission reduction format unless the Administrator finds that such a mass emission standard would not be practicable or enforceable. The EPA has concluded, however, that a mass emission reduction format is not practicable for the proposed MACT or LAER standards because of the technological and economic difficulties involved in the collection and measurement of coke oven emissions. Except in special situations, such as the capture and control of emissions by a shed and its control device, EPA views a mass emission reduction standard for coke oven emissions as unenforceable because the extent of the mass emission reduction could not be measured consistently or reliably.

Generally, pollutant emissions are characterized by the mass concentration and flow rate of the pollutant stream. Emission limits that allow the mass rat

of emissions to be correlated with material throughput or other production parameters can then be established. The nature of the emission rates characteristic of the coking process does not allow the development of a strong correlation between the mass of emissions and production parameters. First, the concentration of pollutants from the batteries varies with time and the concentration of coke oven gases may vary from battery to battery. Even if the concentration could be well characterized, there would be difficulties in assessing the flow rate. Given these factors, a visible emission format is proposed for charging emissions and for leaks from doors, lids, and offtakes.

Although EPA is proposing an emission derived standard for air pollution control devices on sheds that capture pushing emissions, there is no inconsistency with the Agency's general determination to use a visible emission compliance methodology. Some batteries use sheds to capture pushing emissions and to route them to a control device. Those sheds that are designed with a high capture efficiency may also capture and collect leaks from doors under the shed. Consequently, the emissions vented from the shed's control device can be measured and attributed to the combined emission points (leaking coke side doors and pushing). However, the primary control for door leak emissions is pollution prevention by maintaining the doors and seals and not allowing the leaks to occur. Preventing the leaks will control the emissions of gaseous pollutants that are not controlled by the shed's emission control device, and will avoid the generation of waste from the control device. The most direct and efficient way of assessing the success of the door leak control program is to count the doors that are leaking under the shed.

Emission data collected during the late 1970's and early 1980's for coke side sheds indicate that when doors were not well maintained under the sheds, very high leak rates were observed (for example, up to 70 percent leaking doors), and the control devices were not efficient at removing BSO. The early test data indicated that emissions from the shed's control device could be higher than the emissions from well-controlled doors without a shed. More recent shed designs increase the evacuation rate and have improved emission control devices; however, no new test data have been obtained that separate the contribution of door leaks and pushing emissions or that show improved emission control for the BSO from leaking doors. Visible emission observations provide sound confirmation of the effectiveness of door leak controls; consequently, a visible emission format was chosen for door leaks under a shed. However, mass emission sampling is necessary to determine the shed's control device effectiveness; consequently, a standard based on mass emission reduction is included in the proposed regulation for sheds.

The EPA is proposing an equipment standard for bypass/bleeder stacks for by-product coke oven batteries rather than a visible emission standard. Measurement of releases from these stacks would not be practicable because the frequency and magnitude of the releases are not predictable and may vary widely from battery to battery depending on the reason for the release. However, once emissions are released, flares are effective in destruction of the gases. Designed in conformance with EPA specifications (modified for Btu content of coke oven gas), EPA estimates flares achieve at least a 98 percent destruction efficiency. A performance standard is also included in the proposed rule to allow a control device or system that would provide 98 percent or more control.

The Agency is not proposing a visible emission limit for collecting main leaks because of their infrequent and sporadic nature. The rate of leakage and number of leaks depend on many factors, such as the size and number of openings, the condition of the collecting main, and the frequency and magnitude of pressure excursions or other process and operating upsets. However, once a leak from the collecting main is detected, the leak can be repaired with relative ease and certainty. For these reasons, a work practice format is proposed for this source.

D. Selection of Regulatory Format

Visible emission limit. One of the major issues examined by the Committee early in the negotiation process was the regulatory format of the visible emission standard. Should the standard be based on any single observation, the average of three observations, averages over some longer period, or a combination of these? Would one exceedance automatically indicate noncompliance with the standard, or would there be some provisions for the owner/operator to take corrective actions before an exceedance would indicate noncompliance?

Several Committee members favored a format modeled after the current State regulations, which are not-to-be-exceeded standards based on any single observation for leaks and the sum of four to seven observations for charging. Standards in SIPs and consent decrees have traditionally been written as a limit based on one inspection. Some Committee members felt that this type of standard had been effective in the past in reducing coke oven emissions. In addition, the enforcement agency could inspect a battery and assess its compliance status in a single day. If this type of standard were strictly enforced, this one-run "cap" would ensure that the facility would maintain a low average performance to avoid any exceedances. IN contrast, depending on the final numbers used in the limits, a standard based on long-term averages could be weaker than current State regulations.

Other Committee members favored an averaging approach, such as a 30-day average. They believed that a 30-day average would more appropriately reflect long-term emissions and long-term exposure to coke oven emissions and would ensure that total emissions are maintained at low average levels. This averaging approach would permit the operator to detect trends of deteriorating emission control performance on a day-to-day basis and to take corrective action to reverse the trends before a violation occurred. The averaging approach would tend to dampen any variability in readings, whether due to the process or human observers. This approach would require that the monitoring be performed every day to determine compliance.

After much discussion there was general agreement that the structure of the standard and the stringency of the numbers were interrelated. The relative stringency of the two formats depends upon the level of the numerical standard selected. The Committee agreed to a national emission standard based on the rolling average of 30 observations. Compliance would be determined on an ongoing, essentially daily basis using the observation for that day averaged with the previous 29 daily observations.

Inspection format. The Committee agreed that the visible emission observer would be provided by the State or other applicable enforcement agency and would be funded by the company that was being inspected. The cost billed to the company would be based on the current rate for an independent consultant and labor hours would be based on the number of batteries at the plant (4 hours for one battery, 6.25 hours for two batteries, 8.25 hours for three batteries, and appropriate combinations of these for more than three batteries). The enforcement agency

may revise the payment formula based on expenses actually incurred after 1 year of experience, and the company may request that the agency provide information on the actual costs incurred. The timing for the initial payment and the frequency of payments will be determined in the permitting process. States with approved permit programs and approved delegations under section 112(1) of the Act are responsible for conducting the inspections as specified in the proposed rule. No provisions in this proposed rule affect the provisions for citizen suits in section 304 of the Act.

The Committee agreed that the effective and fair implementation of these rules requires that the Administrator (or delegated agency) must perform all specified inspections, either by means of its own personnel or contractors. Except where another schedule is expressly provided, each emission point at each battery must be inspected every day. Industry will have paid the cost of performing daily inspections and will expect that they be performed each day. Members of the public will rely on daily inspections to ensure compliance with the standards. Thus, while the regulations provide methods for addressing days on which inspections of one or more emission points cannot be performed (e.g., in cases of bad weather), it is expected that inspections will occur each day.

Prior to a delegation of responsibility for carrying out the inspections and performance tests required under section 309 of these rules under section 112(1) of the Act, the regulations provide that the Administrator shall carry out daily inspections of each emission point at each battery, either through EPA staff or a contractor. After the inspection responsibility is delegated to a State agency, the Administrator shall resume carrying out such responsibility whenever he learns that a delegated agency has not done so. The Committee agreed that the Administrator's responsibilities to perform daily inspections in both cases are mandatory duties that may be enforced through citizen's suits under section 304 of the Clean Air Act.

Relationship to existing regulations and requirements. The Committee discussed the relationship of the coke oven NESHAP to SIPs that limit emissions from coke ovens. In general, the SIP limits are to be achieved at all times. Although inspections for compliance with SIP emission limitations could be conducted daily, in practice, inspections have occurred less frequently. The most frequent inspection by agency personnel is about once a week and the least frequent is about once a year. The Committee agreed to a 7-day week inspection program for enforcing the NESHAP, to be conducted by the enforcement agencies. When the coke oven NESHAP is implemented beginning in 1993 or 1995, depending on which regulatory option the company selects, the daily Method 303 monitoring program will begin. Each day, for each battery and emission source, a compliance monitoring observation will be obtained by a certified observer using Method 303. The results of each observation will be averaged with the 29 previous observations and a 30-run average calculated each day.

During the discussions, attention was focused on the possibility of using these same daily monitoring observations to determine compliance with the existing SIPs, which are based on a single-pass standard. Many of the States that have coke ovens currently use monitoring methods for charging, lids, offtakes, and doors that are similar to the Method 303 that is being required for the MACT and LAER standards under the coke oven NESHAP. In some cases, however, the State methods are incompatible with Method 303. Consequently, industry representatives raised the question of whether the use of daily Method 303 data would subject industry sources to more stringent enforcement of SIP standards than before the negotiations. Also, in many cases, the existing SIPs require control of sources that are not addressed in this coke oven NESHAP. For example, pushing emissions are not addressed in Method 303. Therefore, even if States wanted to use Method 303 for compliance, they would have to obtain other compliance information for some emission points.

Two potential scenarios face the States regarding the use of Method 303 readings to enforce SIPs. The first scenario is one in which Method 303 fulfills the requirements of the SIP monitoring method for the emission points being considered by this proposed rule. In this situation the State could use Method 303 results for SIP enforcement. The second potential scenario is one in which the State monitoring method is substantially different from Method 303. In this latter case the State could: (1) Continue using its own monitoring method, (2) revise the SIP to allow the use of Method 303 to enforce the SIP, and/or (3) make appropriate adjustments to the Method 303 data to account for the difference between the methods.

If Method 303 is substantially consistent with the SIP monitoring method, or if the SIPs are revised to allow the use of Method 303 results (either by allowing Method 303 data to be used directly or by specifying appropriate modifications to Method 303 data), then the SIP limits pertaining to charging, lids, offtakes, and doors could be enforced using Method 303 daily consistent with the States' single pass limits.

The Committee also discussed some issues that would arise from using Method 303 data to enforce the SIPs on a daily basis. One of the major industry concerns was how to ensure that the availability of more data does not alter the way in which SIP compliance is currently determined. Historically, States have used discretion in pursuing violations and assessing penalties based on the severity of noncompliance. The industry feels that it has been able to comply with the SIP under existing enforcement policies and that SIP enforcement procedures were not a part of the coke oven NESHAP. The States pointed out that enforcement under the existing SIPs could occur more frequently when compliance with the SIP was questionable. On this issue, the Committee decided that a change in the frequency of inspections would not constitute an increase in the stringency of the SIP. An exception would be where a specified inspection frequency is included in a particular SIP. The frequency of observations will increase if Method 303 is compatible with the SIP monitoring method, but the enforcement policy in using the data is left to the discretion of the enforcement agency.

The Committee agreed that the level of SIP emission limitations and format (single-pass v. multi-day) for coke ovens cannot be revised to be less stringent than they were prior to September 15, 1992 (i.e., no backsliding). Thus, SIPs that are more stringent than section 11 standards (or SIPs containing requirements not directly required by section 112 standards affecting the same source) need not be modified to conform to those section 112 standards. In addition, the statute creates constraints on modification of certain SIPs. Section 193 provides that any SIPs in effect on the date of enactment of the 1990 amendments in any area which is a nonattainment area for any air pollutant may not be modified after such enactment in any manner unless the modification ensures equivalent or greater emission reductions of such air pollutants.

The Committee agreed that backsliding should not occur in attainment areas. The Committee also agreed that if a SIP is revised to change the monitoring method then it may be

appropriate to revise the SIP at the same time to maintain a comparable level of stringency. Thus, under this approach, EPA would use the statutory provisions and the agreements reached by the Committee to disapprove any SIP revision that represents backsliding. This does not mean that changes to the SIP are not permissible. A modification can be made if the modification is consistent with other requirements of section 110 of the Act. In addition, the modification must: (1) Ensure that the applicable emission limitations and format in effect on September 15, 1992, will continue in effect, or (2) include a change in the method of monitoring (except frequency unless indicated in the SIP) that is more stringent than the monitoring method used prior to September 15, 1992, and that ensures coke oven emission reductions greater than the emission reductions required prior to September 15, 1992, (for such changes, the burden of proof falls upon the initiator of the change and must be demonstrated to the satisfaction of the Administrator), or (3) make the emission limitations more stringent while holding the format unchanged, make the format more stringent while holding the emissions limitations unchanged, or make both more stringent. This last provision does not preclude future emissions averaging, with the approval of the permitting authority, at a coke plant that will meet, battery-by-battery, the individual emissions limitations and format in effect on September 15, 1992. For example, if at some point in the future a State revises its SIP to lower emission limitations for one or more batteries (while holding the format constant), the State could allow emissions averaging to meet the lower limits, provided that each battery did not exceed the applicable emissions limitations and formats in effect on September 15, 1992.

The Committee also discussed the relationship of the coke oven NESHAP to section 112(g) of the Act, which establishes requirements for modifications of existing sources. Industry raised concerns regarding the potential for application of section 112(g) to sources subject to the coke oven NESHAP. The Committee agreed that section 112(g) should not apply to such sources and that this conclusion is supported by the statute. The statute creates an elaborate compliance schedule for sources subject to these regulations under sections 112(g) and 112(i). Application of section 112(g) would disrupt that schedule and would be contrary to congressional intent. The section 112(g) regulations are yet to be proposed, and application of section 112(g) would create tremendous uncertainty and potential delay for sources planning changes. Therefore, the Committee concluded that section 112(g) should not apply to sources subject to the coke oven NESHAP, except in one specific instance discussed below.

E. Selection of Emission Limits

Data base and confidence levels. The Committee next dealt with the major issue of the numerical emission limits for the 30-day average. The initial discussion concerned the choice of confidence level to be used to establish the limits. The industry representatives stated that a level based on the 95 or 99 percent confidence level does not represent the performance of the best batteries because batteries controlled as well as those on which the limit was based would exceed the standard 4 to 18 times per year per emission point (based on the statistical analysis and daily compliance inspections). They recommended a confidence level that would yield one false violation (i.e., false positive) per year to one false violation per 10 years. The thrust of this discussion was that there would be little opportunity for enforcement discretion, especially considering the provisions for citizens' suits and criminal penalties in the Act. The State, environmental, and union parties expressed the view that owners and operators had substantial ability and incentives to "flatten out" the distribution of their emission rates through better process control. Thus, they felt the historical distributions of the data would not necessarily hold in the future and that very high confidence limits requested by industry (e.g., 99.9 percent) were inappropriate. After some discussion, the Committee agreed to a relatively high confidence level (greater than 95 percent) in establishing emission limits.

The Committee reviewed available data bases to characterize emission control performance. One data base, which was used in EPA's 1987 proposal, consisted of observations made by EPA from 1979 to 1983. This data base was well documented with respect to the method used, emission controls that were in place, and the battery operating conditions. However, there were a limited number of observations made (generally over a few days of operation), and these data do not necessarily reflect current emission control performance.

The second data base consisted of recently collected data that had been "qualified" for this effort. These data were collected by companies as they monitored their performance, and by State or local agencies during compliance inspections. The data were qualified for use in this rulemaking effort by determining that the test methods used to collect the data were reasonably close to the proposed Method 303. The recently collected data included many more observations than were obtained in the earlier EPA inspections, and the observations covered several months of operation. For example, several hundred observations that span over 24 months of normal operation were obtained for all of the batteries at the USS Clairton Works in Pennsylvania.

The Committee agreed to use the recently collected data from self-monitoring and State or local agency inspections to assess control levels that have been achieved and to develop the emission limits. In addition, agreement was reached that the statutory short-term emission limits effective in November 1993 for batteries on the extension track would be converted to 30-run average limits.

November 1993 limits. Table 3 summarizes results for the conversion of the November 1993 limits to 30-run averages and the proposed MACT and LAER limits for existing by-product coke oven batteries, which are discussed in detail in the following paragraphs. In converting these short-term limits to 30-run rolling average values, it was assumed that a Poisson distribution was applicable for leaks from doors, lids, and offtakes, and that a log-normal distribution was applicable for charging emissions. One observation per day was assumed for leaks from doors, lids, and offtakes. In addition, an approximation of 100 emission points per typical battery was assumed for use in the Poisson distribution. For charging, the approach assumed that five charging observations would be obtained each day over the 30-day period, and the 30-day limit for charging would be based on the rolling log average of 150 observations.

TABLE 3—PROPOSED LIMITS FOR EXISTING BY-PRODUCT BATTERIES[1]

	MACT limits		Extension track limits		
	12/31/98	01/01/03	11/15/93	01/01/98	01/01/10
Tall doors, PLD	6.0	5.5	7.0	4.3	4.1
Foundry doors, PLD	5.5	5.0	7.0	4.3	4.1
All other doors, PLD	5.5	5.0	7.0	3.8	3.
Lids, PLL	0.6	0.6	0.83	0.4	0.
Offtakes, PLO	3.0	3.0	4.2	2.5	2.
Charging, s/charge	12	12	12	12	12

[1] The 11/15/93 numbers are the 30-run limits that are equivalent to the November 1993 extension track limits given in the Act. The dates that are given in the table are the compliance dates for existing batteries.

The November 1993 statutory limit of 8 percent leaking doors was determined to represent a battery with a long-term average performance of 5.8 percent leaking doors. This long-term average yields a limit of 7.0 percent for the 30-run average (based on the Poisson distribution, a high (greater than 95 percent) confidence level, one observation per day for 30 days, and 100 doors per battery). For offtake systems, the 5 percent limit was converted using the same assumptions to a long-term average of 3.3 percent, which yields a 30-run average limit of 4.2 percent. The November 1993 limit of 1 percent leaking topside port lids would require a long-term average performance of 0.45 percent, which yields a 30-run average limit of 0.83 percent. The charging limit, 16 seconds of visible emissions per charge, was derived from a long-term average of 10.1 seconds per charge. This long-term average converts to a 30-run average limit of 12 seconds per charge, calculated as a log average of 150 observations (five per day for 30 days).

Approach for MACT and LAER. The Committee reviewed and was aware of the Act's requirements that MACT is to be based on a level that is no less stringent than the average emission limitation achieved by the best-performing 12 percent of sources and that LAER is to be based on the level of performance described in section 171 of the Act. The Committee considered these requirements in their evaluation of the data.

The batteries with the best emission control performance were used to develop a data base that would include the top 12 percent of all batteries with respect to emission control. The data base included the batteries at the USS coke plant in Clairton, Pennsylvania; Geneva Steel in Provo, Utah; Sharon Steel in Monessen, Pennsylvania; LTV Steel in Chicago, Illinois; and Bethlehem Steel, Bethlehem, Pennsylvania.

The Committee agreed that the proposed *emission limitation for coke oven door leaks*, the most difficult of the various emission points to control, should distinguish between doors on short ovens and those on tall ovens. Distinctions were made for door leaks on short batteries (batteries with ovens less than 6 m in height) and tall batteries (batteries with ovens 6 m or more in height) with a slightly less stringent standard for coke oven doors on tall batteries because they are more difficult to control. (The statute in fact draws this same distinction in the minimum and default LAER standards in section 112(i)(8)(B).) The Committee also agreed that the LAER standard for door leaks at foundry coke producers should be slightly less stringent than the LAER door leak standard for batteries owned or operated by integrated steel producers.

MACT limits. After reviewing the data and evaluating various proposals, the Committee agreed to a tiered approach for the proposed coke oven door emission limitations. For existing by-product coke oven batteries not seeking a compliance date extension, the limits to be met by December 31, 1995, were set at 5.5 percent leaking doors for short coke oven batteries and 6.0 percent leaking doors for tall batteries. The proposed limits decrease to 5.0 percent leaking doors for short batteries and 5.5 percent leaking doors for tall batteries by January 1, 2003. The negotiated standards for the other emission points apply to all batteries equally and are not reduced with time. These limits, to be met by December 1995, are 3.0 percent leaking offtake system(s), 0.6 percent leaking topside port lids, and 12 seconds of visible emissions per charge.

For a new or reconstructed by-product coke oven battery utilizing a new by-product recovery technology, the owner or operator must apply for a case-by-case determination of applicable emission limitations. Examples of new technology include larger ovens, operation under negative pressure, and process changes that result in emission points different from those controlled by these proposed standards. The emission limitations applied must be more stringent than 4.0 percent leaking doors for tall batteries, 3.3 percent leaking doors for short batteries, 0.4 percent leaking lids, 2.5 percent leaking offtake systems, and 12 seconds per charge. Alternatively, the total emissions of all hazardous air pollutants must be less than the emissions from an equivalent battery operated at the visible emission limits given above.

For a new or existing nonrecovery coke oven battery, the owner or operat may meet a standard of 0 percent leaking doors or monitor and record th pressure in each oven or common battery tunnel once each day to ensure that the ovens are operated under negative pressure. Existing nonrecover batteries must implement work practices to control charging emission Greenfield nonrecovery batteries and new or reconstructed nonrecovery batteries that result in an increase in t plant's coke capacity must install, operate, and maintain a capture and control system for emissions from charging.

Limits for the extension track. The negotiated limits for door leaks on existing by-product batteries seeking compliance date extension require th leaks be reduced from the November 1993 requirement of 7.0 percent leaki doors to 4.3 percent for tall batteries batteries owned or operated by found coke producers and 3.8 percent for al other batteries by January 1998, followed by a reduction to 4.0 percer for tall batteries and batteries owned operated by foundry coke producers 3.3 percent for all other batteries by January 2010. As an alternative to th door standards to be met in 1998 an 2010, the owner or operator of a cok oven battery with fewer than 30 ove could elect to comply with a standa of two or fewer leaking coke oven d per battery. Emission limitations for other emission points (4.2 percent leaking offtake systems, 0.83 percen leaking topside port lids, and 12 seconds of visible emission per cha by November 1993), were negotiate be reduced to 2.5 percent leaking of systems, 0.4 percent leaking topsid port lids, and 12 seconds of visible emissions per charge by January 19

The Committee also agreed that pedup rebuilds and brownfield coke oven batteries could remain on the extension track established by the battery or battery design capacity that they replace. The limits discussed above also apply to certain designated brownfield and pedup rebuild batteries. These batteries (Bethlehem Steel's Burns Harbor Number 2 battery, National Steel's Great Lakes Number 4 battery, and Koppers' Woodward Number 3 battery) were grandfathered, because the Committee decided that the planning process for these batteries was already well underway and that these projects should be treated differently than projects for which planning is not so far along. Comment is specifically invited on whether companies, not represented in these negotiations (either directly or through trade associations), have other comparable coke oven projects underway which should be added to this list. For these limits to remain applicable, these batteries must commence construction before July 1, 1998, or one year after receiving a construction permit, whichever is earlier. Slightly more stringent door leak standards apply to all other brownfield or pedup rebuild coke oven batteries. These emission limits are proposed at 4.0 percent leaking doors for tall batteries and 3.3 percent leaking coke oven doors for short batteries.

Cold-idle coke oven batteries. The Committee also discussed cold-idle batteries (batteries that have been shut down but not dismantled). An agreement was reached that batteries placed on cold idle on or after November 15, 1990, could qualify for the extension track by meeting the applicable LAER limits. Special provisions to qualify for the extension track were made for cold-idle batteries that were shut down prior to that date. Batteries that were shut down prior to November 15, 1990, qualify for the extension track upon receipt of approval from the Administrator. The Administrator will evaluate requests in the order that they are received. Criteria for completeness include a brief description of the operator's plans for the cold idle battery and a statement whether construction of a pedup rebuild or a brownfield coke oven battery is contemplated.

The Administrator will approve requests until the total nationwide capacity of all such requests reaches, but does not exceed, 2.7 million Mg/yr. This capacity limit is based on 10 percent of the estimated coke production capacity as of the end of 1990. If approved, these batteries must meet the applicable LAER limits, including the more stringent door leak limits for brownfield or pedup rebuild batteries if applicable. An approval will lapse if the battery is not restarted within two years, or if a construction permit is not issued within a specified period, or is issued and lapses. If an approval lapses, the coke capacity of the battery is not included in determining the total nationwide capacity.

F. Alternative Standard for Doors Controlled by Sheds

The industry representatives asked that the Committee consider an alternative standard for leaking doors that are covered and controlled by sheds. Sheds are large enclosures that are currently used on *some* batteries to cover the entire coke side of the battery. They are designed primarily to capture emissions that occur when the hot coke is pushed into the quench car. The shed also captures emissions from door leaks on the coke side of the battery. The air under the shed is continuously evacuated to a control device by fans to prevent particulate matter generated by the pushing operation and by leaking doors from escaping to the atmosphere. Because the organic particulate matter in door leaks should be controlled by the shed's emission control device, the industry representatives questioned the need for a percent leaking door limit for the doors under the shed. Although there are no sheds currently installed on the pusher side of the battery, there is nothing that would preclude such an installation. Consequently, an alternative standard would address any door leaks captured and controlled by a shed, whether it is on the coke side of pusher side.

There are currently 13 by-product coke batteries at six plants that have coke side sheds. Only one coke plant (with four batteries covered by a coke side shed) is subject to a limit for percent leaking doors for both sides of the battery. At Geneva Steel, the doors under the coke side shed are observed from the bench, and the battery's overall percent leaking doors is determined for comparison with their current limit of 10 percent leaking doors. No correction of adjustment is made for the measurements of percent leaking doors from the bench. No measurements of percent leaking doors are made under the coke side sheds at the other five plants because their current standards limit leaking doors only on the pusher side.

The Committee concluded that the proposed standard should offer two options for those batteries with sheds, provided that equivalency and enforceability were addressed adequately. The owner or operator could choose to meet the emission limit for percent leaking doors under the shed that is applicable for all of the doors on the battery (using the procedures described in the next paragraph). The second option would require an independent demonstration by the owner or operator that emissions from the shed's control device are less than or equivalent to the emissions that result from meeting the limit for percent leaking doors. If this equivalency is demonstrated, then an alternative limit for percent leaking doors would apply to door leaks controlled by the shed.

For the first option, the proposed regulation would require that percent leaking doors be measured under the shed and on the pusher side and that the average of these two measurements meet the applicable limit for percent leaking doors. It may be necessary to observe the doors under the shed from the bench instead of from the yard, which results in the observer being closer to the doors and, therefore, seeing more leaks. The EPA's Emissions Measurement Branch conducted comparisons of bench vs. yard observations and derived a correction factor for bench observations equal to about 6 percent of the ovens. In other words, the percent leaking doors measured from the bench would be reported as 6 percent leaking doors less than the measurement (a measurement of 10 percent leaking doors under the shed from the bench would be reported as 4 percent leaking doors, which would then be combined with the pusher side percent leaking doors to calculate the overall percent leaking doors for the battery).

To develop an alternative to the first option, the Committee considered several issues related to an alternative standard for leaking doors that are covered and controlled by a shed. Industry representatives expressed concern about the observer's safety when inspections are made from the bench. Another issue is the lack of data for the mass emission rate of BSO from leaking doors controlled by sheds. In addition, there is concern that pollutants such as benzene and H_2S (along with other gases and volatile organics) would not be controlled by the shed's emission control device, where limiting the percent leaking doors would aid in keeping all of the pollutants within the by-product recovery system.

After considering the issues and potential solutions, the Committee decided that a practical alternative would be to require the owner or operator to demonstrate that the shed

and its control device control emissions of hazardous air pollutants as well as or better than the applicable limit on the percent of the doors that are allowed to leak. One fact that was considered by the Committee was that coke oven emissions consist of particulate matter, including BSO that the control device would capture. The principal gaseous components of concern are benzene, toluene, and xylene. The Committee decided that any equivalency comparison of the use of sheds to control coke oven gas should include the consideration of this fact. Under the proposal, an owner or operator desiring to obtain approval of an alternative standard must first submit a plan to the Administrator. A complete test plan is deemed approved if not disapproved within 60 days.

Two options are presented for testing the shed and its control device. The first option requires the owner or operator to determine the control device's removal efficiency for particulate matter by sampling at the inlet and outlet of the control device. This result is then used in an equation to calculate the allowable percent leaking doors under the shed. The basic assumptions of the equation to determine the alternative limit are that: (1) Door leak emissions are exponentially proportional (2.5 power) to the level of percent leaking doors, (2) hazardous pollutants such as benzene, toluene, and xylene that escape capture are accounted for in the equation, (3) the control efficiency for BSO is approximately the same as the control efficiency for particulate matter, and (4) the weight ratio of benzene, toluene, and xylene to BSO is 0.4.

The second option allows the owner or operator to measure the ratio of hazardous air pollutants that escape capture to the uncontrolled BSO emissions instead of using the ratio of 0.4. This measured result for the ratio is used in an equation to calculate the alternative standard for the doors under the shed.

The owner or operator must submit the results of the test to the Administrator, along with other information, in support of its application for an alternative standard. Except in one situation, the Administrator must affirmatively approve the application for the alternative standard to apply. The exception covers applications for sheds other than new sheds at extension track batteries seeking an alternative standard replacing the 1993 LAER standard (§ 63.304(b)(1)) for doors. Because the compliance date for these standards is so close, the Committee agreed to a "fast track" approval process for these applications, under which an application filed by a specified deadline is deemed approved, if not disapproved within 60 days. The resulting alternative standard, however, is valid for only one year, after which an affirmative approval is needed. The doors under the shed will be inspected once a week by the applicable enforcement agency. The proposed rule provides for changing to a monthly inspection frequency if 12 weekly observations do not show an exceedance. The hazards associated with inspecting doors from the bench were considered in fashioning this inspection scheme. The standard is expressed as a not-to-be-exceeded standard because of the reduced sampling frequency. An adjustment was made in the equation for the alternative standard to account for the conversion of a 30-run limit (99.7 percent confidence level) to an equivalent limit based on one inspection per week and the 98 percent confidence level. In addition, a cap of 15 percent leaking doors is included to limit the upper end of the number of allowable leaks. This PLD limit would be based on reading from the yard and therefore would be equal to 21 PLD read from the bench under the shed.

The Committee also wanted to ensure that the shed and its control device were properly operated and maintained to consistently achieve the level of control demonstrated during the emission test. During the test to determine control efficiency, the owner or operator must thoroughly inspect the emission control systems to ensure that it is operating properly, monitor for visible emissions that escape capture by the shed when coke is not being pushed, and monitor the opacity of the shed's exhaust. The owner or operator must provide data and propose an opacity standard for the exhaust from the control device based on the highest 6-minute opacity during the performance test, if an opacity of 0 percent is not achieved during the test.

In addition, the exhaust from the control device must be monitored for opacity either by continuous opacity monitoring systems or certified Method 9 observers, and certain parameters must be monitored to ensure that the evacuation rate is maintained at the level observed during the test. The shed will be observed weekly for coke oven door emissions that escape capture. If visible door emissions are detected, the Administrator may require a performance test to evaluate the shed's capture efficiency. In addition to these specifications, the Committee agreed to certain design criteria for new sheds and their air handling systems. The purpose of these criteria is to ensure appropriate capture of coke oven emissions in order to minimize worker exposure to coke oven emissions. In order for an alternative standard to be approved for a new shed, one of two demonstrations must be made. The options open for a new shed are to submit a demonstration modeling the concentrations under the shed or a showing that the shed is designed in accordance with generally accepted engineering principles for the effective capture and control of particular emissions (including BSO) as measured at the shed's perimeter, its control device, and at the bench level. In applying the second test, the Administrator will be looking at whether the cost of additional engineering controls that may be technologically feasible bear a reasonable relationship to projected additional reductions in concentrations of particulate emissions (including BSO). For example, if the evacuation system for a proposed new shed is designed for a particular evacuation rate, a higher rate would not be required if this higher rate significantly raised construction/operating costs, but had no significant impact on the capture efficiency of the shed, or on expected concentration of particulate emissions (including BSO) at the bench level. Quarterly inspections are required to check the structural integrity of the shed and control device and to inspect for leaks.

Failure to meet the requirements for the shed and its control device will be considered a violation. Exceedances of both the alternative standard and/or the applicable emission limitation for coke oven doors not covered by a shed on the same day is one violation. For purposes of the triggers for implementation or revision of work practice plans, each side of a battery subject to the alternative standard is treated separately, and the requirement for independent exceedance (see discussion below) does not apply to the shedded side of the battery. Thus, if the shed is only on one side of the battery, work practices must be implemented on the side of the battery without the shed if the applicable emission limitation for that side is exceeded. Exceedance of percent leaking doors limits either alone or together is a violation.

G. Work Practice Requirements

The Committee considered several approaches to meeting the requirement for promulgation of work practice regulations pursuant to Section 112(d)(8)(B) of the Act. In general, the work practice requirements could be specific to each individual battery or a list of universal work practices could be

developed. The Committee also considered requiring the industry to develop a written plan that identifies those work practices best suited to each individual battery. Still another consideration was how to best coordinate with the OSHA work practice requirements for the control of employee exposure to coke oven emissions (29 CFR 1910.1029).

The OSHA regulations require a series of detailed engineering and work practice controls to maintain employee exposure to coke oven emissions below the permissible exposure limit of 150 μg of BSO/M³ of air (8-hr average). For an existing coke oven battery (in operation or under construction as of January 1977), the employer must apply the engineering and work practice controls cited in the regulation; for a new or "rehabilitated" battery (i.e., rebuilt, overhauled, renovated, or restored from the pad up after January 1977), the best available engineering and work practice controls must be implemented. Among the required engineering controls for existing batteries are the use of stage, sequential, or pipeline charging methods; coal handling and larry car controls; ready access to door repair facilities; and maintenance of spare door inventories.

The OSHA work practice requirements cover charging, coking, pushing, and maintenance/repair. For charging operations, the OSHA rules require the employer to establish and implement a written inspection and cleaning procedure for each battery and a written charging procedure that addresses each of several specified requirements. During coking, the battery must be operated according to a written procedure that includes: (1) Repair, replacement, and adjustment of coke oven doors, chuck doors, and door jambs; (2) door and jamb cleaning after each coking cycle; (3) a door leak inspection and corrective action program; (4) luting of doors for each coking cycle and reluting as needed for leak control; and (5) checking controls to maintain uniform pressure in the collecting main. The OSHA rules also require that the employer operate the battery according to a written procedure for pushing operations; included in the requirements are several measures to be taken to prevent green pushes. A written procedure for maintenance and repair of the batteries also is required. This plan must require regular inspections for defects in the control systems; damper system; heating system; oven brickwork; and coke oven doors, jambs, and seals with necessary repairs completed as soon as possible. The employer also must develop, implement, and update at least every 6 months, a written compliance program to reduce exposure by means of engineering and work practice controls.

All written procedures required by the OSHA rules must be included in the annual employee training program required by 29 CFR 1919.1029(k). Each written plan must be submitted upon request and be available at the work site for review by OSHA representatives.

The Committee also discussed, pursuant to section 112(d)(8) (A) and (B), the use of sodium silicate as a supplemental sealant to control leaks from self-sealing doors. The use of supplemental sealants on self-sealing doors has been shown to be effective when the material is used properly. Proper use involves the application of small quantities to seal small leaks, removal of the material at the end of the cycle, and avoiding the application of the material to adjusting bolts, springs, and other door components. Examples of improper use, such as excessive spraying and coating of equipment and attempting to seal large door leaks, were also given. In some cases, the use of a supplemental sealant may mask a more fundamental problem that needs to be corrected, such as a damaged door seal or jamb that should be repaired. After considering these factors, the Committee decided that the use of supplemental sealants such as sodium silicate should not be mandated for door leaks; however, use of sodium silicate could be implemented on a site-by-site basis pursuant to the work practice plan discussed in the following paragraph.

The Committee agreed that, although work practice requirements should differ from battery to battery, consistent implementation of work practice requirements will be an important factor in meeting the proposed emission limits and in reducing coke oven emission levels at all batteries. Thus, the Committee agreed that the proposed rule would require the owner or operator to prepare and submit to EPA by November 15, 1993, a written coke oven emission control work practice plan that includes a description of the work practices to be implemented for each coke oven battery. The work practice plan would not supersede requirements of work practice plans required under 29 CFR 1910.1029. The Committee expects that plans prepared for this proposed rule and for OSHA will be compatible and that the company will comply with both. The Committee also agreed that, during any implementation period, failure to implement one or more provisions of the plan and/or any recordkeeping requirement(s) during a day for a given emission point would constitute a single violation.

Five basic subject areas would be covered under each plan: Training, and procedures for controlling emissions from coke oven doors, charging operations, topside port lids, and offtake systems on by-product coke oven batteries. Work practices for nonrecovery batteries must address procedures to control emissions from charging and from doors (e.g., smoldering coke or coal on the door sill). Within each subject area, the committee agreed upon a list of priority topics that were felt to have an important relationship to a work practice program for preventing exceedances of visible emission limitations. Finally, plans must provide procedures for maintaining a daily record of the performance of plan requirements, which would be certified by the owner or operator. The Committee decided that requiring daily recordkeeping programs to be developed as part of the plans would allow tailored approaches, which would reduce burdens and costs.

For the owner or operator of a coke oven battery subject to the visible emission limitations for the extension track on November 15, 1993, the proposed rule would require the applicable work practice provisions to be implemented following the second independent exceedance of the visible emission limitation for an emission point in any 6-month period, and to be implemented no later than 3 days after written notification of the exceedance. This 6-month period is a rolling 180-d period. The second exceedance is independent if it is separated from the first by at least 30 days, or if the 29-ru average, calculated after deleting the highest observation in the 30-day period, still exceeds the applicable emission limit. A similar procedure is used to calculate independence in the case of charging emissions, under whi the rolling average is recomputed, excluding the daily set of observation with the highest arithmetic average. F batteries with an approved alternativ standard for coke oven doors under a shed, the same implementation procedures apply, except that the shedded and unshedded sides of the battery are treated separately, and th independence requirement doesn't apply to the shedded side. (See Secti F for a more detailed discussion.) Th owner or operator must implement tl plan provisions until the visible emission limitation for the emission point is achieved for 90 consecutive days.

If the owner or operator is not subject to visible emission limitations until December 15, 1995, the proposed rule would require that the applicable work practice provisions be implemented following the second exceedance of a federally enforceable State or local ordinance, regulation, order, or agreement for coke oven doors, topside port lids, offtake systems, or charging operations. The owner or operator would be required to implement the work practices no later than 3 days after receipt of written notification from the applicable enforcement agency and continue the work practices until the visible emission limit for the emission point is not exceeded for 90 days.

The Administrator may require revisions to the plan provisions for a particular emission point, if there are two independent exceedances in the 6-month period starting 30 days after the work practices are required to be implemented. As in the case of the triggers for plan implementation, the independence requirement does not apply in certain instances. When a plan is called for revision, the Administrator may require additional subjects to be addressed, if a finding is made that without plan coverage of the additional area or areas, there is a reasonable probability of further exceedances. Within ten days of receiving notification of a second exceedance (or a second independent exceedance, as appropriate) from the certified observer or the enforcement agency, the owner or operator must notify the Administrator of any finding of whether the exceedances are not related to work practices. The Administrator may disapprove a revision or a statement that a revision is not needed. If the Administrator requests a plan revision, the owner or operator must submit a revised plan within 60 days, unless an extension is granted. No more than two revisions per year may be requested; however, any revisions in response to a disapproval of a revision do not count toward this limitation.

When the work practices are required to be implemented for a practicular emission point, specified record keeping requirements pertaining to that emission point are also triggered, and remain in force for the duration of the implementation period. These include the plan provisions providing for a daily record to be maintained showing either the work practices performed or those not performed, certified by the owner or operator. Records also would be required for training programs, audits of the effectiveness of certain aspects of the work practice program for the emission point, and when applicable for doors, records of the inventory of spare doors and jambs maintained onsite.

H. Startup, Shutdown, and Malfunction Requirements

The Committee found that preventing and reducing the occurrence of malfunctions that result in the release of coke oven emissions or raw coke oven gas was an important goal of the regulation. In addition, if a malfunction does occur, actions can be taken to minimize the environmental consequences.

The Committee concluded, for the purposes of these proposed standards, to define a malfunction as:

"any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures caused in part by poor maintenance or careless operation are not malfunctions."

The proposed rule would require compliance with the coke oven NESHAP emission limits at all times, except during startups, shutdowns, and malfunctions. This does not mean that owners and operators are automatically excused from complying with the emission limits during startups, shutdowns, and malfunctions. First, the owner or operator must demonstrate that a particular event was due to a malfunction, startup, or shutdown. Also, the proposed rule would require the owner or operator to develop a startup, shutdown, and malfunction plan, which describes procedures for operating and maintaining the source during periods of startup, shutdown, or malfunctions The plan would explain the actions that would be taken by the owner or operator when startups, shutdowns, and malfunctions occur. The plan may address events that are not malfunctions, and must provide procedures for minimizing exceedances, using good air pollution control practices. The plan would be maintained onsite for inspection and revised upon request by the EPA.

Malfunctions must be corrected as soon as practicable after their occurrence according to the procedures in the plan, and records would be kept of any periods of startup, shutdown, or malfunctions. In the event of a malfunction, the owner or operator would be required, if practicable, to inform the certified observer when the observer is performing his/her duties, or inform the enforcement agency within 24-hours and include an explanation why the certified observer was not notified. The owner or operator would follow up these reports with a written report explaining the circumstances within 14 days. The Administrator will review the report to determine if a malfunction occurred, if the plan was followed, and if revisions to the plan are required. The Committee agreed that no accident prevention plan would be required. However, this decision in no way affects the authority of the Administrator to regulate coke oven batteries under section 112(r) of the Act, or any obligation under the Occupational Safety and Health Act or other laws, including any obligations to prepare accident prevention plans.

Based on past experiences with coke oven batteries and similar malfunction provisions in other regulations, EPA does not expect that there will be many occasions on which the malfunction provisions of this regulation will be utilized. However, if this projection turns out to be erroneous, EPA will give serious consideration to changing the malfunction provisions through subsequent rulemaking. In addition, EPA expects to look carefully at malfunction claims, particularly those that are repetitive in nature. Because of this increased scrutiny, EPA anticipates that it will be progressively more difficult for an owner or operator to sustain a malfunction claim in such cases.

The proposed rule also requires an owner and operator of an affected coke oven battery to operate and maintain the battery and its air pollution control technology at all times, including during startups, shutdowns and malfunctions, in a manner consistent with good air pollution control practices for minimizing emission to the levels required by the applicable performance standards. These provisions apply only to emissions and sources of emissions affected by the proposed standards.

The EPA has used this specific regulatory approach to implement individual technology-based standards since the early 1970's. This approach was not intended to provide the Administrator with the ability to force better performance (lower emissions) than required by the technology-based standard. Rather, this approach is founded on the common sense view that control technologies that are not properly operated and maintained do not achieve the emission reduction required by the technology-based standards.

Generally, this approach addresses situations where the standard does not effectively measure compliance, including times when a performance test is not being conducted and during startups, shutdowns, and malfunctions It is often not feasible to prescribe or

enforce an emission standard during these events.

The EPA makes the following comments regarding the application of this requirement. First, this provision is applied to a source based, in part, on the type of standard affecting that source. For example, consider the baghouses likely to be used as the control technology along with a shed for capturing and reducing door leak emissions. Such baghouses would be checked for compliance, under the proposed standards, at least once per day against an opacity limit. Rather than requiring a continuous opacity monitor system (COMS), the Committee allowed owners and operators the option of selecting a periodic compliance measure as a practical way to determine compliance. In doing so, the Committee did not intend that the operator would not be responsible for ensuring the expected emission reductions at times other than during the performance tests. As a consequence, a requirement that the operator use good air pollution control practices between these daily performance tests is needed. If an operator elects to use a COMS, the requirement in proposed § 63.310(a) would have much more limited applicability. It would apply when a compartment in the baghouse fails and a high opacity is observed by the operator; the requirement in proposed § 63.310(a) directs the operator to take appropriate actions, *e.g.*, remove the compartment from the exhaust stream.

Second, the work practice requirements in proposed § 63.306 call for air pollution control practices like those intended under the requirement in proposed § 63.310(a). Thus, when a work practice plan must be implemented (or similarly if there is a startup, shutdown, or malfunction), then full implementation of the appropriate plan provisions would be deemed to satisfy § 63.310(a) for the areas covered by those provisions. If the operator fails to implement the work practice plan (or similarly a startup, shutdown, or a malfunction plan), the Administrator would pursue a violation of the plan.

Third, in light of its experience with provisions comparable to this provision, EPA expects that the requirement of proposed § 63.310(a) will infrequently be used as the basis for an enforcement action. It is anticipated that the principal use of § 63.310(a) would be to deal with instances where there is a failure to carry out operations or maintenance related to compliance with emission limitations. When it is used, the Administrator must establish that failure to adhere to the requirements of this provision could reasonably be expected to result in emission levels higher than those anticipated by the applicable performance standards. In appropriate instances, the Administrator may elect to conduct additional performance tests to assist in making full evaluation of emissions performance impacts.

Fourth, § 63.310(a) provides express guidance for dealing with situations involving simultaneous violations of § 63.310(a) and an applicable performance standard or work practice standard. The proposed regulation provides that failure to adhere to the requirements of § 63.310(a) shall not constitute a separate violation if a violation of an applicable performance or work practice standard has also occurred.

I. Standards for Bypass/Bleeder Stacks

Bypass or bleeder stacks are used to vent raw coke oven gas to the atmosphere to relieve excess pressure in the ovens. The bypass usually occurs as a result of an equipment failure (such as the exhauster, which is used to move the gas from the ovens to the by-product recovery plant) or problems in the gas handling processes in the by-product plant. One large coke plant experienced 12 venting incidents over a 3-year period (1987 to 1989). During this time, raw coke oven gas which contains BSO, H_2S, benzene, and other toxics were emitted. Emission estimates based on the composition of the gas, the frequency of the bypass events, and their duration indicate that the average annual emissions from bypassing coke oven gas has the potential to exceed the emissions from doors, topside port lids, offtake systems, and charging.

The emissions from bypassing raw coke oven gas can be controlled by flares that ignite and destroy many of the most toxic components. The benzene soluble organics and volatile organics are destroyed by combustion, and H_2S in the gas is converted to SO_2. Over 20 percent of the coke industry already has installed flares to control the bypass/bleeder stack, and other plants have made plans to install these control devices. The cost of a flare was estimated by a vendor to range from $100,000 to $200,000; the upper end of the range is for a battery requiring additional structural support for the flare. Considering the emission potential during a bypass episode and the reasonable cost of control, the Committee decided to require that all existing by-product batteries (except those committing to shutdown) install and operate flares to control bypassed emissions.

The EPA and the Committee concluded that there would be a substantial reduction in the toxic components of the raw coke oven gases as a result of flares. Some Committee members felt that companies should begin voluntary installation of the flares as soon as possible in order to achieve the corresponding environmental benefits. For the regulation, the Committee decided to require that the installation of the flares be completed by March 31, 1994. An exception to the flare installation was made for batteries that will be shut down before December 31, 1995. The Administrator must be notified of an intent to shut down a battery by April 30, 1993, for the owner or operator to qualify for the flare installation exemption. Batteries that have not filed such a declaration must have a flare installed and operational by March 31, 1994. Brownfield and padup rebuild coke oven batteries must have a flare installed before startup.

The general flare requirements developed by EPA in 40 CFR 60.18 were considered for use in specifying flares for coke ovens. The flaring of coke oven gas is different than the type of flaring situation that the general flare specifications in 40 CFR 60.18 had been intended to be used. First, coke oven gas flaring occurs only as a result of an emergency release. Second, the coke oven gas is generally under a relatively low pressure and has a high hydrogen content.

The hydrogen in the coke oven gas accounts for slightly less than half of the net heating value of the gas stream and affects the characteristics of the gas stream. Hydrogen has a lower viscosity and higher flame speed than hydrocarbons typically affected by the specifications in 40 CFR 60.18. As a consequence, a stable flame can be maintained at a lower heating value and a higher velocity than a flare operating in compliance with 40 CFR 60.18.

Flare systems have been designed to combust coke oven gas that contain as low as 250 BTU/SCF and operate at about 60 ft/s during the flaring operation except possibly during the initial surge of the emergency release. flare stability analysis of coke oven gas conducted by EPA indicates that these heat content velocity conditions provi better than 98 percent destruction. Fla designers have stated that due to the low pressure of the coke oven gas that velocities in excess of 60 ft/s are not practical from a pressure drop standpoint for coke oven battery flare and have also recommended designin a flare for about 120 percent of the anticipated coke oven gas flow rate.

Flare designers have also expressed a concern that if the flare velocity is too low then there may be a possibility of air infiltrating back into the flare and causing a backflash which may damage a coke oven battery. There are additional safety considerations in flare design that must be addressed such as the necessity of shielding surrounding areas from flame radiant heat. These safety concerns are the responsibility of the owner or operator of the flare.

After considering the above information the Committee agreed that the generic flare specifications in 40 CFR 60.18 were not completely applicable to the flaring of coke ovens and certain modifications to the generic specifications were required. The following flare requirements were agreed upon by the Committee:

(1) Flares should be designed for an operated with no visible emissions except for periods not to exceed a total of 5 minutes during any consecutive two hour period (40 CFR 60.18(c)(1) and (f)(1));

(2) Each flare system must be designed to control 120 percent of the normal gas flow generated by the battery;

(3) Flares should be operated with a pilot flame present at all times and shall be monitored using a thermocouple or other equivalent device. (40 CFR 60.18(c)(2) and (f)(2).) As an alternative, electronic igniters that meet certain requirements which demonstrate reliable operation can also be used;

(4) Flares should be designed for a net heating value of coke oven gases of 8.9 MJ/scm (240 Btu/scf) or greater if the flare is steam assisted or air assisted, or 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. There would be no limitation on exit velocity. The net heating value specifications are a design parameter for the gas that the flare is expected to burn, not a measured value;

(5) Owners or operators should also meet 40 CFR 60.18 (d) and (e) which require owners or operators to monitor the flare systems to ensure that they are properly operated and maintained, and require that flares be operated at all times when coke oven gas is being vented to them;

(6) Owners or operators would be prohibited from venting coke oven emissions through bypass/bleeder stacks, except through the flare system or an approved alternative control device; and

(7) A destruction efficiency of 98 percent or higher was estimated even at the lower Btu content for coke oven gas because it contains a significant amount of hydrogen. As agreed upon by the Committee, the proposed NESHAP also allows the owner or operator to apply for approval of an alternative control device or system that achieves 98 percent destruction efficiency for coke oven emissions.

Some Committee members expressed concern that the installation of the flares to combust emergency releases of coke oven gases could trigger new source review (NSR) under part C (prevention of significant deterioration) or part D (nonattainment) of title I of the Act. The PSD regulations apply to major new or modified stationary sources locating in areas designated as attainment or unclassifiable pursuant to to Section 107(d) of the Act. The nonattainment NSR regulations apply to areas designated as nonattainment under Section 107(d). EPA and the Committee agreed that installation of the flares would not trigger NSR.

In general, a modification to an existing major stationary source is subject to NSR if it would result in a significant net emissions increase of any pollutant (40 CFR 52.21(b)(2)). For example, the significant emission rate for NSR applicability for SO_2 is any rate of emissions that would equal or exceed 40 tons per year. In the event of any emergency release of coke oven gases at a coke oven battery, the installation of the flares at the battery would result in an increase in SO_2 emissions caused by the combustion of the coke oven gases. Such an increase could theoretically exceed the 40 ton per year significance level.

The EPA, however, does not believe that NSR would be triggered by such a sequence of events. Using available data on emergency releases from coke ovens, EPA has determined that the average coke oven battery will have about 8 hours per year when emergency releases will occur. The largest coke plant in the United States uses approximately 17,000 tons of coal per day or about 5,700 tons per 8-hour period. About 10 pounds of SO_2 emissions per ton of coal charged result from flaring coke oven gases. In this example, the total SO_2 emissions from flaring coke oven gases is about 28 tons per year. Consequently, it is doubtful that the SO_2 emissions resulting from the flaring of the coke oven gases during emergency releases would ever reach levels which could trigger NSR. Moreover, while small upsets may occur several times in a year, large episodes are quite uncommon, occurring as infrequently as one per ten-year period. EPA knows of no incident where the emergency lasted long enough to generate 40-tons of SO_2 emissions. The Agency has conducted a similar analysis for other pollutants subject to parts C or D of title I of the Act.

As noted above, NSR applicability must be judged on whether the flare would result in an increase in the source's emissions in excess of the applicable threshold (40 CFR 52.21(b)(2)). Because these flares are intended to operate under emergency conditions that are inherently difficult to predict and quantify, EPA has determined that it would be appropriate to determine emissions relying on the analyses mentioned above. This conclusion is supported by the fact that large episodes that have occurred more often have not been severe enough to generate an increase above the applicable NSR trigger levels. For the reasons discussed, EPA believes that future emergency episodes can be reasonably expected to be below significance levels, and based on this, EPA is satisfied that the installation of these flares will not increase the source's emissions over applicable significance levels for any pollutant subject to part C or D of title I of the Act.

Based on past experience, EPA does not expect that emissions will increase over applicable significance levels, or threaten the NAAQS, increments, or Air Quality Related Values. Thus, EPA and the Committee have determined that the installation of these control devices, proposed under § 63.307, shall not be considered in making new source review applicability determinations. The EPA is making a finding to that effect in this rulemaking. Thus, EPA will not conduct a case-by-case review of the applicability of NSR to such projects.

J. Collecting Main Leaks

Using a work practice approach, the proposed rule would require that, starting November 15, 1993, the collecting main(s) for by-product coke oven batteries be inspected for leaks at least once daily according to the procedures in Method 303. Any leak would be sealed temporarily as soon as possible (but no later than 4 hours) after detection, permanent repairs would have to be initiated within 5 calendar days after initial detection of the leak, and repairs would be completed within 15 calendar days (unless the Administrator extends the deadline). Records also would be maintained showing the time and date the leak was first observed, the time and date the leak was temporarily sealed, and the time and date of repair.

K. Performance Tests and Procedures

Section 114(a) of the Act authorizes EPA to include monitoring provisions

standards developed under section 112 needed to determine compliance. The EPA also must establish an appropriate measurement methodology pursuant to section 112(i)(8)(B) and evaluate the feasibility of using measurements based on mass emissions (rather than visual observations). Owners or operators may be required to establish and maintain records, make reports, install and maintain monitoring equipment or use specific monitoring methods, sample emissions, and provide additional information as reasonably required.

Visible emission observers currently monitor coke oven emissions at most plants in the country as a result of State regulations, SIPs, and consent decrees. Because each of the proposed emission limitations is expressed in terms of visible emissions, the data recorded by the observer are needed by plant personnel to identify and control leaks and by the Agency or applicable permitting authority to assess compliance and identify potential operating problems.

The Committee agreed that a visible emission monitoring performance test is needed every day (7 days per week) to determine compliance with the proposed 30-observation rolling averages used as the basis of the various emission limitations. The daily performance test also can be used to determine compliance with emission limitations in State regulations and consent decrees under specified conditions.

Only three exceptions from the daily visible emission monitoring requirement would be allowed under the proposed standard. Daily visible emission performance tests would not be required for a new or existing nonrecovery coke oven battery where the owner or operator elects to comply with the alternative to the door leak standard (daily monitoring of pressure) and for charging (work practices for existing batteries and the capture and control system for new batteries). In addition, less frequent monitoring (weekly or monthly) is allowed for coke oven doors subject to an alternative standard under § 63.305.

The Committee also discussed whether to use self-monitoring, or a system under which the enforcement agency would run the monitoring program. After considerable discussion, the Committee decided that monitoring should be performed by a certified observer employed by the enforcement agency or its designated agent. The owner or operator would bear the cost for all training, field instruction, and certification. These expenses would be included in the overhead component of the fees charged by private visible emission observers (one of the components of the formula described below). The Committee agreed that the owner or operator would pay a fee to the enforcement agency to defray the costs of the required inspections program. The proposed rule includes a formula for computing this fee. The enforcement agency may revise the workload term in this equation within three years after promulgation of this subpart to reflect the amount of time shown to be necessary for the required inspections. The EPA will assist enforcement agencies in considering the work load term by gathering and distributing relevant information from the enforcement agencies. However, the owner or operator would not be required to pay for inspection or monitoring services covered by other fees. Procedures are provided to obtain information to determine if this provision is implicated.

The applicable enforcement agency would be required to perform one performance test each day of the week, except in certain limited circumstances. If no test were performed or no valid value obtained for a test, there would be no compliance determination for that day. Compliance determinations resume with the next valid observation. All visible emission observers provided by the enforcement agency must be certified according to the requirements in proposed Test Methods 303 or 303A, or Method 9 as applicable. As discussed further in Section L, EPA will assist the regulated community and States in developing guidance and training materials for certification of visible emission observers. It is the responsibility of States with approved permitting programs to ensure that the inspection procedures in the proposed rule are followed. Nothing in the proposed rule affects the rights of citizens to file suit pursuant to section 304 of the Act.

The monitoring procedures included in the proposed rule would be similar to those procedures described in the 1987 proposed rule. The observer would make one "run" (i.e., battery inspection) each day and record the percent (or number, if applicable) of leaking coke oven doors and the percent leaking topside port lids and offtake system(s) on each battery. The observer also would record the seconds of visible emissions per charge for five consecutive charges from each coke oven battery. The Committee also agreed that during each test, the observer would check and record the collecting main pressure to verify that the pressure is within the normal range of operation. The observer may request that the owner or operator demonstrate that the pressure measurement device is operating properly.

Following each daily test, the observer would make available a copy of the day's performance test results and the calculated 30-run average for each emission point to the owner or operator or their designated onsite representative. The enforcement agency would have the authority to conduct performance tests in addition to those required under the proposed regulation. If additional tests are performed, the proposed regulation provides that the emissions values that are obtained would be averaged for purposes of making required compliance determinations. Thus, for example, if two valid observations of door leaks were obtained on a given day, the average of these values would be used in computing the 30-run rolling averages upon which compliance with the visible emission standard for door leaks is to be determined. The same averaging approach would apply to determinations under the work practice provisions.

During the negotiations the Committee discussed the limitations of visible emission monitoring and the desirability of new monitoring methods. The Committee agreed that the study of new or innovative technologies and approaches for monitoring coke oven emissions is an important area needing additional research. The Committee agreed that as part of the 6-year emission control studies authorized under Section 112(n)(2) of the Act, EPA will work with the U.S. Department of Energy to identify, investigate, test, and/or develop new methods of monitoring that provide more accurate detection and measurement of emissions and overcome limitations in the current visible emission method. (For additional information on the scope of the DOE research on coke oven technology, see Commerce Business Daily, June 10, 1992.)

L. Selection of Test Method

Proposed Test Methods 303 ("Determination of Visible Emissions from By-product Coke Oven Batteries") and proposed Test Method 303A ("Determination of Visible Emissions from Nonrecovery Coke Oven Batteries") have been developed for use with the proposed standards. Method 303 would establish a procedure for determining the duration of visible emissions that occur during the charging process for both wet-coal-charged and dry-coal-charged batteries. It also would establish procedures for

counting coke oven door area leaks (including coke oven doors controlled by sheds) and for determining topside leaks on by-product coke oven batteries. Test Method 303A provides procedures for evaluating visible emissions from coke oven door leaks at nonrecovery coke oven batteries.

For each oven, visible emissions may occur from the charging system, the two main coke oven doors on each side of the oven, the small chuck door on the pusher side of the oven, the three to five topside port lids, the one or two offtake systems that connect the oven to the collecting main, and the collecting main. The methods would require an observer to record the length of time that visible emissions occur from the charging of by-product and nonrecovery coke oven batteries. These emissions may be continuous or intermittent, but only the time during which visible emissions are sighted is recorded and totaled.

The procedures described in the methods would require the observer to walk the topside center line of by-product coke oven batteries and count the number of topside port lids and offtake systems from which any visible emissions are observed. To count leaks in the collecting main, the observer is required to walk along the topside edge closest to the main or along the catwalk above the main. The methods would require the observer to count leaking coke oven doors on by-product and nonrecovery ovens as the observer traverses the coke oven battery at ground level. All leaks (except steam) from the doors of operating ovens are counted, regardless of size or duration. These emissions are generally in the form of yellow-brown smoke. Although some of the luting produces a white, condensed water plume as it dries, this is not counted as a leak under the proposed methods. The percent leaking coke oven doors, topside port lids, and offtake systems is then calculated by dividing the number of leaking coke oven doors, topside port lids, or offtake systems by the total number of doors, lids, and offtake systems observed on the coke oven battery.

The Committee decided not to include a precision and bias statement in Method 303.

The certification requirements of Method 303 include a requirement to attend the lecture portion of the Method 9 training course, followed by classroom training, field inspections, and a demonstration of proficiency in Method 303. This Method 303 training course will be conducted by or under the sanction of EPA, and the field training will include instruction from experienced and certified observers.

The trainee must demonstrate that they have completed 12 hours of field instruction with an experienced coke oven observer. Due to time constraints, the 12 hours of field instruction should not be conducted during Method 303 certification. The trainee should complete the field instruction at a coke oven battery that they will be inspecting after becoming certified. The trainee may complete the field instruction up to a year before their Method 303 certification. Owners/operators will work with the Administrator to make their batteries available for this instruction. No observations obtained during any program for training or for certifying observers would be used for compliance determinations. However, regular daily inspections by the enforcement agency would continue, and compliance determinations from these inspections are not affected by the plant's participation in a training or certification program. Proficiency will be demonstrated during actual visible emission tests to the satisfaction of a panel of 3 experienced and certified observers. However, until November 15, 1994, EPA may waive the certification requirement (but not the experience requirement) for panel members. This provision was agreed to in order to account for the fact that in the first several years of this program, there is likely to be a shortage of certified observers. The panel members will be EPA, State, or local agency personnel who are designated by EPA as certified and qualified panel members.

Another issue that arose was how to deal with doors that are blocked and cannot be inspected for leaks by the observer. Industry representatives proposed that blocked doors be skipped and not included in the compliance determination, although the total number of doors could be used in the denominator of the calculation of percent leaking. The EPA pointed out that most of the visible emission data considered in the development of the standards included observations for all of the doors on operating ovens. However, most of the data probably represent only one "recently charged" oven per inspection because there were no long delays involved in returning to view blocked doors. The Committee proposed to change the test method to allow options for dealing with blocked doors: (1) The plant operator can move the equipment that blocks the doors prior to the beginning of the inspection, which would temporarily delay the charging operation during the inspection, (2) the observer may return to observed doors that were previously blocked, but would not count door leaks on ovens that were charged since the beginning of the inspection, or, as a last resort, (3) the observer may choose to ignore the blocked doors and not include them in the denominator of the calculation of percent leaking. The Committee also agreed to add language to the rule prohibiting the owner or operator from deliberately blocking doors for the purpose of concealing door leaks during an inspection.

The Committee also decided that the daily performance test should include a check of the collecting main pressure to ensure that it operated normally during the inspection. The responsibility for measuring the pressure and calibrating the device rests with the owner or operator. However, the visible emission observer can request to review the calibration records, and the enforcement agency can request a performance test on the accuracy of the pressure measurement device.

Another point of discussion for the test method was where topside observations were to be made. The draft method had recommended the traverse be conducted from "between the larry car tracks." The Working Group offered an alternative of "as close to the centerline as practical," but concerns were expressed about observer safety and the need for occasional deviations of up to 2 feet from the centerline to avoid hazards. An agreement was reached to use the centerline as the reference point for topside inspections; however, language was added to the method to allow the inspector to deviate to avoid safety hazards. In addition, safety hazards such as the danger of walking on lids will be covered in the training program.

Another issue related to the door inspection procedure was the observer's walking pace during the inspection. An agreement was reached to specify a cap based on an average of 4 seconds per door and an allowance of 10 seconds for recording a leak. For a typical battery with 60 ovens and assuming six door leaks, the door leak inspection would be conducted in 9 minutes or less.

Some Committee members requested that coke plant operators receive "credit" for ovens taken out of service by including these ovens in the denominator of the calculation of percent leaking, rather than basing the calculation only on the number of operating ovens. The Committee decided that this procedure would not be consistent with the way the data used to develop the standards were collected; in addition, it could weaken the effectiveness of the proposed standards.

Consequently, the calculation of percent leaking is based on the number of leaks observed and the number of emission points on operating ovens. Ovens that are out of service and, consequently, do not have the potential to leak are not included in either the numerator or denominator of the calculation of percent leaking.

M. Reporting and Recordkeeping Requirements

The proposed standards would require three types of reports: initial and semiannual compliance certifications; notifications; and (if applicable) reports of venting episodes, and certain startups, shutdowns, and malfunctions. These requirements all have been tailored to reflect the fact that the enforcement agency (or its designated agent) will be responsible for conducting almost all of the performance tests and compliance determinations required under the rule. Thus, there is no need for owners or operators to inform the enforcement agency about these matters. Accordingly, the compliance certification, reporting, and recordkeeping requirements address information needed by the enforcement agency that will be generated by the owner or operator.

The initial compliance certification is a one-time statement signed by the owner or operator attesting that the bypass/bleeder stack flare systems have been installed (if applicable) and that a startup, shutdown and malfunction plan has been prepared. Each statement would be submitted to the applicable permitting authority within 45 days of the applicable compliance date for each requirement.

Two types of notification requirements are included in the proposed standard. These one-time reports would notify the Administrator of: (1) The intention to construct or reconstruct a coke oven battery; and (2) the election of various compliance tracks. For an existing by-product or nonrecovery coke oven battery, notification of election to meet either the 1995 emission limitations in § 63.302(a) or § 63.303(a) or the 1993 emission limitations for the compliance date extension in § 63.304(b) or § 63.304(d), or both sets of emission limitations, must be submitted on or before November 15, 1993. The owner or operator may continue to straddle both compliance tracks by notifying the Administrator by December 31, 1995, of election to meet the emission limitations in §§ 63.303(a)(1) or 63.303(a). A binding commitment to a compliance track must be made by January 1, 1998.

Starting 6 months from the required date of compliance for the applicable emission limitations, the owner or operator would submit a certification attesting that: (1) No unflared coke oven gas was vented through a bypass/bleeder stack or a venting report was submitted; (2) work practices were implemented according to the work practice provisions, if applicable, and (3) no startup, shutdown, or malfunction event occurred, or an event occurred and a report was submitted as required.

The proposed standard also requires that records be maintained available for inspection. These records would include: (1) A copy of the work practice plan and any revisions, including records to demonstrate the successful performance of requirements when applicable for an emission point; and (2) data for the alternative standard for coke oven doors, including opacity data for the shed's control device (if applicable), parameters that indicate the evacuation rate is maintained, records of visual inspections, and operation/maintenance records for a continuous opacity monitoring system. For nonrecovery batteries, records associated with daily pressure monitoring and work practices for charging would be required; for new nonrecovery batteries, design information for the charging emission control system would be required. Design information for flares or alternative control systems for bypass/bleeder stacks would be maintained for the life of the control device or system. Records of startups, shutdowns, or malfunctions would also be maintained.

Provisions are also included requiring the owner or operator to make records or reports required to be maintained or submitted to the enforcement agency available to the authorized collective bargaining representative for inspection or copying. The owner or operator must respond within a reasonable period of time, not to exceed 30 days. Except for emissions data as defined in 40 CFR part 2, documents (or parts of documents) containing trade secrets or confidential business information do not have to be produced, and the inspection or copying of documents will not affect any intellectual property rights of the owner or operator in the documents.

N. Delegation of Authority

Except for certain authority specified in § 63.313(b), EPA intends to delegate the authority for implementing the coke oven NESHAP to the States. In addition, it is likely that local air pollution control agencies will assist in the implementation of this NESHAP. These State and local agencies have been implementing Federal requirements for coke ovens for many years and, in the Committee's opinion, are capable of implementing the requirements in the proposed standards.

Under section 112(l)(1) of the CAA, States may submit to EPA, for approval, a program of implementation and enforcement of the Coke Oven NESHAP. Given that States and local agencies have implemented Federal requirements similar to those in the proposed rule, the program should simply provide details regarding agency resources and its intention to implement the various aspects of the Coke Oven NESHAP. The Committee agreed that the program requirements should explain whether the State has adopted the NESHAP by reference or through regulatory development and that the resulting requirements are not less stringent than the requirements of the coke oven NESHAP.

Pursuant to section 112(l)(2), the EPA is required to develop guidance to assist States in the development of their program submittals. Most of the required guidance can be found within this preamble and the proposed rule and Method 303 and 303A. The EPA also intends to produce additional materials to help the State and local agencies implement the Coke Oven NESHAP. For example, EPA will organize and conduct the required certification under Method 303.

Under section 112(l)(5) of the CAA, EPA has 180 days after receiving a program submitted by the State to approve or disapprove such a program. EPA generally reviews and proposes approval/disapproval in the Federal Register. Specifically, a program may be disapproved by EPA if:

(1) The authorities contained in the program are not adequate to assure compliance by all sources within the State with the coke oven standard;

(2) Adequate authority does not exist or adequate resources are not available to implement the program;

(3) The schedule for implementing the standard and assuring compliance by affected sources is not sufficiently expeditious; or

(4) The program is otherwise not in compliance with the guidance issued by EPA for development of State program submissions, or is not likely to satisfy, in whole or in part, the objectives of the CAA.

The EPA and State and local agency representatives on the Committee know no reason that delegation should not be possible when the proposed standard

are promulgated. Delegation to a State pursuant to section 112(l) confers authority to implement the coke oven NESHAP in accordance with the approved State procedure. Upon receipt of delegation of authority to implement the coke oven NESHAP, the State shall have the primary responsibility for implementing the NESHAP to the full extent of its delegated authority. The Authorities contained in section 63.313(b) of the coke oven regulation will be retained by the Administrator and not transferred to the State.

The EPA's current understanding of the States' authority of delegation is as follows. Several States have automatic delegation. Other States and local agencies must request delegation, in writing, from the EPA Region. Two States must go through a rulemaking process at the State level. The EPA will work with these States to facilitate these rulemakings. The Committee encourages States and local agencies to request delegation as quickly as possible to ensure a smooth implementation of this NESHAP.

O. Relationship to General Provisions

As a general matter, the Committee attempted to resolve as many issues related to coke ovens as possible to ensure that the rule would be comprehensive and provide certainty to regulated sources as to the requirements that apply. The EPA and the Committee agreed that any topics covered by future section 112 rulemakings of general applicability (including the General Provisions) that are also covered by this rule or that were resolved during the regulatory negotiation process (e.g., where this rule or the negotiations have resolved them: Notifications; monitoring; requirements for construction and reconstruction; performance test requirements; work practice standards; operation and maintenance requirements; reporting and recordkeeping requirements; definitions; malfunction, startup, and shutdown requirements; compliance certification; and control device requirements) would not apply to sources subject to these regulations. Of course, a coke oven-specific rule addressing these topics would also be subject to § 63.300(f) (e.g., a coke oven malfunction rule). For topics not covered by this rule, such as section 112(f) standards and section 112(r) requirements, future proposed rules under section 112 will identify which provisions of such a proposal would apply to coke oven batteries. This will facilitate comment on the applicability and scope of such provisions for coke oven batteries.

III. Summary of Impacts

The EPA conducted several studies to evaluate the economic and environmental impacts of this NESHAP. The Committee was kept informed about these studies, and participated in some of them. However, reaching consensus on these issues was not a Committee goal. Consequently, this section reflects the views of EPA on the impacts on the NESHAP, which are not necessarily shared by other Committee members.

Coke is produced currently by 82 by-product coke oven batteries operating at 29 plants in 10 States and by one nonrecovery coke plant. The emissions from these coke batteries include organic and inorganic particulate matter, volatile organic compounds (VOC), and gases such as H_2S, SO_2, nitrogen oxides (NO_x) ammonia (NH_3), CO, and others. The pollutants of primary interest with respect to long-term or chronic health effects are various carcinogenic polycyclic organic compounds (such as benzo(a)pyrene), which are found in the organic particulate matter of coke oven emissions. BSO is used to quantify organic particulate matter and represents one of the classes of pollutants in coke oven emissions. BSO does not include volatile organics such as benzene, gases such as H_2S, or inorganic particulate matter.

Assuming existing State regulations and consent decrees are being met consistently by the operating batteries (excluding bypass/bleeder stacks) are estimated at 810 Mg/yr. Nationwide coke oven emissions from bypass/bleeder stacks are estimated at 850 Mg/yr. Implemention of the proposed MACT standard is expected to reduce nationwide coke oven emissions from charging and leaks by the end of 1995 by about 66 percent to 270 Mg/yr, and emissions from bypass/bleeder stacks will be reduced by at least 98 percent to no more than 17 Mg/yr.

Implementation of the proposed LAER standard is expected to reduce nationwide coke oven emissions by the beginning of 1998 by 90 percent to about 79 Mg/yr. After the implementation of LAER and the installation of flares on bypass/bleeder stacks, the overall reduction in coke oven emissions is estimated at 94 percent. Because the control techniques focus on pollution prevention and containment within the by-product collection system, similar reductions in emissions are expected for both organic particulate matter and for the volatile organic compounds and other pollutants contained in coke oven emissions for the sources controlled under these proposed standards. The estimates of mass emissions presented in this paragraph include emissions of BSO, benzene, toluene, xylene, and hydrogen sulfide.

The proposed MACT standards for new coke oven batteries are based on the use of the nonrecovery process and would result in significant reductions of emissions if any new coke oven batteries are built. The test data currently available indicate that these standards will essentially eliminate emissions of BSO from coke plants if the standards are met by constructing nonrecovery coke oven batteries.

Based on the construction of nonrecovery coke batteries for new sources, emissions of volatile compounds such as benzene would also be reduced significantly by the elimination of the by-product recovery plant. In addition, the hazardous solid wastes and the hazardous wastewater produced by the by-product recovery plan would be eliminated. However, there is no indication that any new coke batteries will be built that will represent either a "greefield" plant or an expansion in capacity at an existing plant.

The proposed MACT standards for existing batteries are expected to be achieved by improved equipment and increased maintenance, training, and inspections without rebuilding the battery. The total nationwide capital cost of MACT for existing batteries is estimated at $66 million with a total annual cost of $25 million per year. Many batteries are currently achieving the MACT levels and would not incur any significant increase in costs. The MACT standard is expected to increase the price of furnace coke by 0.2 percent and the price of foundry coke by 1.1 percent. Coke production is projected to decrease by 0.7 percent for furnace coke and 1.1 percent for foundry coke. No coke batteries are projected to close as a result of this proposed standard.

The LAER standards may require the installation of new doors and jambs or the rebuilding of some of the older batteries. Assuming that all batteries will elect to meet the LAER standards, the total nationwide capital cost is estimated to range between $510 million with a total annualized cost of $84 million. Both of these costs are cumulative in that they include the costs associated with MACT. Battery age, for batteries that may be rebuilt, was considered in the analysis, and the costs attributable to the LAER standard were prorated based on the remaining useful life of the battery. The proposed LAER standard is projected to increase

the price of furnace coke by 0.7 percent and foundry coke by 2.5 percent. Furnace coke production is estimated to decrease by 2.1 percent and foundry coke production to decrease by 2.8 percent. Two coke oven batteries producing furnace coke are projected to close and one coke oven battery producing foundry coke may close as a result of the proposed LAER standard.

Some facilities with older batteries that are nearing the end of their useful lives may choose to close these batteries or to install nonrecovery batteries. The closure of batteries due to be rebuilt or replaced in the near future and batteries that may be closed because of the reduced demand for coke is not directly attributable to the standard and is not included in the estimates.

Uncertainties are associated with estimates of nationwide emissions, costs, and economic impacts. For each emission point, the available mass emission data at a particular level of visible emissions were used to establish a range of mass emission estimates for different levels of visible emissions. This range represents the highest estimate and the lowest estimate of mass emissions for given visible emission levels with roughly a factor of 10 difference between the minimum and maximum.

Control cost are associated with equipment modifications or repairs to improve sealing, additional labor for sealing leaks and monitoring emission levels, and emission control training programs for workers and the cost of flares on bypass/bleeder stacks (estimated as less than $20 million in capital cost nationwide). The current cost analysis is based on the guidance received from the Work Group formed from the Coke Oven Battery Advisory Committee. Site-specific information on equipment items and cost was provided by the industry trade associations and individual plants. A major source of current cost information was an industry study performed by an engineering firm that performs repairs and reconstruction of coke batteries.

Limitations or uncertainties in the cost approach arise from determining controls (and their costs) implemented for a specific battery and from determining additional controls (and their costs) to improve emission control incrementally. Another difficulty is that cost data supplied by the plants invariably contain some attributable to routine battery maintenance and to prolonging the battery's life. The uncertainty in costs is reflected in a range of cost estimates accurate to within a factor of roughly 2 to 3.

Regardless of the uncertainties associated with the emission cost, and economic estimates, the proposed standards are expected to reduce coke oven emissions significantly below current regulatory levels (by about 90 percent overall). Additional information on the emission estimates, costs, and economic impacts is available in the documentation provided in the docket.

IV. Administrative Requirements

A. Public Hearing

A public hearing will be held, if requested, to discuss the proposed standard in accordance with section 117 of the Act. Persons wishing to make oral presentation on the proposed standard for coke oven emissions should contract EPA at the address given in the "ADDRESSES" section of this preamble. Oral presentations will be limited to 15 minutes each. Any member of the public may file a written statement before, during, or within 30 days of the hearing. Written statements should be addressed to the Air Docket Section address given in the "ADDRESSES" section of this preamble and should refer to Docket No. A-79-15.

A verbatim transcript of the hearing and written statements will be available for public inspection and copying during normal working hours at EPA's Air Docket Section in Washington, DC (See "ADDRESSES" section of this preamble).

B. Docket

The docket is an organized and complete file of all the information submitted to or otherwise considered by EPA in the development of this proposed rulemaking. The principal purposes of the docket are (1) to allow interested parties to readily identify and locate documents so that they can intelligently and effectively participate in the rulemaking process and (2) to serve as the record in case of judicial review (except for interagency review materials).

C. Executive Order 12291

Under Executive Order 12291, EPA is required to judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. The criteria set forth in section 1 of the Order for determining whether a regulation is a major rule are as follows: (1) Is likely to have an annual effect on the economy of $100 million or more; (2) is likely to cause a major increase in costs or prices for consumers, individual industries, geographic regions, or Federal, State, or local governments; or (3) is likely to result in significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of the United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

The EPA has determined that the proposed NESHAP does not exceed any of the criteria defining a "major rule" and is therefore not subject to the requirements of an RIA. The total annual costs of the proposed MACT standard range from $25 to $33 million/year, well below $100 million/year. The total annual cost of the proposed LAER standards ranges from $84 to $95 million per year, including the MACT costs. In addition, only small market changes are projected. Under the proposed MACT and LAER standards, increases in coke prices would be minimal (less than 1 percent for furnace coke and about 1.1 to 2.5 percent for foundry coke). The decrease in coke production also would be minimal (0.7 percent for furnace coke and 1.1 percent for foundry coke under MACT standards; 2.1 percent for furnace and 2.8 percent for foundry coke under LAER standards).

The proposed regulation presented in this notice was submitted to the Office of Management and Budget (OMB) for review as required by Executive Order 12291. Any written comments from OMB to EPA and any written EPA response to those comments will be included in the docket. The docket is available for public inspection at the EPA's Air Docket Section, which is listed in the ADDRESSES section of thi preamble.

D. Paperwork Reduction Act

The information collection requirements in this proposed rule hav been submitted for approval to OMB under the Paperwork Reduction Act, 4 U.S.C. 3501 *et seq.* An Information Collection Request document has beer prepared by EPA (ICR No. 1362.02), a a copy may be obtained from Sandy Farmer, Information Policy Branch, EPA, 401 M Street, SW., (PM-223Y), Washington, DC 20460, or by calling (202) 260-2740. The public reporting and recordkeeping burden for this collection of information is estimated average 2,461 hours per respondent p year. This includes time for reviewin instructions, searching existing data sources, gathering and maintaining th data needed, and completing and reviewing the collection of informati

Send comments regarding the burd estimate or any other aspect of this collection of information, including suggestions for reducing this burden, Chief, Information Policy Branch, PM

223Y, EPA, 401 M Street, SW., Washington, DC 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer for EPA." The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

E. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires EPA to consider potential impacts of proposed regulations on small business "entities." If a preliminary analysis indicates that a proposed regulation would have a significant economic impact on 20 percent or more of small entities, then a regulatory flexibility analysis must be prepared.

Present Regulatory Flexibility Act guidelines indicate that an economic impact should be considered significant if it meets one of the following criteria: (1) Compliance increases annual production costs by more than 5 percent, assuming costs are passed onto consumers; (2) compliance costs as a percentage of sales for small entities are at least 10 percent more than compliance costs as a percentage of sales for large entities; (3) capital costs of compliance represent a "significant" portion of capital available to small entities, considering internal cash flow plus external financial capabilities; or (4) regulatory requirements are likely to result in closures of small entities.

The economic analysis of the proposed MACT and LAER standards shows that none of the criteria discussed above are exceeded by the proposed MACT and LAER standards. No closures would result from the MACT standards. Of the four small businesses potentially subject to the LAER standards, two are projected to experience an increase in profits, one would make a reduced profit, and one that is currently unprofitable would become more unprofitable. No small businesses are projected to close as a result of the LAER standard although two furnace batteries and possibly one foundry battery at these plants may close.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this proposed rule, if promulgated, will not have a significant economic impact on a substantial number of small business entities because no substantial number of small entities are affected and no significant impact on these small entities will result.

F. Miscellaneous

In accordance with section 117 of the Act, publication of this proposal was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies. The Administrator will welcome comments on all aspects of the proposed regulation.

List of Subjects in 40 CFR Part 63

Air pollution control, Coke oven emissions, Hazardous substances, Reporting and recording requirements.

Dated: November 24, 1992.

F. Henry Habicht II,

Acting Administrator.

For the reasons set out in the preamble, title 40, chapter I, of the Code of Federal Regulations is proposed to be amended as follows.

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

1. The authority citation for part 63 as proposed on June 13, 1991 (56 FR 27338) continues to read as follows:

Authority: Secs. 101, 112, 114, 116, 301, Clean Air Act as amended (42 U.S.C. 7401, 7412, 7414, 7616, 7601).

2. Part 63 as proposed on June 13, 1991 (56 FR 27338) is amended by adding Subpart L as follows:

Subpart L—National Emission Standards for Coke Oven Batteries

Sec.

Subpart L—National Emission Standards for Coke Oven Batteries

§ 63.300 Applicability.

(a) Unless otherwise specified in §§ 63.306, 63.307, and 63.311 of this subpart, the provisions of this subp apply to existing by-product coke batteries at a coke plant and to exi nonrecovery coke oven batteries at coke plant on and after the followi dates:

(1) December 31, 1995, for existi product coke oven batteries subjec emission limitations in § 63.302(a) this subpart or existing nonrecove coke oven batteries subject to emi limitations in § 63.303(a) of this s

(2) January 1, 2003, for existing product coke oven batteries subjec emission limitation in § 63.302(a)(this subpart;

(3) November 15, 1993, for exist by-product and nonrecovery coke batteries subject to emission limit in § 63.304(b)(1) or 63.304(c) of th subpart;

(4) January 1, 1998, for existing product coke oven batteries subje emission limitations in 63.304(b)(63.304(b)(7) of this subpart; and

(5) January 1, 2010, for existing product coke oven batteries subje emission limitations in 63.304(b)(63.304(b)(7) of this subpart.

(b) The provisions for new sou §§ 63.302(b), 63.302(c), and 63.3(this subpart apply to each greenfi coke oven battery and to each ne reconstructed coke oven battery existing coke plant if the coke ov battery results in an increase in t design capacity of the coke plant November 15, 1990, (including a capacity qualifying under § 63.3(of this subpart, and the capacity coke oven battery subject to a construction permit on Novemb 1990, which commenced operat before [Effective Date of Final R

(c) The provisions of this subp apply to each brownfield coke o battery, each pushup rebuilt, and cold-idle coke oven battery that restarted.

(d) The provisions of §§ 63.304(b)(2)(i)(A) and 63.304 of this subpart apply to each fo coke producer as follows:

(1) A coke oven battery subje § 63.304(b)(2)(i)(A) or § 63.304(this subpart must be a coke ov that on January 1, 1992, was ow operated by a foundry coke pro and

(2)(i) A coke oven battery ow operated by an integrated steel on January 1, 1992, and listed paragraph (d)(2)(ii) of this secti was sold to a foundry coke pro before November 15, 1993, sha deemed for the purposes of pa (d)(1) of this section to be own operated by a foundry coke pr January 1, 1992.

federal register

Wednesday
October 27, 1993

Part II

Environmental Protection Agency

40 CFR Parts 9 and 63
National Emission Standards for Hazardous Air Pollutants for Source Categories and for Coke Oven Batteries; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9 and 63

[AD-FRL-4793-6]

RIN 2060-AD67

National Emission Standards for Hazardous Air Pollutants for Source Categories and for Coke Oven Batteries

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: On December 4, 1992 (57 FR 57534), the EPA proposed national emission standards for the control of emissions from new and existing coke oven batteries. This action promulgates the national emission standards and Methods 303 and 303A for the determination of visible emissions from by-product and nonrecovery coke oven batteries. These standards implement section 112 of the Clean Air Act (Act), which requires the Administrator to regulate emissions of hazardous air pollutants listed in section 112(b) of the Act, one of which is coke oven emissions. The final standards also implement section 112(d)(8) of the Act, which contains provisions specific to the regulation of coke oven emissions.

DATES: *Effective Date:* October 27, 1993.

See SUPPLEMENTARY INFORMATION section concerning Judicial Review.

ADDRESSES: *Docket.* A docket, number A-79-15, containing information considered during development of the promulgated standards, is available for public inspection between 8:30 a.m. and 3:30 p.m., Monday through Friday, at the EPA's Air Docket Section (LE-131), Waterside Mall, Room M1500, 1st Floor, Gallery 1, 401 M Street SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Amanda Agnew, Standards Development Branch, Emission Standards Division (MD-13), U.S Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone (919) 541-5268

SUPPLEMENTARY INFORMATION:

I. The Standards

A. Background

The 1990 Amendments to the Clean Air Act establish specific requirements for the development of regulations governing coke oven emissions. Under section 112(d)(8), the EPA must promulgate standards based on maximum achievable control technology (MACT) for coke oven batteries by December 31, 1992. The MACT standards for existing sources can be no less stringent than the best performing 12 percent of existing sources, and standards for new sources cannot be less stringent than the limit achieved in practice by the best controlled existing source. In addition, the MACT standards for coke oven batteries must require, at a minimum, that coke oven emissions from each battery not exceed the following short-term limits: 8 percent leaking doors, 1 percent leaking topside port lids, 5 percent leaking offtake system(s), and 16 seconds of visible emissions per charge (with no exclusion for emissions during the period after the closing of self-sealing oven doors). In establishing the standards, the EPA must evaluate the use of luting compounds to prevent door leaks. (See section 112(d)(8)(A)(i).) The EPA also must evaluate use of Thompson nonrecovery coke oven batteries and other nonrecovery technologies as the basis of standards for new batteries. (See section 112(d)(8)(A)(ii).) The EPA is also to promulgate work practice regulations for new and existing coke oven batteries. These regulations are to require, as appropriate:

The use of sodium silicate (or equivalent) luting compounds if EPA determines that the use of sodium silicate is an effective means of emissions control and is achievable, taking into account costs and reasonable commercial warranties for doors and related equipment * * * and jamb cleaning practices. (See sections 112(d)(8)(B)(i) and 112(d)(8)(B)(ii).)

In addition to these technology-based standards, the EPA is required to promulgate standards to address the risk remaining after technology-based standards are imposed. The EPA is to issue these standards for coke oven batteries within 8 years of promulgation of the MACT standards. (See section 112(f)(2)(C).) This technology-based rulemaking does not depend on the risk analysis of the Regulatory Impact Analysis (RIA), and that analysis will be revisited before any risk-based standard rulemaking for coke oven emissions.

Existing coke oven batteries must comply with the MACT standards by December 31, 1995. (See section 112(d)(8)(A).) The compliance date for meeting residual risk standards is within 90 days of promulgation, which may be extended up to 2 years under certain circumstances. (See sections 112(f)(3)-(4).) However, the Act provides an extension of the residual risk standards for coke oven batteries until January 1, 2020, provided the owner or operator of a coke oven battery complies with technology-based standards on an accelerated basis and that these technology-based standards become more stringent over time.

Under the extension track, to receive the deferral of the compliance date until the year 2020, the owner or operator must achieve the following short-term emission limitations by November 15, 1993: (1) 16 seconds of visible emissions per charge, (2) 8 percent leaking coke oven doors, (3) 1 percent leaking topside port lids, and (4) 5 percent leaking offtake systems. In addition, by January 1, 1998, the battery must meet an emission limitation that reflects the lowest achievable emission rate (LAER), as defined in section 171 of the Act. The LAER regulations may be no less stringent than the following short-term limits: 3 percent leaking doors on batteries with doors less than 6 m in height (i.e., a "short" coke oven battery) and 5 percent leaking doors on batteries with doors 6 m or more in height (i.e., a "tall" coke oven battery), 1 percent leaking topside port lids, 4 percent leaking offtake systems, and 16 seconds of visible emissions per charge. (The Administrator may consider an exclusion for emissions from doors during the period after the closing of self-sealing doors or the total mass emissions equivalent.)

In the LAER rulemaking, the EPA must establish an appropriate measurement methodology for determining compliance for coke oven doors. The measurement methodology must consider alternative methods that reflect the best technology and practices actually applied in the affected industries and must ensure that the final test methods are consistent with the performance of such best technologies and practices. Section 112(i)(8) requires that, if the LAER standard is not promulgated by January 1, 1998, the following short-term limits must be achieved: (1) 3 percent leaking doors (for short coke oven batteries), (2) 5 percent leaking doors (for tall coke oven batteries), (3) 1 percent leaking topside port lids, (4) 4 percent leaking offtake system(s), and (5) 16 seconds of visible emissions per charge, or the total mass emissions equivalent, with no exclusions for emissions during the period after the closing of self-sealing doors. (See section 112(i)(8)(B)(ii).)

The EPA must review and revise the LAER standard, as necessary, by January 1, 2007. (See section 112(i)(8)(C).) To continue to qualify for the deferral of the compliance date for the residual risk standards, the owner or operator must meet any revised LAER limits by the year 2010. (See section 112(i)(8)(C).) The owner or operator also must make

available to the surrounding community by January 1, 2000, the results of any risk assessment performed by the EPA to determine the appropriate level of a residual risk standard. (See section 112(f)(8)(E).)

Section 112(i)(8)(D) of the Act provides that at any time prior to January 1, 1998 an owner or operator may elect to comply with residual risk standards under section 112(f) by the required date rather than comply with the LAER and revised LAER standards and compliance dates. Thus, coke oven batteries can opt out of the extension track. However, the owner or operator would be legally bound to comply with the 1995 MACT standards and the residual risk standards as of January 1, 2003. If EPA has not promulgated industry-wide residual risk standards by that time, the EPA must promulgate residual risk standards for those batteries that choose to meet residual risk standards by 2003.

B. Judicial Review

Under section 307(b)(1) of the Act, judicial review of national emission standards for a hazardous air pollutant (NESHAP) is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this rule. Under section 307(b)(2) of the Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

C. Summary of Final Rule

Applicability. The final standards apply to all existing coke oven batteries, including by-product and nonrecovery coke oven batteries, and to all new coke oven batteries constructed on or after December 4, 1992. A "by-product coke oven battery" is defined as a source consisting of a group of ovens connected by common walls, where coal undergoes destructive distillation under positive pressure to produce coke and coke oven gas from which by-products are recovered. In a "nonrecovery coke oven battery," the coal undergoes destructive distillation under negative pressure to produce coke; the coke oven gas is combusted and by-products are not recovered. The list of operating coke oven batteries as of April 1, 1992, in appendix A to the rule, will be used to resolve any disputes that may arise concerning whether particular groups of ovens should be regarded as a single battery under these regulations.

Emission standards. The emission limitations included in the final rule for existing by-product coke oven batteries are shown in Table 1.

TABLE 1.—EMISSION LIMITS FOR EXISTING BY-PRODUCT BATTERIES[1]

Emission points	MACT track limits		LAER extension track limits		
	12/31/95	01/01/03	11/15/93	01/01/98	01/01/10
Tall doors, PLD	6.0	5.5	7.0	4.3	4.0
Foundry doors, PLD	5.5	5.0	7.0	4.3	4.0
All other doors, PLD	5.5	5.0	7.0	3.8	3.3
Lids, PLL	0.6	0.6	0.83	0.4	0.4
Offtakes, PLO	3.0	3.0	4.2	2.5	2.5
Charging, s/charge	12	12	12	12	12

PLD = Percent leaking doors; PLL = Percent leaking lids;
PLO = Percent leaking offtakes.
[1] The 11/15/93 numbers are the 30-run limits that are equivalent to the November 1993 extension track limits given in the Act, which are 3-run limits. The dates that are given in the table are the compliance dates for existing batteries.

The final standards require that, by December 31, 1995, coke oven emissions from each existing by-product coke oven battery not exceed: (1) 5.5 percent leaking doors for short batteries and 6.0 percent leaking doors for tall batteries, (2) 0.6 percent leaking topside port lids, (3) 3.0 percent leaking offtake system(s), and (4) 12 seconds of visible emissions per charge. On and after January 1, 2003, leaking doors for tall by-product coke oven batteries are limited to 5.5 percent, and emissions from short batteries must decrease to 5.0 percent leaking doors. These 2003 standards are applicable unless more stringent residual risk-based standards are promulgated under section 112(f). Unless otherwise noted, compliance with visible emission standards is determined on a 30-observation rolling average basis.

Visible emission limitations for a new by-product coke oven battery constructed at a new coke plant ("greenfield" construction) and for a new battery constructed at an existing coke plant if it results in an increase in the plant's coke capacity, are based on the emission control performance achieved by nonrecovery coke oven batteries, which are 0.0 percent leaking doors, topside port lids, and offtake system(s) and 34 seconds of visible emissions per charge.

The final standards also address by-product recovery batteries that may use a new technology in the future, such as larger ovens, operation under negative pressure, or a process with emission points different from those identified in this rule. After December 4, 1992, an owner or operator who constructs a new by-product coke oven battery or reconstructs a by-product coke oven battery and uses a new by-product recovery technology must apply for a case-by-case determination of applicable emission limitations. These case-by-case limits must be more stringent than 4.0 percent leaking doors for tall batteries, 3.3 percent leaking doors for short batteries, 0.4 percent leaking lids, 2.5 percent leaking offtakes, and 12 seconds per charge, or less than the equivalent level of mass emissions associated with these visible emission limits.

For door emissions from new and existing nonrecovery coke oven batteries, the NESHAP provides an option of either: (1) Meeting and recording an emission limitation of 0.0 percent leaking doors, or (2) monitoring and recording the pressure in each oven or common battery tunnel at least once each day to ensure that the ovens are operated under negative pressure. For charging on existing nonrecovery batteries, the owner or operator must implement specific work practices. New nonrecovery batteries must install, operate, and maintain an emission control system for the capture and control of charging emissions. If new nonrecovery batteries are constructed with lids or offtake systems, these batteries must meet limits of 0 percent leaking topside port lids and 0 percent leaking offtake system(s).

Standards for extension of compliance. As provided under section 112(i)(8) of the Act, the owner or operator of an existing coke oven battery

may choose to comply with alternative emission standards to qualify for an extension of the compliance date for residual risk standards. By November 15, 1993, coke oven emissions from existing by-product coke oven batteries are not to exceed 7.0 percent leaking doors, 0.83 percent leaking topside port lids, 4.2 percent leaking offtake system(s), and 12 seconds of visible emissions per charge. For nonrecovery batteries seeking an extension of the compliance date for residual risk, the owner or operator must meet the MACT standards for nonrecovery batteries by November 15, 1993. No additional requirements are included in the rule for LAER for nonrecovery batteries.

The final standards incorporate a tiered approach for LAER for door leaks at existing by-product coke oven batteries on this compliance track and one set of limits for LAER for the other emission points. By January 1, 1998, emissions are to be limited to: (1) 4.3 percent leaking doors for tall batteries and batteries owned or operated by foundry coke producers, (2) 3.8 percent leaking doors for all other by-product coke oven batteries, (3) 0.4 percent leaking topside port lids, (4) 2.5 percent leaking offtakes, and (5) 12 seconds of visible emissions per charge. By January 1, 2010, emissions are to be reduced to 4.0 percent leaking doors for tall batteries and batteries owned or operated by foundry coke producers, and to 3.3 percent leaking doors for all other by-product coke oven batteries, unless the Administrator has established a more stringent emission limitation under section 112(i)(8)(C). As an alternative to the LAER limits for percent leaking doors, the owner or operator of a coke oven battery with fewer than 30 ovens may comply with a 30-run average of two or fewer leaking coke oven doors per battery in lieu of the emission limitations to be achieved by 1998 and 2010.

The construction of a new battery at an existing plant without an increase in the plant's design capacity for coke production is termed a "brownfield" battery, and the complete reconstruction of a battery from the existing pad, without an increase in the plant's design capacity for coke, is called a "padup rebuild." Visible emissions from all brownfield or padup rebuild by-product coke oven batteries (except specific grandfathered batteries noted below) are limited to 3.3 percent leaking doors for short batteries, 4.0 percent leaking doors for tall batteries, 0.4 percent leaking topside port lids, 2.5 percent leaking offtake system(s), and 12 seconds of visible emissions per charge. If these grandfathered batteries do not commence construction by July 1, 1996, or 1 year after obtaining a construction permit (whichever is earlier), then they are subject to the more stringent LAER limits; otherwise, they are subject to the January 1, 1998, LAER limits. The batteries eligible to be rebuilt under this grandfather provision are Bethlehem Steel's Burns Harbor No. 2 battery, National Steel's Great Lakes No. 4 battery, and Koppers' Woodward No. 3 battery.

Under customary industry practice, a "padup rebuild" occurs when the existing brickwork of a battery is removed and a replacement battery is constructed on the old pad. Under the final rule, a "padup rebuild" includes any rebuilding project that effectively constitutes a replacement of the battery above the pad, even if some portion of the brickwork above the pad is retained (e.g., an end wall or several courses of bricks above the pad). Thus, a different test is applied than the traditional "reconstruction" test, which focuses on whether the source is substantially rebuilt. In other words, the term "padup rebuild" is not synonymous with the traditional term "reconstruction." However, any attempt to circumvent inappropriately the more stringent door leak requirement applicable to padup rebuilds will be found to constitute a padup rebuild. Accordingly, the rule provides the Administrator (or delegated State or local agency) the authority to determine whether a project is a "padup rebuild."

Batteries that were shut down but not dismantled ("cold-idle batteries") on or after November 15, 1990, can qualify for the extension track. Upon restarting, these batteries must meet the LAER limits for existing batteries and, if they are brownfield or padup rebuild batteries, they must meet the more stringent LAER requirements for these types of batteries. Batteries that were placed on cold idle prior to November 15, 1990, may also qualify for the extension track up to a total design capacity for coke of 2.7 million Mg/yr, which is based on 10 percent of the total coke capacity at the end of 1990. The EPA will process applications on a "first come-first served basis." The procedures include provisions under which an approval will lapse where a serious intention to use the capacity has not been demonstrated. If an approval lapses, the capacity of the battery is not included in the 2.7 million Mg/yr limit. After approval, the battery must meet the emission limits described above for other cold-idle batteries.

The rules also provide alternative door leak standards, to be developed on a case-by-case basis, for coke oven batteries equipped with sheds. (Sheds are enclosures attached to the side of a battery that capture emissions and route them to control devices.) Using the procedure described in the rule, the owner or operator may use an alternative emission limitation for door leaks from a new or existing coke oven battery equipped with a shed and emission control device. The alternative is expressed as the allowable percent leaking doors for doors that are controlled by the shed, an opacity limit for the control device, requirements to ensure that the structural integrity of the shed is maintained, and requirements to ensure that the shed's evacuation rate is maintained. An alternative emission limit will be approved if it is shown that the alternative achieves a reduction in coke oven emissions from the doors equal to or greater than the emission reduction that would be achieved by door leak emission controls installed to meet the emission limitations in the final standards. The determination of equivalency is based on maintaining an equivalent or lower mass emission rate for coke oven emissions emitted from the shed's control device. Inspections for door leaks under the shed are to be performed by the applicable enforcement agency on a specified schedule (weekly or monthly).

Test methods and inspections. Each of the visible emission limitations is based on a 30-run average. To determine compliance, a daily (once a day for 7 days) performance test is to be conducted for each coke oven battery using Method 303, "Determination of Visible Emissions from By-product Coke Oven Batteries," or Method 303A, "Determination of Visible Emissions from Nonrecovery Coke Oven Batteries."

The procedures described in Method 303 require the observer to walk the topside center line of by-product coke oven batteries and count the number of topside port lids and offtake systems from which any visible emissions are observed. To record leaks in the collecting main, the observer is required to walk along the topside edge closest to the main and on the catwalk over the main. Methods 303 and 303A require the observer to count leaking coke oven doors on by-product and nonrecovery ovens as the observer traverses the coke oven battery at ground level.

Various situations may arise that prevent the observer from viewing a door or a series of doors. Prior to the door inspection, the owner or operator may temporarily suspend charging operations for the duration of the inspection so that all of the doors can be viewed by the inspector. Two options

are included in the method for dealing with obstructions to view: (1) Stop the stopwatch and wait for the equipment to move or for the fugitive emissions to dissipate before completing the traverse, or (2) stop the stopwatch, skip the affected ovens, and move to a position to continue the traverse. If using the second option, the observer must return and inspect the affected ovens after completion of the traverse. If the equipment or fugitive emissions are still preventing the observer from viewing the doors, then the affected doors may be counted as not observed. If option 2 is used because of doors blocked by machines during charging operations, then, of the affected doors, the observer must exclude the door from the most recently charged oven from the inspection. The rule prohibits the owner or operator from deliberately blocking doors for the purpose of concealing door leaks during an inspection.

For each daily test, the observer must monitor and record five consecutive charges from each battery and conduct one valid and complete inspection of all doors, topside port lids, and offtake systems on each coke oven battery. The daily test results and the calculated 30-run average are provided to the owner or operator and the implementing agency by the observer. If the observer missed an observation for a day, no compliance determination is made for that day; calculation of the rolling 30-run average proceeds with the next valid observation made by the observer.

The inspection requirements for the alternative standard for sheds are different in that inspections are to be conducted once a week for safety reasons. If compliance with the alternative standard is achieved for 12 consecutive weeks, the inspection frequency decreases to monthly observations. If the limit is exceeded in any monthly inspection, the monitoring frequency increases to once a week. Because of the reduced inspection frequency, the alternative standard is not to be exceeded for any single observation and is not based on a 30-run rolling average.

Each performance test is to be conducted by a visible emission observer, certified according to the requirements of the test method and provided by the applicable enforcement agency at the company's expense. (The formula for payment of expenses included in the standard may be revised after a specified period to adjust the workload assumption, based on the enforcement agency's experience.) State agencies will be delegated authority to ensure that the inspections are conducted as required under the rule.

If a State is not delegated implementation authority or if a State is delegated implementation authority and the delegation has been revoked or withdrawn, or if the EPA has reassumed implementation authority under § 63.313(b), the regulation provides that the EPA will be the enforcement agency and the owner or operator will become responsible for contracting the required emissions inspections. A provision has been inserted in the regulation that requires the owner or operator of a battery for which the EPA is the enforcement agency to enter into a contract providing for the required inspections to be performed by a certified observer, at the expense of the owner or operator. This requirement would substitute for the requirement to pay the inspection fee. Such a contract must be in place within thirty (30) days of receipt by the owner or operator of notice from the Administrator that the EPA is the enforcement agency for the battery. The owner or operator may consult with the Agency concerning the terms of the contract and how it satisfies the requirements of the regulation. Language has also been inserted in the regulation providing that the inspection fee is to be paid on a quarterly basis, to provide an owner or operator some protection against having to enter into a subsequent inspection contract for a period of time for which an inspection fee has already been paid. While it is prudent to provide for the possibility of the EPA having to assume enforcement agency responsibilities, the Agency expects that it will rarely be required to do so. Agency policy is to delegate enforcement responsibilities under this regulation to the States; it fully expects that the States uniformly will undertake these enforcement responsibilities, and discharge them fully and adequately.

The certification requirements of Method 303 include a requirement to attend the lecture portion of the Method 9 training course, followed by classroom training, field inspections, and demonstration of proficiency in Method 303. Attendees of the course must certify that they have satisfied a 12 hour field observation requirement prior to attending the Method 303 certification course. A videotape explaining Method 303 will be made available to interested parties. This Method 303 training course will be conducted by or under the sanction of the EPA, and the field training will include instruction from experienced observers.

Observer proficiency will be demonstrated during actual visible emission tests to the satisfaction of a panel of three experienced and certified observers. However, until November 15, 1994, the EPA may waive the certification requirement (but not the experience requirement) for panel members. The panel members will be EPA, State, or local agency personnel who are designated by the EPA as certified and qualified panel members or private contractors approved by the Administrator. If the Administrator deems it necessary, the EPA will publish a list of qualified panel members in a separate notice.

Work practices. The work practice standards require the owner or operator of an existing or new coke oven battery to develop a written plan describing emission control work practices to be implemented for each battery. The plan, required by November 15, 1993, must include provisions for training and procedures for controlling emissions from coke oven doors, charging operations, topside port lids, and offtake system(s) on by-product coke oven batteries. Similar requirements are included for work practices at nonrecovery batteries for door leaks and charging emissions. Under specified conditions, the EPA may require revisions to the plan or the inclusion of additional work practices or requirements. The EPA expects work practice plans prepared for this rule and for OSHA requirements to be compatible and that the affected facility will comply with both requirements.

For coke oven batteries subject to visible emission limitations under the NESHAP on November 15, 1993 (i.e., extension track batteries), the work practice requirements become applicable following the second independent exceedance of the visible emission limitation for a particular emission point in any consecutive 6-month period. The second exceedance is independent if it is separated from the first by at least 30 days or if the 29-run average, calculated after deleting the highest observation in the 30-day period, still exceeds the applicable emission limit. A similar procedure is used to calculate independence in the case of charging emissions, under which the rolling logarithmic average is recomputed, excluding the daily set of observations with the highest daily arithmetic average. The owner or operator is required to implement the work practice requirements applicable to the emission point by no later than 3 days after written notification of the exceedance. The rule requires that the work practices be implemented each day until the visible emission limitation for the emission point is achieved for 90 consecutive days.

The owner or operator of a coke oven battery not subject to visible emission

limitations under the NESHAP until December 31, 1995 (i.e., a battery not on the extension track), is required to implement the provisions of the work practice plan for a particular emission point subject to visible emission limitations under these NESHAP (i.e., coke oven doors, topside port lids, offtake system(s), and charging operations) following the second exceedance of a federally enforceable State or local ordinance, regulation, order, or agreement for that emission point. The standards require that the work practice provisions be implemented within 3 days of receipt of written notification from the applicable enforcement agency and continued until compliance with the visible emission limitation is achieved for 90 days from the last exceedance.

For coke oven batteries with an approved alternative standard for sheds, work practices for doors under the shed must be implemented based on exceedances of the alternative standard for percent leaking doors under the shed. If one side of the coke oven battery does not have a shed, work practices for coke oven doors must be implemented based on exceedances of the applicable emission limitation for that side of the battery.

The Administrator may require revisions to the work practice plan for a particular emission point if there are two independent exceedances in the 6-month period starting 30 days after the work practices are required to be implemented. The owner or operator must notify the Administrator of any finding that the work practices are not related to the cause or the solution of the problem within 10 days of receiving a notification from the enforcement agency concerning the second independent exceedance. The Administrator may disapprove a revision or a statement that a revision is not needed. No more than two revisions per year may be requested; however, a revision in response to a disapproval of a revision, voluntary revisions, and statements that a revision is not needed do not count toward this limit.

Flares. The standards also require the installation, operation, and maintenance of a flare system (or equivalently effective alternative control device or system) by March 31, 1994, for the bypass/bleeder stacks of each existing by-product coke oven battery in operation as of December 31, 1995, that is capable of combusting 120 percent of the normal gas flow generated by the battery. New batteries must meet the flare requirements when production operations start.

The flare system must be designed to meet the EPA flare specifications in 40 CFR 60.18 (New Source Performance Standards), with certain modifications to take into account the special characteristics of the gas stream. For example, the specification for net heating values in 40 CFR 60.18(c)(3) is revised under the rule to establish a design specification for the net heating value of coke oven emissions for steam-assisted or air-assisted flares of 8.9 MJ/scm (240 Btu/scf) or greater. Installation of the flare will not constitute a physical or operational change for the purposes of determining the applicability of new source review requirements. To qualify for an exemption from the flare installation requirement, the owner or operator must submit a formal commitment to permanent closure of the battery by no later than 2 weeks from today's publication of the final rule. In no case may a battery for which the owner or operator has submitted such a closure notification operate past December 31, 1995.

Questions arose after proposal about the intent of the provision in § 63.307(b)(3)(ii) of the rule, which requires that ignition units be designed failsafe with respect to the flame-detection thermocouples. A clarifying sentence was added to the rule to explain the intent of this provision. The intent was that the flame detection thermocouples are used only to indicate the presence of a flame and are not interlocked with the ignition units. Consequently, the flame detection thermocouples do not affect the operation of the ignition unit. In the event that the thermocouples fail and indicate the presence of a flame when one does not exist, the ignition unit is not deactivated and would continue to ignite any bypassed gas.

Collecting main. The collecting main is to be inspected for leaks at least once daily under the final standards. Any leaks detected must be temporarily sealed within 4 hours; a permanent repair must be initiated within 5 calendar days of detection and completed within 15 calendar days of detection unless extended by the Administrator. The time and date of collecting main leaks, temporary sealing, and repair also must be recorded.

Startups, shutdowns, and malfunctions. These provisions require the owner or operator to develop a written startup, shutdown, and malfunction plan that provides for the operation of the source in accordance with good air pollution control practices for minimizing emissions, and for procedures for correcting the malfunction as quickly as practicable. Associated reporting and recordkeeping provisions also are included.

Reporting and recordkeeping requirements. The regulation would require that certain records be maintained and the following reports be submitted: compliance certifications, notifications, and reports of uncontrolled venting episodes and certain startups, shutdowns, and malfunctions.

For each 6-month period following today's publication of the rule, the owner or operator is required to submit a semiannual compliance certification attesting that: (1) No coke oven gas was vented through the bypass/bleeder stack; (2) coke oven gas was vented through the bypass/bleeder flare system, which operated properly; or (3) a venting report was submitted because of problems with the bypass/bleeder flare system. Semiannual compliance certifications are also required to attest that: (1) No startup, shutdown, or malfunction event occurred, or such an event did occur and a report was provided as required; and (2) work practices were implemented according to the work practice provisions, if applicable.

The notification provisions include requirements for owners or operators to notify the Administrator of the compliance track election that has been made for each battery. In general, these provisions allow batteries to "straddle" (i.e., elect both tracks) up until 1998, when a binding commitment to one compliance track or the other must be made.

The recordkeeping provisions require owners or operators to keep specified records and make them accessible to the Administrator. These include certain monitoring records, records reflecting the implementation of work practice plan provisions, and records related to a startup, shutdown, or malfunction. Records also are to be maintained of data for the alternative emission standard for doors, including opacity data for the shed's control device, parameters that indicate that the evacuation rate is maintained, records of visual inspections, and operation/maintenance records for a continuous opacity monitoring system. For nonrecovery batteries, records are required of daily pressure monitoring and work practices for charging or, for new nonrecovery batteries, of design information for the charging emission control system. In addition, design information for flares or approved alternative control devices or systems must be maintained.

Provisions are also included requiring the owner or operator to make records or reports required to be maintained or required to be submitted to the enforcement agency available to the authorized collective bargaining representative for inspection and copying. The owner or operator must respond to a request within a reasonable period of time. Except for emission data as defined in 40 CFR part 2, documents (or parts of documents) containing trade secrets or confidential business information do not have to be produced, and the inspection or copying of documents will not affect any intellectual property rights of the owner or operator in the documents.

Relationship to existing regulations and requirements. Provisions also are included in the NESHAP that require the owner or operator to comply with all applicable State implementation plan (SIP) emission limitations (or subject to any expiration date, federally enforceable emission limitations contained in an order, decree, permit or settlement agreement) for the control of emissions from charging operations, topside port lids, offtake system(s), and coke oven doors in effect on September 15, 1992. Any change to these existing regulations must ensure that the applicable emission limitations and format in effect on September 15, 1992, will continue in effect; that the change includes a more stringent monitoring method and that no emission increase will occur; or that such modification makes the emission limitations more stringent while holding the format unchanged, makes the format more stringent while holding the emission limitations unchanged, or makes both more stringent. A provision also is included that addresses the relationship of the coke oven NESHAP to section 112(g) and that concludes that section 112(g) requirements will not apply to sources subject to the coke oven NESHAP.

II. Summary of Environmental, Cost, and Economic Impacts

No comments were received regarding the environmental, cost, and economic impact analyses presented for the proposed NESHAP, and no changes to the analyses have been made for the final rule. However, the list of operating batteries in appendix A to the rule has been revised to include the nonrecovery batteries. Additional information on the estimated environmental, cost, and economic impacts is included in the notice of proposed rulemaking (57 FR 57556, December 4, 1992) and the docket.

Implementation of the MACT standard is expected to reduce nationwide coke oven emissions from charging and leaks by the end of 1995 by about 80 percent to 160 Mg/yr, and emissions from bypass/bleeder stacks will be reduced by at least 98 percent to no more than 17 Mg/yr. Implementation of the LAER standard is expected to reduce nationwide coke oven emissions by the beginning of 1998 by 90 percent to about 80 Mg/yr. After the implementation of LAER and the installation of flares on bypass/bleeder stacks, the overall reduction in coke oven emissions is estimated at 94 percent. Because the control techniques focus on pollution prevention and containment within the by-product collection system, similar reductions in emissions are expected for both organic particulate matter and for the volatile organic compounds and other pollutants contained in coke oven emissions for the sources controlled under these standards.

The MACT standards for existing batteries are expected to be achieved without rebuilding the battery using improved equipment and increased maintenance, training, and inspections. The total nationwide capital cost of MACT for existing batteries is estimated at $66 million with a total annual cost of $25 million per year. Many batteries are currently achieving the MACT levels and would not incur any significant increase in costs. The MACT standard is expected to increase the price of furnace coke by 0.2 percent and the price of foundry coke by 1.1 percent. Coke production is projected to decrease by 0.7 percent for furnace coke and 1.1 percent for foundry coke. No coke batteries are projected to close as a result of the MACT standard.

The LAER standards may require the installation of new doors and jambs or the rebuilding of some of the older batteries. Assuming that all batteries will elect to meet the LAER standards, the total nationwide capital cost is estimated to be $510 million with a total annualized cost of $84 million. Both of these costs are cumulative in that they include the costs associated with MACT. The proposed LAER standard is projected to increase the price of furnace coke by 0.7 percent and foundry coke by 2.5 percent. Furnace coke production is estimated to decrease by 2.1 percent and foundry coke production to decrease by 2.6 percent. Two coke oven batteries producing furnace coke are projected to close and one coke oven battery producing foundry coke may close as a result of the LAER standard.

III. Public Participation

The EPA recognized the need for Federal regulation of coke oven emissions and the many issues and challenges posed in developing, proposing, and promulgating standards to meet the requirements of the Act. During the spring and summer of 1991, the EPA met with representatives of the industry, labor unions, States, and environmental groups to discuss available data to be used as the basis of the new regulations. A workshop format was used to explore and clarify the varying viewpoints. Following these informal discussions, the EPA announced its intention to establish a committee to negotiate a new approach for the control of coke oven emissions (57 FR 1730, January 15, 1992) and conducted formal meetings and informal workshops over the next several months to identify and resolve the many issues associated with the regulation of coke oven emissions (57 FR 4025, February 3, 1992; 57 FR 5267, February 13, 1992; 57 FR 6830, February 28, 1992; 57 FR 19295, May 5, 1992). The Committee members are listed in Table 2.

TABLE 2.—COKE OVEN BATTERIES ADVISORY COMMITTEE MEMBERSHIP

Members	Affiliation
David Anderson	Bethlehem Steel Corporation.
William Becker	State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials.
Larry Davis	Hoosier Environmental Council.
David Doniger	Natural Resources Defense Council.
Charles Drevna	Sun Coal Company.
Martin Dusel	Citizens Gas & Coke Utility.
Charles Goetz	Allegheny County Health Department.
Ralph Hall/Steve Lang	Maryland Department of the Environment.
Philip Harter	Facilitator.
Bruce Jordan	Environmental Protection Agency.
Ward Kelsey	Pennsylvania Department of Environmental Resources.
Charles Knaues	Swidler & Berlin (representing the American Iron and Steel Institute).
Phillip Mascianton/o.	USS, A Division of USX Corporation.
Robert McNeils	Citizens Organized to Keep Employment.
David Menotti	Perkins Coie (representing the American Coke and Coal Chemicals Institute).

TABLE 2.—COKE OVEN BATTERIES ADVISORY COMMITTEE MEMBERSHIP—Continued

Members	Affiliation
Tom Ranck	Indiana Department of Environmental Management.
John Seitz	Environmental Protection Agency.
Michael Shapiro	Environmental Protection Agency.
John Sheehan	United Steelworkers of America.
Bruce Steiner	American Iron and Steel Institute.
John Stinson	National Steel Corporation.
Shirley Virostek	Group Against Smog and Pollution.
Michael Wright	United Steelworkers of America.

Using various forums, the Committee discussed many challenging issues, including the emission data to be used to select a standard, potential regulatory formats and numerical emission limits, visible emission monitoring methods, costs and economics, other emission sources, and work practices. Associated issues such as enforcement and implementation needs, legal aspects, future research, and integration of the proposed rule with EPA's new permitting system also were identified and discussed.

Several of the Committee meetings were attended by representatives of local citizens groups and members of unions representing the workers at several coke plants. The union representatives made useful presentations to the Committee on several issues.

At the final negotiating session, the major issues were resolved conceptually. Thereafter, the Committee reviewed drafts of the regulatory language and the preamble, resolved remaining issues, and signed a formal agreement on October 28, 1992. The Committee members have agreed to support the standard as long as EPA promulgates a regulation and preamble with the same substance and effect of the regulation and preamble that were the subject of the final agreement.

It is important to note that the parties to the negotiation concurred with the regulation and preamble when considered as a whole. The parties did not attempt to agree on the accuracy or conclusions reached in various docket items (e.g., Regulatory Impacts Analysis). However, some of these documents served as background information to assist the parties in achieving a consensus. Inevitably in any negotiation, this means that some parties may have made concessions in one area in exchange for concessions from other parties in other areas.

Interested parties also were advised by public notice in the **Federal Register** (57 FR 46854, October 13, 1992) of a meeting of the National Air Pollution Control Techniques Advisory Committee (NAPCTAC) to discuss the status of the NESHAP recommended for proposal. (See Docket Item VIII–J–7.) This meeting was held on November 18, 1992. The meeting was open to the public and each attendee was given an opportunity to comment on the standards recommended for proposal.

The standards were proposed in the **Federal Register** on December 4, 1992 (57 FR 57534). Public comments were solicited at the time of proposal, and copies of the proposed rule were distributed to interested parties. (See Docket Item X–C–1.)

To provide interested persons the opportunity for oral presentation of data, views, or arguments concerning the proposed standards, a public hearing was held on January 15, 1993, in Philadelphia, Pennsylvania. A total of 11 interested parties testified at the public hearing concerning issues relative to the proposed national emission standards for coke oven batteries. This hearing was open to the public, and each attendee was given an opportunity to comment on the proposed standards. (See Docket Item X–G–1.)

The public comment period was from December 10, 1992 to January 22, 1993. The record was held open for an additional 30 days to receive additional comments in support of, or in rebuttal to, the testimony presented at the hearing.

IV. Response to Public Comments

A total of 62 comment letters were received regarding the proposed standards. Commenters included one engineering firm, one trade association, one Federal agency, one State health agency, representatives of environmental groups in Pennsylvania, and Pennsylvania citizens who reside near the Clairton Works, the Nation's largest coke plant. A copy of each comment received is included in the rulemaking docket. A list of commenters, their affiliations, and the EPA docket number assigned to their correspondence is given in Table 3.

TABLE 3.—LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR COKE OVEN BATTERIES

Docket item number[1]	Commenter and affiliation
X–D–1	Jonathan P. Deason, Director, Office of Environmental Affairs, U.S. Department of the Interior, Washington, DC 20240.
X–D–2	Shirley Virostek, 1444 Washington Boulevard, Port Vue, PA 15133.
X–D–3	Janet Strahosky, Ohio River Basin Environmental Council, Post Office Box 41135, Pittsburgh, PA 15202.
X–D–4	Rosemary K. Coffey, 916 Bellefonte Street, Pittsburgh, PA 15232–2204.
X–D–5	Phillip J. Molé, Sun Eco Systems, Inc., 7949 West Country Club Lane, Elmwood Park, IL 60635.
X–D–6	Nancy F. Parks, Sierra Club, Pennsylvania Chapter, 201 West Aaron Square, Post Office Box 120, Aaronsburg, PA 16820–0120.
X–D–7	Marilyn Skolnick, Sierra Club—The Allegheny Group, 109 South Ridge Drive, Monroeville, PA 15146.
X–D–8	Robert P. DeTorre, 1500 Monongahela Boulevard, White Oak, PA 15131.
X–D–9	Marilyn Skolnick, Sierra Club—The Allegheny Group, 109 South Ridge Drive, Monroeville, PA 15146.
X–D–10	Richard Lawson, President, National Coal Association, 1130 17th Street, NW, Washington, DC 20036–4677.
X–D–11	Mane Kocoshis, Group Against Smog and Pollution, Post Office Box 5165, Pittsburgh, PA 15206.
X–D–12	Butch Allen, Jefferson County Department of Health, Birmingham, AL 35233.
X–D–13	Shirley Schultz, 111 Camino Court, Jefferson Borough, Clairton, PA 15025.
X–D–14	Hugh D. Young, 5746 Aylesboro Avenue, Pittsburgh, PA 15217.
X–D–15	Milton Deaner, American Iron and Steel Institute. Mark T. Engle, American Coke and Coal Chemicals Institute. David Doniger, Natural Resources Defense Council. S. William Becker, State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials. John J. Sheehan, United Steel Workers of America.
X–D–16	Marie Kocoshis, President, Group Against Smog and Pollution, Post Office Box 5165, Pittsburgh, PA 15206.
X–D–17	Barbara D. Hays,1421 Wightman Street, Pittsburgh, PA 15217.

TABLE 3.—LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR COKE OVEN BATTERIES—Continued

Docket item number [1]	Commenter and affiliation
X–D–18	Lawrence Stavish, 120 Bronx Avenue, Pittsburgh, PA 15229.
X–D–19	Judith Stack, 6408 Kentucky Avenue, Pittsburgh, PA 15206.
X–D–20	Gail Gregory.
X–D–21	Nicholas Kyriazi, 517 Avery Street, Pittsburgh, PA 15212.
X–D–22	Diane Doyle, President, League of Women Voters—Allegheny County Council, Community Information Center, YWCA Fourth and Wood Street, Pittsburgh, PA 15222.
X–D–23	Elissa M. Weiss, MD, 134 Dennis Drive, Glenshaw, PA 15116.
X–D–24	Suzanne M. Broughton, Director, North Area Environmental Council, 2377 Jenkinson Drive, Pittsburgh, PA 15237.
X–D–25	Mary Edmonds, 1116 Herberton Street, Pittsburgh, PA 15206.
X–D–26	Marvin L. Bellin, MD, Clinical Assistant Professor of Psychiatry, University of Pittsburgh Medical Center, 3811 O'Hara Street, Pittsburgh, PA 15213–2593.
X–D–27	Barbara Adler, 6019 Wellesley Avenue, Pittsburgh, PA 15206.
X–D–28	Linda Innocenti.
X–D–29	Louis B. Freeman, 388 Caven Drive, Pittsburgh, PA 15236.
X–D–30	Matthew R. Brunner.
X–D–31	John Hummel, Upper Allegheny Preservation Association, Post Office Box 207, Kennerdell, PA 16374.
X–D–32	Timothy L. Cimino, 5135 Dearborn Street, Pittsburgh, PA 15224–2432.
X–D–33	Terri Polesky.
X–D–34	Harry Colgure, GWC Building, Apartment 712, Clairton, PA 15025–1754.
X–D–35	Samuel Hays, Chair, Conservation Committee, Sierra Club, Allegheny Group, 1421 Wightman Street, Pittsburgh, PA 15217.
X–D–36	Robert DeTorre, Group Against Smog and Pollution, 1500 Monongahela Boulevard, White Oak, PA 15131.
X–D–37	Shirley Virostek, Group Against Smog and Pollution, 1444 Washington Boulevard, Port Vue, PA 15133.
X–D–38	Janet Strahosky, Ohio River Basin Environmental Council, Post Office Box 41135, Pittsburgh, PA 15202.
X–D–39	Dennis Winters, Sierra Club, Eastern Pennsylvania Group, 619 Catharine Street, 3rd Floor, Philadelphia, PA 19147.
X–D–40	Sam Spofforth, Clean Water Action, 35 North 8th Street, Allentown, PA 18102.
X–D–41	Sara Nichols, Staff Attorney, Delaware Valley Citizen's Council for Clean Air, 311 Juniper Street, Room 603, Philadelphia, PA 19107.
X–D–42	Marie Kocoshis, President, Group Against Smog and Pollution, Post Office Box 5165, Pittsburgh, PA 15206.
X–D–43	Butch Allen, Jefferson County Department of Health, Birmingham, AL 35233.
X–D–44	Elenore Seidenberg, 220 North Dithridge Street, Number 301, Pittsburgh, PA 15213.
X–D–45	Donna Foljiona, 307 Burlington Road, Pittsburgh, PA 15221.
X–D–46	Professor W. W. Mullins, Department of Metallurgical Engineering and Materials Science, Carnegie-Mellon University, 8309 Wean Hall, Pittsburgh, PA 15213.
X–D–47	Ms. Jonni Kay Plelin, 121 Kollar Drive, McKeesport, PA 15133.
X–D–48	Joanne R. Denworth, President, Pennsylvania Environmental Council, Benedum Trees Building, 223 4th Avenue, Suite 503, Pittsburgh, PA 15222.
X–D–49	David Jasnow, 5649 Marlborough Road, Pittsburgh, PA 15217.
X–D–50	Betsy Ensminger, 4116 Winterburn Avenue, Pittsburgh, PA 15207.
X–D–51	Maryann Hodzic, 2421 Pin Oak Place, Pittsburgh, PA 15220.
X–D–52	Suzanne Bailey, 1112 Greenfield Avenue, Pittsburgh, PA 15217.
X–D–53	Patricia B. Pelkofer, 252 South Winebiddle Street, Pittsburgh, PA 15224.
X–D–54	Peggy Allen Hledish, 531 Allenby Avenue, Pittsburgh, PA 15218.
X–D–55	Jim Lampl, 607 Cherokee Street, Irwin, PA 15642.
X–D–56	R. Joseph Weinzapfel, 5–G Jenny Lynn Court, Pittsburgh, PA 15239.
X–D–57	Mary Burlando, 241 Silver Oak Drive, Pittsburgh, PA 15220.
X–D–58	Mary S. Kostelos, Chatham College, Woodland Road, Pittsburgh, PA 15232–2826.
X–D–59	Mr. and Mrs. Louis E. Eback, Kingston Apartments, Number 609, Pittsburgh, PA 15202.
X–D–60	Dr. Maryann Donovan-Peluso, 643 East End Avenue, Pittsburgh, PA 15221.
X–D–61	Cindy J. Corbett, 5709 Jackson Street, Number 2, Pittsburgh, PA 15206.
X–D–63	Nancy F. Parks, Sierra Club, Pennsylvania Chapter, 201 West Aaron Square, Post Office Box 120, Aaronsburg, PA 16820–0120.

[1] The docket number for this rulemaking is A–79–16. Dockets are on file at the EPA's Air Docket Section, Waterside Mall, room 1500, 1st Floor, 401 M Street, SW., Washington, DC 20460.

Most of the comment letters contained multiple comments, which have been organized and addressed under the following general topics: General, Test Methods and Monitoring, Reporting and Recordkeeping, and Miscellaneous. These comments have been carefully considered, and, where determined to be appropriate by the Administrator, changes have been made in the final standards. A summary of the comments and the Agency's responses is given below.

A. General

Comment: A total of 57 environmental groups and local citizens comment that the proposed standards are too weak; 35 of these commenters specifically argue that the rule does not provide any incentive for improvement from the 19 batteries in Allegheny County, Pennsylvania, where stronger regulatory controls are already in practice (commenters X–D–2, X–D–3, X–D–4, X–D–9, X–D–13, X–D–14, X–D–16, X–D–17, X–D–18, X–D–19, X–D–20, X–D–21, X–D–22, X–D–23, X–D–25, X–D–27, X–D–28, X–D–29, X–D–31, X–D–32, X–D–33, X–D–40, X–D–41, X–D–42, X–D–44, X–D–45, X–D–46, X–D–47, X–D–49, X–D–50, X–D–52, X–D–58, X–D–60, X–D–61, and X–D–63).

Response: The EPA agrees that some of the batteries in Allegheny County have achieved exemplary levels of emission control performance, especially five batteries that are either new or recently rebuilt and are subject to some of the most stringent emission limits in the Nation. Performance data that were collected as a part of Allegheny County's regulatory program played a major role in the development of the emission limits in the rule. In addition, coke oven batteries in Allegheny County pioneered the widespread installation of controls for emissions from bypass/bleeder stacks,

for which controls have been included as a provision in the rule.

Consequently, other coke oven batteries in the United States will obtain significant emission reductions as they achieve the control levels demonstrated by the best performing batteries in Allegheny County. However, the EPA does not agree that the NESHAP will not result in additional improvement in emission control for the Allegheny County batteries. The format of the rule requires step-wise improvements in emission control over time (e.g., compliance with the most stringent limits for batteries on the extension track is required by January 1, 2010). Although the November 1993 limits, which were specified in the Clean Air Act for batteries on the extension track, will result in only a marginal improvement in control for batteries in Allegheny County, the step-wise increase in stringency will require all of the coke oven batteries in the County to improve their performance to comply with the LAER emission limits. As the standards increase in stringency over time, the emission control performance of most of the batteries in the County must improve to maintain compliance. For example, 12 of the 19 batteries must improve door leak control to meet the 2003 MACT limits for percent leaking doors (based on 1990 data). To meet the extension track limits in 2010, a total of 18 of the 19 batteries must improve door leak control.

The EPA examined emission control performance data for the USS-Clairton batteries separately and for all of the Allegheny County batteries collectively when they were operating at normal capacity in 1989 and 1990. The data for percent leaking doors, percent leaking topside port lids, percent leaking offtake system(s), and seconds of visible emissions per charge showed that if the 12 USS-Clairton batteries were placed on the extension track, emissions at their current level of performance would be reduced by 65 percent by 1998 and 70 percent by 2010. If these batteries are placed on the MACT track, current emissions would be reduced by 40 percent by 1995. If all 19 batteries at the 3 coke plants in Allegheny County are considered, emissions at their current level of performance would be reduced on the extension track by 70 percent in 1998 and by 75 percent in 2010. If these batteries are placed on the MACT track, emissions would be reduced by 50 percent in 1995. (See Docket Item X-B-1.)

As a consequence of the staged reduction in coke oven emissions, the exposure of residents to these emissions will also decrease. In addition, the 1990 Amendments to the Act specifically address citizen exposure by requiring the EPA to address the risk remaining after technology-based standards are imposed. The EPA is to issue these standards within 8 years of promulgation of the MACT standards.

Comment: Two commenters (X-D-2 and X-D-49) fear that coke plants in Allegheny County will "backslide" from existing control requirements (i.e., that the NESHAP may replace or "water down" regulatory controls already in practice). In support, one commenter submits that the long-term average performance at Clairton Coke of 4.3 percent leaking doors compared to the statutory long-term average performance of 5.8 percent leaking doors will result in relaxation of local standards.

Response: Provisions are included in the rule to prevent this situation. As discussed in the preamble at 57 FR 57544 (and stated in § 63.312 of the regulation), a SIP cannot be revised to be less stringent than it was prior to September 15, 1992. The coke oven batteries in Allegheny County will remain subject to any applicable State or local regulations in addition to this rule. Thus, the final standards will supplement and not weaken any regulatory controls now in place. The specific example of a long-term average of 5.8 percent leaking doors refers to the November 1993 limits specified in the Act and not to the more stringent emission limits developed by the Coke Oven Battery Advisory Committee that must be met at staged intervals (starting in December 1995 for MACT and extending through January 2010 for LAER). The emission limits developed by the Committee will require long-term performance levels below 5.8 percent leaking doors.

Comment: Local environmental groups and citizens residing near the Clairton facility do not agree with the scope of control under the proposed rule. According to commenters X-D-3, X-D-8, and X-D-42, controls are warranted for quenching, combustion stacks, pushing, and decarbonization. Combustion stacks, pushing, and decarbonization operations are also substantial sources of particulate matter warranting control, particularly in a PM-10 (particulate matter less than 10 microns in diameter) nonattainment area (commenters X-D-2, X-D-3, X-D-39, X-D-41, X-D-42, and X-D-53). Emissions of PM-10 are of great concern to the commenters because these aerosols can be contaminated with toxins and inhaled into the lungs.

Response: The EPA believes that the emission points subject to the rule are the major sources of the listed hazardous air pollutant "coke oven emissions" associated with a well-maintained and properly operated coke oven battery. The controls and work practice requirements included in the rule will provide concurrent control of many air toxics and hazardous pollutants included in the coke oven emissions from batteries or bypass/bleeder stacks. As discussed in the preamble, toxic or hazardous air pollutants (organics, metals, and particulate matter) can also be emitted from other sources such as quenching, pushing, combustion stacks, and decarbonization operations. In many cases, these emission points are subject to existing State or local regulations and consent decrees. New Federal regulations affecting air emissions from other emission sources in the plant also are now being implemented (e.g., NESHAP for by-product plants and benzene waste operations), which will result in emission reductions for benzene (and other hazardous pollutants) and volatile organic compounds. In addition, the EPA plans to collect information on emissions and emission control technologies for air emission sources associated with ferrous manufacturing and will develop MACT standards for them prior to the year 2000. The ferrous manufacturing source categories will include: (1) Review of the existing NESHAP for coke by-product recovery plants; (2) pushing, quenching, and battery stacks; (3) ferroalloys production; (4) integrated iron and steel manufacturing; (5) nonstainless steel manufacturing; (6) stainless steel manufacturing; (6) iron foundries; (7) steel foundries; and (8) steel pickling—HCl process. (See Docket Items VIII-J-6 and X-I-1.) Although the EPA understands and sympathizes with the commenters' desire for immediate further regulation of all emission points at these facilities, Congress did not mandate immediate controls for the emission points mentioned in their comments, and the EPA is not precluded from adopting regulations one step at a time.

Comment: Local environmental groups and citizens point to the high levels of unregulated toxic and hazardous pollutants emitted from the coke plants in Allegheny County. According to Commenter X-D-42, State legislation will not allow more stringent controls on coke ovens than those required under the 1990 Amendments. In addition, coke plants in the Pittsburgh area are located in heavily industrialized river valleys that are prone to air inversions (commenters X-D-3, X-D-38, X-D-47, X-D-48, X-D-

49, X-D-55, X-D-57, X-D-60, and X-D-63). The commenters ask that additional consideration be given to Allegheny County, which has the largest coke plant in the country, the largest concentration of coke oven batteries, and possibly the highest level of citizen exposure. They ask for the development of special standards specific to Allegheny County, a special health study, or for national standards that are geared to local communities where pollution exposure is particularly bad due to meteorology, clusters of facilities, local terrain, size of the facility, and/or total emissions from the facility (commenters X-D-35, X-D-36, X-D-38, X-D-41, X-D-42, X-D-53, X-D-58, X-D-61, and X-D-63). Commenter X-D-18 also suggested innovative approaches such as: (1) Fostering pollution prevention by including incentives for plants to invest in technology to reduce the volume of pollutants generated during the production process, (2) providing tax incentives for pollution reduction or research and development, (3) using money from fines to fund research and development of new technologies and methods, and (4) performing an international study on coke oven pollution control so new developments can be incorporated in the plant.

Response: The provisions in the Act with respect to coke ovens require the development of a technology-based standard to be followed by the development of a residual risk standard at a later date. The EPA certainly has acted reasonably in developing rules consistent with this approach. The opportunity for special provisions for Allegheny County, or any other location that may have high exposure levels and high risk, will be available under the risk standard. The final standards are technology-based and are applied uniformly to all coke plants in the United States. These coke plants all use the same cokemaking process and the same emission control technology applies to each of them; consequently, there was no basis for a special subcategorization for batteries in Allegheny County. However, the risk standard to be developed must address the site-specific nature of any high levels of residual risk that might remain after today's final standards are implemented.

The EPA is also interested in innovative approaches, and there are continuing and emerging efforts in this area. The EPA has identified and investigated the merits of new technology (including form cokemaking and, more recently, the Jewell nonrecovery process) and attempts to stay informed of any new foreign developments, especially by coke oven batteries in Great Britain, Germany, and Japan. Studies of new technologies are planned in an effort administered jointly by the U.S. Department of Energy and the EPA as required under the Act. (See Docket Item VIII-I-1.) Consequently, many of the commenter's suggestions are now being evaluated through funding of research and development programs to improve coke oven emission control technology.

Comment: A total of 42 commenters, consisting of local environmental groups and Allegheny County residents, argue that the standards are not adequate to protect public health (commenters X-D-2, X-D-3, X-D-4, X-D-13, X-D-14, X-D-16, X-D-17, X-D-18, X-D-20, X-D-21, X-D-22, X-D-23, X-D-26, X-D-27, X-D-29, X-D-30, X-D-33, X-D-34, X-D-35, X-D-36, X-D-37, X-D-39, X-D-41, X-D-42, X-D-44, X-D-45, X-D-46, X-D-47, X-D-48, X-D-49, X-D-50, X-D-51, X-D-52, X-D-53, X-D-54, X-D-56, X-D-57, X-D-58, X-D-59, X-D-60, X-D-61, and X-D-63). In support, commenters cite various cancer risk estimates of 1 in 55 over 70 years (commenters X-D-4, X-D-33, X-D-39, and X-D-41); 1 in 100 over 70 years (commenters X-D-52 and X-D-54); 1 in 300 over 70 years (commenter X-D-53); a range of 1 in 55 to 1 in 300; and 1 in 800 after control for benzo(a)pyrene (commenter X-D-58). Commenter X-D-42 states that recent benzo(a)pyrene readings from an ambient monitor atop a local school equate to a cancer risk of 1 in 240. Commenter X-D-39 compares the risk level after control to the 1 in 1,000,000 benchmark used in Clean Water Act regulations. Many of the commenters also point out that these risk estimates do not include risks other than lung cancer or chronic effects, the effects of other toxic and hazardous pollutants, emissions from other sources and facilities in the area, or special impacts on the elderly or children. In support, commenter X-D-60 cites a recent journal article ("Molecular and Genetic Damage in Humans from Environmental Pollution in Poland," Perera et al., *Nature*, 360:256-258) regarding the health effects of exposure to polycyclic aromatic hydrocarbons from industrial and residential burning of coal. Many of the commenters state that this risk is not acceptable and ask that the proposal be revised or withdrawn. Commenter X-D-35 also states that the Federal Register notice is insufficient because information as to the relative risk to surrounding communities is not presented.

Response: The proposed emission limits were developed under the 1990 Amendments to the Act and are based on available emission control technology and the performance levels that are achievable by the technology. The Act specifically defers immediate implementation of residual risk standards. Estimates of risk to the surrounding community simply do not play a role in the development of MACT standards. (See sections 112(d)(8) (a) and (c).) However, the EPA is required under the Act to develop residual risk standards within the next 8 years. Provisions within the Act will allow certain batteries to defer meeting this risk standard until the year 2020. To defer the risk standard, these batteries must meet the more stringent LAER emission limits.

Comment: Commenters X-D-2, X-D-16, X-D-35, X-D-37, X-D-42, and X-D-63 believe the regulatory negotiation process was unfair, exclusive, and tilted in favor of the industry over the interests of the citizens of Clairton.

Response: In any negotiation process, it is sometimes difficult to understand that some parties may have accepted certain provisions in exchange for others in order to reach consensus on the regulation as a whole. No one group or individual involved in the negotiations agreed with all the requirements or obtained all desired provisions. Many new precedents were set in this regulation (e.g., independent daily monitoring paid for by the industry), emission controls were included for one major emission point (bypass/bleeder stacks) beyond the battery proper, and strong work practice requirements were included. The emission reductions achieved by the rule will bring improvement to the community of Clairton as well as to other communities in the country where coke oven batteries are located. When viewed as a whole, the rule was accepted by many different parties with diverse interests.

The commenters speak of exclusion from the process. The EPA actively solicited public participation in this rulemaking process, and responding to these comments on the proposal is a continuing part of that effort. For practical reasons, not all citizens can participate in a regulatory negotiation; however, an effort was made to ensure that citizens and citizen groups, such as the Group Against Smog and Pollution, were represented on the Advisory Committee. In addition, there have been several opportunities for direct involvement by individuals, including NAPCTAC meetings, a 1987 public hearing in Clairton, Pennsylvania, and a

recent public hearing in Philadelphia, Pennsylvania. Several opportunities have also been given for the submission of written comments, all of which have been considered.

The EPA also believes it is productive for local citizens and environmental groups to continue to work with the industry, States, and local agencies to address site-specific problems and develop solutions. Local citizens have been effective in obtaining improved emission control of coke oven batteries, and the benefits of their efforts are now being applied to coke batteries nationwide under these NESHAP.

Comment: Commenter X–D–37 suggests that the language in the regulation be clarified to require an igniter for each bypass/bleeder stack as opposed to an igniter for each battery. No alternative method or allowance standard should be permitted. According to the commenter, the EPA also should update the preamble to state that 13 venting incidents had occurred over a 4-year period (1987 through 1990) rather than 12 incidents over a 3-year period (1987 through 1989). Commenter X–D–47 believes the EPA erred in requiring bleeder stack flares only for automatically operated stacks and that manually operated stacks would still be allowed to vent raw gas.

Response: The standards do not require an igniter for each bypass/bleeder stack; instead, a bypass/bleeder stack flare system must be installed that is capable of controlling 120 percent of the normal gas flow generated by the battery. This approach will provide the desired level of control, without imposing on battery operators the unnecessary additional costs that would be associated with a requirement to install flares on each bleeder stack, or a requirement to dismantle bleeder stacks that are not themselves individually igniter-equipped. The regulation prohibits venting other than through the flare system (or approved alternative control device), which provides an adequate safeguard against venting raw coke oven gas to the atmosphere. The EPA anticipates that most owners or operators will comply with these requirements by installing flares on one or more bypass/bleeder stacks. Coke oven gas would be routed to these flares (e.g., through the collecting main). The dampers on any other bypass/bleeder stacks that were not flare-equipped would be closed, which would prevent coke oven gas from being emitted to the atmosphere through these bypass/bleeder stacks. The requirement to install a bypass/bleeder stack flare system applies to both automatically or manually operated stacks. With approval by the Administrator, an equivalent, alternative system with a destruction capability of at least 98 percent can also be used so as not to preclude the use of new or improved technology.

Comment: Commenter X–D–2 believes that daily inspections are unworkable in the long run and will not compensate for a 30-day rolling average computation. Other commenters add that the 30-day average smooths out all the spikes and, over time, masks real problems (commenters X–D–4, X–D–9, X–D–13, X–D–14, X–D–16, X–D–21, X–D–22, X–D–25, X–D–27, X–D–29, X–D–31, X–D–33, X–D–38, X–D–41, X–D–42, X–D–47, X–D–52, X–D–53, X–D–56, and X–D–60).

Response: This issue was discussed at length by the Advisory Committee, and an agreement was reached that would provide for limits based on a 30-run average for the rule while maintaining single-run limits for SIP's and consent decrees. The format of the rule is a 30-run average to reflect long-term emissions and exposure levels, which are associated with chronic health effects. However, the 30-run average will also limit the frequency and extent of some short-term excursions because a single high excursion can result in exceeding the 30-run limit for that day, and repeated poor performance may result in exceedance of the 30-run limit on additional days. Each daily exceedance of the 30-run limit may be considered a violation. If daily single-run limits were developed that were statistically equivalent to these 30-run limits, the single-run limits would have been significantly higher than the 30-run limits.

In addition, current SIP's and consent decrees are enforced based on exceeding a limit for any single observation. These limits will remain in effect (see the previous discussion of "backsliding") and provide a cap for a short-term excursion from a single high observation. The Committee agreed that the preferred approach would apply a 30-run average for the rule, with inspections by independent observers, and the maintenance of current single-run limits in SIP's.

Another factor that should result in fewer short-term excursions under the rule is that daily inspections are required. Many batteries, including those in Allegheny County, are inspected less frequently by the enforcement agency. In many cases, the data from these daily inspections can be used to improve the enforcement of SIP's and consent decrees.

Comment: According to commenter X–D–35, the Federal Register notice of proposal is also deficient because it did not present detailed information on discussion of the relative performance of various coke oven batteries at different levels of technical capability.

Response: The EPA does not agree that the notice of proposed rulemaking is deficient. The pace of the negotiations precluded compiling and analyzing the data in the level of detail desired by the commenter. However, all information and data considered by the Committee are in the docket and available for public inspection. These include performance data for individual batteries, data summaries, and a listing of batteries ranked by performance. This information was made available during the negotiation process to all Committee members, including the representatives from the Group Against Smog and Pollution.

B. Test Methods and Monitoring

Comment: Commenter X–D–12 explains that certain coke plants in Jefferson County, Alabama are performing charging and pushing operations at night when surveillance is not possible. For this reason, only a portion of Method 303 can be enforced.

Response: If a facility pushes and charges only at night, then that facility must, at its option, change their schedule and charge during daylight hours or provide adequate lighting so that visible emission inspections can be made at night. "Adequate lighting" will be determined by the enforcement agency.

Comment: Commenters X–D–33 and X–D–48, residents of the Pittsburgh area, note that coke oven emissions are higher at night and on weekends and holidays.

Response: The standards should eliminate this problem because independent monitoring will be required 7 days a week, including holidays. This type of enhanced monitoring, coupled with the new work practice rules, is expected to aid in improving emissions control.

Comment: Commenter X–D–12 asks how to differentiate ovens and the proper emission limits for merchant plants or batteries that produce a percentage of furnace and foundry coke, and if this compounds the required monitoring calculations.

Response: The definition of "foundry coke producer" included in the rule does not require differentiating ovens or additional monitoring calculations for daily inspections if the battery changes the type of coke produced during the year. The coke plant is considered to be a foundry producer and subject to numerical limits for foundry coke plants

if the annual design capacity on January 1, 1992, was less than 1.25 million Mg/yr (not including the capacity of the specific batteries identified under § 63.300(d)(2) of the rule or cold-idle batteries included in the design capacity pursuant to § 63.304(b)(6) of the rule) and the plant was not owned or operated by an integrated steel producer as of that date.

Comment: Commenter X-D-12 asks who is responsible for the cost of inspections on days when inspections cannot be performed (i.e., in the case of bad weather). Commenter X-D-41 asks what happens if the responsible agency fails to have the inspections done?

Response: The fees to be paid by the industry to cover the cost of monitoring and inspections will be provided annually with the expectation that inspections occur each day. The size of the fee is a function of the number of batteries at the plant, and it is not affected by the number of inspections that are made. Provisions are included in the rule to account for data from days on which inspections of one or more emission points cannot be performed; however, the EPA expects that this situation will occur very infrequently. If a State is not enforcing the program as required, the EPA regional office may take over and implement the enforcement program. In addition, the Act contains provisions to ensure that the enforcement agency does fulfill its obligations under the law.

Comment: Commenter X-D-12 asks if industry is still responsible for the cost of Method 303 inspections to enforce a SIP or consent decree with more stringent requirements.

Response: In the negotiations, the industry agreed to pay for Method 303 inspections. As long as Method 303 is applied, the cost of Method 303 inspections will be borne by the industry and will be based on the formula in the rule. Any data collected by Method 303 that are consistent with the SIP or consent decree inspection method can be used to enforce the SIP or consent decree. If the SIP or consent decree requires additional labor hours beyond those allotted for the Method 303 observer under this rule, the cost of these additional hours is not covered under the rule's formula for inspection cost.

Comment: Commenter X-D-43 asks EPA to clarify that emission fees collected under title V of the Act are not to be used to pay for the required inspections. The inspection fees are in addition to the title V fees.

Response: In the negotiations, it was understood that the inspection fees required under this rule are in addition to title V fees, so long as the title V fees do not cover the inspections required under this rule. (See § 63.309(a)(4)(iii).)

Comment: Commenter X-D-12 asks how many lids count in the calculation of percent leaking lids where there are four lids per oven but only three are ever used for staged charging. The concern is over the total number of lids that should be used in the denominator of the calculation of percent leaking lids.

Response: If the fourth lid can be removed and is used for charging or decarbonizing during normal operation, the calculation of percent leaking lids should be based on four lids per oven. If the fourth lid is not used for charging or decarbonizing during normal operation, the calculation should be based on three lids per oven.

Comment: Commenter X-D-12 notes that the term "B" in the equation for determining costs for inspections (see 57 FR 57567) is not defined.

Response: The "B" in the cost equation is a Federal Register typographical error and was not intended as part of the equation.

C. Reporting and Recordkeeping

Comment: Commenter X-D-12 suggests that the rule require all plants to report their commitment to either the MACT or LAER standard in 1993, with no provision for changing their initial decision to avoid situations where inspectors are hired but not needed because the plant decides to drop from the extension track.

Response: The rule allows the plants to "straddle" until a binding declaration is made in 1998. This means the owner or operator of the battery in question has chosen to meet both the MACT and LAER limits, and monitoring would begin in November 1993 rather than 1995. If the owner or operator of a plant changes from LAER to MACT in 1995, the plant will be required to meet MACT standards, which will require daily inspections. A commitment to meet the November 1993 limits is a commitment to pay for the cost of daily inspections annually, starting in November 1993.

Comment: Commenters X-D-9 and X-D-41 urge EPA not to implement self-certifying reporting requirements under the standards. (See 57 FR 57539.) Previous Federal and industry experience with self-certification has not worked according to these commenters.

Response: The rule includes the innovative provisions for daily inspections by an independent observer who must meet specific training requirements to qualify as a visible emission inspector. Because the independent inspector will make the visible emission observations for compliance determinations, the Agency does not agree that self-certification in the initial or semiannual compliance certifications included in the reporting requirements will, in this case, present the problems implied by the commenters.

D. Miscellaneous

Comment: Commenters X-D-4, X-D-9, X-D-13, X-D-14, X-D-16, X-D-21, X-D-22, X-D-27, X-D-28, X-D-29, X-D-31, X-D-33, X-D-38, X-D-39, X-D-41, and X-D-53 believe penalties for violations should be included in the rule.

Response: The commenters are mistaken that the rule fails to provide for civil and criminal penalties. Penalties for violations are not cited in the rule because enforcement of the rule (and permit requirements) is the responsibility of the EPA or delegated State (i.e., a State with an approved operating permit program). Provisions for maximum penalties (up to $25,000 per day per emission point) are included in the Act. The 30-day rolling average is calculated each day; consequently, a penalty can be assessed each day for any exceedance of the limit for each emission point. However, penalties are assessed at the discretion of the enforcement agency, which may consider many factors (frequency, duration, severity of violation, good faith efforts to correct, etc.) in determining an appropriate penalty. In addition, the Act includes provisions to ensure that the enforcement agency fulfills its responsibilities under the law.

Comment: Commenter X-D-12 asks if new operating permits based on Method 303 need to be issued now if the LAER track is followed.

Response: Yes, but approval of the State permit program is required before operating permits can be issued. As discussed in the preamble at 57 FR 57555, the EPA intends to delegate authority for implementing the NESHAP to the States as soon as possible after promulgation.

The LAER standards will become effective on November 15, 1993. Under the final rules establishing requirements for State operating permit programs (40 CFR part 70), States must submit proposed permit programs to EPA for approval by November 15, 1993. Sources subject to the permit program must submit complete permit applications within 1 year after a State program is approved (including an interim approval) or, where the State

program is not approved, within 1 year after a program is promulgated by the EPA.

Comment: Commenter X-D-37 suggests the rule should include provisions for planned outages. Companies should be required to notify the regulatory agency of work plans at least a week in advance. This, coupled with a followup report, would prevent a plant from hiding emission releases during a planned outage.

Response: As discussed in the preamble to the proposed rule (see 57 FR 57548, December 4, 1992), the owner or operator must operate and maintain the battery and its air pollution control technology at all times, including during startups, shutdowns, and malfunctions, in a manner consistent with good air pollution control practices for minimizing emissions to the levels required by the applicable standards. Emissions in excess of the applicable standards occurring during a planned outage would be a violation unless the emissions were the result of an incident determined to constitute a malfunction. (However, it would be difficult to qualify a "planned" outage as a malfunction.) In addition, the provisions included in the rule for independent daily monitoring ensure that an inspector is at the site every day to ensure that proper procedures (e.g., those included in the startup, shutdown, and malfunction plan and the work practice plan) are followed as applicable. The presence of an independent inspector on the site each day should prevent the hidden release of emissions during an outage.

Comment: Commenter X-D-10 stresses the significance of the Committee agreement to support the standards as long as the EPA proposes and promulgates a regulation and preamble with the same substance and effect of the final agreement. The organizations that negotiated the agreement also reiterate their support (comment X-D-15).

Response: The EPA understands the importance of honoring this successful negotiated agreement and has made no change to the proposed rule or its rationale that would in any way alter the substance and effect of the agreement.

Comment: Nineteen commenters requested that the EPA hold a public hearing in Clairton, Pittsburgh, or Allegheny County, Pennsylvania (rather than at EPA facilities in Research Triangle Park, North Carolina) so that affected citizens residing near the Nation's largest coke plant could have an opportunity to express their views on the proposed rule. In subsequent written and oral testimony, commenters reiterated their request for a second hearing in Pittsburgh or Clairton so that more citizens wishing to discuss their concerns would be able to attend (comm.enters X-D-2, X-D-6, X-D-7, X-D- X-D-11, X-D-14, X-D-16, X-D-21, X-D-24, X-D-25, X-D-29, X-D-31, X-D-33, X-D-40, X-D-41, X-D-50, X-D-52, X-D-54, X-D-57, and X-D-63).

Response: The EPA agreed to the initial request of these residents and environmental groups and arranged a public hearing at the EPA regional offices in Philadelphia, Pennsylvania. At the request of the commenters, the EPA also delayed the date originally scheduled for the hearing from December 28, 1992, to January 15, 1993, to avoid conflicts with Christmas holidays for citizens wishing to present testimony. The transcript from this hearing is included in the docket. (See Docket Item X-G-1.)

In further discussion of this issue at the hearing, the EPA representatives explained that most public hearings for air standards are held in Research Triangle Park. This is because when national standards are proposed, requests for hearings typically come from all over the country. By holding the hearings in Research Triangle Park, no one person or group is given any unfair advantage. In this case, while a vast majority of the requests did come from the Pittsburgh area, people from other areas in Pennsylvania also wanted to attend. In holding the hearing in Philadelphia, the EPA tried to accommodate commenters from the Pittsburgh area as well as other Pennsylvania residents. The EPA representatives also explained that a public hearing, however important, is an adjunct to the written comment process. This process is fully available to everyone and is not dependent at all on location.

V. Administrative Requirements

A. Docket

The docket is an organized and complete file of all the information considered by EPA in the development of this rulemaking. The docket is a dynamic file, since material is added throughout the rulemaking development. The docketing system is intended to allow members of the public and industries involved to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated standards and EPA responses to significant comments, the contents of the docket, except for interagency review materials, will serve as the record in case of judicial review. (See section 307(d)(7)(A).)

B. Paperwork Reduction Act

The Office of Management and Budget (OMB) has approved the information collection requirements contained in this rule under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq., and has assigned OMB control number 2060-0253.

Public reporting burden for this collection of information is estimated to average 2,461 hours per respondent per year, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer for EPA."

The control numbers assigned to collections of information in certain EPA regulations by the OMB have been consolidated under 40 CFR part 9. The information collection request for this NESHAP was previously subject to public notice and comment prior to OMB approval. As a result, the EPA finds that there is "good cause" under section 553(b)(B) of the Administrative Procedure Act to amend the applicable table in 40 CFR part 9 to display the OMB control number for this rule without prior notice and comment. Due to the technical nature of the table, further notice and comment would be unnecessary. For the same reasons, the EPA also finds that there is good cause under 5 U.S.C. 553(d)(3). For additional information, see 58 FR 18014, April 7, 1993 and 58 FR 27472, May 10, 1993.

C. Executive Order 12291

Under Executive Order 12291, the EPA is required to judge whether a regulation is a "major rule" and therefore subject to the requirements of a regulatory impact analysis (RIA). The EPA has determined that this regulation would result in none of the adverse economic effects set forth in section 1 of the Order as grounds for finding a regulation to be a "major rule." The total annual costs of the MACT standards range from $25 million to $33 million/year; the total annual cost of the

LAER standards range from $84 million to $95 million/year, including the MACT costs. These impacts are below the $100 million threshold. Only small market changes are projected. Increases in the price of coke would be minimal (less than 1 percent for furnace coke and about 1.1 to 2.5 percent for foundry coke). The decrease in coke production would also be minimal (0.7 percent for furnace coke and 1.1 percent for foundry coke under MACT standards; 2.1 percent for furnace and 2.6 for foundry coke under LAER standards). In addition, the rule will not cause significant adverse effects on domestic competition, employment, investment, productivity, innovation, or competition in foreign markets. The EPA has, therefore, concluded that this regulation is not a "major rule" under Executive Order 12291.

D. Regulatory Flexibility Act

The Regulatory Flexibility Act of 1980 requires the identification of potentially adverse impacts of Federal regulations upon small business entities. The Act specifically requires the completion of a Regulatory Flexibility Analysis in those instances where small business impacts are possible. Because these standards impose no adverse economic impacts on small businesses, a Regulatory Flexibility Analysis has not been conducted.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule will not have a significant economic impact on a substantial number of small business entities because no substantial number of small entities are affected and no significant impact on these small entities will result.

E. Miscellaneous

In accordance with section 112(f)(2)(C) of the Act, the EPA is required to determine whether additional standards are necessary to address the risk remaining after technology-based MACT standards are imposed. The EPA is to make that determination for coke oven batteries and to promulgate standards determined to be necessary by October 27, 2001. Pursuant to section 112(i)(8)(C) of the Act, the EPA also is required to review and revise the LAER standard by January 1, 2007.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Coke oven emissions, Hazardous substances, Reporting and recordkeeping requirements.

Dated: October 18, 1993.

Carol M. Browner,

Administrator.

Parts 9 and 63 of title 40, chapter I, of the Code of Federal Regulations are amended as follows:

PART 9—OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT

1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135 *et seq.*, 136–136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331j, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251 *et seq.*, 1311, 1313d, 1314, 1321, 1326, 1330, 1344, 1345 (d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR 1971–1975 Comp., p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–1, 300j–2, 300j–3, 300j–4, 300j–9, 1857 *et seq.*, 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

2. Section 9.1 is amended by adding a new entry to the table under the indicated heading to read as follows:

§ 9.1 OMB approvals under the Paperwork Reduction Act.

* * * * *

40 CFR citation	OMB control No.
* * * * *	
National Emission Standards for Hazardous Air Pollutants for Source Categories	
* * * * *	
63.302–63.311	2060–0253
* * * * *	

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

3. The authority citation for part 63 continues to read as follows:

Authority: Secs. 101, 112, 114, 116, 301, Clean Air Act as amended (42 U.S.C. 7401, 7412, 7414, 7616, 7601).

4. Part 63 is amended by adding Subpart L to read as follows:

Subpart L—National Emission Standards for Coke Oven Batteries

Sec.

Subpart L—National Emission Standards for Coke Oven Batteries

§ 63.300 Applicability.

(a) Unless otherwise specified in §§ 63.306, 63.307, and 63.311, the provisions of this subpart apply to existing by-product coke oven batteries at a coke plant and to existing nonrecovery coke oven batteries at a coke plant on and after the following dates:

(1) December 31, 1995, for existing by-product coke oven batteries subject to emission limitations in § 63.302(a)(1) or existing nonrecovery coke oven batteries subject to emission limitations in § 63.303(a);

(2) January 1, 2003, for existing by-product coke oven batteries subject to emission limitations in § 63.302(a)(2);

(3) November 15, 1993, for existing by-product and nonrecovery coke oven batteries subject to emission limitations in §§ 63.304(b)(1) or 63.304(c);

(4) January 1, 1998, for existing by-product coke oven batteries subject to emission limitations in §§ 63.304(b)(2) or 63.304(b)(7); and

(5) January 1, 2010, for existing by-product coke oven batteries subject to emission limitations in §§ 63.304(b)(3) or 63.304(b)(7).

(b) The provisions for new sources in §§ 63.302(b), 63.302(c), and 63.303(b) apply to each greenfield coke oven battery and to each new or reconstructed coke oven battery at an existing coke plant if the coke oven battery results in an increase in the design capacity of the coke plant as of November 15, 1990, (including any capacity qualifying under § 63.304(b)(6), and the capacity of any coke oven battery subject to a construction permit on November 15, 1990, which commenced operation before October 27, 1993.

(c) The provisions of this subpart apply to each brownfield coke oven battery, each padup rebuild, and each cold-idle coke oven battery that is restarted.

(d) The provisions of §§ 63.304(b)(2)(i)(A) and 63.304(b)(3)(i) apply to each foundry coke producer as follows:

(1) A coke oven battery subject to § 63.304(b)(2)(i)(A) or § 63.304(b)(3)(i)

must be a coke oven battery that on January 1, 1992, was owned or operated by a foundry coke producer; and

(2)(i) A coke oven battery owned or operated by an integrated steel producer on January 1, 1992, and listed in paragraph (d)(2)(ii) of this section, that was sold to a foundry coke producer before November 15, 1993, shall be deemed for the purposes of paragraph (d)(1) of this section to be owned or operated by a foundry coke producer on January 1, 1992.

(ii) The coke oven batteries that may qualify under this provision are the following:

(A) The coke oven batteries at the Bethlehem Steel Corporation's Lackawanna, New York facility; and

(B) The coke oven batteries at the Rouge Steel Company's Dearborn, Michigan facility.

(e) The emission limitations set forth in this subpart shall apply at all times except during a period of startup, shutdown, or malfunction. The startup period shall be determined by the Administrator and shall not exceed 180 days.

(f) After October 28, 1992, rules of general applicability promulgated under section 112 of the Act, including the General Provisions, may apply to coke ovens provided that the topic covered by such a rule is not addressed in this subpart.

§ 63.301 Definitions.

Terms used in this subpart are defined in the Act or in this section as follows:

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this subpart or its designated agent).

Brownfield coke oven battery means a new coke oven battery that replaces an existing coke oven battery or batteries with no increase in the design capacity of the coke plant as of November 15, 1990 (including capacity qualifying under § 63.304(b)(6), and the capacity of any coke oven battery subject to a construction permit on November 15, 1990, which commenced operation before October 27, 1993.

Bypass/bleeder stack means a stack, duct, or offtake system that is opened to the atmosphere and used to relieve excess pressure by venting raw coke oven gas from the collecting main to the atmosphere from a by-product coke oven battery, usually during emergency conditions.

By-product coke oven battery means a source consisting of a group of ovens connected by common walls, where coal undergoes destructive distillation under positive pressure to produce coke and coke oven gas, from which by-products are recovered. Coke oven batteries in operation as of April 1, 1992, are identified in appendix A to this subpart.

Certified observer means a visual emission observer, certified under (if applicable) Method 303 and Method 9 (if applicable) and employed by the Administrator, which includes a delegated enforcement agency or its designated agent. For the purpose of notifying an owner or operator of the results obtained by a certified observer, the person does not have to be certified.

Charge or *charging period* means, for a by-product coke oven battery, the period of time that commences when coal begins to flow into an oven through a topside port and ends when the last charging port is recapped. For a nonrecovery coke oven battery, *charge or charging period* means the period of time that commences when coal begins to flow into an oven and ends when the push side door is replaced.

Coke oven battery means either a by-product or nonrecovery coke oven battery.

Coke oven door means each end enclosure on the pusher side and the coking side of an oven. The chuck, or leveler-bar, door is part of the pusher side door. A *coke oven door* includes the entire area on the vertical face of a coke oven between the bench and the top of the battery between two adjacent buckstays.

Cold-idle coke oven battery means an existing coke oven battery that has been shut down, but is not dismantled.

Collecting main means any apparatus that is connected to one or more offtake systems and that provides a passage for conveying gases under positive pressure from the by-product coke oven battery to the by-product recovery system.

Collecting main repair means any measure to stop a collecting main leak on a long-term basis. A repair measure in general is intended to restore the integrity of the collecting main by returning the main to approximately its design specifications or its condition before the leak occurred. A repair measure may include, but is not limited to, replacing a section of the collecting main or welding the source of the leak.

Consecutive charges means charges observed successively, excluding any charge during which the observer's view of the charging system or topside ports is obscured.

Design capacity means the original design capacity of a coke oven battery, expressed in megagrams per year of furnace coke

Foundry coke producer means a coke producer that is not and was not on January 1, 1992, owned or operated by an integrated steel producer and had on January 1, 1992, an annual design capacity of less than 1.25 million megagrams per year (not including any capacity satisfying the requirements of § 63.300(d)(2) or § 63.304(b)(6)).

Greenfield coke oven battery means a coke oven battery for which construction is commenced at a plant site (where no coke oven batteries previously existed) after December 4, 1992.

Integrated steel producer means a company or corporation that produces coke, uses the coke in a blast furnace to make iron, and uses the iron to produce steel. These operations may be performed at different plant sites within the corporation.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures caused in part by poor maintenance or careless operation are not *malfunctions*.

New shed means a shed for which construction commenced after September 15, 1992. The shed at Bethlehem Steel Corporation's Bethlehem plant on Battery A is deemed not to be a *new shed*.

Nonrecovery coke oven battery means a source consisting of a group of ovens connected by common walls and operated as a unit, where coal undergoes destructive distillation under negative pressure to produce coke, and which is designed for the combustion of the coke oven gas from which by-products are not recovered.

Offtake system means any individual oven apparatus that is stationary and provides a passage for gases from an oven to a coke oven battery collecting main or to another oven. Offtake system components include the standpipe and standpipe caps, goosenecks, stationary jumper pipes, mini-standpipes, and standpipe and gooseneck connections.

Oven means a chamber in the coke oven battery in which coal undergoes destructive distillation to produce coke.

Padup rebuild means a coke oven battery that is a complete reconstruction of an existing coke oven battery on the same site and pad without an increase in the design capacity of the coke plant as of November 15, 1990 (including any capacity qualifying under § 63.304(b)(6), and the capacity of any coke oven battery subject to a construction permit on November 15, 1990, which commenced operation before October 27, 1993. The Administrator may

determine that a project is a *padup rebuild* if it effectively constitutes a replacement of the battery above the pad, even if some portion of the brickwork above the pad is retained.

Pushing, for the purposes of § 63.305, means that coke oven operation that commences when the pushing ram starts into the oven to push out coke that has completed the coking cycle and ends when the quench car is clear of the coke side shed.

Run means the observation of visible emissions from topside port lids, offtake systems, coke oven doors, or the charging of a coke oven that is made in accordance with and is valid under Methods 303 or 303A in appendix A to this part.

Shed means a structure for capturing coke oven emissions on the coke side or pusher side of the coke oven battery, which routes the emissions to a control device or system.

Short coke oven battery means a coke oven battery with ovens less than 6 meters in height.

Shutdown means the operation that commences when pushing has occurred on the first oven with the intent of pushing the coke out of all of the ovens in a coke oven battery without adding coal, and ends when all of the ovens of a coke oven battery are empty of coal or coke.

Standpipe cap means an apparatus used to cover the opening in the gooseneck of an offtake system.

Startup means that operation that commences when the coal begins to be added to the first oven of a coke oven battery that either is being started for the first time or that is being restarted and ends when the doors have been adjusted for maximum leak reduction and the collecting main pressure control has been stabilized. Except for the first startup of a coke oven battery, a startup cannot occur unless a shutdown has occurred.

Tall coke oven battery means a coke oven battery with ovens 6 meters or more in height.

Temporary seal means any measure, including but not limited to, application of luting or packing material, to stop a collecting main leak until the leak is repaired.

Topside port lid means a cover, removed during charging or decarbonizing, that is placed over the opening through which coal can be charged into the oven of a by-product coke oven battery.

§ 61.302 Standards for by-product coke oven batteries.

(a) Except as provided in § 63.304 or § 63.305, on and after the dates specified in this paragraph, no owner or operator shall cause to be discharged or allow to be discharged to the atmosphere, coke oven emissions from each affected existing by-product coke oven battery that exceed any of the following emission limitations or requirements:

(1) On and after December 31, 1995;

(i) For coke oven doors:

(A) 6.0 percent leaking coke oven doors for each tall by-product coke oven battery, as determined according to the procedures in § 63.309(d)(1); and

(B) 5.5 percent leaking coke oven doors for each short by-product coke oven battery, as determined according to the procedures in § 63.309(d)(1);

(ii) 0.6 percent leaking topside port lids, as determined by the procedures in § 63.309(d)(1);

(iii) 3.0 percent leaking offtake system(s), as determined by the procedures in § 63.309(d)(1); and

(iv) 12 seconds of visible emissions per charge, as determined by the procedures in § 63.309(d)(2).

(2) On and after January 1, 2003, unless the Administrator promulgates more stringent limits pursuant to section 112(f) of the Act;

(i) 5.5 percent leaking coke oven doors for each tall by-product coke oven battery, as determined by the procedures in § 63.309(d)(1); and

(ii) 5.0 percent leaking coke oven doors for each short by-product coke oven battery, as determined by the procedures in § 63.309(d)(1).

(b) Except as provided in paragraph (c) of this section, no owner or operator shall cause to be discharged or allow to be discharged to the atmosphere, coke oven emissions from a by-product coke oven battery subject to the applicability requirements in § 63.300(b) that exceed any of the following emission limitations:

(1) 0.0 percent leaking coke oven doors, as determined by the procedures in § 63.309(d)(1);

(2) 0.0 percent leaking topside port lids, as determined by the procedures in § 63.309(d)(1);

(3) 0.0 percent leaking offtake system(s), as determined by the procedures in § 63.309(d)(1); and

(4) 34 seconds of visible emissions per charge, as determined by the procedures in § 63.309(d)(2).

(c) The emission limitations in paragraph (b) of this section do not apply to the owner or operator of a by-product coke oven battery that utilizes a new recovery technology, including but not limited to larger size ovens, operation under negative pressure, and processes with emission points different from those regulated under this subpart. An owner or operator constructing a new by-product coke oven battery or reconstructing an existing by-product recovery battery that utilizes a new recovery technology shall:

(1) Notify the Administrator of the intention to do so, as required in § 63.311(c); and

(2) Submit, for the determination under section 112(g)(2)(B) of the Act, and as part of the application for permission to construct or reconstruct, all information and data requested by the Administrator for the determination of applicable emission limitations and requirements for that by-product coke oven battery.

(d) Emission limitations and requirements applied to each coke oven battery utilizing a new recovery technology shall be less than the following emission limitations or shall result in an overall annual emissions rate for coke oven emissions for the battery that is lower than that obtained by the following emission limitations:

(1) 4.0 percent leaking coke oven doors on tall by-product coke oven batteries, as determined by the procedures in § 63.309(d)(1);

(2) 3.3 percent leaking coke oven doors on short by-product coke oven batteries, as determined by the procedures in § 63.309(d)(1);

(3) 2.5 percent leaking offtake system(s), as determined by the procedures in § 63.309(d)(1);

(4) 0.4 percent leaking topside port lids, as determined by the procedures in § 63.309(d)(1); and

(5) 12 seconds of visible emissions per charge, as determined by the procedures in § 63.309(d)(2).

§ 63.303 Standards for nonrecovery coke oven batteries.

(a) Except as provided in § 63.304, on and after December 31, 1995, no owner or operator shall cause to be discharged or allow to be discharged to the atmosphere coke oven emissions from each affected existing nonrecovery coke oven battery that exceed any of the following emission limitations or requirements:

(1) For coke oven doors:

(i) 0.0 percent leaking coke oven doors, as determined by the procedures in § 63.309(d)(1); or

(ii) The owner or operator shall monitor and record, once per day for each day of operation, the pressure in each oven or in a common battery tunnel to ensure that the ovens are operated under a negative pressure.

(2) For charging operations, the owner or operator shall implement, for each day of operation, the work practices specified in § 63.306(b)(6) and record the performance of the work practices as required in § 63.306(b)(7).

(b) No owner or operator shall cause to be discharged or allow to be discharged to the atmosphere coke oven emissions from each affected new nonrecovery coke oven battery subject to the applicability requirements in § 63.300(b) that exceed any of the following emission limitations or requirements:

(1) For coke oven doors;

(i) 0.0 percent leaking coke oven doors, as determined by the procedures in § 63 309(d)(1); or

(ii) The owner or operator shall monitor and record, once per day for each day of operation, the pressure in each oven or in a common battery tunnel to ensure that the ovens are operated under a negative pressure;

(2) For charging operations, the owner or operator shall install, operate, and maintain an emission control system for the capture and collection of emissions in a manner consistent with good air pollution control practices for minimizing emissions from the charging operation;

(3) 0.0 percent leaking topside port lids, as determined by the procedures in § 63.309(d)(1) (if applicable to the new nonrecovery coke oven battery); and

(4) 0.0 percent leaking offtake system(s), as determined by the procedures in § 63.309(d)(1) (if applicable to the new nonrecovery coke oven battery).

§ 63.304 Standards for compliance date extension.

(a) An owner or operator of an existing coke oven battery (including a cold-idle coke oven battery), a padup rebuild, or a brownfield coke oven battery, may elect an extension of the compliance date for emission limits to be promulgated pursuant to section 112(f) of the Act in accordance with section 112(i)(8). To receive an extension of the compliance date from January 1, 2003, until January 1, 2020, the owner or operator shall notify the Administrator as described in § 63.311(c) that the battery will comply with the emission limitations and requirements in this section in lieu of the applicable emission limitations in §§ 63.302 or 63.303.

(b) Except as provided in paragraphs (b)(4), (b)(5), and (b)(7) of this section and in § 63.305, on and after the dates specified in this paragraph, no owner or operator shall cause to be discharged or allow to be discharged to the atmosphere coke oven emissions from a by-product coke oven battery that exceed any of the following emission limitations:

(1) On and after November 15, 1993;

(i) 7.0 percent leaking coke oven doors, as determined by the procedures in § 63.309(d)(1);

(ii) 0.83 percent leaking topside port lids, as determined by the procedures in § 63.309(d)(1);

(iii) 4.2 percent leaking offtake system(s), as determined by the procedures in § 63.309(d)(1); and

(iv) 12 seconds of visible emissions per charge, as determined by the procedures in § 63.309(d)(2).

(2) On and after January 1, 1998;

(i) For coke oven doors:

(A) 4.3 percent leaking coke oven doors for each tall by-product coke oven battery and for each by-product coke oven battery owned or operated by a foundry coke producer, as determined by the procedures in § 63.309(d)(1); and

(B) 3.8 percent leaking coke oven doors on each by-product coke oven battery not subject to the emission limitation in paragraph (b)(2)(i)(A) of this section, as determined by the procedures in § 63.309(d)(1);

(ii) 0.4 percent leaking topside port lids, as determined by the procedures in § 63.309(d)(1);

(iii) 2.5 percent leaking offtake system(s), as determined by the procedures in § 63.309(d)(1); and

(iv) 12 seconds of visible emissions per charge, as determined by the procedures in § 63.309(d)(2).

(3) On and after January 1, 2010, unless the Administrator promulgates more stringent limits pursuant to section 112(i)(8)(C) of the Act;

(i) 4.0 percent leaking coke oven doors on each tall by-product coke oven battery and for each by-product coke oven battery owned or operated by a foundry coke producer, as determined by the procedures in § 63.309(d)(1); and

(ii) 3.3 percent leaking coke oven doors for each by-product coke oven battery not subject to the emission limitation in paragraph (b)(3)(i) of this section, as determined by the procedures in § 63.309(d)(1).

(4) No owner or operator shall cause to be discharged or allow to be discharged to the atmosphere coke oven emissions from a brownfield or padup rebuild by-product coke oven battery, other than those specified in paragraph (b)(4)(v) of this section, that exceed any of the following emission limitations:

(i) For coke oven doors;

(A) 4.0 percent leaking coke oven doors for each tall by-product coke oven battery, as determined by the procedures in § 63.309(d)(1); and

(B) 3.3 percent leaking coke oven doors on each short by-product coke oven battery, as determined by the procedures in § 63.309(d)(1);

(ii) 0.4 percent leaking topside port lids, as determined by the procedures in § 63.309(d)(1);

(iii) 2.5 percent leaking offtake system(s), as determined by the procedures in § 63.309(d)(1); and

(iv) 12 seconds of visible emissions per charge, as determined by the procedures in § 63.309(d)(2).

(v) The requirements of paragraph (b)(4) of this section shall not apply and the requirements of paragraphs (b)(1), (b)(2), and (b)(3) of this section do apply to the following brownfield or padup rebuild coke oven batteries:

(A) Bethlehem Steel-Burns Harbor, Battery No. 2;

(B) National Steel-Great Lakes, Battery No. 4; and

(C) Koppers-Woodward, Battery No. 3.

(vi) To retain the exclusion provided in paragraph (b)(4)(v) of this section, a coke oven battery specified in paragraph (b)(4)(v) of this section shall commence construction not later than July 1, 1996, or 1 year after obtaining a construction permit, whichever is earlier.

(5) The owner or operator of a cold-idle coke oven battery that shut down on or after November 15, 1990, shall comply with the following emission limitations:

(i) For a brownfield coke oven battery or a padup rebuild coke oven battery, coke oven emissions shall not exceed the emission limitations in paragraph (b)(4) of this section; and

(ii) For a cold-idle battery other than a brownfield or padup rebuild coke oven battery, coke oven emissions shall not exceed the emission limitations in paragraphs (b)(1) through (b)(3) of this section.

(6) The owner or operator of a cold-idle coke oven battery that shut down prior to November 15, 1990, shall submit a written request to the Administrator to include the battery in the design capacity of a coke plant as of November 15, 1990. A copy of the request shall also be sent to Director, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711. The Administrator will review and approve or disapprove a request according to the following procedures:

(i) Requests will be reviewed for completeness in the order received. A complete request shall include:

(A) Battery identification;

(B) Design information, including the design capacity and number and size of ovens; and

(C) A brief description of the owner or operator's plans for the cold-idle battery, including a statement whether construction of a padup rebuild or a

brownfield coke oven battery is contemplated.

(ii) A complete request shall be approved if the design capacity of the battery and the design capacity of all previous approvals does not exceed the capacity limit in paragraph (b)(6)(iii) of this section.

(iii) The total nationwide coke capacity of coke oven batteries that receive approval under paragraph (b)(6) of this section shall not exceed 2.7 million Mg/yr.

(iv) If a construction permit is required, an approval shall lapse if a construction permit is not issued within 3 years of the approval date, or if the construction permit lapses.

(v) If a construction permit is not required, an approval will lapse if the battery is not restarted within 2 years of the approval date.

The owner or operator of a by-product coke oven battery with fewer than 30 ovens may elect to comply with an emission limitation of 2 or fewer leaking coke oven doors, as determined by the procedures in § 63.309(d)(4), as an alternative to the emission limitation for coke oven doors in paragraphs (b)(2)(i), (b)(3) (i) through (ii), (b)(4)(i), (b)(5), and (b)(6) of this section.

(c) On and after November 15, 1993, no owner or operator shall cause to be discharged or allow to be discharged to the atmosphere coke oven emissions from an existing nonrecovery coke oven battery that exceed any of the emission limitations or requirements in § 63.303(a).

(d) Each owner or operator of an existing coke oven battery qualifying for a compliance date extension pursuant to this section shall make available, no later than January 1, 2000, to the surrounding communities the results of any risk assessment performed by the Administrator to determine the appropriate level of any emission standard established by the Administrator according to section 112(f) of the Act.

§ 63.305 Alternative standards for coke oven doors equipped with sheds.

(a) The owner or operator of a new or existing coke oven battery equipped with a shed for the capture of coke oven emissions from coke oven doors and an emission control device for the collection of the emissions may comply with an alternative to the applicable visible emission limitations for coke oven doors in §§ 63.302 and 63.304 according to the procedures and requirements in this section.

(b) To qualify for approval of an alternative standard, the owner or operator shall submit to the Administrator a test plan for the measurement of emissions. A copy of the request shall also be sent to the Director, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, N.C. 27711. The plan shall describe the procedures to be used for the measurement of particulate matter; the parameters to be measured that affect the shed exhaust rate (e.g., damper settings, fan power) and the procedures for measuring such parameters; and if applicable under paragraph (c)(5)(ii) of this section, the procedures to be used for the measurement of benzene soluble organics, benzene, toluene, and xylene emitted from the control device for the shed. The owner or operator shall notify the Administrator at least 30 days before any performance test is conducted.

(c) A complete test plan is deemed approved if no disapproval is received within 60 days of the submittal to the Administrator. After approval of the test plan, the owner or operator shall:

(1) Determine the efficiency of the control device for removal of particulate matter by conducting measurements at the inlet and the outlet of the emission control device using Method 5 in appendix A to part 60 of this chapter, with the filter box operated at ambient temperature and in a manner to avoid condensation, with a backup filter;

(2) Measure the visible emissions from coke oven doors that escape capture by the shed using Method 22 in appendix A to part 60 of this chapter. For the purpose of approval of an alternative standard, no visible emissions may escape capture from the shed.

(i) Visible emission observations shall be taken during conditions representative of normal operations, except that pushing shall be suspended and pushing emissions shall have cleared the shed; and

(ii) Method 22 observations shall be performed by an observer certified according to the requirements of Method 9 in appendix A to part 60 of this chapter. The observer shall allow pushing emissions to be evacuated (typically 1 to 2 minutes) before making observations;

(3) Measure the opacity of emissions from the control device using Method 9 in appendix A to part 60 of this chapter during conditions representative of normal operations, including pushing, and

(i) If the control device has multiple stacks, the owner or operator shall use an evaluation based on visible emissions and opacity to select the stack with the highest opacity for testing under this section;

(ii) The highest opacity, expressed as a 6-minute average, shall be used as the opacity standard for the control device

(4) Thoroughly inspect all compartments of each air cleaning device prior to the performance test for proper operation and for changes that signal the potential for malfunction, including the presence of tears, holes, and abrasions in filter bags; damaged seals; and for dust deposits on the clean side of bags; and

(5) Determine the allowable percent leaking doors under the shed using either of the following procedures:

(i) Calculate the allowable percent leaking doors using the following equation:

$$PLD = \left[\frac{1.4(PLD_{std})^{2.5}}{(1.4 - eff/100)}\right]^{0.4} \quad \text{(Eq. 1)}$$

where

PLD=Allowable percent leaking doors for alternative standard.

PLD_{std}=Applicable visible emission limitation of percent leaking doors under this subpart that would otherwise apply to the coke oven battery, converted to the single-run limit according to Table 1.

eff=Percent control efficiency for particulate matter for emission control device as determined according to paragraph (c)(1) of this section.

Table 1.—Conversion to Single-Run Limit

30-run limit	Single-pass limit (98 percent level)
7.0	11.0
6.0	9.5
5.5	8.7
5.0	8.1
4.3	7.2
4.0	6.7
3.8	6.4
3.3	5.8

or;

(ii) Calculate the allowable percent leaking doors using the following procedures:

(A) Measure the total emission rate of benzene, toluene, and xylene exiting the control device using Method 18 in appendix A to part 60 of this chapter and the emission rate of benzene soluble organics entering the control device as described in the test plan submitted pursuant to paragraph (b) of this section or

(B) Measure benzene, toluene, xylene, and benzene soluble organics in the gas in the collector main as described in the test plan submitted pursuant to paragraph (b) of this section; and

(C) Calculate the ratio (R) of benzene, toluene, and xylene to benzene soluble organics for the gas in the collector main, or as the sum of the outlet emission rates of benzene, toluene, and xylene, divided by the emission rate of benzene soluble organics as measured at the inlet to the control device; and

(D) Calculate the allowable percent leaking doors limit under the shed using the following equation:

$$PLD = \left[\frac{(R+1)(PLD_{std})^{2.5}}{(R+1-eff/100)}\right]^{0.4} \quad \text{(Eq. 2)}$$

where

R=Ratio of measured emissions of benzene, toluene, and xylene to measured emissions of benzene soluble organics.

(iii) If the allowable percent leaking coke oven doors is calculated to exceed 15 percent leaking coke oven doors under paragraphs (c)(5)(i) or (c)(5)(ii) of this section, the owner or operator shall use 15 percent leaking coke oven doors for the purposes of this section.

(6) Monitor the parameters that affect the shed exhaust flow rate.

(7) The owner or operator may request alternative sampling procedures to those specified in paragraph (c)(5)(ii) (A) and (B) of this section by submitting details on the procedures and the rationale for their use to the Administrator. Alternative procedures shall not be used without approval from the Administrator.

(8) The owner or operator shall inform the Administrator of the schedule for conducting testing under the approved test plan and give the Administrator the opportunity to observe the tests.

(d) After calculating the alternative standard for allowable percent leaking coke oven doors, the owner or operator shall submit the following information to the Administrator:

(1) Identity of the coke oven battery;

(2) Visible emission limitation(s) for percent leaking doors currently applicable to the coke oven battery under this subpart and known future limitations for percent leaking coke oven doors;

(3) A written report including:

(i) Appropriate measurements and calculations used to derive the allowable percent leaking coke oven doors requested as the alternative standard;

(ii) Appropriate visible emission observations for the shed and opacity observations for the control device for the shed, including an alternative opacity standard, if applicable, as described in paragraph (c)(3) of this section based on the highest 6-minute average; and

(iii) The parameter or parameters (e.g., fan power, damper position, or other) to be monitored and recorded to demonstrate that the exhaust flow rate measured during the test required by paragraph (c)(1) of this section is maintained, and the monitoring plan for such parameter(s).

(iv) If the application is for a new shed, one of the following demonstrations:

(A) A demonstration, using modeling procedures acceptable to the Administrator, that the expected concentrations of particulate emissions (including benzene soluble organics) under the shed at the bench level, when the proposed alternative standard was being met, would not exceed the expected concentrations of particulate emissions (including benzene soluble organics) if the shed were not present, the regulations under this subpart were met, and the battery was in compliance with federally enforceable limitations on pushing emissions; or

(B) A demonstration that the shed (including the evacuation system) has been designed in accordance with generally accepted engineering principles for the effective capture and control of particulate emissions (including benzene soluble organics) as measured at the shed's perimeter, its control device, and at the bench level.

(e) The Administrator will review the information and data submitted according to paragraph (d) of this section and may request additional information and data within 60 days of receipt of a complete request.

(1) Except for applications subject to paragraph (e)(3) of this section, the Administrator shall approve or disapprove an alternative standard as expeditiously as practicable. The Administrator shall approve an alternative standard, unless the Administrator determines that the approved test plan has not been followed, or any required calculations are incorrect, or any demonstration required under paragraph (d)(3)(iv) of this section does not satisfy the applicable criteria under that paragraph. If the alternative standard is disapproved, the Administrator will issue a written notification to the owner or operator within the 60-day period.

(2) The owner or operator shall comply with the applicable visible emission limitation for coke oven doors and all other requirements in this subpart prior to approval of an alternative standard. The owner or operator may apply for an alternative standard at any time after December 4, 1992.

(3) An application for an alternative standard to the standard in § 63.304(b)(1)(i) for any shed that is not a new shed that is filed on or before June 15, 1993, is deemed approved if a notice of disapproval has not been received 60 days after submission of a complete request. An approval under paragraph (e)(3) of this section shall be valid for a period of 1 year.

(4) Notwithstanding the provisions of paragraph (e) of this section, no alternative standard shall be approved that exceeds 15 percent leaking coke oven doors (yard equivalent).

(f) After approval of an alternative standard, the owner or operator shall comply with the following requirements:

(1) The owner or operator shall not discharge or allow to be discharged to the atmosphere coke oven emissions from coke oven doors under sheds that exceed an approved alternative standard for percent leaking coke oven doors under sheds.

(i) All visible emission observations for compliance determinations shall be performed by a certified observer.

(ii) Compliance with the alternative standard for doors shall be determined by a weekly performance test conducted according to the procedures and requirements in § 63.309(d)(5) and Method 303 in appendix A to this part.

(iii) If the visible emission limitation is achieved for 12 consecutive observations, compliance shall be determined by monthly rather than weekly performance tests. If any exceedance occurs during a performance test, weekly performance tests shall be resumed.

(iv) Observations taken at times other than those specified in paragraphs (f)(1)(ii) and (f)(1)(iii) of this section shall be subject to the provisions of § 63.309(f).

(2) The certified observer shall monitor the visible coke oven emissions escaping capture by the shed on a weekly basis. The provision in paragraph (f)(6) of this section is applicable if visible coke oven emissions are observed during periods when pushing emissions have cleared the shed.

(3) The owner or operator shall not discharge or allow to be discharged to the atmosphere any visible emissions from the shed's control device exhibiting more than 0 percent opacity unless an alternative limit has been

approved under paragraph (e) of this section.

(4) The opacity of emissions from the control device for the shed shall be monitored in accordance with the requirements of either paragraph (f)(4)(i) or (f)(4)(ii) of this section, at the election of the owner or operator.

(i) The owner or operator shall install, operate, and maintain a continuous opacity monitor, and record the output of the system, for the measurement of the opacity of emissions discharged from the emission control system.

(A) Each continuous opacity monitoring system shall meet the requirements of Performance Specification 1 in appendix B to part 60 of this chapter; and

(B) Each continuous opacity monitoring system shall be operated, calibrated, and maintained according to the procedures and requirements specified in part 52 of this chapter; or

(ii) A certified observer shall monitor and record at least once each day during daylight hours, opacity observations for the control device for the shed using Method 9 in appendix A to part 60 of this chapter.

(5) The owner or operator shall visually inspect the structural integrity of the shed at least once a quarter for defects, such as deterioration of sheet metal (e.g., holes in the shed), that may allow the escape of visible emissions.

(i) The owner or operator shall record the time and date a defect is first observed, the time and date the defect is corrected or repaired, and a brief description of repairs or corrective actions taken;

(ii) The owner or operator shall temporarily repair the defect as soon as possible, but no later than 5 days after detection of the defect;

(iii) Unless a major repair is required, the owner or operator shall perform a complete repair of the defect within 15 days of detection of the defect. If a major repair is required (e.g., replacement of large sections of the shed), the owner or operator shall submit a repair schedule to the enforcement agency.

(6) If the no visible emission limit for the shed specified in paragraph (f)(2) of this section is exceeded, the Administrator may require another test for the shed according to the approved test plan as specified in paragraph (c) of this section. If the certified observer observes visible coke oven emissions from the shed, except during periods of pushing or when pushing emissions have not cleared the shed, the owner or operator shall check to ensure that the shed and control device are working properly.

(7) The owner or operator shall monitor the parameter(s) affecting shed exhaust flow rate, and record data, in accordance with the approved monitoring plan for these parameters.

(8) The owner or operator shall not operate the exhaust system of the shed at an exhaust flow rate lower than that measured during the test required under paragraph (c)(1) of this section, as indicated by the monitored parameters.

(g) Each side of a battery subject to an alternative standard for doors under this section shall be treated separately for purposes of §§ 63.306(c) (plan implementation) and 63.306(d) (plan revisions) of this subpart. In making determinations under these provisions for the side of the battery subject to an alternative standard, the requirement that exceedances be independent shall not apply. During any period when work practices for doors for both sides of the battery are required to be implemented, § 63.306(a)(3) shall apply in the same manner as if the provisions of a plan for a single emissions point were required to be implemented. Exceedances of the alternative standard for percent leaking doors under a shed is the only provision in this section implicating implementation of work practice requirements.

(h) Multiple exceedances of the visible emission limitation for door leaks and/or the provisions of an alternative standard under this section for door leaks at a battery on a single day shall be considered a single violation.

§ 63.306 Work practice standards.

(a) *Work practice plan.* On or before November 15, 1993, each owner or operator shall prepare and submit to the Administrator a written emission control work practice plan for each coke oven battery. The plan shall be designed to achieve compliance with visible emission limitations for coke oven doors, topside port lids, offtake systems, and charging operations under this subpart or, for a coke oven battery not subject to visible emission limitations under this subpart, other federally enforceable visible emission limitations for these emission points.

(1) The work practice plan must address each of the topics specified in paragraph (b) of this section in sufficient detail and with sufficient specificity to allow the Administrator to evaluate the plan for completeness and enforceability.

(2) The Administrator may require revisions to the initial plan only where the Administrator finds either that the plan does not address each subject area listed in paragraph (b) of this section for each emission point subject to a visible emission standard under this subpart, or that the plan is unenforceable because it contains requirements that are unclear.

(3) During any period of time that an owner or operator is required to implement the provisions of a plan for a particular emission point, the failure to implement one or more obligations under the plan and/or any recordkeeping requirement(s) under § 63.311(f)(4) for the emission point during a particular day is a single violation.

(b) *Plan components.* The owner or operator shall organize the work practice plan to indicate clearly which parts of the plan pertain to each emission point subject to visible emission standards under this subpart. Each of the following provisions, at a minimum, shall be addressed in the plan:

(1) An initial and refresher training program for all coke plant operating personnel with responsibilities that impact emissions, including contractors, in job requirements related to emission control and the requirements of this subpart, including work practice requirements. Contractors with responsibilities that impact emission control may be trained by the owner or operator or by qualified contractor personnel; however, the owner or operator shall ensure that the contractor training program complies with the requirements of this section. The training program in the plan must include:

(i) A list, by job title, of all personnel that are required to be trained and the emission point(s) associated with each job title;

(ii) An outline of the subjects to be covered in the initial and refresher training for each group of personnel;

(iii) A description of the training method(s) that will be used (e.g., lecture, video tape);

(iv) A statement of the duration of initial training and the duration and frequency of refresher training;

(v) A description of the methods to be used at the completion of initial or refresher training to demonstrate and document successful completion of the initial and refresher training; and

(vi) A description of the procedure to be used to document performance of plan requirements pertaining to daily operation of the coke oven battery and its emission control equipment, including a copy of the form to be used, if applicable, as required under the plan provisions implementing paragraph (b)(7) of this section.

(2) Procedures for controlling emissions from coke oven doors on by-product coke oven batteries, including:

(i) A program for the inspection, adjustment, repair, and replacement of coke oven doors and jambs, and any other equipment for controlling emissions from coke oven doors, including a defined frequency of inspections, the method to be used to evaluate conformance with operating specifications for each type of equipment, and the method to be used to audit the effectiveness of the inspection and repair program for preventing exceedances;

(ii) Procedures for identifying leaks that indicate a failure of the emissions control equipment to function properly, including a clearly defined chain of command for communicating information on leaks and procedures for corrective action;

(iii) Procedures for cleaning all sealing surfaces of each door and jamb, including identification of the equipment that will be used and a specified schedule or frequency for the cleaning of sealing surfaces;

(iv) For batteries equipped with self-sealing doors, procedures for use of supplemental gasketing and luting materials, if the owner or operator elects to use such procedures as part of the program to prevent exceedances;

(v) For batteries equipped with hand-luted doors, procedures for luting and reluting, as necessary to prevent exceedances;

(vi) Procedures for maintaining an adequate inventory of the number of spare coke oven doors and jambs located onsite; and

(vii) Procedures for monitoring and controlling collecting main back pressure, including corrective action if pressure control problems occur.

(3) Procedures for controlling emissions from charging operations on by-product coke oven batteries, including:

(i) Procedures for equipment inspection, including the frequency of inspections, and replacement or repair of equipment for controlling emissions from charging, the method to be used to evaluate conformance with operating specifications for each type of equipment, and the method to be used to audit the effectiveness of the inspection and repair program for preventing exceedances;

(ii) Procedures for ensuring that the larry car hoppers are filled properly with coal;

(iii) Procedures for the alignment of the larry car over the oven to be charged;

(iv) Procedures for filling the oven (e.g., procedures for staged or sequential charging);

(v) Procedures for ensuring that the coal is leveled properly in the oven; and

(vi) Procedures and schedules for inspection and cleaning of offtake systems (including standpipes, standpipe caps, goosenecks, dampers, and mains), oven roofs, charging holes, topside port lids, the steam supply system, and liquor sprays.

(4) Procedures for controlling emissions from topside port lids on by-product coke oven batteries, including:

(i) Procedures for equipment inspection and replacement or repair of topside port lids and port lid mating and sealing surfaces, including the frequency of inspections, the method to be used to evaluate conformance with operating specifications for each type of equipment, and the method to be used to audit the effectiveness of the inspection and repair program for preventing exceedances; and

(ii) Procedures for sealing topside port lids after charging, for identifying topside port lids that leak, and procedures for resealing.

(5) Procedures for controlling emissions from offtake system(s) on by-product coke oven batteries, including:

(i) Procedures for equipment inspection and replacement or repair of offtake system components, including the frequency of inspections, the method to be used to evaluate conformance with operating specifications for each type of equipment, and the method to be used to audit the effectiveness of the inspection and repair program for preventing exceedances;

(ii) Procedures for identifying offtake system components that leak and procedures for sealing leaks that are detected; and

(iii) Procedures for dampering off ovens prior to a push.

(6) Procedures for controlling emissions from nonrecovery coke oven batteries including:

(i) Procedures for charging coal into the oven, including any special procedures for minimizing air infiltration during charging, maximizing the draft on the oven, and for replacing the door promptly after charging;

(ii) If applicable, procedures for the capture and control of charging emissions;

(iii) Procedures for cleaning coke from the door sill area for both sides of the battery after completing the pushing operation and before replacing the coke oven door;

(iv) Procedures for cleaning coal from the door sill area after charging and before replacing the push side door;

(v) Procedures for filling gaps around the door perimeter with sealant material, if applicable; and

(vi) Procedures for detecting and controlling emissions from smoldering coal.

(7) Procedures for maintaining, for each emission point subject to visible emission limitations under this subpart, a daily record of the performance of plan requirements pertaining to the daily operation of the coke oven battery and its emission control equipment, including:

(i) Procedures for recording the performance of such plan requirements; and

(ii) Procedures for certifying the accuracy of such records by the owner or operator.

(8) Any additional work practices or requirements specified by the Administrator according to paragraph (d) of this section.

(c) *Implementation of work practice plans.* On and after November 15, 1993, the owner or operator of a coke oven battery shall implement the provisions of the coke oven emission control work practice plan according to the following requirements:

(1) The owner or operator of a coke oven battery subject to visible emission limitations under this subpart on and after November 15, 1993, shall:

(i) Implement the provisions of the work practice plan pertaining to a particular emission point following the second independent exceedance of the visible emission limitation for the emission point in any consecutive 6-month period, by no later than 3 days after receipt of written notification of the second such exceedance from the certified observer. For the purpose of this paragraph (c)(1)(i), the second exceedance is "independent" if either of the following criteria is met:

(A) The second exceedance occurs 30 days or more after the first exceedance;

(B) In the case of coke oven doors, topside port lids, and offtake systems, the 29-run average, calculated by excluding the highest value in the 30-day period, exceeds the value of the applicable emission limitation; or

(C) In the case of charging emissions, the 29-day logarithmic average, calculated in accordance with Method 303 in appendix A to this part by excluding the valid daily set of observations in the 30-day period that had the highest arithmetic average, exceeds the value of the applicable emission limitation.

(ii) Continue to implement such plan provisions until the visible emission limitation for the emission point is achieved for 90 consecutive days if work practice requirements are implemented pursuant to paragraph (c)(1)(i) of this section. After the visible emission limitation for a particular emission point is achieved for 90 consecutive days, any exceedances prior to the beginning of the 90 days are not included in making a determination under paragraph (c)(1)(i) of this section.

(2) The owner or operator of a coke oven battery not subject to visible emission limitations under this subpart until December 31, 1995, shall:

(i) Implement the provisions of the work practice plan pertaining to a particular emission point following the second exceedance in any consecutive 6-month period of a federally enforceable emission limitation for that emission point for coke oven doors, topside port lids, offtake systems, or charging operations by no later than 3 days after receipt of written notification from the applicable enforcement agency; and

(ii) Continue to implement such plan provisions for 90 consecutive days after the most recent written notification from the enforcement agency of an exceedance of the visible emission limitation.

(d) *Revisions to plan.* Revisions to the work practice emission control plan will be governed by the provisions in this paragraph (d) and in paragraph (a)(2) of this section.

(1) The Administrator may request the owner or operator to review and revise as needed the work practice emission control plan for a particular emission point if there are 2 exceedances of the applicable visible emission limitation in the 6-month period that starts 30 days after the owner or operator is required to implement work practices under paragraph (c) of this section. In the case of a coke oven battery subject to visual emission limitations under this subpart, the second exceedance must be independent under the criteria in paragraph (c)(1)(i) of this section.

(2) The Administrator may not request the owner or operator to review and revise the plan more than twice in any 12 consecutive month period for any particular emission point unless the Administrator disapproves the plan according to the provisions in paragraph (d)(6) of this section.

(3) If the certified observer calculates that a second exceedance (or, if applicable, a second independent exceedance) has occurred, the certified observer shall notify the owner or operator. No later than 10 days after receipt of such a notification, the owner or operator shall notify the Administrator of any finding of whether work practices are related to the cause or the solution of the problem. This notification is subject to review by the Administrator according to the provisions in paragraph (d)(6) of this section.

(4) The owner or operator shall submit a revised work practice plan within 60 days of notification from the Administrator under paragraph (d)(1) of this section, unless the Administrator grants an extension of time to submit the revised plan.

(5) If the Administrator requires a plan revision, the Administrator may require the plan to address a subject area or areas in addition to those in paragraph (b) of this section, if the Administrator determines that without plan coverage of such an additional subject area, there is a reasonable probability of further exceedances of the visible emission limitation for the emission point for which a plan revision is required.

(6) The Administrator may disapprove a plan revision required under paragraph (d) of this section if the Administrator determines that the revised plan is inadequate to prevent exceedances of the visible emission limitation under this subpart for the emission point for which a plan revision is required or, in the case of a battery not subject to visual emission limitations under this subpart, other federally enforceable emission limitations for such emission point. The Administrator may also disapprove the finding that may be submitted pursuant to paragraph (d)(3) of this section if the Administrator determines that a revised plan is needed to prevent exceedances of the applicable visible emission limitations.

§ 63.307 Standards for bypass/bleeder stacks.

(a) (1) Except as otherwise provided in this section, on or before March 31, 1994, the owner or operator of an existing by-product recovery battery for which a notification was not submitted under paragraph (e)(1) of this section shall install a bypass/bleeder stack flare system that is capable of controlling 120 percent of the normal gas flow generated by the battery, which shall thereafter be operated and maintained.

(2) Coke oven emissions shall not be vented to the atmosphere through bypass/bleeder stacks, except through the flare system or the alternative control device as described in paragraph (d) of this section.

(3) The owner or operator of a brownfield coke oven battery or a padup rebuild shall install such a flare system before startup, and shall properly operate and maintain the flare system.

(b) Each flare installed pursuant to this section shall meet the following requirements:

(1) Each flare shall be designed for a net heating value of 8.9 MJ/scm (240 Btu/scf) if a flare is steam-assisted or air-assisted, or a net value of 7.45 MJ/scm (200 Btu/scf) if the flare is non-assisted.

(2) Each flare shall have either a continuously operable pilot flame or an electronic igniter that meets the requirements of paragraphs (b)(3) and (b)(4) of this section.

(3) Each electronic igniter shall meet the following requirements:

(i) Each flare shall be equipped with at least two igniter plugs with redundant igniter transformers;

(ii) The ignition units shall be designed failsafe with respect to flame detection thermocouples (i.e., any flame detection thermocouples are used only to indicate the presence of a flame, are not interlocked with the ignition unit, and cannot deactivate the ignition system); and

(iii) Integral battery backup shall be provided to maintain active ignition operation for a minimum of 15 minutes during a power failure.

(iv) Each electronic igniter shall be operated to initiate ignition when the bleeder valve is not fully closed as indicated by an "OPEN" limit switch.

(4) Each flare installed to meet the requirements of this paragraph (b) that does not have an electronic igniter shall be operated with a pilot flame present at all times as determined by § 63.309(h)(2).

(c) Each flare installed to meet the requirements of this section shall be operated with no visible emissions, as determined by the methods specified in § 63.309(h)(1), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(d) As an alternative to the installation, operation, and maintenance of a flare system as required in paragraph (a) of this section, the owner or operator may petition the Administrator for approval of an alternative control device or system that achieves at least 98 percent destruction or control of coke oven emissions vented to the alternative control device or system.

(e) The owner or operator of a by-product coke oven battery is exempt from the requirements of this section if the owner or operator:

(1) Submits to the Administrator, no later than November 10, 1993, a formal

commitment to close the battery permanently; and

(2) Closes the battery permanently no later than December 31, 1995. In no case may the owner or operator continue to operate a battery for which a closure commitment is submitted, past December 31, 1995.

(f) Any emissions resulting from the installation of flares (or other pollution control devices or systems approved pursuant to paragraph (d) of this section) shall not be used in making new source review determinations under part C and part D of title I of the Act.

§ 63.308 Standards for collecting mains.

(a) On and after November 15, 1993, the owner or operator of a by-product coke oven battery shall inspect the collecting main for leaks at least once daily according to the procedures in Method 303 in appendix A to this part.

(b) The owner or operator shall record the time and date a leak is first observed, the time and date the leak is temporarily sealed, and the time and date of repair.

(c) The owner or operator shall temporarily seal any leak in the collecting main as soon as possible after detection, but no later than 4 hours after detection of the leak.

(d) The owner or operator shall initiate a collecting main repair as expeditiously as possible, but no later than 5 calendar days after initial detection of the leak. The repair shall be completed within 15 calendar days after initial detection of the leak unless an alternative schedule is approved by the Administrator.

§ 63.309 Performance tests and procedures.

(a) Except as otherwise provided, a daily performance test shall be conducted each day, 7 days per week for each new and existing coke oven battery, the results of which shall be used in accordance with procedures specified in this subpart to determine compliance with each of the applicable visible emission limitations for coke oven doors, topside port lids, offtake systems, and charging operations in this subpart. If a facility pushes and charges only at night, then that facility must, at its option, change their schedule and charge during daylight hours or provide adequate lighting so that visible emission inspections can be made at night. "Adequate lighting" will be determined by the enforcement agency.

(1) Each performance test is to be conducted according to the procedures and requirements in this section and in Method 303 or 303A in appendix A to this part or Methods 9 and 22 in appendix A to part 60 of this chapter (where applicable).

(2) Each performance test is to be conducted by a certified observer.

(3) The certified observer shall complete any reasonable safety training program offered by the owner or operator prior to conducting any performance test at a coke oven battery.

(4) Except as otherwise provided in paragraph (a)(5) of this section, the owner or operator shall pay an inspection fee to the enforcement agency each calendar quarter to defray the costs of the daily performance tests required under paragraph (a) of this section.

(i) The inspection fee shall be determined according to the following formula:

$$F = H \times S \qquad \text{(Eq. 3)}$$

where

F=Fees to be paid by owner or operator.

H=Total person hours for inspections: 4 hours for 1 coke oven battery, 6.25 hours for 2 coke oven batteries, 8.25 hours for 3 coke oven batteries. For more than 3 coke oven batteries, use these hours to calculate the appropriate estimate of person hours.

S=Current average hourly rate for private visible emission inspectors in the relevant market.

(ii) The enforcement agency may revise the value for H in equation 3 within 3 years after October 27, 1993 to reflect the amount of time actually required to conduct the inspections required under paragraph (a) of this section.

(iii) The owner or operator shall not be required to pay an inspection fee (or any part thereof) under paragraph (a)(4) of this section, for any monitoring or inspection services required by paragraph (a) of this section that the owner or operator can demonstrate are covered by other fees collected by the enforcement agency.

(iv) Upon request, the enforcement agency shall provide the owner or operator information concerning the inspection services covered by any other fees collected by the enforcement agency, and any information relied upon under paragraph (a)(4)(ii) of this section.

(5) (i) The EPA shall be the enforcement agency during any period of time that a delegation of enforcement authority is not in effect or a withdrawal of enforcement authority under § 63.313 is in effect, and the Administrator is responsible for performing the inspections required by this section, pursuant to § 63.313(b).

(ii) Within thirty (30) days of receiving notification from the Administrator that the EPA is the enforcement agency for a coke oven battery, the owner or operator shall enter into a contract providing for the inspections and performance tests required under this section to be performed by a Method 303 certified observer. The inspections and performance tests will be conducted at the expense of the owner or operator, during the period that the EPA is the implementing agency.

(b) The enforcement agency shall commence daily performance tests on the applicable date specified in §§ 63.300 (a) or (c).

(c) The certified observer shall conduct each performance test according to the requirements in this paragraph:

(1) The certified observer shall conduct one run each day to observe and record visible emissions from each coke oven door (except for doors covered by an alternative standard under § 63.305), topside port lid, and offtake system on each coke oven battery. The certified observer also shall conduct five runs to observe and record the seconds of visible emissions per charge for five consecutive charges from each coke oven battery. The observer may perform additional runs as needed to obtain and record a visible emissions value (or set of values) for an emission point that is valid under Method 303 or Method 303A in appendix A to this part. Observations from fewer than five consecutive charges shall constitute a valid set of charging observations only in accordance with the procedures and conditions specified in sections 3.8 and 3.9 of Method 303 in appendix A to this part.

(2) If a valid visible emissions value (or set of values) is not obtained for a performance test, there is no compliance determination for that day. Compliance determinations will resume on the next day that a valid visible emissions value (or set of values) is obtained.

(3) After each performance test for a by-product coke oven battery, the certified observer shall check and record the collecting main pressure according to the procedures in section 6.3 of Method 303 in appendix A to this part.

(i) The owner or operator shall demonstrate pursuant to Method 303 in appendix A to this part the accuracy of the pressure measurement device upon request of the certified observer;

(ii) The owner or operator shall not adjust the pressure to a level below the

range of normal operation during or prior to the inspection;

(4) The certified observer shall monitor visible emissions from coke oven doors subject to an alternative standard under § 63.305 on the schedule specified in § 63.305(f).

(5) If applicable, the certified observer shall monitor the opacity of any emissions escaping the control device for a shed covering doors subject to an alternative standard under § 63.305 on the schedule specified in § 63.305(f).

(6) In no case shall the owner or operator knowingly block a coke oven door, or any portion of a door for the purpose of concealing emissions or preventing observations by the certified observer.

(d) Using the observations obtained from each performance test, the enforcement agency shall compute and record, in accordance with the procedures and requirements of Method 303 or 303A in appendix A to this part, for each day of operations on which a valid emissions value (or set of values) is obtained:

(1) The 30-run rolling average of the percent leaking coke oven doors, topside port lids, and offtake systems on each coke oven battery, using the equations in sections 4.5.3.2, 5.6.5.2, and 5.6.6.2 of Method 303 (or section 3.4.3.2 of Method 303A) in appendix A to this part;

(2) For by-product coke oven battery charging operations, the logarithmic 30-day rolling average of the seconds of visible emissions per charge for each battery, using the equation in section 3.9 of Method 303 in appendix A to this part;

(3) For a battery subject to an alternative emission limitation for coke oven doors on by-product coke oven batteries pursuant to § 63.305, the 30-run rolling average of the percent leaking coke oven doors for any side of the battery not subject to such alternative emission limitation;

(4) For a by-product coke oven battery subject to the small battery emission limitation for coke oven doors pursuant to § 63.304(b)(7), the 30-run rolling average of the number of leaking coke oven doors;

(5) For an approved alternative emission limitation for coke oven doors according to § 63.305, the weekly or monthly observation of the percent leaking coke oven doors using Method 303 in appendix A to this part, the percent opacity of visible emissions from the control device for the shed using Method 9 in appendix A to part 60 of this chapter, and visible emissions from the shed using Method 22 in appendix A to part 60 of this chapter;

(e) The certified observer shall make available to the implementing agency as well as to the owner or operator, a copy of the daily inspection results by the end of the day and shall make available the calculated rolling average for each emission point to the owner or operator as soon as practicable following each performance test. The information provided by the certified observer is not a compliance determination. For the purpose of notifying an owner or operator of the results obtained by a certified observer, the person does not have to be certified.

(f) Compliance shall not be determined more often than the schedule provided for performance tests under this section. If additional valid emissions observations are obtained (or in the case of charging, valid sets of emission observations), the arithmetic average of all valid values (or valid sets of values) obtained during the day shall be used in any computations performed to determine compliance under paragraph (d) of this section or determinations under § 63.306.

(g) Compliance with the alternative standards for nonrecovery coke oven batteries in § 63.303; shed inspection, maintenance requirements, and monitoring requirements for parameters affecting the shed exhaust flow rate for batteries subject to alternative standards for coke oven doors under § 63.305; work practice emission control plan requirements in § 63.306; standards for bypass/bleeder stacks in § 63.307; and standards for collecting mains in § 63.308 is to be determined by the enforcement agency based on review of records and inspections.

(h) For a flare installed to meet the requirements of § 63.307(b):

(1) Compliance with the provisions in § 63.307(c) (visible emissions from flares) shall be determined using Method 22 in appendix A to part 60 of this chapter, with an observation period of 2 hours; and

(2) Compliance with the provisions in § 63.307(b)(4) (flare pilot light) shall be determined using a thermocouple or any other equivalent device.

(i) No observations obtained during any program for training or for certifying observers under this subpart shall be used to determine compliance with the requirements of this subpart or any other federally enforceable standard.

§ 63.310 Requirements for startups, shutdowns, and malfunctions.

(a) At all times including periods of startup, shutdown, and malfunction, the owner or operator shall operate and maintain the coke oven battery and its pollution control equipment required under this subpart, in a manner consistent with good air pollution control practices for minimizing emissions to the levels required by any applicable performance standards under this subpart. Failure to adhere to the requirement of this paragraph shall not constitute a separate violation if a violation of an applicable performance or work practice standard has also occurred.

(b) Each owner or operator of a coke oven battery shall develop and implement according to paragraph (c) of this section, a written startup, shutdown, and malfunction plan that describes procedures for operating the battery, including associated air pollution control equipment, during a period of a startup, shutdown, or malfunction in a manner consistent with good air pollution control practices for minimizing emissions, and procedures for correcting malfunctioning process and air pollution control equipment as quickly as practicable.

(c) During a period of startup, shutdown, or malfunction:

(1) The owner or operator of a coke oven battery shall operate the battery (including associated air pollution control equipment) in accordance with the procedure specified in the startup, shutdown, and malfunction plan; and

(2) Malfunctions shall be corrected as soon as practicable after their occurrence, in accordance with the plan.

(d) In order for the provisions of paragraph (i) of this section to apply with respect to the observation (or set of observations) for a particular day, notification of a startup, shutdown, or a malfunction shall be made by the owner or operator:

(1) If practicable, to the certified observer if the observer is at the facility during the occurrence; or

(2) To the enforcement agency, in writing, within 24 hours of the occurrence first being documented by a company employee, and if the notification under paragraph (d)(1) of this section was not made, an explanation of why no such notification was made.

(e) Within 14 days of the notification made under paragraph (d) of this section, or after a startup or shutdown, the owner or operator shall submit a written report to the applicable permitting authority that:

(1) Describes the time and circumstances of the startup, shutdown, or malfunction; and

(2) Describes actions taken that might be considered inconsistent with the startup, shutdown, or malfunction plan.

(f) The owner or operator shall maintain a record of internal reports which form the basis of each malfunction notification under paragraph (d) of this section.

(g) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the standard operating procedures manual for the battery, provided the manual meets all the requirements for this section and is made available for inspection at reasonable times when requested by the Administrator.

(h) The Administrator may require reasonable revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

(1) Does not address a startup, shutdown, or malfunction event that has occurred;

(2) Fails to provide for the operation of the source (including associated air pollution control equipment) during a startup, shutdown, or malfunction event in a manner consistent with good air pollution control practices for minimizing emissions; or

(3) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable.

(i) If the owner or operator demonstrates to the satisfaction of the Administrator that a startup, shutdown, or malfunction has occurred, then an observation occurring during such startup, shutdown, or malfunction shall not:

(1) Constitute a violation of relevant requirements of this subpart;

(2) Be used in any compliance determination under § 63.309; or

(3) Be considered for purposes of § 63.306, until the Administrator has resolved the claim that a startup, shutdown, or malfunction has occurred. If the Administrator determines that a startup, shutdown, or malfunction has not occurred, such observations may be used for purposes of § 63.306, regardless of whether the owner or operator further contests such determination. The owner's or operator's receipt of written notification from the Administrator that a startup, shutdown, or malfunction has not occurred will serve, where applicable under § 63.306, as written notification from the certified observer that an exceedance has occurred.

§ 63.311 Reporting and recordkeeping requirements.

(a) After the effective date of an approved permit in a State under part 70 of this chapter, the owner or operator shall submit all notifications and reports required by this subpart to the State permitting authority. Use of information provided by the certified observer shall be a sufficient basis for notifications required under § 70.5(c)(9) of this chapter and the reasonable inquiry requirement of § 70.5(d) of this chapter.

(b) *Initial compliance certification.* The owner or operator of an existing or new coke oven battery shall provide a written statement(s) to certify compliance to the Administrator within 45 days of the applicable compliance date for the emission limitations or requirements in this subpart. The owner or operator shall include the following information in the initial compliance certification:

(1) Statement, signed by the owner or operator, certifying that a bypass/bleeder stack flare system or an approved alternative control device or system has been installed as required in § 63.307; and

(2) Statement, signed by the owner or operator, certifying that a written startup, shutdown, and malfunction plan has been prepared as required in § 63.310.

(c) *Notifications.* The owner or operator shall provide written notification(s) to the Administrator of:

(1) Intention to construct a new coke oven battery (including reconstruction of an existing coke oven battery and construction of a greenfield coke oven battery), a brownfield coke oven battery, or a padup rebuild coke oven battery, including the anticipated date of startup; and

(2) Election to meet emission limitation(s) in this subpart as follows:

(i) Notification of election to meet the emission limitations in §§ 63.304(b)(1) or 63.304(c) either in lieu of or in addition to the applicable emission limitations in § 63.302(a) or § 63.303(a) must be received by the Administrator on or before November 15, 1993; or

(ii) Notification of election to meet the emission limitations in § 63.302(a)(1) or § 63.303(a), as applicable, must be received by the Administrator on or before December 31, 1995; and

(iii) Notification of election to meet the emission limitations in § 63.304(b)(2) through (4) and § 63.304(c) or election to meet residual risk standards to be developed according to section 112(f) of the Act in lieu of the emission standards in § 63.304 must be received on or before January 1, 1998.

(d) *Semiannual compliance certification.* The owner or operator of a coke oven battery shall include the following information in the semiannual compliance certification:

(1) Certification, signed by the owner or operator, that no coke oven gas was vented, except through the bypass/bleeder stack flare system of a by-product coke oven battery during the reporting period or that a venting report has been submitted according to the requirements in paragraph (e) of this section;

(2) Certification, signed by the owner or operator, that a startup, shutdown, or malfunction event did not occur for a coke oven battery during the reporting period or that a startup, shutdown, and malfunction event did occur and a report was submitted according to the requirements in § 63.310(e); and

(3) Certification, signed by the owner or operator, that work practices were implemented if applicable under § 63.306.

(e) *Report for the venting of coke oven gas other than through a flare system.* The owner or operator shall report any venting of coke oven gas through a bypass/bleeder stack that was not vented through the bypass/bleeder stack flare system to the Administrator as soon as practicable but no later than 24 hours after the beginning of the event. A written report shall be submitted within 30 days of the event and shall include a description of the event and, if applicable, a copy of the notification for a hazardous substance release required pursuant to § 302.6 of this chapter.

(f) *Recordkeeping.* The owner or operator shall maintain files of all required information in a permanent form suitable for inspection at an onsite location for at least 1 year and must thereafter be accessible within 3 working days to the Administrator for the time period specified in § 70.6(a)(3)(ii)(B) of this chapter. Copies of the work practice plan developed under § 63.306 and the startup, shutdown, and malfunction plan developed under § 63.310 shall be kept onsite at all times. The owner or operator shall maintain the following information:

(1) For nonrecovery coke oven batteries,

(i) Records of daily pressure monitoring, if applicable according to § 63.303(a)(1)(ii) or § 63.303(b)(1)(ii);

(ii) Records demonstrating the performance of work practice requirements according to § 63.306(b)(7); and

(iii) Design characteristics of each emission control system for the capture and collection of charging emissions, as required by § 63.303(b)(2).

(2) For an approved alternative emission limitation according to § 63.305;

(i) Monitoring records for parameter(s) that indicate the exhaust flow rate is maintained;

(ii) If applicable under § 63.305(f)(4)(i);

(A) Records of opacity readings from the continuous opacity monitor for the control device for the shed; and

(B) Records that demonstrate the continuous opacity monitoring system meets the requirements of Performance Specification 1 in appendix B to part 60 of this chapter and the operation and maintenance requirements in part 52 of this chapter; and

(iii) Records of quarterly visual inspections as specified in § 63.305(f)(5), including the time and date a defect is detected and repaired.

(3) A copy of the work practice plan required by § 63.306 and any revision to the plan;

(4) If the owner or operator is required under § 63.306(c) to implement the provisions of a work practice plan for a particular emission point, the following records regarding the implementation of plan requirements for that emission point during the implementation period;

(i) Copies of all written and audiovisual materials used in the training, the dates of each class, the names of the participants in each class, and documentation that all appropriate personnel have successfully completed the training required under § 63.306(b)(1);

(ii) The records required to be maintained by the plan provisions implementing § 63.306(b)(7);

(iii) Records resulting from audits of the effectiveness of the work practice program for the particular emission point, as required under §§ 63.306(b)(2)(i), 63.306(b)(3)(i), 63.306(b)(4)(i), or 63.306(b)(5)(i); and

(iv) If the plan provisions for coke oven doors must be implemented, records of the inventory of doors and jambs as required under § 63.306(b)(2)(vi); and

(5) The design drawings and engineering specifications for the bypass/bleeder stack flare system or approved alternative control device or system as required under § 63.307.

(6) Records specified in § 63.310(f) regarding the basis of each malfunction notification.

(g) Records required to be maintained and reports required to be filed with the Administrator under this subpart shall be made available in accordance with the requirements of this paragraph by the owner or operator to the authorized collective bargaining representative of the employees at a coke oven battery, for inspection and copying.

(1) Requests under paragraph (g) of this section shall be submitted in writing, and shall identify the records or reports that are subject to the request with reasonable specificity;

(2) The owner or operator shall produce the reports for inspection and copying within a reasonable period of time, not to exceed 30 days. A reasonable fee may be charged for copying (except for the first copy of any document), which shall not exceed the copying fee charged by the Administrator under part 2 of this chapter;

(3) Nothing in paragraph (g) of this section shall require the production for inspection or copying of any portion of a document that contains trade secrets or confidential business information that the Administrator would be prohibited from disclosing to the public under part 2 of this chapter; and

(4) The inspection or copying of a document under paragraph (g) of this section shall not in any way affect any property right of the owner or operator in such document under laws for the protection of intellectual property, including the copyright laws.

§ 63.312 Existing regulations and requirements.

(a) The owner or operator shall comply with all applicable State implementation plan emission limits and (subject to any expiration date) all federally enforceable emission limitations which are contained in an order, decree, permit, or settlement agreement for the control of emissions from offtake systems, topside port lids, coke oven doors, and charging operations in effect on September 15, 1992, or which have been modified according to the provisions of paragraph (c) of this section.

(b) Nothing in this subpart shall affect the enforcement of such State implementation plan emission limitations (or, subject to any expiration date, such federally enforceable emission limitations contained in an order, decree, permit, or settlement agreement) in effect on September 15, 1992, or which have been modified according to the provisions in paragraph (c) of this section.

(c) No such State implementation plan emission limitation (or, subject to any expiration date, such federally enforceable emission limitation contained in an order, decree, permit, or settlement agreement) in effect on September 15, 1992, may be modified under the Act unless:

(1) Such modification is consistent with all requirements of section 110 of the Act; and either

(i) Such modification ensures that the applicable emission limitations and format (e.g., single pass v. multiday average) in effect on September 15, 1992, will continue in effect; or

(ii) Such modification includes a change in the method of monitoring (except frequency unless frequency was indicated in the State implementation plan, or subject to any expiration date, other federally enforceable requirements contained in an order, decree, permit, or settlement agreement) that is more stringent than the method of monitoring in effect on September 15, 1992, and that ensures coke oven emission reductions greater than the emission reductions required on September 15, 1992. The burden of proof in demonstrating the stringency of the methods of monitoring is borne by the party requesting the modification and must be made to the satisfaction of the Administrator; or

(iii) Such modification makes the emission limitations more stringent while holding the format unchanged, makes the format more stringent while holding the emission limitations unchanged, or makes both more stringent.

(2) Any industry application to make a State implementation plan revision or other adjustment to account for differences between Method 303 in appendix A to this part and the State's method based on paragraph (c)(1)(ii) of this section shall be submitted within 12 months after October 27, 1993.

(d) Except as specified in § 63.307(f), nothing in this subpart shall limit or affect any authority or obligation of Federal, State, or local agencies to establish emission limitations or other requirements more stringent than those specified in this subpart.

(e) Except as provided in § 63.302(c), section 112(g) of the Act shall not apply to sources subject to this subpart

§ 63.313 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (c) of this section shall be retained by the Administrator and not transferred to a State.

(b) Whenever the Administrator learns that a delegated agency has not fully carried out the inspections and performance tests required under § 63.309 for each applicable emission point of each battery each day, the Administrator shall immediately notify the agency. Unless the delegated agency demonstrates to the Administrator's satisfaction within 15 days of notification that the agency is

consistently carrying out the inspections and performance tests required under § 63.309 in the manner specified in the preceding sentence, the Administrator shall notify the coke oven battery owner or operator that inspections and performance tests shall be carried out according to § 63.309(a)(5). When the Administrator determines that the delegated agency is prepared to consistently perform all required inspections and performance tests each day, the Administrator shall give the coke oven battery owner or operator at least 15 days notice that implementation will revert back to the previously delegated agency.

(c) Authorities which will not be delegated to States:

(1) § 63.302(d);

(2) § 63.304(b)(6);

(3) §§ 63.305 (b), (d) and (e);

(4) § 63.307(d); and

(5) Section 2 of Method 303 in appendix A to this part.

(d) The authority to enforce this subpart is delegated to the States of: [Reserved]

APPENDIX A TO SUBPART L—OPERATING COKE OVEN BATTERIES AS OF APRIL 1, 1992

No.	Plant	Battery
1	ABC Coke, Tarrant, AL.	A
		5
		6
2	Acme Steel, Chicago, IL.	1
		2
3	Armco, Inc., Middletown, OH.	1
		2
		3
4	Armco, Inc., Ashland, KY.	3
		4
5	Bethlehem Steel, Bethlehem, PA.	A
		2
		3
6	Bethlehem Steel, Burns Harbor, IN.	1
		2
7	Bethlehem Steel, Lackawanna, NY.	7
		8
8	Citizens Gas, Indianapolis, IN.	E
		H
		1
9	Empire Coke, Holt, AL.	1
		2
10	Erie Coke, Erie, PA	A
		B
11	Geneva Steel, Provo, UT.	1
		2
		3
		4
12	Gulf States Steel, Gadsden, AL.	2
		3
13	Inland Steel, East Chicago, IN.	6
		7
		8
		9
		10
		11
14	Jewell Coal and Coke, Vansant, VA.	2
		3A
		3B
		3C
15	Koppers, Woodward, AL.	1
		2A
		2B
		4A
		4B
		5
16	LTV Steel, Cleveland, OH.	6
		7
17	LTV Steel, Pittsburgh, PA.	P1
		P2
		P3N
		P3S
		P4
18	LTV Steel, Chicago, IL.	2
19	LTV Steel, Warren, OH.	4
20	National Steel, Ecorse, MI.	5
21	National Steel, Granite City, IL.	A
		B
22	New Boston Coke, Portsmouth, OH.	1
23	Sharon Steel, Monessen, PA.	1B
		2
24	Shenango, Pittsburgh, PA.	1
		4
25	Sloss Industries, Birmingham, AL.	3
		4
		5
26	Toledo Coke, Toledo, OH.	C
27	Tonawanda Coke, Buffalo, NY.	1
28	USX, Clairton, PA	1
		2
		3
		7
		8
		9
		13
		14
		15
		19
		20
		B
29	USX, Gary, IN	2
		3
		5
		7
30	Wheeling-Pittsburgh, E. Steubenville, WV.	1
		2
		3
		8

5. Appendix A to part 63 is amended by adding in numerical order Method 303 and Method 303A as follows:

Appendix A—Test Methods

* * * * *

METHOD 303—DETERMINATION OF VISIBLE EMISSIONS FROM BY-PRODUCT COKE OVEN BATTERIES

1. *Applicability and Principle*

1.1 Applicability. This method applies to the determination of visible emissions (VE) from the following by-product coke oven battery sources: Charging systems during charging, doors, topside port lids, and offtake systems on operating coke ovens; and collecting mains. In order for the test method results to be indicative of plant performance, the time of day of the run should vary.

1.2 Principle. A certified observer visually determines the VE from coke oven battery sources (the certification procedures are described in section 2). This method does not require that opacity of emissions be determined or that magnitude be differentiated.

1.3 Definitions.

1.3.1 Bench. The platform structure in front of the oven doors.

1.3.2 By-product Coke Oven Battery. A source consisting of a group of ovens connected by common walls, where coal undergoes destructive distillation under positive pressure to produce coke and coke oven gas, from which by-products are recovered.

1.3.3 Charge or Charging Period. The period of time that commences when coal begins to flow into an oven through a topside port and ends when the last charging port is recapped.

1.3.4 Charging System. An apparatus used to charge coal to a coke oven (e.g., a larry car for wet coal charging systems).

1.3.5 Coke Oven Door. Each end enclosure on the pusher side and the coking side of an oven. The chuck, or leveler-bar, door is considered part of the pusher side door. The coke oven door area includes the entire area on the vertical face of a coke oven between the bench and the top of the battery between two adjacent buck stays.

1.3.6 Coke Side. The side of a battery from which the coke is discharged from ovens at the end of the coking cycle.

1.3.7 Collecting Main. Any apparatus that is connected to one or more offtake systems

and that provides a passage for conveying gases under positive pressure from the by-product coke oven battery to the by-product recovery system

1.3.8 Consecutive Charges. Charges observed successively, excluding any charge during which the observer's view of the charging system or topside ports is obscured.

1.3.9 Damper-off. To close off the gas passage between the coke oven and the collecting main, with no flow of raw coke oven gas from the collecting main into the oven or into the oven's offtake system(s).

1.3.10 Decarbonization Period. The period of time for combusting oven carbon that commences when the oven lids are removed from an empty oven or when standpipe caps of an oven are opened. The period ends with the initiation of the next charging period for that oven.

1.3.11 Larry Car. An apparatus used to charge coal to a coke oven with a wet coal charging system.

1.3.12 Log Average. Logarithmic average as calculated in section 3.8.

1.3.13 Offtake System. Any individual oven apparatus that is stationary and provides a passage for gases from an oven to a coke oven battery collecting main or to another oven. Offtake system components include the standpipe and standpipe caps, goosenecks, stationary jumper pipes, mini-standpipes, and standpipe and gooseneck connections.

1.3.14 Operating Oven. Any oven not out of operation for rebuild or maintenance work extensive enough to require the oven to be skipped in the charging sequence.

1.3.15 Oven. A chamber in the coke oven battery in which coal undergoes destructive distillation to produce coke.

1.3.16 Push Side. The side of the battery from which the coke is pushed from ovens at the end of the coking cycle.

1.3.17 Run. The observation of visible emissions from topside port lids, offtake systems, coke oven doors, or the charging of a single oven in accordance with this method.

1.3.18 Shed. Structures for capturing coke oven emissions on the coke side or pusher side of the coke oven battery, which route the emissions to a control device or system.

1.3.19 Standpipe Cap. An apparatus used to cover the opening in the gooseneck of an offtake system.

1.3.20 Topside Port Lid. A cover, removed during charging or decarbonizing, that is placed over the opening through which coal can be charged into the oven of a by-product coke oven battery.

1.3.21 Traverse Time. Accumulated time for a traverse as measured by a stopwatch. Traverse time includes time to stop and write down oven numbers but excludes time waiting for obstructions of view to clear or for time to walk around obstacles.

1.3.22 Visible Emissions (VE). Any emission seen by the unaided (except for corrective lenses) eye, excluding steam or condensing water.

2. *Observer Certification*

2.1 Certification Procedures. This method requires only the determination of whether VE occur and does not require the determination of opacity levels; therefore, observer certification according to Method 9 in appendix A to part 60 of this chapter is not required to obtain certification under this method. However, in order to receive Method 303 observer certification, the first-time observer (trainee) shall have attended the lecture portion of the Method 9 certification course. In addition, the trainee shall successfully complete the Method 303 training course, satisfy the field observation requirement, and demonstrate adequate performance and sufficient knowledge of Method 303. The Method 303 training course shall be conducted by or under the sanction of the EPA and shall consist of classroom instruction and field observations, and a proficiency test.

2.1.1 The classroom instruction shall familiarize the trainees with Method 303 through lecture, written training materials, and a Method 303 demonstration video. A successful completion of the classroom portion of the Method 303 training course shall be demonstrated by a perfect score on a written test. If the trainee fails to answer all of the questions correctly, the trainee may review the appropriate portion of the training materials and retake the test.

2.1.2 The field observations shall be a minimum of 12 hours and shall be completed before attending the Method 303 certification course. Trainees shall observe the operation of a coke oven battery as it pertains to Method 303, including topside operations, and shall also practice conducting Method 303 or similar methods. During the field observations, trainees unfamiliar with coke battery operations shall receive instruction from an experienced coke oven observer familiar with Method 303 or similar methods and the operation of coke batteries. The trainee must verify completion of at least 12 hours of field observation prior to attending the Method 303 certification course.

2.1.3 All trainees must demonstrate proficiency in the application of Method 303 to a panel of three certified Method 303 observers, including an ability to differentiate coke oven emissions from condensing water vapor and smoldering coal. Each panel member shall have at least 120 days experience in reading visible emissions from coke ovens. The visible emissions inspections that will satisfy the experience requirement must be inspections of coke oven battery fugitive emissions from the emission points subject to emission standards under subpart L of this part (i.e., coke oven doors, topside port lids, offtake system(s), and charging operations), using either Method 303 or predecessor State or local test methods. A "day's experience" for a particular inspection is a day on which one complete inspection was performed for that emission point under Method 303 or a predecessor State or local method. A "day's experience" does not mean 8 or 10 hours performing inspections, or any particular time expressed in minutes or hours that may have been spent performing them. Thus, it would be possible for an individual to qualify as a Method 303 panel member for some emission points, but not others (e.g., an individual might satisfy the experience requirement for coke oven doors, but not topside port lids). Until November 15, 1994, the EPA may waive the certification requirement (but not the experience requirement) for panel members. The composition of the panel shall be approved by the EPA. The panel shall observe the trainee in a series of training runs and a series of certification runs. There shall be a minimum of 1 training run for doors, topside port lids, and offtake systems, and a minimum of 5 training runs (i.e., 5 charges) for charging. During training runs, the panel can advise the trainee on proper procedures. There shall be a minimum of 3 certification runs for doors, topside port lids, and offtake systems, and a minimum of 15 certification runs for charging (i.e., 15 charges). The certifications runs shall be unassisted. Following the certification test runs, the panel shall approve or disapprove certification based on the trainee's performance during the certification runs. To obtain certification, the trainee shall demonstrate to the satisfaction of the panel a high degree of proficiency in performing Method 303. To aid in evaluating the trainee's performance, a checklist, provided by the EPA, will be used.

Caution: Because coke oven batteries have hazardous environments, the training materials and the field training shall cover the precautions required by the company to address health and safety hazards. Special emphasis shall be given to the Occupational Safety and Health Administration (OSHA) regulations pertaining to exposure of coke oven workers (see Citation 3 in the *Bibliography*). In general, the regulation requires that special fire-retardant clothing and respirators be worn in certain restricted areas of the coke oven battery. The OSHA regulation also prohibits certain activities, such as chewing gum, smoking, and eating in these areas.

2.2 Observer Certification/Recertification. The coke oven observer certification is valid for 1 year from date of issue. The observer shall recertify annually by viewing the training video and answering all of the questions on the certification test correctly. Every 3 years, an observer shall be required to pass the proficiency test in section 2.1.3 in order to be certified.

2.3 The EPA (or applicable enforcement agency) shall maintain records reflecting a certified observer's successful completion of the proficiency test, which shall include the completed proficiency test checklists for the certification runs.

2.4 An owner or operator of a coke oven battery subject to subpart L of this part may observe a training and certification program under this section.

3. *Procedure for Determining VE From Charging Systems During Charging*

3.1 Number of Oven Charges. Refer to § 63.309(c)(1) of this part for the number of oven charges to observe. The observer shall observe consecutive charges. Charges that are nonconsecutive can only be observed when necessary to replace observations terminated prior to the completion of a charge because of visual interferences. (See section 3.5.)

3.2 Data Records. Record all the information requested at the top of the charging system inspection sheet (Figure 303–1). For each charge, record the

identification number of the oven being charged, the approximate beginning time of the charge, and the identification of the larry car used for the charge.

3.3 Observer Position. Stand in an area or move to positions on the topside of the coke oven battery with an unobstructed view of the entire charging system. For wet coal charging systems or non-pipeline coal charging systems, the observer should have an unobstructed view of the emission points of the charging system, including larry car hoppers, drop sleeves, and the topside ports of the oven being charged. Some charging systems are configured so that all emission points can only be seen from a distance of five ovens. For other batteries, distances of 8 to 12 ovens are adequate.

3.4 Observation. The charging period begins when coal begins to flow into the oven and ends when the last charging port is recapped. During the charging period, observe all of the potential sources of VE from the entire charging system. For wet coal charging systems or non-pipeline coal charging systems, sources of VE typically include the larry car hoppers, drop sleeves, slide gates, and topside ports on the oven being charged. Any VE from an open standpipe cap on the oven being charged is included as charging VE.

3.4.1 Using an accumulative-type stopwatch with unit divisions of at least 0.5 seconds, determine the total time VE are observed as follows. Upon observing any VE emerging from any part of the charging system, start the stopwatch. Stop the watch when VE are no longer observed emerging, and restart the watch when VE reemerges.

3.4.2 When VE occur simultaneously from several points during a charge, consider the sources as one. Time overlapping VE as continuous VE. Time single puffs of VE only for the time it takes for the puff to emerge from the charging system. Continue to time VE in this manner for the entire charging period. Record the accumulated time to the nearest 0.5 second under "Visible emissions, seconds" on Figure 303–1.

3.5 Visual Interference. If fugitive VE from other sources at the coke oven battery site (e.g., door leaks or condensing water vapor from the coke oven wharf) prevent a clear view of the charging system during a charge, stop the stopwatch and make an appropriate notation under "Comments" on Figure 303–1. Label the observation an observation of an incomplete charge, and observe another charge to fulfill the requirements of section 3.1.

3.6 VE Exemptions. Do not time the following VE:

3.6.1 The VE from burning or smoldering coal spilled on top of the oven, topside port lid, or larry car surfaces;

Note: The VE from smoldering coal are generally white or gray. These VE generally have a plume of less than 1 meter long. If the observer cannot safely and with reasonable confidence determine that VE are from charging, do not count them as charging emissions.

3.6.2 The VE from the coke oven doors or from the leveler bar; or

3.6.3 The VE that drift from the top of a larry car hopper if the emissions had already been timed as VE from the drop sleeve.

Note: When the slide gate on a larry car hopper closes after the coal has been added to the oven, the seal may not be airtight. On occasions, a puff of smoke observed at the drop sleeves is forced past the slide gate up into the larry car hopper and may drift from the top; time these VE either at the drop sleeves or the hopper. If the larry car hopper does not have a slide gate or the slide gate is left open or partially closed, VE may quickly pass through the larry car hopper without being observed at the drop sleeves and will appear as a strong surge of smoke; time these as charging VE.

3.7 Total Time Record. Record the total time that VE were observed for each charging operation in the appropriate column on the charging system inspection sheet.

3.8 Five charging observations (runs) obtained in accordance with this method shall be considered a valid set of observations for that day. No observation of an incomplete charge shall be included in a daily set of observations that is lower than the lowest reading for a complete charge. If both complete and incomplete charges have been observed, the daily set of observations shall include the five highest values observed. Four or three charging observations (runs) obtained in accordance with this method shall be considered a valid set of charging observations only where it is not possible to obtain five charging observations, because of visual interferences (see section 3.5) or inclement weather prevent a clear view of the charging system during charging. However, observations from three or four charges that satisfy these requirements shall not be considered a valid set of charging observations if use of such set of observations in a calculation under section 3.9 would cause the value of A to be less than 145.

3.9 Log Average. For each day on which a valid daily set of observations is obtained, calculate the daily 30-day rolling log average of seconds of visible emissions from the charging operation for each battery using these data and the 29 previous valid daily sets of observations, in accordance with the following equation:

$$\text{logarithmic average} = e^{y} - 1 \quad \text{(Eq. 303-1)}$$

where

e=2.72,

$$y = \frac{\ln(X_1 + 1) + \ln(X_2 + 1) + \ldots \ln(X_A + 1)}{A}$$

ln=Natural logarithm, and

X_n=Seconds of VE during the n^{th} charge.

A=150 or the number of valid observations (runs). The value of A shall not be less than 145, except for purposes of determinations under § 63.306(c) (work practice plan implementation) or § 63.306(d) (work practice plan revisions) of this part. No set of observations shall be considered valid for such a recalculation that otherwise would not be considered a valid set of observations for a calculation under this paragraph.

4. *Procedure for Determining VE From Coke Oven Door Areas*

The intent of this procedure is to determine VE from coke oven door areas by carefully observing the door area from a standard distance while walking at a normal pace.

4.1 Number of Runs. Refer to § 63.309(c)(1) of this part for the appropriate number of runs.

4.2 Battery Traverse. To conduct a battery traverse, walk the length of the battery on the outside of the pusher machine and quench car tracks at a steady, normal walking pace, pausing to make appropriate entries on the door area inspection sheet (Figure 303–2). A single test run consists of two timed traverses, one for the coke side and one for the push side. The walking pace shall not exceed an average rate of 4 seconds per oven door, excluding time spent moving around stationary obstructions or waiting for other obstructions to move from positions blocking the view of a series of doors. Extra time is allowed for each leak for the observer to make the proper notation. A walking pace of 3 seconds per oven door has been found to be typical. Record the actual traverse time with a stopwatch.

4.2.1 Time only the time spent observing the doors and recording door leaks. To measure actual traverse time, use an accumulative-type stopwatch with unit divisions of 0.5 seconds or less. Exclude interruptions to the traverse and time required for the observer to move to positions where the view of the battery is unobstructed, or for obstructions, such as the door machine, to move from positions blocking the view of a series of doors.

4.2.2 Various situations may arise that will prevent the observer from viewing a door or a series of doors. Prior to the door inspection, the owner or operator may elect to temporarily suspend charging operations for the duration of the inspection, so that all of the doors can be viewed by the observer. The observer has two options for dealing with obstructions to view: (a) Stop the stopwatch and wait for the equipment to move or the fugitive emissions to dissipate before completing the traverse; or (b) stop the stopwatch, skip the affected ovens, and move to a position to continue the traverse. Restart the stopwatch and continue the traverse. After the completion of the traverse, if the equipment has moved or the fugitive emissions have dissipated, inspect the affected doors. If the equipment is still preventing the observer from viewing the doors, then the affected doors may be counted as not observed. If option (b) is used because of doors blocked by machines during charging operations, then, of the affected doors, exclude the door from the most recently charged oven from the inspection. Record the oven numbers and make an appropriate notation under "Comments" on the door area inspection sheet (Figure 303–2).

4.2.3 When batteries have sheds to control emissions, conduct the inspection from outside the shed unless the doors cannot be adequately viewed. In this case, conduct the inspection from the bench. Be aware of special safety considerations

pertinent to walking on the bench and follow the instructions of company personnel on the required equipment and operations procedures. If possible, conduct the bench traverse whenever the bench is clear of the door machine and hot coke guide.

4.3 Observations. Record all the information requested at the top of the door area inspection sheet (Figure 303–2), including the number of inoperable ovens. Record the clock time at the start of the traverse on each side of the battery. Record which side is being inspected, i.e., coke side or push side. Other information may be recorded at the discretion of the observer, such as the location of the leak (i.e., top of the door, chuck door, etc.), the reason for any interruption of the traverse, or the position of the sun relative to the battery and sky conditions (i.e., overcast, partly sunny, etc.).

4.3.1 Begin the test run by starting the stopwatch and traversing either the coke side or the push side of the battery. After completing one side, stop the watch. Complete this procedure on the other side. If inspecting more than one battery, the observer may view the push sides and the coke sides sequentially.

4.3.2 During the traverse, look around the entire perimeter of each oven door. The door is considered leaking if VE are detected in the coke oven door area. The coke oven door area includes the entire area on the vertical face of a coke oven between the bench and the top of the battery between two adjacent buck stays (e.g., the oven door, chuck door, between the masonry brick, buck stay or jamb, or other sources). Record the oven number and make the appropriate notation on the door area inspection sheet (Figure 303–2).

Note: Multiple VE from the same door area (e.g., VE from both the chuck door and the push side door) are counted as only one emitting door, not as multiple emitting doors.

4.3.3 Do not record the following sources as door area VE:

4.3.3.1 VE from ovens with doors removed. Record the oven number and make an appropriate notation under "Comments;"

4.3.3.2 VE from ovens taken out of service. The owner or operator shall notify the observer as to which ovens are out of service. Record the oven number and make an appropriate notation under "Comments;" or

4.3.3.3 VE from hot coke that has been spilled on the bench as a result of pushing.

4.4 Criteria for Acceptance. After completing the run, calculate the maximum time allowed to observe the ovens by the following equation:

$$T = (4 \times D_t) + (10 \times L) \qquad \text{(Eq. 303-2)}$$

where

T=Total time allowed for traverse, seconds;
D_t=Total number of oven doors on the battery; and
L=Number of doors with VE.

4.4.1 If the total traverse time exceeds T, void the run, and conduct another run to satisfy the requirements of § 63.309(c)(1) of this part.

4.5 Calculations for Percent Leaking Doors (PLD). Determine the total number of doors for which observations were made on the coke oven battery as follows:

$$D_{ob} = (2 \times N) - (D_i + D_{no}) \qquad \text{(Eq. 303-3)}$$

where

D_{ob}=Total number of doors observed on operating ovens;
D_i=Number of doors on nonoperating ovens;
D_{no}=Number of doors not observed; and
N=Total number of ovens in the battery.

4.5.1 For each test run (one run includes both the coke side and the push side traverses), sum the number of doors with door area VE. For batteries subject to an approved alternative standard under § 63.305 of this part, calculate the push side and the coke side PLD separately.

4.5.2 Calculate percent leaking doors by using the following equation:

$$PLD = \frac{L_y}{D_{ob}} \times 100 \qquad \text{(Eq. 303-4)}$$

where

PLD=Percent leaking doors for the test run;
L_y=Number of doors with VE observed from the yard; and
D_{ob}=Total number of doors observed on operating ovens.

4.5.3 When traverses are conducted from the bench under sheds, calculate the coke side and the push side separately. Use the following equation to calculate a yard-equivalent reading:

$$L_b = L_e - (N \times 0.06) \qquad \text{(Eq. 303-5)}$$

where

N=Total number of ovens on the battery;
L_e=Yard-equivalent reading; and
L_b=Number of doors with VE observed from the bench under sheds.

If L_b is less than zero, use zero for L_b in Equation 303–6 in the calculation of PLD.

4.5.3.1 Use the following equation to calculate PLD:

$$PLD = \frac{L_b + L_y}{D_{ob}} \times 100 \qquad \text{(Eq. 303-6)}$$

where

PLD=Percent leaking coke oven doors for the run;
L_e=Yard equivalent reading;
L_y=Number of doors with VE observed from the yard on the push side; and
D_{ob}=Total number of doors observed on operating ovens.

Round off PLD to the nearest hundredth of 1 percent and record as the percent leaking coke oven doors for the run.

4.5.3.2 30-day Rolling Average. For each day on which a valid observation is obtained, calculate the daily 30-day rolling average for each battery using these data and the 29 previous valid daily observations, in accordance with the following equation:

$$PLD(30\text{-day}) = \frac{(PLD_1 + PLD_2 + \ldots + PLD_{30})}{30} \qquad \text{(Eq. 303-7)}$$

5 *Procedure for Determining VE from Topside Port Lids and Offtake Systems*

5.1 Number of Runs. Refer to § 63.309(c)(1) of this part for the number of runs to be conducted. Simultaneous runs or separate runs for the topside port lids and offtake systems may be conducted.

5.2 Battery Traverse. To conduct a topside traverse of the battery, walk the length of the battery at a steady, normal walking pace, pausing only to make appropriate entries on the topside inspection sheet (Figure 303–3). The walking pace shall not exceed an average rate of 4 seconds per oven, excluding time spent moving around stationary obstructions or waiting for other obstructions to move from positions blocking the view. Extra time is allowed for each leak for the observer to make the proper notation. A walking pace of 3 seconds per oven is typical. Record the actual traverse time with a stopwatch.

5.3 Topside Port Lid Observations. To observe lids of the ovens involved in the charging operation, the observer shall wait to view the lids until approximately 5 minutes after the completion of the charge. Record all the information requested on the topside inspection sheet (Figure 303–3). Record the clock time when traverses begin and end. If the observer's view is obstructed during the traverse (e.g., steam from the coke wharf, larry car, etc.), follow the guidelines given in section 4.2.2.

5.3.1 To perform a test run, conduct a single traverse on the topside of the battery. The observer shall walk near the center of the battery but may deviate from this path to avoid safety hazards (such as open or closed charging ports, luting buckets, lid removal bars, and topside port lids that have been removed) and any other obstacles. Upon noting VE from the topside port lid(s) of an oven, record the oven number and port number, then resume the traverse. If any oven is dampered-off from the collecting main for decarbonization, note this under "Comments" for that particular oven.

Note: Count the number of topside ports, not the number of points, exhibiting VE, i.e., if a topside port has several points of VE, count this as one port exhibiting VE.

5.3.2 Do not count the following as topside port lid VE:

5.3.2.1 VE from between the brickwork and oven lid casing or VE from cracks in the oven brickwork. Note these VE under "Comments;"

5.3.2.2 VE from topside ports involved in a charging operation. Record the oven number, and make an appropriate notation (i.e., not observed because ports open for charging) under "Comments;"

5.3.2.3 Topside ports having maintenance work done. Record the oven number and make an appropriate notation under "Comments;" or

5.3.2.4 Condensing water from wet-sealing material. Ports with only visible condensing water from wet-sealing material are counted as observed but not as having VE.

5.3.2.5 Visible emissions from the flue inspection ports and caps.

5.4 Offtake Systems Observations. To perform a test run, traverse the battery as in section 5.3.1. Look ahead and back two to four ovens to get a clear view of the entire offtake system for each oven. Consider visible emissions from the following points as offtake system VE: (a) the flange between the gooseneck and collecting main ("saddle"), (b) the junction point of the standpipe and oven ("standpipe base"), (c) the other parts of the offtake system (e.g., the standpipe cap), and (d) the junction points with ovens and flanges of jumper pipes.

5.4.1 Do not stray from the traverse line in order to get a "closer look" at any part of the offtake system unless it is to distinguish leaks from interferences from other sources or to avoid obstacles.

5.4.2 If the centerline does not provide a clear view of the entire offtake system for each oven (e.g., when standpipes are longer than 15 feet), the observer may conduct the traverse farther from (rather than closer to) the offtake systems.

5.4.3 Upon noting a leak from an offtake system during a traverse, record the oven number. Resume the traverse. If the oven is dampered-off from the collecting main for decarbonization and VE are observed, note this under "Comments" for that particular oven.

5.4.4 If any part or parts of an offtake system have VE, count it as one emitting offtake system. Each stationary jumper pipe is considered a single offtake system.

5.4.5 Do not count standpipe caps open for a decarbonization period or standpipes of an oven being charged as source of offtake system VE. Record the oven number and write "Not observed" and the reason (i.e., decarb or charging) under "Comments."

Note: VE from open standpipes of an oven being charged count as charging emissions. All VE from closed standpipe caps count as offtake leaks.

5.5 Criteria for Acceptance. After completing the run (allow 2 traverses for batteries with double mains), calculate the maximum time allowed to observe the topside port lids and/or offtake systems by the following equation:

$$T = (4 \text{ sec} \times N) + (10 \text{ sec} \times Z) \qquad \text{(Eq. (303-8)}$$

where

T=Total time allowed for traverse, seconds;
N=Total number of ovens in the battery; and
Z=Number of topside port lids or offtake systems with VE.

5.5.1 If the total traverse time exceeds T, void the run and conduct another run to satisfy the requirements of § 63.309(c)(1) of this part.

5.6 In determining the percent leaking topside port lids and percent leaking offtake systems, do not include topside port lids or offtake systems with VE from the following ovens:

5.6.1 Empty ovens, including ovens undergoing maintenance, which are properly dampered off from the main.

5.6.2 Ovens being charged or being pushed.

5.6.3 Up to 3 full ovens that have been dampered off from the main prior to pushing.

5.6.4 Up to 3 additional full ovens in the pushing sequence that have been dampered off from the main for offtake system cleaning, for decarbonization, for safety reasons, or when a charging/pushing schedule involves widely separated ovens (e.g., a Marquard system); or that have been dampered off from the main for maintenance near the end of the coking cycle. Examples of reasons that ovens are dampered off for safety reasons are to avoid exposing workers in areas with insufficient clearance between standpipes and the larry car, or in areas where workers could be exposed to flames or hot gases from open standpipes, and to avoid the potential for removing a door on an oven that is not dampered off from the main.

5.6.5 Topside Port Lids. Determine the percent leaking topside port lids for each run as follows:

$$PLL = \frac{P_{VE}}{P_{ove}(N - N_i) - P_{NO}} \times 100 \qquad \text{(Eq. 303-9)}$$

where

PLL=Percent leaking topside port lids for the run;
P_{VE}=Number of topside port lids with VE;
P_{ove}=Number of ports per oven;
N=Total number of ovens in the battery.
N_i=Number of inoperable ovens; and
P_{NO}=Number of ports not observed.

5.6.5.1 Round off this percentage to the nearest hundredth of 1 percent and record this percentage as the percent leaking topside port lids for the run.

5.6.5.2 30-day Rolling Average. For each day on which a valid daily observation is obtained, calculate the daily 30-day rolling average for each battery using those data and the 29 previous valid daily observations, in accordance with the following equation:

$$PLL(30\text{-day}) = \frac{(PLL_1 + PLL_2 + K + PLL_{30})}{30} \qquad \text{(Eq. 303-10)}$$

5.6.6 Offtake Systems. Determine the percent leaking offtake systems for the run as follows:

$$PLO = \frac{T_{VE}}{T_{ovs}(N - N_i) + J - T_{NO}} \times 100 \qquad \text{(Eq. 303-11)}$$

where

PLO=Percent leaking offtake systems;
T_{VE}=Number of offtake systems with VE;
T_{ovs}=Number of offtake systems (excluding jumper pipes) per oven;
N=Total number of ovens in the battery;
N_i=Total number of inoperable ovens;
T_{NO}=Number of offtake systems not observed; and
J=Number of stationary jumper pipes.

5.6.6.1 Round off this percentage to the nearest hundredth of 1 percent and record this percentage as the percent leaking offtake systems for the run.

5.6.6.2 30-day Rolling Average. For each day on which a valid daily observation is obtained, calculate the daily 30-day rolling average for each battery using these data and the 29 previous valid daily observations, in accordance with the following equation:

$$PLO(30-day) = \frac{(PLO_1 + PLO_2 R + PLO_{30})}{30} \qquad \text{(Eq. 303-12)}$$

6. *Procedure for Determining VE From Collecting Mains*

6.1 Traverse. To perform a test run, traverse both the collecting main catwalk and the battery topside along the side closest to the collecting main. If the battery has a double main, conduct two sets of traverses for each run, i.e., one set for each main.

6.2 Data Recording. Upon noting VE from any portion of a collection main, identify the source and approximate location of the source of VE and record the time under "Collecting main" on Figure 303-3; then resume the traverse.

6.3 Collecting Main Pressure Check. After the completion of the door traverse, the topside port lids, and offtake systems, compare the collecting main pressure during the inspection to the collecting main pressure during the previous 8 to 24 hours. Record the following: (a) The pressure during inspection, (b) presence of pressure deviation from normal operations, and (c) the explanation for any pressure deviation from normal operations, if any, offered by the operators. The owner or operator of the coke battery shall maintain the pressure recording equipment and conduct the quality assurance/quality control (QA/QC) necessary to ensure reliable pressure readings and shall keep the QA/QC records for at least 6 months. The observer may periodically check the QA/QC records to determine their completeness. The owner or operator shall provide access to the records within 1 hour of an observer's request.

7. *Bibliography*

1. Missan, R., and A. Stein. Guidelines for Evaluation of Visible Emissions Certification, Field Procedures, Legal Aspects, and Background Material. U.S. Environmental Protection Agency. EPA Publication No. EPA-340/1-75-007. April 1975.

2. Wohlschlegel, P., and D.E. Wagoner. Guideline for Development of a Quality Assurance Program: Volume IX—Visual Determination of Opacity Emission from Stationary Sources. U.S. Environmental Protection Agency. EPA Publication No. EPA-650/4-005i. November 1975.

3. U.S. Occupational Safety and Health Administration. *Code of Federal Regulations*. title 29, chapter XVII, section 1910.1029(g). Washington, DC Government Printing Office. July 1, 1990.

4. U.S. Environmental Protection Agency. National Emission Standards for Hazardous Air Pollutants; Coke Oven Emissions from Wet-Coal Charged By-Product Coke Oven Batteries; Proposed Rule and Notice of Public Hearing. Washington, DC Federal Register. Vol. 52, No. 78 [13586]. April 23, 1987.

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Company name: _____ Battery no.: _____ Date: _____ Run no.: _____

City, State: _____

Observer name: _____ Company representative(s): _____

Charge no.	Oven no.	Clock time	Visible emissions, seconds	Comments

Figure 303-1. Charging system inspection.

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Company name:_____ Battery no.:_____ Date:_____

City, State:_____ Total no. of ovens in battery:_____

Observer name:_____ Certification expiration date:_____

Inoperable ovens:_____ Company representative(s):_____

Traverse time CS:_____ Traverse time PS:_____ Valid run (Y or N):_____

Time traverse started/ completed	PS/CS	Door Number	Comments (no. of blocked doors, interruptions to traverse, etc.)

Figure 303-2. Door area inspection.

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Company name:_____ Battery no.:_____ Date:_____

City, State:_____ Total no. of ovens in battery:_____

Observer name:_____ Certification expiration date:_____

Inoperable ovens:_____ Company representative(s):_____

Total no. of lids:_____ Total no. of offtakes:_____ Total no. of jumper pipes:_____

Ovens not observed:_____ Total traverse time:_____ Valid run (Y or N):_____

Time traverse started/ completed	Type of inspection (lids, offtakes, collecting main)	Location of VE (Oven #/Port #)	Comments

Figure 303-3. Topside inspection.

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METHOD 303A—DETERMINATION OF VISIBLE EMISSIONS FROM NONRECOVERY COKE OVEN BATTERIES

1 *Applicability and Principle*

1.1 Applicability. This method determines percent leaking doors.

1.2 Principle. A certified observer visually determines the VE from coke oven battery sources. This method does not require that opacity of emissions be determined or that magnitude be differentiated.

1.3 Definitions.

1.3.1 Bench. The platform structure in front of the oven doors.

1.3.2 Nonrecovery Coke Oven Battery. A source consisting of a group of ovens connected by common walls and operated as a unit, where coal undergoes destructive distillation under negative pressure to produce coke, and which is designed for the combustion of coke oven gas from which by-products are not recovered.

1.3.3 Coke Oven Door. Each end enclosure on the pusher side and the coking side of an oven.

1.3.4 Coke Side. The side of a battery from which the coke is discharged from ovens at the end of the coking cycle.

1.3.5 Operating Oven. Any oven not out of operation for rebuild or maintenance work extensive enough to require the oven to be skipped in the charging sequence.

1.3.6 Oven. A chamber in the coke oven battery in which coal undergoes destructive distillation to produce coke.

1.3.7 Push Side. The side of the battery from which the coke is pushed from ovens at the end of the coking cycle.

1.3.8 Run. The observation of visible emissions from coke oven doors in accordance with the procedures in this method.

1.3.9 Shed. An enclosure that covers the side of the coke oven battery, captures emissions from pushing operations and from leaking coke oven doors on the coke side or pusher side of the coke oven battery, and routes the emissions to a control device or system.

2 *Training*

2.1 Training. This method requires only the determination of whether VE occur and does not require the determination of opacity levels, therefore, observer certification according to Method 9 in appendix A to part 60 of this chapter is not required. However, the first-time observer (trainee) shall have attended the lecture portion of the Method 9 certification course. Furthermore, before conducting any VE observations, an observer shall become familiar with nonrecovery coke oven battery operations and with this test method by observing for a minimum of 4 hours the operation of a nonrecovery coke oven battery.

3 *Procedure for Determining VE From Coke Oven Door Areas*

The intent of this procedure is to determine VE from coke oven door areas by carefully observing the door area while walking at a normal pace.

3.1 Number of Runs. Refer to § 63.309(c)(1) of this part for the appropriate number of runs.

3.2 *Battery Traverse.* To conduct a battery traverse, walk the length of the battery on the outside of the pusher machine and quench car tracks at a steady, normal walking pace, pausing to make appropriate entries on the door area inspection sheet (Figure 303A–1). A single test run consists of two timed traverses, one for the coke side and one for the push side.

3.2.1 Various situations may arise that will prevent the observer from viewing a door or a series of doors. The observer has two options for dealing with obstructions to view: (a) Wait for the equipment to move or the fugitive emissions to dissipate before completing the traverse; or (b) skip the affected ovens and move to a position to continue the traverse. Continue the traverse. After the completion of the traverse, if the equipment has moved or the fugitive emissions have dissipated, complete the traverse by inspecting the affected doors. Record the oven numbers and make an appropriate notation under "Comments" on the door area inspection sheet (Figure 303A–1).

3.2.2 When batteries have sheds to control pushing emissions, conduct the inspection from outside the shed, if the shed allows such observations, or from the bench. Be aware of special safety considerations pertinent to walking on the bench and follow the instructions of company personnel on the required equipment and operations procedures. If possible, conduct the bench traverse whenever the bench is clear of the door machine and hot coke guide.

3.3 Observations. Record all the information requested at the top of the door area inspection sheet (Figure 303A–1), including the number of inoperable ovens. Record which *side* is being inspected, i.e., coke side or push side. Other information may be recorded at the discretion of the observer, such as the location of the leak (e.g., top of the door), the reason for any interruption of the traverse, or the position of the sun relative to the battery and sky conditions (i.e., overcast, partly sunny, etc.).

3.3.1 Begin the test run by traversing either the coke side or the push side of the battery. After completing one side, traverse the other side.

3.3.2 During the traverse, look around the entire perimeter of each oven door. The door is considered leaking if VE are detected in the coke oven door area. The coke oven door area includes the entire area on the vertical face of a coke oven between the bench and the top of the battery. Record the oven number and make the appropriate notation on the door area inspection sheet (Figure 303A–1).

3.3.3 Do not record the following sources as door area VE:

3.3.3.1 VE from ovens with doors removed. Record the oven number and make an appropriate notation under "Comments;"

3.3.3.2 VE from ovens where maintenance work is being conducted. Record the oven number and make an appropriate notation under "Comments;" or

3.3.3.3 VE from hot coke that has been spilled on the bench as a result of pushing.

3.4 Calculations for percent leaking doors (PLD). *Determine the total number of doors* for which observations were made on the coke oven battery as follows:

$$D_{ob} = (2 \times N) - (D_1 + D_{no}) \quad \text{(Eq. 303A – 1)}$$

where

D_{ob}=Total number of doors observed on operating ovens;
D_1=Number of doors on nonoperating ovens;
D_{no}=Number of doors not observed; and
N=Total number of ovens in the battery.

3.4.1 For each test run (one run includes both the coke side and the push side traverses), sum the number of doors with door area VE.

Note: Multiple VE from the same door area are counted as only one emitting door, not as multiple emitting doors.

3.4.2 Calculate percent leaking doors by using the following equation:

$$PLD = \frac{L_y}{D_{ob}} \times 100 \quad \text{(Eq. 303A – 2)}$$

where

PLD=Percent leaking doors for the test run;
L_y=Number of doors with VE observed from the yard; and
D_{ob}=Total number of doors observed on operating ovens.

3.4.3 When traverses are conducted from the bench under sheds, calculate the coke side and the push side reading separately. Use the following equation to calculate a yard-equivalent reading for the coke side:

$$L_b = L_s - (N \times 0.06) \quad \text{(Eq. 303A – 3)}$$

where

N=Total number of ovens on the battery;
L_b=Yard-equivalent reading; and
L_s=Number of doors with VE observed from the bench under sheds.

If L_b is less than zero, use zero for Lb in Equation 303A–4 in the calculation of PLD.

3.4.3.1 Use the following equation to calculate PLD:

$$PLD = \frac{L_b + L_y}{D_{ob}} \times 100 \quad \text{(Eq. 303A – 4)}$$

where

PLD=Percent leaking coke oven doors for the run;
L_b=Yard equivalent reading;
L_y=Number of doors with VE observed from the yard on the push side; and
D_{ob}=Total number of doors observed on operating ovens.

Round off PLD to the nearest hundredth of 1 percent and record as the percent leaking coke oven doors for the run.

3.4.3.2 30-day Rolling Average. For each day on which a valid observation is obtained, calculate the daily 30-day rolling average for each battery using these data and the 29 previous valid daily observations, in accordance with the following equation:

$$PLD(30-day) = \frac{(PLD_1 + PLD_2 L + PLD_{30})}{30} \quad \text{(Eq. 303-5)}$$

4. *Bibliography*

1. Missan, R., and A. Stein. Guidelines for Evaluation of Visible Emissions Certification, Field Procedures, Legal Aspects, and Background Material. U.S. Environmental Protection Agency. EPA Publication No. EPA-340/1-75-007. April 1975.

2. Wohlschlegel, P., and D.E. Wagoner. Guideline for Development of a Quality Assurance Program: Volume IX—Visual Determination of Opacity Emission from Stationary Sources. U.S. Environmental Protection Agency. EPA Publication No. EPA-650/4-0051. November 1975.

3. U.S. Occupational Safety and Health Administration. *Code of Federal Regulations.* Title 29, Chapter XVII, Section 1910.1029(g). Washington, DC Government Printing Office. July 1, 1990.

4. U.S. Environmental Protection Agency. National Emission Standards for Hazardous Air Pollutants; Coke Oven Emissions from Wet-Coal Charged By-Product Coke Oven Batteries; Proposed Rule and Notice of Public Hearing. Washington, DC Federal Register. Vol. 52, No. 78 (13586). April 23, 1987.

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Company name:_____ Battery no.:_____ Date:_____

City, State:_____ Total no. of ovens in battery:_____

Observer name:_____ Certification expiration date:_____

Inoperable ovens:_____ Company representative(s):_____

Traverse time CS:_____ Traverse time PS:_____ Valid run (Y or N):_____

Time traverse started/ completed	PS/CS	Door Number	Comments (no. of blocked doors, interruptions to traverse, etc.)

Figure 303A-1. Door area inspection.

[FR Doc. 93-26162 Filed 10-26-93, 8:45 am]
BILLING CODE 6560-50-C

APPENDIX D

QUESTIONS AND ANSWERS REGARDING THE COKE OVEN NESHAP

QUESTIONS AND ANSWERS

Below are answers to some of the questions concerning Method 303 certification, Method 303 application, and the coke oven rule. This is provided as an informational bulletin. For further clarification of the rule, Method 303, or the Method 303 certification course, contact Roy Huntley at (919) 541-1060 or Amanda Agnew at (919) 541-5268.

1. WHEN MUST METHOD 303 INSPECTIONS BY CERTIFIED OBSERVERS BEGIN?

Method 303 inspections for compliance with the new regulation (i.e., daily inspections) for coke batteries who choose the LAER track begin November 15, 1993. For batteries that choose the MACT track, inspections must begin on December 31, 1995.

2. WHO MUST BE CERTIFIED?

Anyone who inspects a coke battery to comply with the new coke oven NESHAP must be a certified Method 303 observer. Under the new rule, coke plants are not allowed to self-inspect, so observations by employees of the coke plant will not be used to determine compliance.

3. HOW DOES ONE CERTIFY?

One must attend and pass a Method 303 certification course. To register, call Beth Butler at (919) 515-4659.

Schedule of Courses

September 27 - October 1 in Gary, IN. Certification course at USX, Gary, IN.

November 1 - 5 in Birmingham, AL. Certification course at ABC Coke, Tarrant, AL.

November 8 - 12 in Pittsburgh, PA. Certification course at USX, Clairton, PA.

December 6 - 10 in Indianapolis, IN. Certification course at Citizen's Gas, Indianapolis, IN.

4. HOW MUCH EXPERIENCE IS REQUIRED PRIOR TO ATTENDING THE CERTIFICATION TRAINING COURSE?

Trainees shall have completed at least 12 hours of field observations and shall have attended at least once the lecture

portion of the EPA Method 9 certification (Method 9 of Appendix A, 40 CFR Part 60). The trainee should, but is not required to, complete the field observation requirement at a coke oven battery that they will be inspecting after becoming certified.

During the 12 hours, the trainee shall observe the operations of a coke oven battery as it pertains to Method 303 and shall also practice inspecting the battery using Method 303 or a method similar to Method 303. For people with no experience with coke battery operations or coke oven inspection procedures, the 12 hours of field observation must contain instruction from an experienced coke oven observer, familiar with Method 303 or similar methods and the operation of the coke oven batteries. For people who are already familiar with coking operations (because they work on coke batteries, for example) and the coke oven inspection procedure (because they have inspected batteries, for example), it is acceptable for them to use previous experience to satisfy this requirement, providing their previous inspection experience includes inspecting coke batteries for door, lid, and offtake leaks, and timing charging emissions. If not, then they will have to obtain that experience. The general idea is for everyone to be familiar with coke battery operations and the general concepts of counting door, lid, and offtake leaks and timing charging emissions so that during the course, the student can concentrate on learning Method 303.

5. HOW DOES ONE ARRANGE TO RECEIVE THE 12 HOUR FIELD OBSERVATION?

Cooperation with the particular coke battery and the State or Local Agency will, of course, be needed. Contact the applicable State or Local agency for guidance.

6. HOW MUCH SAFETY TRAINING DO I NEED?

Prior to attending the Method 303 certification course, <u>all</u> trainees shall have completed the 24 hour basic health and safety training, or equivalent, and be fit-tested for a respirator. Anybody who has not completed the necessary safety training will not be certified. Any questions about how to obtain the proper training, call Kirk Foster at (919) 541-4571.

7. WHAT DO I NEED TO BRING TO THE COURSE?

It is the responsibility of the trainees to supply their own hard hat, steel-toed safety shoes, safety glasses with side shields, and a fit-tested respirator. Also, trainees should bring a clipboard, a stopwatch, and a scientific calculator or a laptop computer with Lotus 123, version 2.1 or better (to run the Method 303 spreadsheet).

8. WHAT IS THE CERTIFICATION COURSE GOING TO BE LIKE AND HOW LONG DOES IT LAST?

An agenda will be mailed to each trainee upon registration. In general, the course is four or five days long and starts on a Monday with a classroom lecture/workshop. This will either be held at a hotel conference room or at the plant. During the classroom portion of the certification course, the instructors go over the method in detail. The Method 303 video will illustrate the various procedures for inspecting a battery and a computer program to calculate the results will be demonstrated. A test will be given.

On Tuesday, the trainees go to the battery and groups of 5 - 8 will receive instruction from a panel member. After lunch, the groups will go back to the batteries with the entire panel for more practice. During Tuesday afternoon, the practice runs, if acceptable to the panel, can be used to satisfy the requirement in the rule for a practice run.

On Wednesday, the trainees return to the battery and begin the certification runs with the panel. Trainees will be certified when 1 practice run and 3 certifying runs have been completed to the satisfaction of the panel. For many people, certification will not be complete until Thursday. Friday should be considered as an extra day to be used in the event of bad weather.

9. HOW LONG DOES CERTIFICATION LAST AND HOW DOES ONE RE-CERTIFY?

Certification lasts for one year. Observers re-certify twice by viewing the Method 303 video and correctly answering all of the questions on the Method 303 test. Every 3 years, an observer must demonstrate proficiency to the Method 303 panel again.

10. WHO PAYS FOR CERTIFICATION?

Each trainee, except employees of the US EPA and state and local agencies, will have to pay a fee. Currently, the fee is set at $1200. The rule provides for each owner or operator of a coke oven battery to pay an inspection fee to defray the costs of the inspection program. The formula for computing the inspection fee uses the average hourly rate for private visible emissions inspectors in the relevant market as one of its terms. Since the overhead component of this average hourly rate will include the costs of getting certified, the inspection fees will reimburse state and local agencies and their contractors for costs incurred in getting a sufficient number of certified inspectors to administer the program.

11. HOW DOES A BATTERY STRADDLE THE TRACKS?

There are two sets of emission limits; the MACT limits and the extension track (the extension track is also called the LAER extension track). Each battery must comply with one of the tracks, but may, if so desired, straddle both tracks until January 1998, at which time a selection is necessary. If a battery wants to straddle both tracks, in other words, not commit to either track, that battery will be subject to the more stringent limits of the two tracks. The straddling ends on January 1, 1998, when battery operators must declare which track they intend to follow.

12. WHEN IS AN INCOMPLETE CHARGE ACCEPTABLE AND WHEN IS TIMING LESS THAN 5 CHARGES A DAY ACCEPTABLE?

Section 3.8 of the Method reads as follows:

> "Five charging observations (runs) obtained in accordance with this method shall be considered a valid set of observations for that day. No observation of an incomplete charge shall be included in a daily set of observations that is lower than the lowest reading for a complete charge. If both complete and incomplete charges have been observed, the daily set of observations shall include the five highest values observed. Four or three charging observations (runs) obtained in accordance with this method shall be considered a valid set of charging observations only where it is not possible to obtain five charging observations, because of visual interferences (see Section 3.5) or inclement weather prevent a clear view of the charging system during charging. However, observations from three or four charges that satisfy these requirements shall not be considered a valid set of charging observations if use of such set of observations in a calculation under Section 3.9 would cause the value of A to be less than 145."

In plain language, the observer must time 5 complete consecutive charges each day. If the observer's view of the charging system becomes obstructed during the charge to the extent that he thinks the charge has been compromised, the observer stops the stopwatch, records the accumulated time, and labels the charge an "incomplete charge". The observer then times the next charge to replace the incomplete charge. If five complete charges could not be obtained for that day, the incomplete charge can be used as one of the five charges for that day if at least one of the complete charges has a lower emission time than the incomplete charge.

13. THERE ARE PROVISIONS IN THE RULE THAT ALLOW BATTERIES WITH SHEDS TO APPLY FOR AN ALTERNATIVE STANDARD. WHAT DOES THE OBSERVER DO WITH BATTERIES THAT APPLY AND RECEIVE AN ALTERNATIVE STANDARD?

The response to this question is best shown in an example. In this example, Battery 1 has a coke-side shed and a baghouse to control emissions. The owner applies for an alternative standard, using the procedures in the regulation. After testing, the battery receives an alternative standard of 11.0 PLD. The coke-side doors under the shed of Battery 1 are now inspected (from the yard if possible, from the bench if not, per Method 303) once a week instead of once a day. The new PLD is not averaged with any other reading. Instead, it is a never-to-exceed leaking door limit. If the PLD for the coke-side with the shed do not exceed 11.0 PLD for 12 consecutive weeks, then the doors are inspected once a month. If any exceedance is recorded during the monthly inspection, the frequency of inspection returns to once a week.

In addition to the PLD limit, the observer must conduct a weekly inspection of the shed for collection efficiency and may have to read opacity, using Method 9, of the emissions at the outlet of the baghouse. The word "may" is applicable because the battery operator has the option of installing and maintaining a continuous opacity monitor at the baghouse outlet.

Inspecting the shed for collection efficiency means walking around the shed and looking for emissions escaping capture. Pushing emissions are exempt.

14. IS THE OBSERVER REQUIRED TO INSPECT THE COLLECTING MAIN?

Procedures for conducting collecting main inspections are in Method 303, but the observer is not required to inspect the collecting main every day. The permitting authority will determine the frequency of collecting main inspections by the observer. However, the regulation requires the owner or operator to inspect the collecting main daily.

15. CAN BATTERIES BE COMBINED FOR THE PURPOSE OF CONDUCTING INSPECTIONS (E.G., TO OBTAIN FIVE OBSERVATIONS TOTAL FOR CHARGING INSTEAD OF TWO SETS OF FIVE OBSERVATIONS FOR TWO BATTERIES)?

Batteries are defined in Appendix A of the rule, and as with other parts of the rule, this list was negotiated in good faith by all of the parties. If there is a demonstrable problem with the way that batteries are defined in the appendix, a facility may apply for an alternative method. However, combining of batteries will be determined on a case-by-case basis by the

delegated enforcement agency. To be considered for an alternative method, the following criteria will apply:

- There must be a substantive need or reason for the alternative method.
- The alternative method must apply to charging observations only.
- Batteries that are to be combined to conduct a single set of charging observations must be charged by a single larry car operated by the same crew for both batteries.

16. IF TWO OR MORE BATTERIES ARE CONNECTED BY COMMON WALLS, DOES THIS CONSTITUTE ONE BATTERY?

Not necessarily. The easiest way to determine whether something is considered one battery or two is to consult the list of batteries that is in the regulation.

17. ARE VE FROM BYPASS STACKS OR OTHER SOURCES NOTED?

Any "event" can be noted in the comment portion of the inspection form, but VE from bypass stacks are not covered under the regulation.

18. THE GUIDANCE IN THE METHOD IS TO VARY THE TIME OF DAY OF THE INSPECTIONS. DOES THIS MEAN NO NIGHT INSPECTIONS?

There is nothing in the method or rule that prevents someone from conducting a Method 303 traverse at night.

19. PRE-HEATERS DRIVE OFF EXCESS MOISTURE. IS THIS CONSIDERED COKE OVEN EMISSIONS?

Pre-heater emissions are not covered under this regulation.

20. WHEN DOES THE CHARGING PERIOD END FOR BATTERIES THAT USE JUMPER PIPES OR ASSIST OVENS?

The charging period begins when coal begins to flow into the oven and ends when the last charging port is recapped. If an oven uses a movable jumper pipe and an assist oven during charging, then emissions from the jumper pipe and the port of the assist oven count as charging emissions. The charging period ends when the last lid <u>on the oven being charged</u> is replaced.

21. IS A BATTERY EXEMPT FROM NOV'S DURING THE TRAINING OF THE OBSERVERS?

It is not the policy of the EPA to exempt a source from being cited for violations during a visit.

22. SHOULD FLAMES SEEN COMING FROM AN OVEN DOOR JAMB DURING A DOOR TRAVERSE COUNT AS A DOOR LEAK?

The procedures in Method 303 determine the presence of visible emissions. Flames are <u>not</u> counted as VE. However, any plume from the flame that is visible during a proper traverse can be counted as VE.

23. DOES THE NEW COKE OVEN RULE SUPERSEDE OTHER STATE RULES?

No. The coke battery is still obligated to comply with all state or county rules that are currently in place.

APPENDIX E

LIST OF BATTERIES AND THEIR OPERATING CHARACTERISTICS

LIST OF OPERATING COKE PLANTS AS OF APRIL 1992

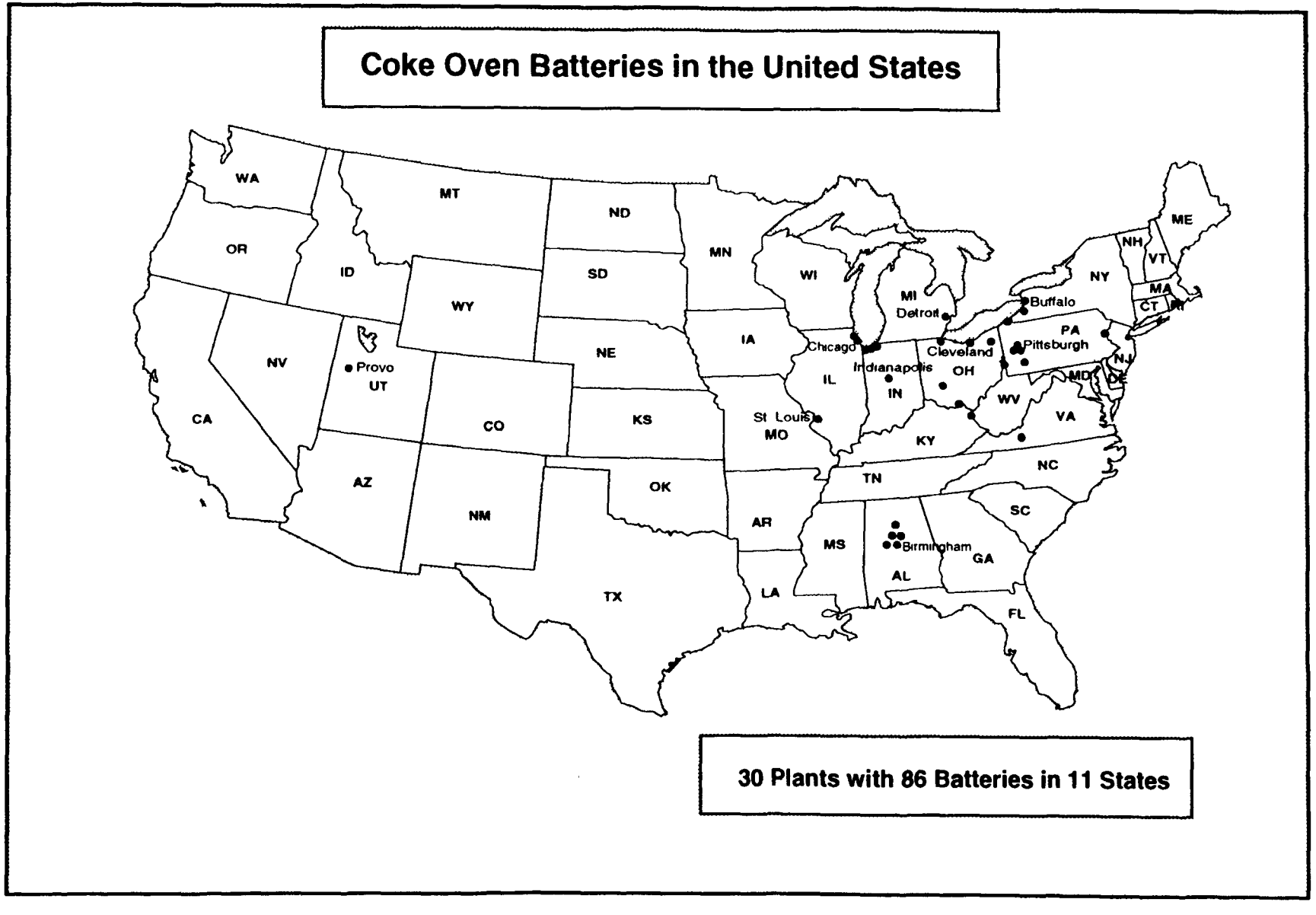
No.	PLANT	BATTERY	DATE OF ORIGINAL CONSTRUCTION OR LAST KNOWN REBUILD	NUMBER OF OVENS	HEIGHT (m)	COKE CAPACITIES (1,000 METRIC TONS/YR) BF COKE	FOUNDRY COKE	OTHER COKE*
1	ABC Coke, Tarrant, AL	A	1968	78	5.0		317	128
		5	1941	25	4.0		63	25
		6	1951	29	4.0		73	29
2	Acme Steel, Chicago, IL	1	1979	50	4.0	226		
		2	1978	50	4.0	226		
3	Armco Inc., Middletown, OH	1	1976	57	6.0	466		
		2	1977	57	6.0	466		
		3	1952	76	4.0	316		
4	Armco Inc., Ashland, KY	3	1953	76	3.5	305		
		4	1978	70	5.0	528		
5	Bethlehem Steel, Bethlehem, PA	A	1976	80	6.0	591		
		2	1941	102	3.0	200		
		3	1941	102	3.0	200		
6	Bethlehem Steel, Burns Harbor, IN	1	1983	82	6.0	809		
		2	1972	82	6.0	664		
7	Bethlehem Steel, Lackawanna, NY	7	1952	76	3.5	340		
		8	1962	76	3.5	340		
8	Citizens Gas, Indianapolis, IN	E	1946	47	3.5		83	34
		H	1941	41	3.5		75	31
		1	1979	72	5.0	245	82	
9	Empire Coke, Holt, AL	1	1978	40	2.5		70	28
		2	1978	20	2.5		35	14
10	Erie Coke, Erie, PA	A	1952	23	4.0		58	19
		B	1943	35	4.0		89	29
11	Geneva Steel, Provo, UT	1	1944	59	4.0	223		
		2	1944	32	4.0	120		
		3	1944	56	4.0	211		
		4	1944	50	4.0	188		
12	Gulf States Steel, Gadsden, AL	2	1942	65	4.0	268		
		3	1965	65	4.0	268		
13	Inland Steel, East Chicago, IN	6	1950	65	4.0	131		
		7	1956	87	4.0	223		
		9	1959	87	4.0	224		
		10	1970	51	6.0	281		
		11	1978	69	6.0	482		
14	Koppers, Woodward, AL	1	1978	60	3.0	252		
		2A	1977	40	3.0	161		
		2B	1969	38	3.0	128		
	(defined as two separate batteries)	4A,4B	1947	56	3.0		97	
		5	1952	29	3.0	55		
15	LTV Steel, Cleveland, OH	6	1952	63	4.0	248		
	(plant shutdown in 1992)	7	1952	63	4.0	248		
16	LTV Steel, Pittsburgh, PA	P1	1960	59	4.0	256		
		P2	1961	59	4.0	256		
		P3N	1961	59	4.0	289		
		P3S	1961	59	4.0	289		
		P4	1953	79	4.0	382		

Continued

LIST OF OPERATING COKE PLANTS AS OF APRIL 1992

No.	PLANT	BATTERY	DATE OF ORIGINAL CONSTRUCTION OR LAST KNOWN REBUILD	NUMBER OF OVENS	HEIGHT (m)	COKE CAPACITIES (1,000 METRIC TONS/YR) BF COKE	FOUNDRY COKE	OTHER COKE*
17	LTV Steel, Chicago, IL	2	1982	60	6.0	558		
18	LTV Steel, Warren, OH	4	1979	85	4.0	447		
19	National Steel, Ecorse, MI	5	1992	85	6.0	795		
20	National Steel, Granite City, IL	A	1980	45	4.0	250		
		B	1982	45	4.0	250		
21	New Boston, Portsmouth, OH	1	1964	70	4.0	341		
22	Sharon Steel, Monessen, PA	1B	1981	37	4.0	212		
		2	1980	19	4.0	105		
23	Shenango, Pittsburgh, PA	1	1983	56	4.0	301		
	(Battery 4 shutdown in 1992)	4	1952	35	4.0	151		
24	Sloss Industries, Birmingham, AL	3	1952	30	4.0	111		
		4	1956	30	4.0	111		
		5	1959	60	4.0		119	48
25	Toledo Coke, Toledo, OH	C	1953	57	3.5		127	52
26	Tonawanda, Buffalo, NY	1	1962	60	4.0		188	62
27	USX, Clairton, PA	1	1955	64	3.6	260		
		2	1955	64	3.6	260		
		3	1955	64	3.6	260		
		7	1954	64	3.6	260		
		8	1954	64	3.6	260		
		9	1954	64	3.6	260		
		13	1989	61	3.6	270		
		14	1989	61	3.6	270		
		15	1979	61	3.6	270		
		19	1976	87	4.3	450		
		20	1978	87	4.3	450		
		B	1982	75	6.1	760		
28	USX, Gary, IN	2	1975	57	6.2	700		
		3	1976	57	6.2	680		
		5	1954	77	3.1	250		
		7	1954	77	3.1	250		
29	Wheeling-Pitt, East Steubenville, WV	1	1955	47	3.0	151		
		2	1953	47	3.0	151		
		3	1964	51	3.0	163		
		8	1977	79	6.0	782		
	Totals for by-product batteries	83		4878		21894	1476	499
30	Jewell Coal and Coke, Vansant, VA		Nonrecovery process			590		
	(Batteries 2,3A,3B,3C)							

List from Appendix A in the rule and report on cost analysis (Docket item VI-C-37).
*Other coke is used in other industries (mineral wool, sugar, etc.).
Estimates exclude breeze and most assume 8% loss from screening, transport.


Coke Oven Batteries in the United States
WA
OR
CA
ID
NV
MT
WY
UT
Provo
AZ
CO
NM
ND
SD
NE
KS
OK
TX
MN
IA
MO
AR
LA
WI
IL
MS
MI
Detroit
Chicago
IN
Indianapolis
KY
TN
AL
Birmingham
GA
FL
SC
NC
OH
Cleveland
WV
VA
PA
Pittsburgh
Buffalo
NY
ME
VT
NH
MA
CT
RI
NJ
MD
DE
St Louis
30 Plants with 86 Batteries in 11 States