ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[FRL–6939–2]

RIN 2060–AH55

National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This action proposes national emission standards for hazardous air pollutants (NESHAP) for new and existing coke oven batteries. The EPA has identified coke oven batteries as a major source of hazardous air pollutants (HAP) emissions. These NESHAP address emissions from pushing, quenching, and battery stacks. Emission standards previously promulgated address emissions from charging, topside leaks, and door leaks.

These proposed standards will implement section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet HAP emission standards reflecting the application of the maximum achievable control technology (MACT). The HAP emitted by this source category include coke oven emissions, polycyclic organic matter, and volatile organic compounds such as benzene and toluene. Exposure to these substances has been demonstrated to cause chronic and acute health effects.

DATES: *Comments.* Submit comments on or before October 1, 2001.

Public Hearing. If anyone contacts the EPA requesting to speak at a public hearing by July 23, 2001, a public hearing will be held on August 2, 2001.

ADDRESSES: *Comments.* By U.S. Postal Service, send comments (in duplicate if possible) to: Air and Radiation Docket and Information Center (6102), Attention Docket Number A–2000–34, U.S. EPA, 1200 Pennsylvania Avenue, NW, Washington, DC 20460. In person or by courier, deliver comments (in duplicate if possible) to: Air and Radiation Docket and Information Center (6102), Attention Docket No. A–2000–34, Room M–1500, U.S. EPA, 401 M Street, SW., Washington, DC 20460. The EPA requests a separate copy also be sent to the contact person listed below (see **FOR FURTHER INFORMATION CONTACT**).

Public Hearing. If a public hearing is held, it will be held at the EPA Office of Administration Auditorium, Research Triangle Park, NC beginning at 10 a.m.

Docket. Docket No. A–2000–34 contains supporting information used in developing the proposed standards. The docket is located at the U.S. EPA, 401 M Street SW, Washington, DC 20460 in room M–1500, Waterside Mall (ground floor), and may be inspected from 8:30 a.m. to 5:30 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: Lula Melton, Metals Group, Emission Standards Division (MD–13), U.S. EPA, Research Triangle Park, NC 27711, telephone number (919) 541–2910, electronic mail address melton.lula@epa.gov.

SUPPLEMENTARY INFORMATION:

Comments. Comments and data may be submitted by electronic mail (e-mail) to: air-and-r-docket@epa.gov. Electronic comments must be submitted as an ASCII file to avoid the use of special characters and encryption problems and will also be accepted on disks in WordPerfect® version 5.1, 6.1 or Corel 8 file format. All comments and data submitted in electronic form must note the docket number: A–2000–34. No confidential business information (CBI) should be submitted by e-mail. Electronic comments may be filed online at many Federal Depository Libraries.

Commenters wishing to submit proprietary information for consideration must clearly distinguish such information from other comments and label it as CBI. Send submissions containing such proprietary information directly to the following address, and not to the public docket, to ensure that proprietary information is not inadvertently placed in the docket: Attention: Roberto Morales, U.S. EPA, OAQPS Document Control Officer, c/o Lula Melton, 411 W. Chapel Hill Street, Room 740B, Durham, NC 27711. The EPA will disclose information identified as CBI only to the extent allowed by the procedures set forth in 40 CFR part 2. If no claim of confidentiality accompanies a submission when it is received by the EPA, the information may be made available to the public without further notice to the commenter.

Public Hearing. Persons interested in presenting oral testimony or inquiring as to whether a hearing is to be held should contact Mary Hinson, Metals Group, Emission Standards Division, U.S. EPA, Research Triangle Park, NC 27711, telephone number (919) 541–5601, in advance of the public hearing. Persons interested in attending the public hearing must also call Mary Hinson to verify the time, date, and location of the hearing. The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning these proposed emission standards.

Docket. The docket is an organized and complete file of all the information considered by the EPA in the development of this proposed rule. The docket is a dynamic file because material is added throughout the rulemaking process. 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 proposed and promulgated standards and their preambles, the contents of the docket will serve as the record in the case of judicial review. (See section 307(d)(7)(A) of the CAA.) The regulatory text and other materials related to this rulemaking are available for review in the docket or copies may be mailed on request from the Air Docket by calling (202) 260–7548. A reasonable fee may be charged for copying docket materials.

World Wide Web (WWW). In addition to being available in the docket, an electronic copy of today's proposed rule will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the rule will be placed on the TTN's policy and guidance page for newly proposed or promulgated rules at *http://www.epa.gov/ttn/oarpg.* The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541–5384.

Regulated Entities. Categories and entities potentially regulated by this action include:

Category	SIC	NAICS	Example of regulated entities
Coke oven batteries.	3312	331111	Coke plants at integrated iron and steel companies.
		324199	Coke plants not at integrated iron and steel companies.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine

whether your facility is regulated by this action, you should examine the applicability criteria in § 63.7281 of the proposed rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

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H. National Technology Transfer and Advancement Act

I. Background

A. What Is the Source of Authority for Development of NESHAP?

Section 112 of the CAA requires us (the EPA) to establish technology-based regulations for all categories and subcategories of major and area sources emitting one or more of the HAP listed in section 112(b). Major sources are those that emit or have the potential to emit at least 10 tons per year (tpy) of any single HAP or 25 tpy of any combination of HAP. Additional standards may be developed later under section 112(f) to address residual risk that may remain even after application of the technology-based controls.

B. What Criteria Are Used in the Development of NESHAP?

The NESHAP for new and existing sources developed under section 112 must reflect the maximum degree of reduction of HAP emissions that is achievable taking into consideration the cost of achieving the emissions reductions, any non-air quality health and environmental benefits, and energy requirements. Emissions reductions may be accomplished through promulgation of emission standards under section 112(d). These may include, but are not limited to:

- Reducing the volume of emissions of HAP, or eliminating the emissions through process changes, substitution of materials, or other modifications;
- Enclosing systems or processes to eliminate emissions;
- Collecting, capturing, or treating such pollutants when released from a process, stack, storage, or fugitive emissions point;
- Design, equipment, work practice or operational standards or any combination thereof if it is not feasible to prescribe or enforce an emission standard (including requirements for operator training or certification); or
- A combination of the above.

Section 112 requires us to establish a minimum baseline or ''floor'' for standards. For new sources, the standards for a source category or subcategory cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The standards for existing sources can be less stringent than the standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources (excluding certain sources) for categories and subcategories with 30 or more sources. For categories and subcategories with fewer than 30 sources, the standards cannot be less stringent than the average emission limitation achieved by the best-performing five sources.

For NESHAP developed to date, we have used several different approaches to determine the MACT floor for individual source categories depending on the type, quality, and applicability of available data. These approaches include determining a MACT floor based on: (1) Emissions test data that characterize actual HAP emissions from presently controlled sources included in the source category, (2) existing federally-enforceable emission limitations specified in air regulations and facility air permits applicable to the individual sources comprising the source category, and (3) application of a specific type of control technology for air emissions currently being used by sources in the source category or by sources with similar pollutant stream characteristics.

To determine the MACT standard, we evaluate several alternatives (which may be different levels of emission control or different levels of applicability or both) to select the one that best reflects the appropriate MACT level. The selected alternative may be more stringent than the MACT floor, but the control level selected must be technically achievable. In selecting an alternative, we consider the achievable HAP emissions reductions (and possibly other pollutants that are co-controlled), cost and economic impacts, energy impacts, and other environmental impacts. The objective is to achieve the maximum degree of emission reduction without unreasonable economic or other impacts. The regulatory alternatives selected for new and existing sources may be different because of different MACT floors, and separate regulatory decisions may be made for new and existing sources.

C. What Source Category Is Affected by the Proposed Rule?

The source category affected by the proposed rule is defined as pushing, quenching, and battery stacks at coke plants. Section 112(c) of the CAA requires us to list all categories of major and area sources of HAP for which we would develop national emission standards. We published the initial list of source categories on July 16, 1992 (57 FR 31576). The list contains a category

entitled ''Coke Ovens: Pushing, Quenching, and Battery Stacks'' based on our determination that coke oven batteries are (or are a part of) a major source of HAP emissions and emit several of the HAP listed in section 112(b) of the CAA. Emissions data show that coke oven batteries emit, or have the potential to emit 10 tpy or more of coke oven emissions or 25 tpy or more of coke oven emissions and other listed HAP.

D. What Is Cokemaking?

The coke industry consists of two sectors, integrated plants and merchant plants. Integrated plants are owned by or affiliated with iron- and steel-producing companies that produce furnace coke primarily for consumption in their own blast furnaces. There are 14 integrated plants owned by nine iron and steel companies. These plants account for 80 percent of United States (U.S.) coke production. Independent merchant plants produce mostly foundry coke for sale on the open market. Foundry coke is used in foundry furnaces for melting scrap iron to produce iron castings. There are 11 merchant plants. Although coke is produced in 11 States, two-thirds of the capacity is in three States: Indiana, Pennsylvania, and Alabama. As of January 2000, there were 25 coke plants operating 68 coke oven batteries; 58 were by-product batteries, and 10 were non-recovery batteries.

A by-product battery consists of 20 to 100 adjacent ovens with common side walls made of high quality silica and other types of refractory brick. Typically, the individual slot ovens are 11 to 16.8 meters (m) long, 0.35 to 0.5 m wide, and 2.5 to 6 m high. The walls separating adjacent ovens, as well as each end wall, are made up of a series of heating flues. Most by-product batteries in the U.S. (56 out of 58) use a vertical flue design. Each oven wall typically has 25 to 37 flues that run vertically from the bottom to the top of the oven, and the flues heat the walls of adjacent ovens. The heating (underfire) systems for vertical flue batteries fall into two general classes: underjet and gun-flue. In the underjet heating system, the flue gas is introduced into each flue from piping in the basement of the battery, and the gas flow to each flue can be metered and controlled. The gun-flue system introduces the gas through a horizontal gas duct extending the length of each wall slightly below the oven floorline. Two by-product batteries referred to as Semet Solvay batteries have horizontal flues with physical and operational characteristics that differ substantially from vertical flue batteries.

In a coke oven battery, coal undergoes destructive distillation to produce coke. A weighed amount or specific volume of coal is discharged from the coal bunker into a larry car—a charging vehicle that moves along the top of the battery. The larry car is positioned over the empty, hot oven; the lids on the charging ports are removed; and the coal is discharged from the hoppers of the larry car into the oven. Each oven holds between 15 and 25 tons of coal. To minimize the escape of gases from the oven during charging, steam aspiration is used to draw gases from the space above the charged coal into a collecting main. The charging port lids are replaced and peaks of coal that form directly under the charging ports are leveled.

The coal is heated in the oven in the absence of air to temperatures approaching 2,000°F which drives off most of the volatile organic constituents of the coal as gases and vapors, forming coke which consists almost entirely of carbon. The organic gases and vapors that evolve are removed through an offtake system and sent to a by-product plant for chemical recovery and coke oven gas cleaning. Air is prevented from leaking into the ovens by maintaining a positive back pressure of about 10 millimeters (mm) of water.

Coking temperatures generally range from 1,650 to 2,000°F and are on the higher side of the range to produce blast furnace coke. Coking continues for 15 to 18 hours to produce blast furnace coke and 25 to 30 hours to produce foundry coke. The coking time is determined by the coal mixture, moisture content, rate of underfiring, and the desired properties of the coke. When demand for coke is low, coking times are extended and temperatures lowered. Battery shut downs are avoided because cooling the battery results in structural damage.

At the end of the coking cycle, the oven is dampered off the collection main, and the standpipe cap is opened to relieve oven pressure. This period in the coking cycle is called soaking. Volatile gases exiting through the open standpipe are ignited if they fail to self-ignite and are allowed to burn until the oven has been pushed. Doors at both ends of the oven are removed, and the incandescent coke is pushed out of the oven by a ram that is extended from the pusher machine. The coke is pushed through a coke guide into a special rail car, called a quench car, which traverses the coke side of the battery. The quench car carries the coke to a quench tower, typically located at the end of a row of batteries. Inside the quench tower, the hot coke is deluged with water so that it will not continue to burn after being exposed to air. The quenched coke is discharged onto an inclined ''coke wharf'' to allow excess water to drain and to cool the coke.

There are two non-recovery plants operating in the U.S. As the name implies, this process does not recover the chemical by-products as does the by-product coking process discussed above. All of the coke oven gas is burned, and instead of recovery of chemicals, this process allows for heat recovery and cogeneration of electricity. Non-recovery ovens are of a horizontal design (as opposed to the vertical slot oven used in the by-product process) with a typical range of 30 to 60 ovens per battery. The oven is generally between 9 and 14 m long and 1.8 to 3.7 m wide. The internal oven chamber is usually semi-cylindrical in shape with the apex of the arch 1.5 to 3.7 m above the oven floor. Each oven is equipped with two doors, one on each side of the horizontal oven, but there are no lids or offtakes as found on by-product ovens. The oven is charged through the oven doorway with a coal conveyor rather than from the top through charging ports.

After an oven is charged, carbonization begins as a result of the hot oven brickwork from the previous charge. Combustion products and volatiles that evolve from the coal mass are burned in the chamber above the coal, in the gas pathway through the walls, and beneath the oven in sole flues. Each oven chamber has two to six downcomers in each oven wall, and the sole flue may be subdivided into separate flues that are supplied by the downcomers. The sole flue is designed to heat the bottom of the coal charge by conduction while radiant and convective heat flow is produced above the coal charge.

Primary combustion air is introduced into the oven chamber above the coal through one of several dampered ports in the door. The dampers are adjusted to maintain the proper temperature in the oven crown. Outside air may also be introduced into the sole flues; however, additional air is usually required in the sole flue only for the first hour or two after charging. All gas flow is a result of the natural draft (there are no exhausters), and the oven is maintained under a negative pressure. Consequently, the ovens do not leak as do the by-product ovens maintained under a positive pressure. The combustion gases are removed from the ovens and directed to the stack through a waste heat tunnel that is located on top of the battery centerline and extends the length of the battery.

Pushing and quenching operations are similar to those at by-product coke oven batteries. One difference in pushing is that the height of fall of the hot coke is less for the non-recovery oven because of its horizontal rather than vertical design. With respect to emissions, there are two major advantages of the non-recovery process: (1) The ovens operate under negative pressure which eliminates leaks from doors, lids and offtakes during coking; and (2) wastewater and solid wastes associated with by-product recovery plants are not generated.

E. What HAP Are Emitted From Cokemaking?

The primary HAP emitted from cokemaking is listed as ''coke oven emissions,'' which includes many organic compounds. Constituents of primary interest because of adverse health effects include semi-volatiles such as polycyclic organic matter (POM) and polynuclear aromatic hydrocarbons (PAH). The emissions also include volatile organic compounds, such as benzene, toluene, and xylene.

Coke oven emissions can be released when the oven is charged with coal. During coking with the oven under positive pressure, emissions occur from leaking doors, lids, and offtakes. On rare occasions during an equipment failure or process upset, coke oven emissions may occur from bypass stacks. We have developed emission standards for each of these emission points with limits for charging, doors, lids, and offtakes and a requirement to flare any bypassed coke oven gas (40 CFR part 63, subpart L).

Coke oven emissions are also released from pushing and quenching, and emissions are especially heavy when the coal is not fully coked. This condition is called a ''green push'' and results in a large plume of emissions when the coke is pushed. These emissions typically overwhelm any capture system that may be employed at the oven to control particulate emissions. Green pushes are minimized by diligent work practices that include routine operation and maintenance procedures. In addition, diagnostic procedures are initiated when a green push occurs to determine its cause followed by corrective actions to prevent its recurrence. Additional procedures used to control emissions from quench towers include prohibiting the use of untreated wastewater for quenching, using baffles in the quench tower to control particulate matter, and maintaining the baffles in good operating condition.

Coke oven emissions also occur from battery stacks when raw coke oven gas leaks through cracks in the oven wall and into the heating flues. Battery stack emissions are controlled by monitoring the stack opacity when each oven is charged, and if a high opacity occurs, by implementing diagnostic procedures to determine the cause of the problem and taking corrective actions.

Emissions of HAP also occur from the by-product plant that recovers various chemicals from the coke oven gas. The primary HAP in these emissions is benzene. We promulgated NESHAP for benzene emissions from by-product plants (40 CFR part 61, subpart L).

F. What Are the Health Effects Associated With Emissions From Pushing, Quenching, and Battery Stacks?

The HAP that would be controlled with this proposed rule are associated with a variety of adverse health effects. These adverse health effects include chronic health disorders (e.g., blood disorders, damage to the central nervous system, and respiratory lesions) and acute health disorders (e.g., irritation of skin, eyes, and mucous membranes and depression of the central nervous system). We have classified coke oven emissions and benzene as known human carcinogens and seven PAH components as probable human carcinogens.

No information is available on the effects of coke oven emissions in humans from acute (short-term) exposure. Animal studies have reported weakness, depression, shortness of breath, general edema, and effects on the liver from acute oral exposure to coke oven emissions. Chronic (long-term) exposure to coke oven emissions in humans results in conjunctivitis, severe dermatitis, and lesions of the respiratory system and digestive system. Studies of coke oven workers have reported an increase in cancer of the lung, trachea, bronchus, kidney, prostate, and other sites. Animal studies have reported tumors of the lung and skin from inhalation exposure to coal tar. We have classified coke oven emissions as a Group A, known human carcinogen.

The term POM defines a broad class of compounds that includes the PAH compounds, of which benzo[a]pyrene is a member. Skin exposures to mixtures of PAH cause skin disorders in humans and animals. No information is available on the reproductive or developmental effects of POM in humans, but animal studies have reported that oral exposure to benzo[a]pyrene causes reproductive and developmental effects. Human studies have reported an increase in lung cancer in humans exposed to POM-bearing mixtures including coke oven emissions, roofing tar emissions, and cigarette smoke. Animal studies have reported respiratory tract tumors from inhalation exposure to benzo[a]pyrene and forestomach tumors, leukemia, and lung tumors from oral exposure to benzo[a]pyrene. We have classified seven PAH compounds (benzo[a]pyrene, benz[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene) as Group B2, probable human carcinogens.

Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene. We have classified benzene as a Group A, known human carcinogen.

Acute (short-term) inhalation of toluene by humans may cause effects to the central nervous system (CNS), such as fatigue, sleepiness, headache, and nausea, as well as irregular heartbeat. Adverse CNS effects have been reported in chronic abusers exposed to high levels of toluene. Symptoms include tremors, decreased brain size, involuntary eye movements, and impaired speech, hearing, and vision. Chronic (long-term) inhalation exposure of humans to lower levels of toluene also causes irritation of the upper respiratory tract, eye irritation, sore throat, nausea, dizziness, headaches, and difficulty with sleep. Studies of children whose mothers were exposed to toluene by inhalation of mixed solvents during pregnancy have reported CNS problems, facial and limb abnormalities, and delayed development. However, these effects may not be attributable to toluene alone.

We recognize that the degree of adverse health effects experienced by exposed individuals can range from mild to severe. The extent and degree to which the health effects may be experienced depend on:

- Pollutant-specific characteristics (e.g., toxicity, half-life in the environment, bioaccumulation, and persistence);

- Ambient concentrations observed in the area (e.g., as influenced by emission rates, meteorological conditions, and terrain);
- Frequency and duration of exposures; and
- Characteristics of exposed individuals (e.g., genetics, age, preexisting health conditions, and lifestyle), which vary significantly with the population.

II. Summary of the Proposed Rule

A. What Are the Affected Sources and Emission Points?

The affected source is each new or existing coke oven battery at a coke plant that is a major source of HAP emissions. A new affected source is one constructed or reconstructed after July 3, 2001. An existing affected source is one constructed or reconstructed on or before today's date. The proposed rule covers fugitive pushing emissions, emissions from control devices applied to pushing emissions, and emissions from quenching, soaking, and battery stacks.

B. What Are the Requirements for Pushing?

1. By-product Coke Oven Batteries with Vertical Flues

We are proposing two options for controlling fugitive pushing emissions—numerical opacity limits (Option 1) and work practice standards (Option 2). Based on comments received on the proposed rule, we will promulgate Option 1, Option 2, or a combination of the two options. Under both options, the requirements are the same for new and existing batteries.

Option 1 (the numerical standard) limits the daily average opacity of fugitive pushing emissions to 20 percent for a short battery and 25 percent for a tall battery. A short battery has ovens that are less than five m high, and a tall battery has ovens that are five m high or more. The daily average opacity would be determined from opacity observations made for four consecutive pushes per battery per day. The average opacity per push would be determined by averaging the six highest consecutive observations made at 15-second intervals.

Option 2 (the work practice standard) is based on an opacity trigger for a single push that would require the plant to correct the problem or remove the oven from service. The proposed work practice requirements are:

- Observe and record the opacity of fugitive pushing emissions for four consecutive pushes each day for each battery.
- If the average opacity of the six highest consecutive readings for any individual push is more than the opacity trigger (30 percent for short batteries and 35 percent for tall batteries), take corrective action to fix the problem and demonstrate that the corrective action has been successful within a certain number of days. Plants must calculate the allowed number of days using the equation, (15 pushes $\times$ coking time)/24 hours or 0.63 $\times$ coking time. The corrective action would be considered successful if neither of the opacity observations for two consecutive daytime pushes exceed the opacity trigger.
- If the oven-directed procedure has not been successful within the allowable number of days, remove the oven from service until repairs are completed. Observe two daytime pushes within the first four pushes after the oven is returned to service. If neither push exceeds the opacity trigger, the corrective action was successful and the oven may be taken out of the oven-directed program. If the opacity trigger was exceeded for either push, the oven must be removed from service and the process repeated. If any oven is removed from service more than four times in any semiannual reporting period as a result of exceeding the opacity trigger, the oven must not be returned to service without the permission of the permitting authority. Plants would also be required to mitigate possible adverse effects on adjacent ovens due to removing the oven from service.
- If extended coking is the corrective action, keep the oven on extended coking until the problem is corrected and the plant demonstrates the corrective action has been successful.

Under Option 1, plants would be required to conduct a performance test to demonstrate initial compliance with the applicable opacity limit. In the test, an independent certified observer would make opacity observations according to the procedures in EPA Method 9 (40 CFR part 60, appendix A) for four consecutive pushes, calculated from the six highest 15-second readings for each push. No performance test would be required to demonstrate initial compliance with the work practice standards in Option 2. The plant owner or operator would certify, as part of the notification of compliance status, that the facility will meet each of the requirements in the work practice standard.

Under Options 1 and 2, continuous compliance would be demonstrated by opacity observations. Both options allow two batteries to be treated as a single battery if they are served by the same pushing equipment and contain a total of no more than 60 ovens. An independent certified observer would determine the daily average opacity from four consecutive pushes for each battery every day and for each oven in a battery at least every 3 months. The proposed rule prohibits plants from altering an oven's pushing schedule to change the sequence of pushes designated for observation.

Records of all observations and calculations needed to document compliance would be required for Options 1 and 2. Additional records would be required under Option 2 if the opacity trigger is exceeded.

2. By-Product Coke Oven Batteries with Horizontal Flues

Under the work practice standards, plants would be required to operate each battery according to a written plan designed to prevent green pushes. The plan would establish minimum flue temperatures at different coking times and a lowest acceptable minimum flue temperature consistent with the prevention of green pushes. Provisions are included in the proposed rule for performing a study to determine the minimum flue temperatures. After developing a plan, plants would be required to:

- Measure and record the temperature of all flues on two ovens per day for each battery within 2 hours of the scheduled pushing time. Two batteries can be treated as one if both are served by the same pushing equipment and contain a total of no more than 60 ovens.
- Measure and record the temperature of all flues on each oven at least once a month.
- Determine and record the time each oven is charged and pushed and the net coking time for each oven.
- If the measured flue temperature is below the minimum flue temperature for that coking time, extend the coking time for the oven by the amount specified in the plan for that flue temperature before pushing the oven and take corrective action. While the oven is on extended coking, continue to measure the flue temperatures within 2 hours of the scheduled pushing time until the measurements prior to two consecutive pushes meet the minimum temperature requirements for the extended coking time. An oven could be returned to the battery's general pushing schedule once the heating problem is corrected.
- Remove the oven from service for repairs if any flue temperature measurement is below the lowest acceptable minimum temperature. After

repairing the oven, follow the procedures in the written plan for returning the oven to service after the repairs are complete. Plants also must take temperature measurements within 2 hours of the scheduled pushing time. If any flue temperature measurement is below the minimum flue temperature in the plan, plants would repeat the procedures for extended coking.

No performance test would be required to demonstrate initial compliance with the work practice standards. The plant owner or operator would certify, as part of the notification of compliance status, that the facility has submitted the written plan to prevent green pushes and the supporting study to their permitting authority for review and approval, and that the plant will meet each of the requirements in the work practice standard.

Continuous compliance would be demonstrated by: (1) Measuring and recording flue temperature measurements for two ovens a day for each battery and for all ovens in each battery at least once a month, and (2) recording the time each oven is charged and pushed with the net coking time. Additional records would be required to show that the correct procedures were followed if any measured flue temperature is below the minimum flue temperature or the lowest acceptable minimum temperature.

3. Non-Recovery Coke Oven Batteries

The proposed work practice standards require plants to visually inspect each oven prior to pushing by opening the door damper and observing the bed of coke. The oven cannot be pushed unless the visual inspection confirms that there is no smoke in the open space above the coke bed, and that there is an unobstructed view of the door on the opposite side of the oven. Plants would demonstrate initial compliance by certifying in their initial notification of compliance status that they will follow the work practice standards. Continuous compliance would be demonstrated by maintaining records of each visual inspection.

4. Control Devices

We are proposing emission limits for particulate matter (PM) as a measure of control device performance. Facilities that currently use capture and control equipment must continue to use such equipment and must meet the applicable emission limitations. The proposed PM limits for a control device applied to pushing emissions from a coke oven battery are:

- 0.004 grain per dry standard cubic foot (gr/dscf) where a cokeside shed is used as the capture system.
- 0.017 pound per ton (lb/ton) of coke if a moveable hood vented to a stationary control device is used to capture emissions.
- If a mobile scrubber car that does not capture emissions during travel is used, 0.023 lb/ton of coke for a short coke oven battery or 0.010 lb/ton of coke for a tall coke oven battery.
- 0.039 lb/ton of coke if a mobile scrubber car that does capture emissions during travel is used.

Operating limits are also proposed for control devices and capture systems applied to pushing emissions. If a baghouse is used, the alarm on the bag leak detection system must not sound for more than 5 percent of the total operating time in a semiannual reporting period. If a venturi scrubber is used, the daily average pressure drop and scrubber water flow rate must remain at or above the minimum level established during the initial performance test. Two options are proposed for a capture system applied to pushing emissions: (1) Maintain the fan motor amperes at or above the minimum level established during the initial performance test, or (2) maintain the volumetric flow rate at the inlet of the control device at or above the minimum level established during the initial performance test.

The proposed rule requires a performance test for each control device to demonstrate it meets the emission limit. The concentration of PM would be measured using EPA Method 5 or 5D in 40 CFR part 60, appendix A. The proposed testing requirements also include procedures for establishing operating limits for venturi scrubbers and capture systems and for revising the limits, if needed, after the performance test. To demonstrate continuous compliance with the applicable emission limit, plants would be required to conduct performance tests for each control device at least twice during each term of their title V operating permit (at midterm and renewal).

If a baghouse is applied to pushing emissions, plants would monitor the relative change in PM loading using a bag leak detection system and make inspections at specified intervals. The basic inspection requirements include daily, weekly, monthly, or quarterly inspections of specified parameters or mechanisms with monitoring of bag cleaning cycles by an appropriate method. Each bag leak detection system must:

- Be capable of detecting PM at concentrations of 10 milligrams per actual cubic meter or less and provide an output of relative PM loading;
- Be installed and operated according to our guidance (''Fabric Filter Bag Leak Detection Guidance,'' EPA 454/R–98–015, September 1997, available on the TTN at *http://www.epa.gov/ttnemc01/cem/tribo.pdf*). If the system does not work based on the triboelectric effect, it must be installed and operated consistent with the manufacturer's written specifications and recommendations; and
- Be equipped with an alarm system that: (1) Will alert operators if PM is detected above a preset level, and (2) has a sensitivity that is never increased by more than 100 percent or decreased by more than 50 percent over a 1-year period, unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition.

To demonstrate continuous compliance with the operating limit, plants would be required to maintain each baghouse such that the operating limit is not exceeded and keep records of bag leak detection system alarms. They also would be required to keep records documenting conformance with the inspection and maintenance requirements.

If a venturi scrubber is applied to pushing emissions, plants would monitor the daily average pressure drop and scrubber water flow rate using continuous parameter monitoring systems (CPMS). The CPMS would measure and record the pressure drop and scrubber water flow rate at least once per push and determine and record the daily average of the readings. To demonstrate continuous compliance with the operating limits, plants would maintain the daily average pressure drop and scrubber water flow rate at levels no lower than those established during the performance test. Valid monitoring data must be available for all pushes. In addition, plants must keep records documenting compliance with the proposed installation, operation, and maintenance requirements for the CPMS.

For a capture system applied to pushing emissions, plants would be required to check the fan motor amperes or the volumetric flow rate at least once each 8-hour period to verify it is at or above the level established during the initial performance test and to record the results of each check.

C. What Are the Requirements for Soaking?

A work practice standard is proposed for emissions that occur when the oven is prepared for pushing by venting the oven to the atmosphere (soaking). If the gases from the standpipe do not ignite automatically, plants would be required to manually ignite the gases within 3 minutes after opening the standpipe cap.

To demonstrate initial compliance, the owner or operator would certify, in the notification of compliance status, that the work practice requirements will be met. To demonstrate continuous compliance, plants would keep records documenting the automatic or manual ignition of vented gases from each standpipe. If the gases do not ignite automatically, the records would include the time the standpipe cap is opened and the time the gases are manually ignited.

D. What Are the Requirements for Quenching?

The proposed equipment and work practice standards for quenching apply to all coke oven batteries. Plants would be required to equip each quench tower with baffles that cover at least 95 percent of the cross-sectional area, clean the baffles daily, and inspect each quench tower at least monthly for damaged or missing baffles and blockage. If the monthly inspection reveals any damaged or missing baffles, plants must repair or replace them within 1 month (i.e., before the next inspection). The proposed rule also requires plants to use clean water as makeup water.

To demonstrate initial compliance, the plant owner or operator would certify, as part of the notification of compliance status, that the equipment standard has been met and the work practice requirements will be met. To demonstrate continuous compliance, plants would be required to maintain baffles in each quench tower to meet the rule requirements and keep records documenting conformance with the work practice requirements.

E. What Are the Requirements for Battery Stacks?

The proposed opacity standards apply to all coke oven by-product batteries. The proposed rule requires plants to monitor the opacity exiting each battery stack using a continuous opacity monitoring system (COMS).

The proposed opacity limits are a daily average of 15 percent for a by-product coke oven battery on a normal coking cycle and a daily average of 20 percent for a by-product coke oven battery on battery-wide extended coking.

The proposed rule requires a performance test to demonstrate initial compliance with the applicable opacity limit. Using a COMS, plants would measure the opacity of emissions from each battery stack for 24 hours and determine the daily average. A performance evaluation is also required to show that the COMS meets Performance Specification 1 in appendix B to 40 CFR part 60.

To demonstrate continuous compliance, plants would monitor opacity using the COMS and would determine and record the 24-hour average opacity of all recorded 6-minute measurements. Other operational requirements are based on requirements in the 40 CFR part 63 General Provisions. Monthly compliance reports would also be required.

F. What Are the Operation and Maintenance Requirements?

All plants subject to the proposed rule would be required to prepare and implement a written startup, shutdown, and malfunction plan according to the operation and maintenance requirements in 40 CFR 63.6(e). Operation and maintenance plans would also be required for: (1) By-product coke oven batteries, and (2) capture systems and control devices applied to pushing emissions from any coke oven battery.

The plan for general operation and maintenance of each by-product coke oven battery would cover:

- Frequency and method of recording underfiring gas parameters and battery operating temperature;
- Procedures to prevent pushing an oven out of sequence, pushing prematurely, and undercharging or overcharging; and
- Frequency and method for inspecting flues, burners, and nozzles.

The operation and maintenance plan for capture systems and control devices applied to pushing emissions would describe procedures for monthly inspections of capture systems, preventative maintenance requirements for control devices, and corrective actions requirements for baghouses. In the event of a bag leak detection system alarm, the plan must include specific requirements for initiating corrective action to determine the cause of the problem within 1 hour, initiating corrective action to fix the problem within 1 working day, and completing all corrective actions needed to fix the problem as soon as practicable.

To demonstrate initial compliance, plants would certify in their notification of compliance status that they have prepared the plans according to the rule requirements. To demonstrate continuous compliance, plants must adhere to the requirements in the plan and keep records documenting conformance with these requirements.

G. What Are the Notification, Recordkeeping, and Reporting Requirements?

The proposed notification, recordkeeping, and reporting requirements rely on the NESHAP General Provisions in 40 CFR part 63, subpart A. Table 1 to proposed subpart CCCCC shows each of the requirements in the General Provisions (§§ 63.2 through 63.15) and whether they apply.

The proposed rule requires the owner or operator to submit each initial notification in the NESHAP General Provisions that applies to them. An initial notification of applicability with general information about the facility must be submitted within 120 days of the effective date of the final rule (or for a new affected source, 120 days after becoming subject to the rule). A notification of performance tests must be provided at least 60 calendar days before each test. A notification of compliance status must be submitted within 60 calendar days of the compliance demonstration if a performance test is required or within 30 calendar days if no performance test is required. Other notification requirements that may apply are shown in Table 1 to subpart CCCCC.

The proposed rule requires plants to maintain the records required by the NESHAP General Provisions that are needed to document compliance, such as performance test results; copies of startup, shutdown, and malfunction plans and associated corrective action records; monitoring data; and inspection records. Except for the operation and maintenance plans for by-product batteries, capture systems, and control devices, all records must be kept for a total of 5 years, with the records from the most recent 2 years kept onsite. The proposed rule requires that both operation and maintenance plans be kept onsite and available for inspection upon request for the life of the affected source or until the affected source is no longer subject to the rule requirements.

Plants would make monthly reports of any deviation from the emission limits for battery stacks. For other affected sources, semiannual reports would be required for any deviation from an emission limitation (including an operating limit), work practice standard,

or operation and maintenance requirement. Each report would be due no later than 30 days after the end of the reporting period. If no deviation occurred and no continuous monitoring systems were out of control, only a summary report would be required. If a deviation did occur, more detailed information would be required.

An immediate report would be required if there were actions taken during a startup, shutdown, or malfunction that were not consistent with the startup, shutdown, and malfunction plan. Deviations that occur during a period of startup, shutdown, or malfunction are not violations if the owner or operator demonstrates to the authority with delegation for enforcement that the source was operating in accordance with the startup, shutdown, and malfunction plan.

H. What Are the Compliance Deadlines?

The owner or operator of an existing affected source would have to comply within 24 months of the effective date of the final rule. New or reconstructed sources that startup on or before the effective date of the final rule must comply by the effective date. New or reconstructed sources that startup after the effective date must comply upon initial startup.

III. Rationale for Selecting the Proposed Standards

A. How Did We Select the Affected Source?

Affected source means the collection of equipment and processes in the source category or subcategory to which the emission limitations, work practice standards, and other regulatory requirements apply. The affected source may be the same collection of equipment and processes as the source category or it may be a subset of the source category. For each rule, we must decide which individual pieces of equipment and processes warrant separate standards in the context of the CAA section 112 requirements and the industry operating practices.

We considered three different approaches for designating the affected source: The entire coke plant, groups of emission points, and individual emission points. We did not designate the entire coke plant as the affected source because this broad approach would require us to establish the MACT floor by the total HAP emissions indicative of best-performing facilities. Applying a single MACT floor to groups of processes and fugitive emission points would be impracticable.

We concluded that designating the group of emission points associated with the coke oven battery as the affected source is the most appropriate approach. The battery is the basic operating unit for the emission points covered under the proposed rule, and the overall condition and operation of the battery has a direct effect on emissions from pushing, quenching, and battery stacks. This is also consistent with previous State and Federal rules for cokemaking operations.

In selecting the coke oven battery as the affected source for regulation, we identified the HAP-emitting operations, the HAP emitted, and the quantity of HAP emissions from the individual or groups of emission points. As a result, the proposed rule includes emission limits or standards for the control of emissions from pushing, soaking, quenching, and battery stacks.

B. How Did We Select the Pollutants?

Coke oven emissions are the dominant HAP emitted from pushing, soaking, quenching, and battery stacks. We decided to establish standards for opacity as a surrogate for coke oven emissions from pushing and battery stacks. For control devices applied to pushing emissions, we established standards for PM as a measure of the level of performance of the equipment.

Opacity limits have traditionally been used in State and Federal standards because of the strong correlation to PM. In addition, there is no practical way to capture and measure all of the specific HAP compounds in fugitive pushing emissions. Standards for opacity also limit coke oven emissions, and opacity provides a measure of battery performance in terms of minimizing the frequency of green pushes.

For control devices applied to pushing emissions, PM standards provide a meaningful measure of the device's level of performance, and PM is easily measured using EPA reference methods. The technologies that control PM achieve comparable levels of performance for coke oven emissions. Therefore, good control of PM will also generally achieve good control of coke oven emissions.

C. How Did We Determine the Bases and Levels of the Proposed Standards?

Pushing From By-Product Batteries with Vertical Flues

Coke oven emissions occur during pushing from incomplete coking, which results in a ''green'' push. Green pushes can be caused by overcharging an oven, cold flues due to plugging or poor combustion, non-uniform heating, and cold spots on the ends of ovens. Emissions from green pushes range from moderate (relatively small amounts of green coke) to severe (large amounts of green coke). Green pushes generate voluminous plumes of emissions that can overwhelm the capture systems which are used to control the comparatively small amounts of PM emissions during ordinary operation. Consequently, capture and control systems used for PM emissions from pushing are only marginally more effective, for example, no more than 10 percent for movable hoods on severely green pushes.

The most effective measures for purposes of reducing HAP emissions from pushing are to: (1) minimize the frequency of green pushes by implementing a preventative maintenance program for the battery, and (2) implement work practices that include diagnostic procedures to identify the cause of green pushes and to trigger corrective actions to prevent recurrence. Batteries that have implemented these procedures on a continuing basis have few green pushes and, thus, substantially lower levels of HAP emissions. Once such measures have been implemented, the remaining HAP benefits of capture and control are substantially lessened.

State and local regulations limit opacity from batteries during pushing using different formats. One of the most common formats is the average opacity of four pushes determined from the six highest consecutive opacity readings taken at 15-second intervals. This format is consistent with Method 9 in appendix A to 40 CFR part 60. Other batteries have opacity limits based on a single push, and some have limits based on any instantaneous opacity observation.

We obtained opacity data for pushing from State agencies and several coke plants with vertical flues. Although the data are in different formats, we were able to use the data to identify batteries that are low emitters and have only infrequent green pushes. We gathered additional opacity data from the low-emitting batteries that we had identified. An important part of the data collection effort was to use a consistent methodology for the opacity observations to allow us to compile all of the data on a uniform basis. The data were collected using EPA Method 9 and analyzed based on the six highest consecutive 15-second readings per push. Observations were made from the time coke began to fall from the oven until the quench car entered the quench tower.

We analyzed data from 15 well-controlled batteries at eight coke plants. The batteries have different combinations of oven height and type of underfiring systems. Eight are four-meter gun flue batteries, three are four-meter underjet batteries, and four are six-meter underjet batteries. The number of pushes observed for each battery ranges from 45 to 1,539 with a total of 3,630 data points. We examined the frequency of high opacity pushes and concluded that this group of batteries represents good performance in terms of minimizing green pushes. For example, the average opacity per push never exceeds 30 percent for nine of the short batteries, and the other two short batteries exceed 30 percent only once. Two of the tall batteries never exceed 35 percent, and the other two exceed it only once.

In general, the opacities during pushing for tall batteries are higher than those for short batteries. This is due to the longer flame height needed in tall batteries that makes uniform heating more difficult. In addition, the greater height of fall of the coke from a tall oven can result in more visible emissions. Consequently, we developed separate subcategories for short and tall batteries. We also examined underfiring systems and found no difference in the performance of gun flue and underjet systems.

We investigated the technology used at these good performing batteries to minimize the frequency of green pushes. This information was collected from site visits, discussions with industry experts, a survey of industry practices, and publications. There are two important components of the technology—routine operation and maintenance procedures for the general battery and a work practice program for green pushes.

A good operation and maintenance program includes several elements that help prevent green pushes. These include checking coal properties (bulk density and moisture) to prevent overcharging an oven or undercoking wet coal, checking flue temperatures and cleaning flues and burners to avoid cold flues, documenting coking time and following the pushing schedule to avoid pushing an oven early, and operating the underfiring system properly to ensure complete coking. When a green push occurs, diligent work practices are initiated to identify the cause of the green push and to take corrective actions to fix the problem. Corrective actions may include cleaning blocked flues or burners, placing an oven on an extended coking time, or repairing a damaged oven.

We conclude that batteries that are implementing this technology are successful in minimizing the frequency of green pushes. Furthermore, because at least 15 of 58 batteries (more than 12 percent) use these procedures, we conclude that this is the floor technology for fugitive emissions from pushing.

We also examined opportunities for a level of control beyond the floor. It is our opinion that capture and control systems applied to pushing emissions do not contribute materially to the control of HAP emissions from green pushes. Consequently, we conclude that the floor, which is based on the technology for minimizing the frequency of green pushes, represents MACT for new and existing sources.

We are proposing two distinct options for the implementation of standards and other requirements for pushing. One is an opacity standard, and the other is a work practice standard.[1] We are considering an opacity limit because most State regulations include opacity limits. We are considering a work practice standard because we believe that it may provide a more effective means of ensuring that proper corrective action is taken to avoid green pushes. We request comments on the two options. After consideration of comments on these options, we will promulgate one of these options or a combination of the two options.

The format for the proposed opacity limit is the average opacity of four consecutive pushes (based on the six highest consecutive 15-second observations during each push) using Method 9 in 40 CFR part 60, appendix A. This format can accommodate an occasional (unavoidable) green push if the other pushes are well controlled, and it is consistent with the 6-minute average (24 observations) typically used for Method 9.

We analyzed our database described earlier based on the averages of four pushes. For short batteries, more than 99 percent of the averages of four pushes are less than 20 percent opacity. For tall batteries, more than 99 percent of the averages of four pushes are less than 25 percent. The database shows that these opacities have been achieved by batteries using MACT, and these opacities are used as the standard for the opacity limit option.

We also considered an opacity limit based on a 30-day rolling average. However, a 30-day rolling average does not provide a good distinction between well-controlled and poorly-controlled batteries, and it is not effective in achieving our goal of minimizing green pushes.

The proposed work practice standard has an opacity level per push that triggers diagnostic procedures and corrective actions when exceeded. We chose the average opacity per push rather than averaging over multiple pushes because the goal of the work practice standard is to identify a problem oven that produces a green push. Once a problem oven is identified, diagnostic procedures to determine the cause are initiated and corrective actions are taken to fix the problem.

We analyzed our data for the group of well-controlled batteries previously described based on the average opacity per push to characterize the frequency of green pushes. We examined potential trigger levels of 20, 25, 30, and 35 percent. The batteries that were well-controlled have several pushes that exceed 20 and 25 percent, and we do not believe that these opacities represent a green push. However, opacities of 30 and 35 percent occur when there are high individual opacity readings characteristic of green coke. In addition, these opacities are seldom exceeded by well-controlled batteries. Nine of the short batteries do not exceed 30 percent opacity, and the other two exceed 30 percent only once. Similarly, two of the four tall batteries do not exceed 35 percent opacity, while the other two exceed 35 percent once. Consequently, we selected opacity triggers of 30 percent for short batteries and 35 percent for tall batteries. These levels are appropriate as a trigger to identify a problem oven and to initiate corrective actions.

We also considered what amount of time would be appropriate to investigate the cause of a green push, perform repairs or corrective actions, and demonstrate that the problem has been corrected. We decided that the time limit should be based on a number of pushes to compensate for differences in coking time for furnace and foundry coke batteries. We believe 15 pushes is a reasonable estimate of the maximum time required after considering that about half of the pushes can occur at night when it is more difficult to assess greenness and impossible to perform Method 9 observations. We transformed the estimate of 15 pushes to a number of days to be calculated from the battery's coking time (15 pushes × coking time in hours/24 hours = 0.63 × coking time).

[1] CAA section 112(h) allows the establishment of work practice standards in lieu of emission standards when pollutant specific emission standards are not feasible (such as in the case of fugitive pushing emissions when they are not captured and confined in a conveyance).

We selected EPA Method 9 in 40 CFR part 60, appendix A, for opacity observations to be consistent with the test data used to develop the proposed standard. We chose initial compliance provisions that would use this method for both the emission limit option (Option 1) and the work practice standard (Option 2). For the emission limit option, four consecutive pushes must be observed using EPA Method 9. Initial compliance is demonstrated if the average for the four pushes is below the limit.

For the work practice option, initial compliance is demonstrated through observation of the four requisite pushes. If any push exceeds its opacity trigger, the oven-directed procedures must be implemented to demonstrate initial compliance.

Daily vigilance is required to prevent green pushes and to take corrective actions when they occur. Consequently, we conclude that daily inspection of four consecutive pushes per battery would be needed to demonstrate continuous compliance and to ensure that green pushes were identified. Compliance with the opacity limit option must be determined daily.

The work practice option also requires the daily inspection of four consecutive pushes per battery to demonstrate continuous compliance. If the opacity trigger is exceeded for any push, continuous compliance must be demonstrated by diagnosing the cause of the problem, assigning the problem oven to the oven-directed program, taking appropriate corrective actions, and demonstrating that the problem has been corrected by two subsequent opacity observations that are below the trigger.

• Pushing From By-product Batteries With Horizontal Flues

The vast majority of by-product batteries in the U.S. have vertical flues (56 out of 58 batteries). Two batteries in Holt, AL, however, have horizontal flues that materially affect pushing emissions and possible approaches to regulation. Both are Semet Solvay batteries with an antiquated design built in the early 1900's. Battery 1 was built in 1903 and is comprised of 40 ovens, and Battery 2 was built in 1913 and has 20 ovens. We are establishing a subcategory for batteries with horizontal flues because of unique physical and operational differences from vertical flue batteries.

Unlike vertical flue batteries which include 25 to 37 individual flues along each oven wall, the flue system of the Semet Solvay design includes only five horizontal flues which convey the combustion gases from top to bottom in serpentine fashion. Because the hot combustion products flow from one flue to the next, the heat control of each upper flue materially affects the heating conditions in the next flue down. Each flue in the horizontal design affects a larger percentage of the total coke mass than for the vertical flue design. Consequently, the occurrence of a heating or combustion problem in any of the single horizontal flues could have a significant adverse effect on the degree and uniformity of coking across the entire length of the coke bed.

As with other types of coke oven batteries, the primary source of HAP emissions from batteries with horizontal flues is the occurrence of green pushes. To develop MACT for batteries with horizontal flues, we visited the plant and held discussions with plant personnel to learn more about their operation and how the production of green coke could be minimized. Both existing batteries currently use a combination of coking time and flue temperature controls and routine operation and maintenance to control HAP emissions. The most important factor affecting the production of green coke is a combination of coking time and flue temperature. If the flue temperature is too low at a given coking time, green coke will be produced. Consequently, we find that monitoring flue temperatures and coking time and taking corrective actions if the temperature is too low is the MACT floor for batteries with horizontal flues. Temperature measurements are made prior to the push, and if a low temperature is detected, the coking time is extended to prevent a green push. Routine operation and maintenance include monitoring underfiring gas parameters and adjusting as necessary; implementing procedures to avoid pushing out of sequence, pushing prematurely, or overcharging an oven; and routine inspection of flues, burners, and nozzles. We know of no practical approach to setting an emission limitation that could be feasibly implemented or enforced that would result with the same degree of assurance in emission reductions to that achieved by these work practices. Consequently, these work practices are also the MACT floor for new units.

We are proposing a work practice standard for batteries with horizontal flues. The standard implements MACT by requiring that the temperature of all of the flues on two ovens in each battery be measured each day, and that the temperature of all flues in each oven must be measured at least once per month. The plant must perform a study to establish minimum flue temperatures to prevent green pushes, and the results must be documented in a plan that is submitted for approval to the applicable permitting authority. The study must include consideration of different means for determining the minimum flue temperatures, such as the percent volatile matter in the coke, the color of emissions, the density and duration of emissions, and whether emissions continue during quench car travel. The study must also establish the time and lowest acceptable minimum temperature correlation for which extended coking can be used. This minimum represents the lowest temperature at which coal can reasonably be expected to be fully coked no matter how long the coking time is. If flue temperatures fall below this minimum, the oven must not be charged with coal again until the problem is corrected.

If the flue temperatures are less than the established minimum for the oven's coking time, the coking time of the oven must be extended by an amount prescribed in the plan prior to pushing to prevent a green push. Oven-directed procedures must be used to find the cause of the low temperature and to correct the problem. The flue temperatures must be measured on any oven placed on extended coking prior to the next two consecutive pushes to ensure that the problem has not worsened. If any flue temperature is below the lowest minimum for complete coking established in the plan, the oven must be removed from service.

We developed initial compliance provisions that are consistent with the work practice standard. We require that the work practice plan and supporting documentation be submitted to the applicable permitting authority for review and approval. As part of a plant's notification of compliance status, we require a signed statement certifying that the flue temperatures of two ovens will be measured each day, and the flue temperatures on all ovens will be measured at least once per month.

Daily vigilance is required to prevent green pushes and to take corrective action when they occur. Consequently, we conclude that daily measurements of the flue temperatures of two ovens per battery would be needed to demonstrate continuous compliance. In addition, temperature measurements must be made on each oven at least once per month. We require that a plant keep all necessary records documenting conformance with the work practice plan and that the records be made available to the permitting authority upon request.

• Pushing From Non-recovery Batteries

Non-recovery coke oven batteries differ from by-product coke oven batteries both physically and operationally. Physically, the ovens that comprise non-recovery batteries are horizontal in configuration (short and wide) unlike the vertically configured slot ovens (tall and narrow) used in the by-product recovery design. In addition, non-recovery batteries have no underfiring systems and do not burn clean coke oven gas for heating. Rather, non-recovery batteries are heated by the complete combustion of the raw gases evolved during the coking process in the free space above the coke bed and in flues in the oven walls and floors.

The principal difference operationally is that the non-recovery batteries are maintained at all times under negative pressure rather than positive pressure. This results in the virtual elimination of door leaks and, relative to limiting pushing emissions, allows for the visual inspection of the coke mass throughout the coking cycle including just prior to pushing. If the coal is not fully coked, the coking time can be extended to avoid a green push. In addition, PM emissions are lower from non-recovery ovens because the height of fall of the coke mass is about 50 percent less than that of by-product ovens. Based on these dissimilarities and their effect on emissions, we conclude that it is appropriate to establish separate requirements for non-recovery batteries.

There are two non-recovery coke plants in the U.S., one in Vansant, VA with six batteries and another in East Chicago, IN with four batteries. Both plants have cokeside sheds. At the Vansant plant, the sheds act as large settling chambers with no ventilation. The four East Chicago batteries are equipped with sheds that are ventilated along the entire length of the battery to baghouses for particulate control.

The MACT floor for non-recovery batteries is based on the control measures used at both plants to prevent green pushes. Prior to each push, a small door (oven damper) on the oven is opened, and the bed of coke is observed to determine whether it is fully coked. This is possible because the oven configuration provides an unobstructed view of the free space across the entire length of the coke bed. If the oven is not fully coked (as indicated by smoke or an obstructed view of the opposite side of the oven), the coking time is extended, and the oven is not pushed until coking is reasonably complete. We believe that this pollution prevention control measure provides the most effective demonstrated approach to reducing, if not virtually eliminating green pushes. Therefore, we conclude that the inspection of each oven prior to pushing, coupled with extended coking if needed, constitutes the floor technology for both new and existing non-recovery coke oven batteries. We know of no practical approach to setting an emission limitation that could be feasibly implemented or enforced that would result with the same degree of assurance in emission reductions to that achieved with a work practice standard.

To implement MACT, we selected a work practice standard to minimize the frequency of green pushes that requires use of the control measures associated with the MACT floor. Specifically, each oven must be inspected prior to each push, and ovens may be pushed only if there is no smoke in the open space above the coke bed and there is an unobstructed view of the door on the opposite side of the oven. If these conditions do not exist (indicating incomplete coking), the coking time must be extended.

We developed initial compliance provisions that are consistent with the work practice standard. As part of a plant's notification of compliance status, we require a signed statement certifying that each oven will be inspected prior to pushing and that the oven will be pushed only if coking is complete.

We developed continuous compliance provisions to ensure that plants keep all necessary records verifying that each oven is inspected prior to pushing, and that ovens are pushed only if coking is complete. We require that records be made available to the permitting authority upon request.

• Capture and Control Systems

In addition to good operating and maintenance practices to prevent green pushes, most batteries are equipped with capture and control systems for routine PM emissions from pushing. There are 30 control devices applied to pushing emissions at 56 coke oven batteries, and there are three combinations of capture and control systems used. The most common capture system is a moveable hood. There are 19 moveable hood systems. Sixteen moveable hood systems serving 30 batteries are vented to a baghouse, and three systems serving four batteries are vented to a venturi scrubber. There are 15 batteries equipped with cokeside sheds that enclose the entire length of the battery and are served by six baghouses. There are six batteries equipped with cokeside sheds that serve as settling chambers and are not ventilated. Seven batteries are equipped with mobile scrubber cars which transport venturi scrubbers. Six batteries do not have capture and control systems.

Most of these capture and control systems were installed as a result of State implementation plan requirements to limit PM emissions in nonattainment areas. Most HAP emissions from pushing occur as a result of pushing moderately green to severely green coke. During such an event, capture systems designed and installed primarily to address routine PM emissions from non-green pushes are typically overwhelmed. Visual observations indicate that the capture efficiency during a moderately to severely green push is poor with significant amounts of fume and smoke escaping capture both during the actual push and during quench car travel. The only control measure that has been demonstrated to be effective at mitigating these emissions is eliminating or minimizing the frequency of green pushes.

While it is reasonable to expect that the current use of capture and control systems for purposes of reducing PM emissions also results in some HAP emission benefits, we do not have sufficient data regarding capture effectiveness to quantify these benefits. However, any HAP emission benefits from the use of capture and control equipment must result primarily from the reduction of emissions during moderately to severely green pushes (when significant amounts of HAP emissions typically occur). Accordingly, any HAP emission benefits of capture and control systems are rendered less significant (and less certain) by the adoption of requirements aimed at eliminating or minimizing the frequency of green pushes. That is, when a coke mixture is fully coked (i.e., in the absence of green pushes) there are very little HAP emissions during pushing, because most HAP have been removed from the coke mixture and converted to other useful products through a by-product recovery process or combusted in order to provide heat energy for the coking process. Therefore, very little HAP emissions are captured and, overall, there is no significant additional reduction in the emissions of HAP. Consequently, we are unable to identify HAP emission benefits that would be useful for purposes of evaluating the individual or relative performance of different types of capture and control equipment applied to pushing. For these reasons, we do not believe that it is appropriate at this point to include capture and control systems as a

component of the MACT floor for pushing.

Nonetheless, we believe that it is appropriate for owners and operators of coke oven batteries to operate such facilities, at all times, in a manner consistent with good air pollution control practices. We believe that this includes the proper operation of any capture and control systems. Therefore, we believe that it is appropriate for us to establish requirements to ensure proper operation of such systems and to ensure that these control devices perform within reasonable limits wherever such systems are installed. Such operational limitations will help to minimize emissions from coke oven batteries to the level contemplated by the MACT floor, by mitigating the impact of occasional green pushes. Accordingly, it is appropriate for these limits to differ depending on the type of capture system being used.

We believe that the best measure of proper operation for capture and control equipment is emissions performance. Therefore, in order to ensure proper operation of such equipment, we are proposing emission performance requirements for capture and control equipment applied to pushing.

We considered the design and operation of the capture and control systems in developing emission limits. Two important distinctions evident between moveable hoods and cokeside sheds are their method of operation and ventilation rate. Sheds are ventilated at all times while moveable hoods are ventilated only during pushes (about 2 minutes every 10 to 20 minutes). Sheds have much higher ventilation rates (150,000 to 480,000 actual cubic feet per minute (acfm)), and they capture emissions from door leaks as well as pushing. Another difference is that many moveable hood systems mix cooling air with the hot gases from pushing prior to treatment in a baghouse. These differences can have a significant influence on the selection of the format most appropriate for the type of capture and control system regulated.

Most moveable hood systems are subject to existing PM emission limits expressed in lb/ton of coke pushed. This format is more appropriate than a concentration format (gr/dscf) for several reasons. Both pounds emitted and the quantity of coke produced during an EPA Method 5 (40 CFR part 60, appendix A) test run can be determined with reasonable accuracy while sampling over several pushes. These measurements are not dependent on how long the ventilation fan is running before or after the push or the amount of ambient air that is admitted to cool the gases prior to the baghouse. On the other hand, concentration is not a meaningful measure of performance for this type of system because the resulting measurement can be quite variable depending on how the system is operated and when sampling is started and stopped. For example, if the fan runs longer or more cooling air is admitted, the resulting concentration measurement will be lower. Consequently, we selected a lb/ton format as the most appropriate for moveable hood systems that ventilate only during the push.

A concentration format is more appropriate for cokeside sheds than a lb/ton format. Because cokeside sheds ventilate continuously and capture emissions from points other than pushing, performance is much less dependent on the quantity of coke pushed. In this case, concentration can be determined with reasonable accuracy because the ventilation rate is continuous and relatively constant. In addition, concentration has been used in many State and Federal regulations because it has been shown to be one of the best measures of control performance for a baghouse, which is the type of control device used on sheds. For these reasons, we conclude that a concentration format (gr/dscf) is the most appropriate for control devices used on cokeside sheds.

We have source test data for three of the six coke plants that use cokeside sheds and baghouses. The data consist of three individual test runs per baghouse. All three baghouses are similar in design and operation (i.e., pulse jet units with polyester bags, operated at air-to-cloth ratios of 5 to 5.5 acfm/ft_2). The test results for one plant range from 0.001 to 0.004 gr/dscf and average 0.003 gr/dscf. The three runs conducted at another plant range from 0.003 to 0.004 gr/dscf and average 0.004 gr/dscf. Results for the third plant range from 0.002 to 0.003 gr/dscf and average 0.002 gr/dscf. Considering that all three baghouses are designed and operate similarly, the highest three-run average recorded is 0.004 gr/dscf, and no individual test run exceeded 0.004 gr/dscf, we conclude that an appropriate limit for the proposed standard is 0.004 gr/dscf. This limit accounts for variability in the performance of the control technology and represents the level of performance that has been demonstrated to be achievable by these units using the MACT.

As discussed previously, the most common capture and control system for pushing emissions is a moveable hood that is ducted to a stationary (land-based) control device, usually a baghouse. These systems have a hood that is usually moved along the battery by a belt system. During pushing, the moveable hood is connected to a fixed duct that evacuates the gases to the stationary control device. Evacuation rates range from about 100,000 to 150,000 acfm. Some of these systems cool the hot gases from pushing by mixing with ambient air prior to the baghouse.

We have test data on control devices serving 12 of 19 moveable hood systems, 12 are baghouses and one is a land-based venturi scrubber. The baghouses are mostly pulse jet units and operate at air-to-cloth ratios of 5 to 6 acfm/ft_2. The venturi scrubber is a medium to high energy unit, operating at a pressure drop of 50 to 60 inches of water.

The test results for the 12 systems are quite variable from plant to plant and among individual runs at a single plant. Five of the tests averaged less than 0.010 lb/ton, and eight averaged 0.010 to 0.017 lb/ton. The two baghouses with the highest three-run averages averaged 0.016 and 0.017 lb/ton, respectively. Both are pulse jet units that are similar in design and operation to the other baghouses with lower recorded average emissions. Since we are unable to draw any meaningful distinctions between the lower and higher emitting units, we can only conclude that the higher test results represent normal variability under a reasonable worst situation. Therefore, we conclude that a limit of 0.017 lb/ton is appropriate for a standard for a moveable hood vented to a stationary control device, and we have selected this limit for such units.

Mobile scrubber cars are operated at five plants and serve seven batteries. During pushing, the hood is positioned above the quench car, the scrubber car air mover is activated, and the gases are pulled through the scrubber and are subsequently discharged to the atmosphere. Two of the five scrubber cars that serve three batteries have the hood affixed to the mobile scrubber car which is coupled to the quench car. This allows operation and capture both during pushing and travel to the quench tower. The other three scrubber cars serving four batteries have hoods affixed to the coke guide and door machine and cannot travel to the quench tower. Ventilation rates are on the order of 40,000 to 70,000 acfm. These rates are about half those used for the moveable hoods with land-based controls.

We have test data for all five mobile scrubber cars. The test data indicate that emissions, expressed in lb/ton of coke, are affected by both oven size, and whether emissions are captured only

during pushing or during pushing and travel. The test data indicate that mass rate (lbs/hr) emissions are not affected materially by oven size. However, since six-meter batteries produce about twice as much coke per oven as do smaller four-meter batteries, emissions, adjusted for production, must of necessity be substantially lower for tall batteries than for short batteries.

When emissions are captured during pushing and travel as opposed to pushing only, the scrubber operates on average about 1.5 to 2 minutes longer than for pushing only (about 1.5 minutes). Operating capture and control equipment for a longer time will result in more PM collected per pushing event and thus, of necessity, result in a higher value in the lb/ton format for pushing and travel versus pushing only. Consequently, we are developing emission limits for mobile scrubber cars to accommodate three variations that affect emissions: Tall batteries, short batteries, and batteries that capture during both pushing and travel.

We have data from five tests of two identical scrubber cars that serve two six-meter batteries at the Gary, IN plant. These five tests include three runs each and were conducted over a 15-year period spanning 1982 to 1997. The three-run averages range from 0.002 to 0.010 lb/ton. The average value is 0.005 lb/ton. Considering the variability in three-run averages, we conclude that an appropriate limit for tall batteries with mobile scrubber cars, as evidenced by the test data obtained for the Gary plant, is 0.010 lb/ton which is the highest three-run average recorded.

We have data from three tests of a scrubber car that does not capture during travel and serves two short batteries at a plant in Erie, PA. These three tests are comprised of two runs per test and span 3 recent years. The two-run averages are 0.015, 0.017, and 0.023 lb/ton. Given that we have no basis to conclude that the variation shown in these results represents anything other than normal variability, we conclude that an appropriate limit for short batteries with mobile scrubber cars is 0.023 lb/ton. This limit has been demonstrated achievable during three separate tests over a 3-year period.

We have data for three batteries served by two scrubber cars that capture and control emissions during both pushing and travel at plants in Warren, OH and Granite City, IL. Two tests at one battery averaged 0.011 to 0.026 lb/ton, and three tests conducted on a scrubber car serving two batteries averaged 0.026 to 0.039 lb/ton. These scrubber cars are similar in design and operation, and both capture emissions during travel to the quench tower. Considering the similarity in operation of the scrubber cars and the variability in three-run averages, we conclude that an appropriate limit for mobile scrubber cars that also capture and control emissions during travel is 0.039 lb/ton. This limit has been achieved during five tests conducted at three batteries over a 20-year period.

We chose initial compliance provisions that require EPA Method 5 in 40 CFR part 60, appendix A, to determine compliance. Operating limits for scrubbers (pressure drop and scrubber water flow rate) and capture systems (volumetric flow rate or fan amperes) must be established during the initial compliance test. The pressure drop and water flow rate for scrubbers must be measured at least once per push during each run of the initial compliance test and averaged across each run. The operating limits are the lowest average values during any run that meets the applicable emission limit. The volumetric flow rate or fan amperes must be recorded for each push during each run of the initial compliance test. The operating limit is the second lowest value recorded during any run that meets the applicable emission limit.

To demonstrate continuous compliance with the emission limit, we require PM tests no less frequently than twice (at mid-term and renewal) during each term of the title V operating permit. We believe this frequency is appropriate because we are requiring continuous or periodic monitoring of capture and control systems to ensure they are operating properly. For baghouses, we chose continuous monitoring by a bag leak detector to ensure that corrective actions are taken when a leak occurs. The alarm must not sound for more than five percent of the operating hours in a semiannual reporting period. For scrubbers, we require that the pressure drop and scrubber water flow rate be monitored during each push to ensure that they are within the operating limit established during the initial performance test. The volumetric flow rate or fan amperes must be checked every 8 hours to ensure the capture system continues to operate as it did during the initial performance test.

- Soaking

Emissions from soaking are most pronounced when green coke is produced. Consequently, the technology for fugitive pushing emissions that minimizes the frequency of green coke will also reduce emissions from soaking. However, most batteries also perform other procedures that reduce emissions from soaking.

We reviewed the work practices at well-controlled batteries to determine the MACT floor for soaking operations. Most batteries have work practices in place to ensure that the gases from open standpipes are ignited during soaking. For example, survey responses show that 26 of the 58 by-product batteries (more than the top 12 percent) have procedures to manually ignite the gases from the standpipe if they do not self ignite. Consequently, we determined that the floor and MACT for soaking for both new and existing units are a work practice standard that ensures that gases vented from the oven are ignited. We chose a time limit of 3 minutes after the standpipe cap is opened to manually ignite if necessary because it provides sufficient time for the topside worker who opened the standpipe to ignite the gases. Compliance is demonstrated through the maintenance of records that document conformance.

- Quenching

Quenching emissions escape through quench towers with huge steam plumes that are released when hot incandescent coke is deluged with water. It is not feasible to capture or measure these emissions. Consequently, as allowed under section 112(h) of the CAA, we developed a quenching standard that is based on design, work practice, and operational requirements.

We reviewed all current State regulations for quenching and determined that all quench towers are subject to design and operational standards. Most regulations prohibit the use of untreated wastewater as make-up water for quenching, require the use of baffles for grit elimination, and include minimum specifications for baffle coverage. These requirements are consistent with our objectives to eliminate the use of dirty hydrocarbon-laden water (as make-up water for quenching) and to improve grit elimination.

Most States also limit total dissolved solids (TDS) in the make-up water used for quenching. The TDS limits range from 500 to 1600 milligrams per liter (mg/L). We believe that a TDS limit is unnecessary to control HAP emissions during quenching because the primary contributor of HAP emissions during quenching is wastewater contaminated with organics from the by-product plant, and solids in the wastewater are not a source of HAP emissions except for trace metals.

We surveyed all coke plants to determine what plants are doing to control quenching emissions. We found

that more than the top 12 percent were implementing specific work practices and equipment requirements. Of the 43 existing quench towers, 40 have baffles, 22 have the baffles cleaned daily, 21 are subject to a TDS limit, 18 have the baffles inspected monthly, and at least 12 have baffles that cover 95 percent or more of the cross sectional area of the tower. Although only four of the eleven States with coke plants ban the use of untreated wastewater, no plants currently use untreated wastewater as make-up water for quenching.

Based on our assessment of the survey results, we conclude that the MACT floor is as follows: (1) Using clean water (i.e., a prohibition of the use of untreated wastewater) as make-up water for quenching, (2) installing baffles that cover at least 95 percent of the cross sectional area of the quench tower (i.e., no more than 5 percent of the cross sectional area of the tower may be uncovered or open to the sky), (3) cleaning baffles daily, (4) inspecting baffles monthly for damaged or missing baffles and blockage, and (5) repairing or replacing any damaged or missing baffles within 1 month. A TDS limit is not included in the MACT floor because we do not believe one is necessary as discussed previously. No plants implement control measures more stringent than this floor, and no such more stringent controls are available and practicable. Consequently, there is no technology beyond the floor. We conclude that the floor is MACT for existing plants and for new plants since the best controlled similar plants are existing plants that implement MACT.

The standard for quenching prohibits the use of untreated wastewater (i.e., dirty water) as make-up water for quenching and requires the installation and maintenance of baffles.

We developed initial compliance provisions that are consistent with the design, work practice, and operational requirements. As part of a plant's notification of compliance status, we require a signed statement certifying that: (1) Only clean water will be used as make-up water for quenching, (2) each quench tower is equipped with baffles that cover at least 95 percent of the cross sectional area of the tower, (3) the baffles will be cleaned at least daily, (4) each quench tower will be inspected monthly for damaged or missing baffles and blockage, and (5) all necessary repairs will be made and any damaged or missing baffles will be repaired or replaced within 1 month (i.e., before the next inspection).

We developed continuous compliance provisions to ensure that plants keep all necessary records verifying that baffles are maintained. The records must be available at any time for inspection.

- Battery Stacks

There are 53 battery stacks that serve 58 batteries. Five plants have a pair of batteries served by one stack, and all other stacks are associated with a single battery. Battery stack emissions occur when raw coke oven gas leaks through oven walls into flues and when there is poor combustion in the underfiring system. Emissions from stacks are usually most noticeable when ovens are charged with coal. Elevated opacity values occur due to the substantial and sudden increase in oven pressure and the resulting leakage of raw coke oven gas into the flue system. The intensity and duration of the in-leakage and impact on stack opacity is a direct result of the physical condition of the oven walls and presence of sealing carbon.

Coke oven emissions from battery stacks are controlled by good operation and maintenance which includes using a COMS in the stack. Good operation and maintenance involves identifying problem ovens that produce high stack opacity emissions when ovens are charged, diagnosing problems, and repairing ovens or adjusting the underfiring system. No batteries currently use add-on control devices for control of emissions from battery stacks.

Most State and local regulations include opacity limits for battery stacks. Examples are 20 percent opacity on six-minute averages, 20 percent opacity for 3 minutes per hour with a cap of 60 percent, and 30 percent opacity with a cap ranging from 30 to 60 percent for 8 minutes per hour. Many require the operation of COMS for diagnostic purposes and as performance indicators. Some States and local agencies also require the use of COMS for continuous compliance determinations.

Based on information from an industry survey and site visits, we determined that the batteries in Burns Harbor, IN and Clairton, PA use good operation and maintenance coupled with COMS to control stack emissions. These data represent the performance of 10 batteries—two at Burns Harbor and eight at Clairton. Battery stacks at both plants use COMS that trigger an alarm when the opacity suddenly increases. The oven that is charged when the alarm sounds is investigated for flue leakage and combustion conditions (flame characteristics, gas pressure, stack draft), and corrective actions are taken as needed. Minor repairs may include spray patching or silica dusting; and if the problem is severe, the oven may be taken out of service for more rigorous repairs including ceramic welding, brick replacement, or repair of the entire oven (e.g., end flue or through wall repairs).

Routine and preventative maintenance are also important control measures and include a daily inspection of flues and walls, cleaning gas piping, checking the reversing mechanism and flue combustion, and measuring flue temperatures. If the removal of excess carbon results in inadequate carbon to seal cracks, the oven wall is sprayed before being charged with coal.

Based on the control measures used by the top 12 percent of units for which we have data, the control measures associated with the MACT floor are good operation and maintenance (as described above) combined with COMS.

No plants implement control measures more stringent than this floor. For example, no plants currently use add-on control devices to treat the emissions from the battery stack. Consequently, we conclude that this is the MACT floor for both new and existing units.

In order to determine what emission limitation is achievable using the control measures associated with the MACT floor, we examined available opacity data for the units using these measures. We analyzed data for batteries with various underfiring systems and battery heights. Specifically, we analyzed data for two tall (six-meter) batteries at a coke plant in Burns Harbor, IN. Data for one tall battery cover a continuous period of 50 months, and data for the other tall battery cover a continuous period of 65 months. We also analyzed data for an 18-month period for eight batteries at another plant in Clairton, PA (seven short four-meter batteries and one tall battery).[2] The daily average opacity rarely exceeds 15 percent for any battery. These data

[2] We also analyzed COMS data for four batteries at a plant in Gary, IN. We did not use these data, however, because we do not believe they represent periods of good systematic operation and maintenance associated with MACT. Some periods of several days of high opacity were documented as caused by cracks or holes in a single oven's walls. Good operation and maintenance would have resulted in the oven being repaired or taken out of service rather than continuing for several days. We found that several days of COMS readings that had not been flagged as invalid were due to a COMS malfunction. Other high opacity readings exist for these batteries, and while we do not have specific information concerning the cause of other such readings, we expect (based on the above information) that they may have been due to problems with the COMS, or other operation and maintenance issues. In any event, the information available to EPA suggests that these batteries did not consistently utilize the operation and maintenance techniques associated with the MACT floor. For these reasons, we do not believe the data for these batteries should be included in the MACT floor analysis.

indicate that each of these batteries is well controlled for stack emissions.

These batteries are representative of the various types of batteries in the U.S. in terms of oven height, types of underfiring systems, and battery age. They include both underjet and gun flue systems, oven heights that range from four to six meters, and battery ages from 6 to 46 years. The data also include temporal effects because they cover at least a 1-year period, and for two batteries cover a 4- to 5-year period.

We examined the data to determine if there are differences in performance associated with oven height and type of underfiring system. Seven short batteries averaged 1 to 4 percent opacity, and three tall batteries averaged 3, 4, and 5 percent opacity. The average opacities of the short and tall batteries overlap, and there is no significant difference in the level of control that is achieved. Similarly, there is no difference in performance between underjet and gun flue underfiring systems.

We evaluated several averaging times to determine an appropriate one for the standard. We determined that conventional short-term averaging times (such as 6-minute averages) are not appropriate for implementing good operation and maintenance. For example, problems with ovens or combustion systems can develop unexpectedly and lead to short-term high opacity events. A longer averaging time is needed to allow adequate time to diagnose the problem and to take corrective actions.

We also evaluated an averaging time based on a 30-day rolling average, which is consistent with the format used in the existing NESHAP for coke oven batteries (40 CFR part 63, subpart L). However, averaging over a 30-day period results in opacity limits of 10 percent or less. The average opacity would be dominated by many very low opacity readings, and the errors in COMS readings at low opacities can have a significant effect on the 30-day average.

After analyzing the COMS data using different averaging times, we selected a daily averaging time as the most appropriate format for the standard. The data show that with few exceptions a daily average limit of 15 percent opacity has been achieved by the ten MACT batteries 99.7 percent of the time.

Data for five batteries at the Clairton, PA plant indicate that stack opacity increases when batteries are placed on extended coking time. The average opacities for batteries on extended coking are approximately twice those of batteries on a normal coking time. This results from less formation of protective sealing carbon that seals small cracks in the oven walls. Battery-wide extended coking is a relatively rare event and is used primarily when the demand for coke drops. We developed a daily average limit of 20 percent opacity for batteries on extended coking to reflect the level achievable by MACT batteries.

We define extended coking as an increase of 25 percent or more in the normal coking time, based on data for one of the Clairton, PA batteries which showed an increase in stack opacity when the coking time was extended from 18 to 23 hours, an increase of about 25 percent. Data for three other batteries also in Clairton showed an increase in opacity when the coking time was increased from 18 to 36 hours.

We considered developing procedures for an alternative opacity limit in the event a battery has implemented all of the components of MACT and cannot achieve the opacity standard. Such an approach would be similar to the adjustment to an opacity emission standard allowed in § 63.6(h)(9) of the NESHAP General Provisions. However, we have been unable to develop criteria that would be used to allow an alternative opacity limit. We are requesting comments on appropriate criteria and supporting rationale.

We also conclude that MACT for new plants is the same as MACT for existing plants since the best-controlled similar plants are existing plants that implement MACT.

We considered whether there were any reasonable options available for above-the-floor controls for battery stacks during either regular or extended coking. As indicated above, no units currently use any other control measures, such as add-on controls,[3] and we don't believe that add-on controls would provide additional HAP reductions significant enough to justify the installation and operational costs.

Therefore, we are proposing the MACT floor limits, daily average limits of 15 percent opacity for batteries on a normal coking time and 20 percent for batteries on an extended coking time, as MACT for both new and existing batteries.

We require COMS because they are a part of the technology associated with MACT and provide a means of measuring opacity and showing continuous compliance. We selected the initial compliance provisions to be consistent with the format of the standard, which is a daily average opacity limit. Opacity measurements must be made with a COMS, and the daily average opacity must be determined. Compliance is demonstrated if the daily average does not exceed 15 percent for a battery on a normal coking cycle or 20 percent for a battery on extended coking.

We selected a daily compliance determination to show continuous compliance because it is consistent with the derivation of the limit and is the approach used for other coke battery emission points regulated under the existing NESHAP for coke ovens (40 CFR part 63, subpart L). Each day, a new daily average is calculated from a continuous record of stack opacity provided by the COMS.

D. How Did We Select the Operation and Maintenance Requirements?

Routine operation and maintenance for the batteries, capture systems, and control devices prevent excess emissions. We collected information from batteries that are well-controlled for pushing and stack emissions from industry surveys, site visits, and consultation with industry experts. For example, we obtained details on the battery preservation program used at a coke plant in Clairton, PA. Subsequently, we developed a list of the operation and maintenance procedures that are applicable to all batteries including routine oven repairs; maintaining the combustion system (inspection of flues, temperature measurements, monitoring air and fuel flow rates); control of coal quality; ensuring complete coking; and preventative maintenance for capture systems and control devices.

E. How Did We Select the Notification, Recordkeeping, and Reporting Requirements?

We selected the notification, recordkeeping, and reporting requirements to be consistent with the NESHAP General Provisions (40 CFR part 63, subpart A). Monthly reports for battery stacks and semiannual reports for other affected sources would also be required. A summary report would be submitted if no deviation occurred; more detailed information must be included if a deviation occurred; a monitoring system was out of control; or there was a startup, shutdown, or malfunction event. An immediate report would be required if actions taken to respond to a startup, shutdown, or malfunction were not consistent with the procedures in the startup,

[3] We note that during the 1970's and 1980's, several batteries used add-on control devices (electrostatic precipitators or baghouses) to control particulate matter emissions from battery stacks. The use of thse devices was subsequently terminated as a result of several plant closures and the increased use of desulfurized coke oven gas.

shutdown, and malfunction plan. The records required by the proposed rule are the minimum needed to demonstrate continuous compliance.

IV. Summary of Environmental, Energy, and Economic Impacts

A. What Are the Air Quality Impacts?

Accurate emission estimates are difficult to make, especially for fugitive pushing emissions. When green pushes occur, most of the organic HAP escape the capture system and are unmeasurable. Our estimate for pushing emissions is based on our best estimates of the capture efficiency and frequency of green pushes. For battery stacks, we have opacity and emissions data for the best-controlled batteries. We had to extrapolate the test data to account for higher emissions from batteries with higher battery stack opacities.

Based on these approaches, we estimate that the proposed rule would reduce coke oven emissions, measured as methylene chloride extractable organic compounds, from pushing, quenching, and battery stacks to approximately 500 tpy from a baseline level of about 1,000 tpy. The proposed rule would also reduce emissions of other HAP, such as metals, benzene, toluene, and other volatiles that are not included with the extractable organics. Emissions of PM would also be reduced.

B. What Are the Cost Impacts?

As with the emission estimates, there is uncertainty in the cost estimates. However, we obtained data from the best controlled plants for their emission controls, oven repairs, and work practices. We then applied these costs to those batteries that we estimate would be impacted by the proposed rule. We estimate that five batteries would incur capital costs to rebuild ovens to meet the proposed standards for pushing and battery stacks. In addition, we estimate that 40 of the 58 by-product batteries would incur additional annual operating costs to implement a baseline program of diagnostic procedures and oven repairs similar to the programs already in place at well-controlled batteries. Three batteries would have to install baffles in their quench towers to control quenching emissions. Monitoring is also an important component of MACT and the cost estimate. Approximately 31 batteries would have to install COMS in their battery stacks, 56 would incur the cost of visible emissions observers for daily observation of pushing emissions, and 42 would install bag leak detection systems for control devices applied to pushing emissions. The control technology and monitoring are expected to result in a nationwide capital cost of about $12 million with a total annualized cost of $14 million per year.

C. What Are the Economic Impacts?

We conducted a detailed assessment of the economic impacts associated with the proposed rule. The compliance costs associated with the proposed rule are expected to increase the price of coke, steel mill products, and iron castings and to reduce their domestic production and consumption. The price of furnace and foundry coke is projected to increase by about 1.5 and 3 percent, respectively. Domestic production of furnace coke is expected to decline by 180,000 tons, or 2.3 percent, with foreign imports increasing by 167,000 tons, or 4.4 percent. For foundry coke, domestic production is expected to decline by only 1,500 tons, or 0.1 percent.

In terms of industry impacts, the integrated steel producers and foundries with cupola furnaces are projected to experience a slight decrease in operating profits, which reflects increased costs of furnace and foundry coke inputs and associated reductions in revenues from producing their final products. Our analysis indicates that one of the captive batteries ceases to supply furnace coke to the market but continues to satisfy internal coke requirements at the integrated steel plant. Through the market impacts described above, the proposed rule has distributional impacts within the merchant segment. The majority of merchant facilities are projected to experience profit increase with the proposed rule; however, some facilities are projected to lose profits. Furthermore, the economic impact analysis indicates that one of the 13 merchant-owned batteries producing furnace coke is at risk of closure because of the proposed rule, while none of the foundry coke producing batteries are at risk of closure. For more information, consult the economic impact analysis supporting this proposed rule.

D. What Are the Non-air Environmental and Energy Impacts?

The technology associated with MACT relies primarily on pollution prevention techniques in the form of work practices and diagnostic procedures to prevent green pushes and leakage through oven walls. Consequently, there are no significant non-air environmental and energy impacts.

V. Solicitation of Comments and Public Participation

We seek full public participation in arriving at final decisions and encourage comments on all aspects of this proposal from all interested parties. You need to submit full supporting data and a detailed analysis with your comments to allow us to make the best use of them. Be sure to direct your comments to the Air and Radiation Docket and Information Center, Docket No. A–2000–34 (see **ADDRESSES**).

We are specifically requesting comments on proposed Options 1 and 2 for fugitive pushing emissions. Proposed Option 1 is an opacity limit based on the average of four pushes. Proposed Option 2 is a work practice standard that includes opacity triggers based on a single push. Exceeding the applicable trigger requires corrective action to identify and correct the problem that caused the green push.

We are also specifically requesting comments on procedures for developing an alternative opacity limit for battery stacks in the event a battery has implemented all of the components of MACT and cannot achieve the opacity standard. We are requesting comments on appropriate criteria and supporting rationale.

VI. Administrative Requirements

A. Executive Order 12866, Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the EPA must determine whether the regulatory action is ''significant'' and therefore subject to review by the Office of Management and Budget (OMB) and the requirements of the Executive Order. The Executive Order defines a ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined

that this regulatory action is not a ''significant regulatory action'' because none of the listed criteria apply to this action. Consequently, this action was not submitted to OMB for review under Executive Order 12866.

B. Executive Order 13132, Federalism

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.'' Under Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. The EPA also may not issue a regulation that has federalism implications and that preempts State law unless the EPA consults with State and local officials early in the process of developing the proposed regulation.

If EPA complies by consulting, Executive Order 13132 requires EPA to provide to OMB, in a separately identified section of the preamble to the rule, a federalism summary impact statement (FSIS). The FSIS must include a description of the extent of EPA's prior consultation with State and local officials, a summary of the nature of their concerns and the Agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of State and local officials have been met. Also, when EPA transmits a draft final rule with federalism implications to OMB for review pursuant to Executive Order 12866, EPA must include a certification from the Agency's Federalism Official stating that EPA met the requirements of Executive Order 13132 in a meaningful and timely manner.

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the affected facilities are owned or operated by State governments, and the proposed rule requirements will not supercede State regulations that are more stringent. Thus, the requirements of section 6 of the Executive Order do not apply to this rule.

C. Executive Order 13084, Consultation and Coordination with Indian Tribal Governments

On January 1, 2001, Executive Order 13084 was superseded by Executive Order 13175. However, this proposed rule was developed during the period when Executive Order 13084 was still in force, and so tribal considerations were addressed under Executive Order 13084. Development of the final rule will address tribal considerations under Executive Order 13175. Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to OMB, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires the EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.''

Today's proposed rule does not significantly or uniquely affect the communities of Indian tribal governments. No tribal governments own or operate coke oven batteries. The proposed rule is required by statute and will not impose any substantial direct compliance costs. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this action.

D. Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be ''economically significant,'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. This rule is not subject to Executive Order 13045 because it is technology based and not based on health or safety risks. No children's risk analysis was performed because no alternative technologies exist that would provide greater stringency at a reasonable cost. Further, this proposed rule has been determined not to be ''economically significant'' as defined under Executive Order 12866.

E. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, the EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires the EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least-burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows the EPA to adopt an alternative other than the least-costly, most cost-effective, or least-

burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before the EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that this proposed rule does not contain a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments, in the aggregate, or to the private sector in any 1 year. The maximum total annual cost of this proposed rule for any year has been estimated to be less than $19 million. Thus, today's proposed rule is not subject to sections 202 and 205 of the UMRA. In addition, the EPA has determined that this proposed rule contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments or impose obligations upon them. Therefore, today's proposed rule is not subject to the requirements of section 203 of the UMRA.

F. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. et seq.

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of the proposed rule on small entities, small entity is defined as: (1) A small business ranging from 500 to 1,000 employees; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's proposed rule on small entities, I certify that this action will not have a significant impact on a substantial number of small entities. In accordance with the RFA, we conducted an assessment of the proposed rule on small businesses within the coke manufacturing industry. Based on SBA size definitions for the affected industries and reported sales and employment data, we identified three of the 18 companies within this source category as small businesses. Although small businesses represent 16 percent of the companies within the source category, they are expected to incur only 11 percent of the total industry compliance costs of $14.3 million. The average total annual compliance cost is projected to be $533,000 per small company, while the average for large companies is projected to be $840,000 per company. Under the proposed rule, the mean annual compliance cost, as a share of sales, for small businesses is 1.3 percent, and the median is 1.4 percent, with a range of 0.04 to 2.4 percent. We estimate that two of the three small businesses may experience an impact greater than 1 percent of sales, but no small businesses will experience an impact greater than 3 percent of sales.

We performed an economic impact analysis to estimate the changes in product price and production quantities for the firms affected by this proposed rule. Although this industry is characterized by average profit margins of close to 4 percent, our analysis indicates that none of the coke manufacturing facilities owned by small businesses are at risk of closure because of today's proposed rule. In fact, the two facilities manufacturing furnace coke are projected to experience a slight increase in profits because of market feedbacks related to higher costs incurred by competitors, while the one facility manufacturing foundry coke is projected to experience a decline in profits of slightly more than 1 percent.

In summary, the economic impact analysis supports today's certification under the RFA because, while a few small firms may experience initial impacts greater than 1 percent of sales, no significant impacts on their viability to continue operations and remain profitable are indicated. See Docket A–2000–34 for more information on the economic analysis.

Although this proposed rule will not have a significant economic impact on a substantial number of small entities, we have nonetheless worked aggressively to minimize the impact of this proposed rule on small entities, consistent with our obligations under the CAA. We have made site visits to these plants and discussed potential impacts and opportunities for emission reductions with company representatives. Company representatives have also attended meetings held with industry trade associations to discuss the proposed rule, and we have included provisions in the proposed rule that address their concerns.

G. Paperwork Reduction Act

The information collection requirements in this proposed rule will be submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An information collection request (ICR) document has been prepared by EPA (ICR No. 1995.01), and a copy may be obtained from Sandy Farmer by mail at the Office of Environmental Information, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Avenue, Washington, DC 20460, by e-mail at farmer.sandy@epa.gov, or by calling (202) 260–2740. A copy may also be downloaded off the Internet at *http://www.epa.gov/icr.* The information requirements are not effective until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to NESHAP. These recordkeeping and reporting requirements are specifically authorized by section 112 of the CAA (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to Agency policies in 40 CFR part 2, subpart B.

The proposed rule requires maintenance inspections of control devices, two types of written plans (in addition to the startup, shutdown, and malfunction plan required by the NESHAP General Provisions), and a special study of flue temperatures for by-product coke oven batteries with horizontal flues. Monthly reports of any deviations from the applicable limits for battery stacks are required, with semiannual reports for other affected sources. The recordkeeping requirements require only the specific information needed to determine compliance.

The annual public reporting and recordkeeping burden for this collection of information (averaged over the first 3 years after the effective date of the final rule) is estimated to total 11,000 labor hours per year at a total annual cost of $710,000. This estimate includes one-time performance tests and reports (with repeat tests where needed); subsequent tests, preparation and submission of operation and maintenance plans, and a special study of flue temperatures; one-time purchase and installation of continuous monitoring systems; one-time preparation of a standard operating procedures manual for baghouses; one-time preparation of a startup, shutdown, and malfunction plan with semiannual reports if procedures in the plan were followed or emergency reports if they weren't followed; monthly and semiannual deviation summary reports; and inspections, notifications, and recordkeeping. Total capital/startup costs associated with the monitoring requirements over the 3-year period of the ICR is estimated at $46,000 per year, with operation and maintenance costs of $76,000 per year.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purpose of collecting, validating, and verifying information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to respond to a collection of information; search existing data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on the EPA's need for this information, the accuracy of the burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the Director, Collection Strategies Division (2822), U.S. Environmental Protection Agency (2136), 1200 Pennsylvania Avenue, NW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, marked ''Attention: Desk Officer for EPA.'' Include the ICR number in any correspondence. Because OMB is required to make a decision concerning the ICR between 30 and 60 days after July 3, 2001, a comment to OMB is best assured of having its full effect if OMB receives it by August 2, 2001. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposed rule.

H. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Pub. L. 104–113; 15 U.S.C 272 note), directs EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impracticable. Voluntary consensus standards are technical standards (such as material specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus standard bodies. The NTTAA directs EPA to provide Congress, through annual reports to OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.

This proposed rulemaking involves technical standards. The EPA proposes to use EPA Methods 1, 2, 2F, 2G, 3, 3A, 3B, 4, 5, 5D, and 9 in 40 CFR part 60, appendix A, and Performance Specification 1 in 40 CFR part 60, appendix B. Consistent with the NTTAA, we conducted searches to identify voluntary consensus standards in addition to these EPA methods.

One voluntary consensus standard was identified as applicable to Performance Specification 1. The standard, ASTM D6216 (1998), Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications, has been incorporated by reference into Performance Specification 1 (65 FR 48920, August 10, 2000).

Our search for emissions monitoring procedures identified 16 other voluntary consensus standards. We determined that 13 of these standards identified for measuring emissions of HAP or surrogates would not be practical due to lack of equivalency, detail, or quality assurance/quality control requirements. The three remaining consensus standards identified in the search are under development or under EPA review. Therefore, we do not propose to use these voluntary consensus standards in the proposed rule. See Docket A–2000–34 for more detailed information on the search and review results.

The EPA requests comments on the proposed compliance demonstration requirements in the proposed rule and specifically invites the public to identify potentially applicable voluntary consensus standards. Commenters should also explain why this proposed rule should adopt these voluntary consensus standards in lieu of, or in addition to, EPA's methods. Emission test methods and performance specifications submitted for evaluation should be accompanied with a basis for the recommendation, including method validation data and the procedures used to validate the candidate method (if a method other Method 301 in 40 CFR part 63, appendix A was used).

Section 63.7322 of proposed subpart CCCCC lists the EPA test methods that coke plants would be required to use when conducting a performance test. Most of these methods have been used by States and the industry for more than 10 years. Nevertheless, § 63.7(e) and (f) of the NESHAP General Provisions in 40 CFR part 63, subpart A, allows any State or source to apply to EPA for permission to use an alternative method in place of any of the EPA test methods or performance specifications required by the proposed rule.

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Coke ovens, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: January 19, 2001.

Carol M. Browner,

Administrator.

For the reasons stated in the preamble, title 40, chapter I, part 63, of the Code of Federal Regulations is proposed to be amended as follows:

PART 63—[AMENDED]

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

Authority: 42 U.S.C. 7401, *et seq.*

2. Part 63 is amended by adding subpart CCCCC to read as follows:

Subpart CCCCC—National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks

Sec.

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Subpart CCCCC—National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks

What This Subpart Covers

§ 63.7280 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for pushing, quenching, and battery stacks at coke oven batteries. This subpart also establishes requirements to demonstrate initial and continuous compliance with all applicable emission limitations, work practice standards, and operation and maintenance requirements in this subpart.

§ 63.7281 Am I subject to this subpart?

You are subject to this subpart if you own or operate a coke oven battery at a coke plant that is (or is part of) a major source of hazardous air pollutants (HAP) emissions on the first compliance date that applies to you. Your coke plant is a major source of HAP if it emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year.

§ 63.7282 What parts of my plant does this subpart cover?

(a) This subpart applies to each new or existing coke oven battery at your coke plant.

(b) This subpart covers emissions from pushing, soaking, quenching, and battery stacks from each affected source.

(c) An affected source at your coke plant is existing if you commenced construction or reconstruction of the affected source before July 3, 2001.

(d) An affected source at your coke plant is new if you commence construction or reconstruction of the affected source on or after July 3, 2001. An affected source is reconstructed if it meets the definition of ''reconstruction'' in § 63.2.

§ 63.7283 When do I have to comply with this subpart?

(a) If you have an existing affected source, you must comply with each emission limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you no later than [2 YEARS FROM THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(b) If you have a new affected source and its initial startup date is on or before [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must comply with each emission limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you by [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(c) If you have a new affected source and its initial startup date is after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must comply with each emission limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you upon initial startup.

(d) If your coke plant is an area source that becomes a major source of HAP, the following compliance dates apply to you.

(1) Any portion of the existing coke plant that is a new affected source or a new reconstructed source must be in compliance with this subpart upon startup.

(2) All other parts of the coke plant must be in compliance with this subpart no later than 2 years after it becomes a major source.

(e) You must meet the notification and schedule requirements in § 63.7340. Several of these notifications must be submitted before the compliance date for your affected source.

§§ 63.7284—63.7289 [Reserved]

Emission Limitations and Work Practice Standards

§ 63.7290 What emission limitations must I meet for capture systems and control devices applied to pushing emissions?

(a) You must not discharge to the atmosphere emissions of particulate matter from a control device applied to pushing emissions from a new or existing coke oven battery that exceed the applicable limit in paragraphs (a)(1) through (4) of this section.

(1) 0.004 grain per dry standard cubic foot (gr/dscf) if a cokeside shed is used to capture emissions.

(2) 0.017 pound per ton (lb/ton) of coke if a moveable hood vented to a stationary control device is used to capture emissions.

(3) If a mobile scrubber car that does not capture emissions during travel is used:

(i) 0.023 lb/ton of coke for a control device applied to pushing emissions from a short coke oven battery; or

(ii) 0.010 lb/ton of coke from control device applied to pushing emissions from a tall coke oven battery.

(4) 0.039 lb/ton of coke if a mobile scrubber car that captures emissions during travel is used.

(b) You must meet each operating limit in paragraphs (b)(1) through (3) of this section that applies to you for a new or existing coke oven battery.

(1) For each baghouse applied to pushing emissions, you must operate the baghouse such that the bag leak detection system, if applicable, does not alarm for more than 5 percent of the total operating time in any semiannual reporting period.

(2) For each venturi scrubber applied to pushing emissions, you must maintain the daily average pressure drop and scrubber water flow rate at or above the minimum levels established during the initial performance test.

(3) For each capture system applied to pushing emissions, you must:

(i) Maintain the fan motor amperes at or above the minimum level established during the initial performance test; or

(ii) Maintain the volumetric flow rate at the inlet of the control device at or above the minimum level established during the initial performance test.

§ 63.7291 What emission limitations or work practice standards must I meet for fugitive pushing emissions if I have a by-product coke oven battery with vertical flues?

(a) Opacity limit (Option 1). [**Note:** This is one of two options being proposed for comment. Based on comments we receive on proposed subpart CCCCC, we will promulgate Option 1 in this paragraph (a) or Option 2 in paragraph (b) of this section or some combination of these two options.] You must not discharge to the atmosphere fugitive pushing emissions from a new or existing by-product coke oven battery that exhibit an opacity, as determined by the procedures in § 63.7324(b), in excess of 20 percent for each short battery and 25 percent for each tall battery.

(b) Work practice standard (Option 2). [**NOTE:** This is one of two options being proposed for comment. Based on comments we receive on proposed subpart CCCCC, we will promulgate Option 1 in paragraph (a) of this section or Option 2 in this paragraph (b) or some combination of these two options.] You must comply with each of the requirements in paragraphs (b)(1) through (11) of this section for each new or existing by-product coke oven battery.

(1) Observe and record the opacity of fugitive pushing emissions from four consecutive pushes each operating day.

(2) Conduct all opacity observations using the procedures in § 63.7324(b)(1) through (3).

(3) Do not alter the pushing schedule so as to change the sequence of consecutive pushes to be observed in any day.

(4) Observe and record the opacity of emissions from each oven at least once every 3 months. If an oven cannot be observed during any 3-month period because it has been taken out of service, you must observe and record the opacity of emissions from the oven during the first daytime push once the oven is brought back into service.

(5) If the average opacity of the six highest consecutive 15-second readings (or the actual number of readings if there are fewer than six readings) for any individual push is more than 30 percent for any short battery or 35 percent for any tall battery, you must take corrective action and demonstrate that corrective action was successful within the allowed number of days according to Equation 1 of this section, or remove the oven from service:

$$X = 0.63 * Y \qquad \text{(Eq. 1)}$$

Where:

X = Number of days allowed to take corrective action and demonstrate that the corrective action has been successful; and

Y = Normal coking time for the oven, hours.

(6) To demonstrate that corrective action was successful, observe and record two consecutive daytime pushes for the oven within the allowed number of days. If neither observation exceeds the applicable opacity trigger, the corrective action was successful, and you may return the oven to normal status. If an opacity observation for one or both of the two consecutive pushes exceeds the applicable opacity trigger, the corrective action was not successful. If the corrective action was not successful within the allowed number of days, remove the oven from service until repairs have been completed.

(7) When an oven is removed from service and is subsequently returned to service after repairs have been completed, observe and record two daytime pushes of the oven within the first four pushes after the oven is returned to service to confirm that the repairs were successful. You have demonstrated that the repairs were successful if neither of the observations exceeds the applicable opacity trigger. If the opacity trigger is exceeded for either push, the repair was not successful, and you must remove the oven from service until additional repairs or corrective action are completed and you demonstrate in accordance with this paragraph(b)(7) that the subsequent repairs were successful.

(8) If any oven is removed from service more than four times in any semiannual reporting period as a result of exceeding the opacity trigger, remove the oven from service and notify your permitting authority. You may not return the oven to service until your permitting authority determines that you have taken all appropriate actions and provides you written authorization to return the oven to service.

(9) If you use extended coking as the corrective action, keep the oven on extended coking unless you correct the problem. You may return to normal coking time only after you have demonstrated, based on the observation of the first two consecutive daytime pushes while on normal coking time, that neither of the observations exceeds the applicable opacity trigger. If either observation exceeds the applicable opacity trigger, you must return the oven to extended coking or remove the oven from service until repairs or other corrective actions have been completed.

(10) You may decrease your extended coking time after you have demonstrated, based on the observation of the first two consecutive daytime pushes after the coking time was reduced, that neither of the observations exceeds the applicable opacity trigger. If either observation exceeds the applicable opacity trigger, you must return the oven to the previous extended coking time or remove the oven from service until repairs or other corrective actions have been completed.

(11) If you remove an oven from service, take measures to mitigate possible adverse effects on adjacent ovens due to removing the oven from service.

(c) As provided in § 63.6(g), you may request to use an alternative to the work practice standards in paragraph (b) of this section.

§ 63.7292 What work practice standards must I meet for fugitive pushing emissions if I have a by-product coke oven battery with horizontal flues?

(a) You must comply with each of the requirements in paragraphs (a)(1) through (6) of this section.

(1) Prepare and operate by a written plan designed to prevent green pushes from each by-product coke oven battery with horizontal flues. The written plan must establish minimum flue temperatures at different coking times and the lowest acceptable minimum flue temperature.

(i) The minimum flue temperatures must be based on a study conducted by the plant that considers different means for correlating flue temperature and coking time, including the percent volatile matter in the coke, the color of emissions, the opacity and duration of emissions, and whether emissions continue during quench car travel.

(ii) Submit the written plan and supporting documentation to the applicable permitting authority for review and approval.

(2) Measure and record the temperature of all flues on two ovens per day for each battery within 2 hours of the scheduled pushing time for each oven. If two or more batteries are served by the same pushing equipment and total no more than 60 ovens, the batteries as a unit can be considered a single battery.

(3) Measure and record the temperature of all flues on each oven at least once each month.

(4) Record the time each oven is charged and pushed. Calculate and record the net coking time for each oven.

(5) If any measured flue temperature for an oven is below the minimum flue temperature for an oven's coking time established in the written plan, extend the coking time of the oven by the amount specified in the written plan for that flue temperature before pushing the oven. For any oven put on extended coking you must:

(i) Use oven-directed procedures to find the cause of the low flue temperature. Take corrective action to fix the problem;

(ii) Continue to measure and record the flue temperatures for the oven within 2 hours of the scheduled pushing time until the measurements prior to two consecutive pushes meet the minimum temperature requirements for the extended coking time; and

(iii) Once the heating problem has been corrected, the oven may be returned to the battery's general coking schedule. Measure and record the flue temperatures for the oven within 2 hours of the scheduled pushing time for the next two consecutive pushes. If any flue temperature measurement is below the minimum flue temperature for that coking time established in the written plan, repeat the procedures in paragraphs (a)(5)(i) and (ii) of this section.

(6) If any flue temperature measurement is below the lowest acceptable minimum temperature for complete coking established in the written plan, remove the oven from service for repairs. After repairing the oven, you must:

(i) Follow the procedures outlined in the written work practice plan to return the oven to service after repairs are complete; and

(ii) Measure and record the flue temperatures for the oven within 2 hours of the scheduled pushing time. If any flue temperature measurement is below the minimum flue temperature for that coking time established in the written plan, repeat the procedures in paragraph (a)(5) of this section.

(b) As provided in § 63.6(g), you may request to use an alternative to the work practice standards in paragraph (a) of this section.

§ 63.7293 What work practice standards must I meet for fugitive pushing emissions if I have a non-recovery coke oven battery?

(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section for each new and existing non-recovery coke oven battery.

(1) You must visually inspect each oven prior to pushing by opening the door damper and observing the bed of coke.

(2) Do not push the oven unless the visual inspection indicates that there is no smoke in the open space above the coke bed and that there is an unobstructed view of the door on the opposite side of the oven.

(b) As provided in § 63.6(g), you may request to use an alternative to the work practice standard in paragraph (a) of this section.

§ 63.7294 What work practice standard must I meet for soaking?

(a) For each new or existing by-product coke oven battery, you must manually ignite within 3 minutes after opening the standpipe cap any gases vented to the atmosphere from a standpipe during soaking that do not ignite automatically.

(b) As provided in § 63.6(g), you may request to use an alternative to the work practice standard in paragraph (a) of this section.

§ 63.7295 What work practice standards must I meet for quenching?

(a) You must meet each of the requirements in paragraphs (a)(1) through (5) of this section for each quench tower for a new or existing coke oven battery.

(1) You must equip each quench tower with baffles such that at least 95 percent of the cross-sectional area of the tower is covered.

(2) You must wash the baffles in each quench tower daily.

(3) You must inspect each quench tower monthly for damaged or missing baffles and blockage.

(4) You must repair or replace all damaged or missing baffles before the next scheduled inspection.

(5) You must use clean water, as defined in § 63.7352, as make-up water.

(b) As provided in § 63.6(g), you may request to use an alternative to the work practice standards in paragraph (a) of this section.

§ 63.7296 What emission limitations must I meet for battery stacks?

(a) You must not discharge to the atmosphere any emissions that exit the stack of a new or existing by-product coke oven battery and exhibit an opacity greater than the applicable limit in paragraphs (a)(1) and (2) of this section.

(1) Daily average of 15 percent opacity for a battery on a normal coking cycle.

(2) Daily average of 20 percent opacity for a battery on batterywide extended coking.

(b) [Reserved]

§§ 63.7297–63.7299 [Reserved]

Operation and Maintenance Requirements

§ 63.7300 What are my operation and maintenance requirements?

(a) As required by § 63.6(e)(1)(i), you must always operate and maintain your affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this subpart.

(b) You must prepare and operate at all times according to a written operation and maintenance plan for the general operation and maintenance of new or existing by-product coke oven

batteries. Each plan must address, at a minimum, the elements listed in paragraphs (b)(1) through (5) of this section.

(1) Frequency and method of recording underfiring gas parameters, including at a minimum, measurement of fuel: air ratio and fuel flow rate.

(2) Frequency and method of recording battery operating temperature, including measurement of individual flue and cross-wall temperatures.

(3) Procedures to prevent pushing an oven out of sequence or pushing prematurely.

(4) Procedures to prevent undercharging and overcharging of ovens, including measurement of coal moisture, coal bulk density, and volume of coal charged.

(5) Frequency and procedures for inspecting flues, burners, and nozzles.

(c) You must prepare and operate at all times according to a written operation and maintenance plan for each capture system and control device applied to pushing emissions from a new or existing coke oven battery. Each plan must address at a minimum the elements in paragraphs (c)(1) through (3) of this section.

(1) Monthly inspections of the equipment that are important to the performance of the total capture system (e.g., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). The operation and maintenance plan must also include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.

(2) Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

(3) Corrective action for all baghouses applied to pushing emissions. In the event a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Actions may include, but are not limited to:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media or otherwise repairing the control device.

(iv) Sealing off a defective baghouse compartment.

(v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.

(vi) Shutting down the process producing the particulate emissions.

§§ 63.7301–63.7309 [Reserved]

General Compliance Requirements

§ 63.7310 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, work practice standards, and operation and maintenance requirements in this subpart at all times, except during periods of startup, shutdown, and malfunction as defined in § 63.2.

(b) During the period between the compliance date specified for your affected source in § 63.7283 and the date upon which continuous monitoring systems have been installed and certified and any applicable operating limits have been set, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) You must develop and implement a written startup, shutdown, and malfunction plan according to the provisions in § 63.6(e)(3).

§§ 63.7311–63.7319 [Reserved]

Initial Compliance Requirements

§ 63.7320 By what date must I conduct performance tests or other initial compliance demonstrations?

(a) As required in § 63.7(a)(2), you must conduct a performance test for each coke oven battery within 180 calendar days of the compliance date that is specified in § 63.7283 for your affected source to demonstrate initial compliance with the emission and opacity limits in this subpart.

(b) For each work practice standard and operation and maintenance requirement that applies to you where initial compliance is not demonstrated using a performance test or opacity observation, you must demonstrate initial compliance within 30 calendar days after the compliance date that is specified for your affected source in § 63.7283.

(c) If you commenced construction or reconstruction between July 3, 2001 and [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must demonstrate initial compliance with either the proposed emission limit or the promulgated emission limit no later than [180 DAYS FROM THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**] or no later than 180 calendar days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(d) If you commenced construction or reconstruction between July 3, 2001 and [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], and you chose to comply with the proposed emission limit when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limit by [3 YEARS AND 180 DAYS FROM THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], or after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

§ 63.7321 When must I conduct subsequent performance tests?

For each control device subject to an emission limit for particulate matter in § 63.7290(a), you must conduct subsequent performance tests no less frequently than twice (at mid-term and renewal) during each term of your title V operating permit.

§ 63.7322 What test methods and other procedures must I use to demonstrate initial compliance with the emission limits for particulate matter?

(a) You must conduct each performance test that applies to your affected source according to the requirements in § 63.7(e)(1) and the conditions detailed in paragraph (b) of this section.

(b) To determine compliance with the emission limit of 0.004 gr/dscf for particulate matter from a control device applied to pushing emissions where a cokeside shed is the capture system, follow the test methods and procedures in paragraphs (b)(1) and (2) of this section. To determine compliance with a process-weighted mass rate of particulate matter (lb/ton of coke) from a control device applied to pushing emissions where a cokeside shed is not used, follow the test methods and procedures in paragraphs (b)(1) through (4) of this section.

(1) Determine the concentration of particulate matter according to the following test methods in appendix A of 40 CFR part 60.

(i) Method 1 to select sampling port locations and the number of traverse points. Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

(ii) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

(iv) Method 4 to determine the moisture content of the stack gas.

(v) Method 5 or 5D, as applicable, to determine the concentration of particulate matter in the stack gas.

(2) During each particulate matter test run, sample only during periods of actual pushing when the capture system fan and control device are engaged. Collect a minimum sample volume of 30 cubic feet of gas during each test run. Three valid test runs are needed to comprise a performance test. Each run must start at the beginning of a push and finish at the end of a push (i.e., sample for an integral number of pushes).

(3) Determine the total combined weight in tons of coke pushed during the duration of each test run according to the procedures in your source test plan for calculating coke yield from the quantity of coal charged to an individual oven.

(4) Compute the process-weighted mass emissions (E_p) for each test run using Equation 1 of this section as follows:

$$E_p = \frac{C \times Q \times T}{P \times K} \qquad \text{(Eq. 1)}$$

Where:

E_p = Process weighted mass emissions of particulate matter, lb/ton;

C = Concentration of particulate matter, gr/dscf;

Q = Volumetric flow rate of stack gas, dscf/hr;

T = Total time during a run that a sample is withdrawn from the stack during pushing, hr;

P = Total amount of coke pushed during the test run, tons; and

K = Conversion factor, 7,000 gr/lb.

§ 63.7323 What procedures must I use to establish operating limits?

(a) For a venturi scrubber applied to pushing emissions from a coke oven battery, you must establish site-specific operating limits for pressure drop and scrubber water flow rate according to the procedures in paragraphs (a)(1) and (2) of this section.

(1) Using the continuous parameter monitoring systems (CPMS) required in § 63.7330(b), measure and record the pressure drop and scrubber water flow rate for each particulate matter test run during periods of pushing. A minimum of one pressure drop measurement and one scrubber water flow rate measurement must be obtained for each push.

(2) Compute and record the average pressure drop and scrubber water flow rate for each test run. Your operating limits are the lowest average pressure drop and scrubber water flow rate values recorded for any push in any of the three runs that meet the applicable emission limit.

(b) For a capture system applied to pushing emissions from a coke oven battery, you must establish a site-specific operating limit for the fan motor amperes or volumetric flow rate according to the procedures in paragraph (b)(1) or (2) of this section.

(1) If you elect the operating limit in § 63.7290(b)(3)(i) for fan motor amperes, measure and record the fan motor amperes during each push sampled for each particulate matter test run. Your operating limit is the second lowest fan motor amperes recorded during any of the three runs that meets the emission limit.

(2) If you elect the operating limit in § 63.7290(b)(3)(ii) for volumetric flow rate, measure and record the total volumetric flow rate at the inlet of the control device during each push sampled for each particulate matter test run. Your operating limit is the second lowest volumetric flow rate recorded during any of the three runs that meets the emission limit.

(c) You may change the operating limit for a venturi scrubber or capture system if you meet the requirements in paragraphs (c)(1) through (3) of this section.

(1) Submit a written notification to the Administrator of your request to conduct a new performance test to revise the operating limit.

(2) Conduct a performance test to demonstrate that emissions of particulate matter from the control device do not exceed the applicable limit in § 63.7290(a).

(3) Establish revised operating limits according to the applicable procedures in paragraph (a) or (b) of this section.

§ 63.7324 What test methods and other procedures must I use to demonstrate initial compliance with the opacity limits?

(a) You must conduct each performance test that applies to your affected source according to the requirements in § 63.7(h)(5) and the conditions detailed in paragraphs (b) and (c) of this section.

(b) To determine compliance with the opacity limit of 20 percent for a short battery or 25 percent for a tall battery for fugitive pushing emissions (Option 1), follow the test methods and procedures in paragraphs (b)(1) through (4) of this section.

(1) Determine and record the opacity of fugitive emissions for four consecutive pushes per battery. If two or more batteries are served by the same pushing equipment and total no more than 60 ovens, the batteries as a unit can be considered a single battery. All observations and calculations for the initial performance test, compliance monitoring, and subsequent performance tests must be made by an independent Method 9 certified observer using Method 9 in appendix A of 40 CFR part 60.

(2) Begin observations for a push when the coke begins to fall into the quench car. End observations of a push when the quench car enters the quench tower. Remain stationary whenever possible while observing emissions during travel to the quench tower. Do not reposition after the push to observe emissions during travel.

(i) For a battery without a cokeside shed, observe fugitive pushing emissions from a position that provides an unobstructed view and avoids interferences from the topside of the battery at least 10 meters from the quench car. This usually requires the observer to be positioned at an angle to the quench car rather than perpendicular to it. Typical interferences to avoid include emissions from open standpipes and charging. Read the opacity of emissions above the battery top with the sky as the background where possible. Record any push not observed because of obstructions or interferences.

(ii) For batteries with a cokeside shed, the observer must be positioned to observe fugitive emissions that escape from the open end of the shed nearest to the oven being pushed. Observations must include any fugitive emissions that escape from the top of the shed or from the area where the shed is joined to the battery. If the observer does not have a clear view to identify when a push starts, a second observer must be positioned to observe the start of the push and notify the observer when to start the Method 9 readings. Radio communications with other plant personnel (e.g., pushing ram operator or quench car operator) may also serve to notify the observer of the start of a push. Record any push not observed because of obstructions or interferences.

(3) Record opacity observations to the nearest 5 percent at 15-second intervals as required in section 2.4 of Method 9 (40 CFR part 60, appendix A). The requirement in section 2.4 of Method 9 for a minimum of 24 observations does not apply, and the data reduction requirements in section 2.5 of Method 9 do not apply. The requirement in § 63.6(h)(5)(ii)(B) for obtaining at least 3 hours of observations (30, 6-minute averages) to demonstrate initial compliance does not apply.

(4) Calculate and record the average of the four consecutive pushes using the six highest consecutive 15-second readings for each push (or the actual number of readings if there are fewer than six readings).

(c) To determine compliance with the daily average opacity limit for stacks of 15 percent for a by-product coke oven battery on a normal coking cycle or 20 percent for a by-product coke oven battery on batterywide extended coking, follow the test methods and procedures in paragraphs (c)(1) through (3) of this section.

(1) Using the continuous opacity monitoring system (COMS) required in § 63.7330(d), measure and record the opacity of emissions from each battery stack for a 24-hour period.

(2) Reduce the monitoring data to hourly averages as specified in § 63.8(g)(2).

(3) Compute and record the 24-hour (daily) average of the COMS data.

§ 63.7325 How do I demonstrate initial compliance with the emission limitations that apply to me?

(a) For each coke oven battery subject to the emission limit for particulate matter from a control device applied to pushing emissions, you have demonstrated initial compliance if you meet the requirements in paragraphs (a)(1) through (3) of this section that apply to you.

(1) The concentration of particulate matter, measured in accordance with the performance test procedures in § 63.7322(b)(1) and (2), did not exceed 0.004 gr/dscf for a control device where a cokeside shed is used to capture pushing emissions or the process-weighted mass rate of particulate matter (lb/ton of coke), measured in accordance with the performance test procedures in § 63.7322(b)(1) through (4), did not exceed:

(i) 0.017 lb/ton of coke if a moveable hood vented to a stationary control device is used to capture emissions.

(ii) If a mobile scrubber car that does not capture emissions during travel is used, 0.023 lb/ton of coke from a control device applied to pushing emissions from a short coke oven battery or 0.010 lb/ton of coke from a control device applied to pushing emissions from a tall coke oven battery.

(iii) 0.039 lb/ton of coke if a mobile scrubber car that captures emissions during travel is used.

(2) For each venturi scrubber applied to pushing emissions, you have established appropriate site-specific operating limits and have a record of the pressure drop and scrubber water flow rate measured during the performance test in accordance with § 63.7323(a).

(3) For each capture system applied to pushing emissions, you have established an appropriate site-specific operating limit, and:

(i) If you elect the operating limit in § 63.7290(b)(3)(i) for fan motor amperes, you have a record of the fan motor amperes during the performance test in accordance with § 63.7323(b)(1); or

(ii) If you elect the operating limit in § 63.7290(b)(3)(ii) for volumetric flow rate, you have a record of the total volumetric flow rate at the inlet of the control device measured during the performance test in accordance with § 63.7323(b)(2).

(b) For each by-product coke oven battery with vertical flues subject to the opacity limit in § 63.7291(a) for fugitive pushing emissions (Option 1), you have demonstrated initial compliance if the average opacity of four consecutive pushes, calculated from the six highest consecutive 15-second readings (or the actual number if there are fewer than six readings) for each push, as determined using the performance test procedures in § 63.7324(b), is no more than 20 percent for a short battery or 25 percent for a tall battery.

(c) For each new or existing by-product coke oven battery subject to the opacity limit for stacks in § 63.7296(a), you have demonstrated initial compliance if the daily average opacity, as measured according to the performance test procedures in § 63.7324(c), is no more than 15 percent for a battery on a normal coking cycle or 20 percent for a battery on batterywide extended coking.

(d) For each emission limitation that applies to you, you must submit a notification of compliance status containing the results of the performance test according to § 63.7340(e).

§ 63.7326 How do I demonstrate initial compliance with the work practice standards that apply to me?

(a) For each by-product coke oven battery with vertical flues subject to the work practice standards for fugitive pushing emissions (Option 2) in § 63.7291(b), you have demonstrated initial compliance if you certify in your notification of compliance status that you will meet each of the work practice requirements.

(b) For each by-product coke oven battery with horizontal flues subject to the work practice standards for fugitive pushing emissions in § 63.7292(a), you have demonstrated initial compliance if you have met the requirements of paragraphs (b)(1) and (2) of this section:

(1) You have prepared and submitted a written plan and supporting documentation establishing appropriate minimum flue temperatures for different coking times and the lowest minimum temperature for which extended coking can be used to the applicable permitting authority for review and approval; and

(2) You certify in your notification of compliance status that you will meet each of the work practice requirements.

(c) For each non-recovery coke oven battery subject to the work practice standards for fugitive pushing emissions in § 63.7293(a), you have demonstrated initial compliance if you certify in your notification of compliance status that you will meet each of the work practice requirements.

(d) For each by-product coke oven battery subject to the work practice standard for soaking in § 63.7294(a), you have demonstrated initial compliance if you certify in your notification of compliance status that you will meet each of the work practice requirements.

(e) For each coke oven battery, you have demonstrated initial compliance with the work practice standards for quenching in § 63.7295(a) if you certify in your notification of compliance status that you have met the requirements of paragraphs (e)(1) and (2) of this section:

(1) You have installed the required equipment in each quench tower; and

(2) You will meet each of the work practice requirements.

(f) For each work practice standard that applies to you, you must submit a notification of compliance status according to the requirements in § 3.7340(e).

§ 63.7327 How do I demonstrate initial compliance with the operation and maintenance requirements that apply to me?

(a) You have demonstrated initial compliance if you certify in your notification of compliance status that you have met the requirements of paragraphs (a)(1) through (3) of this section:

(1) You have prepared the operation and maintenance plans according to the requirements in § 63.7300(b) and (c);

(2) You will operate each by-product coke oven battery and each capture system and control device applied to pushing emissions from a coke oven battery according to the procedures in the plans; and

(3) You submit a notification of compliance status according to the requirements in § 63.7340(e).

(b) [Reserved]

§§ 63.7328–63.7329 [Reserved]

Continuous Compliance Requirements

§ 63.7330 What are my monitoring requirements?

(a) For each baghouse applied to pushing emissions from a coke oven battery, you must at all times monitor the relative change in particulate matter loadings using a bag leak detection system according to the requirements in § 63.7331(a) and conduct inspections at their specified frequency according to the requirements in paragraphs (a)(1) through (8) of this section.

(1) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual;

(2) Confirm that dust is being removed from hoppers through weekly visual inspections or equivalent means of ensuring the proper functioning of removal mechanisms;

(3) Check the compressed air supply for pulse-jet baghouses each day;

(4) Monitor cleaning cycles to ensure proper operation using an appropriate methodology;

(5) Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means;

(6) Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices;

(7) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks; and

(8) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

(b) For each venturi scrubber applied to pushing emissions from a coke oven battery, you must at all times monitor the pressure drop and water flow rate using a CPMS according to the requirements in § 63.7331(b).

(c) For each capture system applied to pushing emissions, you must at all times monitor the fan motor amperes according to the requirements in § 63.7331(c) or the volumetric flow rate according to the requirements in § 63.7331(d).

(d) For each by-product coke oven battery, you must monitor at all times the opacity of emissions exiting each stack using a COMS according to the requirements in § 63.7331(e).

§ 63.7331 What are the installation, operation, and maintenance requirements for my monitors?

(a) For each baghouse applied to pushing emissions from a coke oven battery, you must install, operate, and maintain each bag leak detection system according to the requirements in paragraphs (a)(1) through (7) of this section.

(1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less;

(2) The system must provide output of relative changes in particulate matter loadings;

(3) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it can be heard by the appropriate plant personnel;

(4) Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, ''Fabric Filter Bag Leak Detection Guidance'' (EPA–454/R–98–015), September 1997. You may install, operate, and maintain other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations;

(5) To make the initial adjustment of the system, establish the baseline output by adjusting the sensitivity (range) and the averaging period of the device. Then, establish the alarm set points and the alarm delay time;

(6) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in your operation and maintenance plan. Do not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition; and

(7) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(b) For each venturi scrubber applied to pushing emissions from a coke oven battery, you must install, operate, and maintain CPMS to measure and record the pressure drop across the scrubber and scrubber water flow rate during each push according to the requirements in paragraphs (b)(1) through (3) of this section.

(1) For the pressure drop CPMS, you must:

(i) Locate the pressure sensor(s) in or as close to a position that provides a representative measurement of the pressure and that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion;

(ii) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range;

(iii) Check the pressure tap for pluggage daily;

(iv) Using a manometer, check gauge calibration quarterly and transducer calibration monthly;

(v) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range, or install a new pressure sensor; and

(vi) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(2) For the scrubber water flow rate CPMS, you must:

(i) Locate the flow sensor and other necessary equipment in a position that provides a representative flow and that reduces swirling flow or abnormal velocity distributions due to upstream and downstream disturbances;

(ii) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the flow rate;

(iii) Conduct a flow sensor calibration check at least semiannually according to the manufacturer's instructions; and

(iv) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(3) You must install, operate, and maintain each venturi scrubber CPMS according to the requirements in paragraphs (b)(3)(i) through (iii) of this section.

(i) Each CPMS must complete a measurement at least once per push;

(ii) Each CPMS must produce valid data for all pushes; and

(iii) Each CPMS must determine and record the daily (24-hour) average of all recorded readings.

(c) If you elect the operating limit in § 63.7390(b)(3)(i) for a capture system applied to pushing emissions from a coke oven battery, you must install, operate, and maintain a device to measure the fan motor amperes.

(d) If you elect the operating limit in § 63.7390(b)(3)(ii) for a capture system applied to pushing emissions from a coke oven battery, you must install, operate, and maintain a device to measure the total volumetric flow rate at the inlet of the control device.

(e) For each by-product coke oven battery, you must install, operate, and maintain a COMS to measure and record the opacity of emissions exiting each stack according to the requirements in paragraphs (e)(1) through (4) of this section.

(1) You must install each COMS and conduct a performance evaluation of each COMS according to the requirements in § 63.8 and Performance Specification 1 in appendix B of 40 CFR part 60;

(2) You must develop and implement a quality control program for operating and maintaining each COMS according to the requirements in § 63.8(d). At minimum, the quality control program must include a daily calibration drift assessment, quarterly performance audit, and an annual zero alignment audit of each COMS;

(3) You must operate and maintain each COMS according to the requirements in § 63.8(e). Identify periods the COMS is out-of-control, including any periods that the COMS fails to pass a daily calibration drift assessment, quarterly performance audit, or annual zero alignment audit; and

(4) You must determine and record the hourly and daily (24-hour) average opacity according to the procedures in § 63.7324(c) using all the 6-minute averages collected for periods during which the COMS is not out-of-control.

§ 63.7332 How do I monitor and collect data to demonstrate continuous compliance?

(a) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times the affected source is operating.

(b) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels, or in fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing compliance. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitor to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

§ 63.7333 How do I demonstrate continuous compliance with the emission limitations that apply to me?

(a) For each control device applied to pushing emissions from a coke oven battery and subject to the emission limit in § 63.7290(a), you must demonstrate continuous compliance by:

(1) Maintaining emissions of particulate matter at or below the applicable limits in paragraphs (a)(1)(i) through (iv) of this section.

(i) 0.004 gr/dscf if a cokeside shed is used to capture emissions;

(ii) 0.017 lb/ton of coke if a moveable hood vented to a stationary control device is used to capture emissions;

(iii) If a mobile scrubber car that does not capture emissions during travel is used, 0.023 lb/ton of coke from a control device applied to pushing emissions from a short coke oven battery or 0.010 lb/ton of coke from a control device applied to pushing emissions from a tall coke oven battery; and

(iv) 0.039 lb/ton of coke if a mobile scrubber car that captures emissions during travel is used.

(2) Conducting subsequent performance tests to demonstrate continuous compliance no less frequently than twice (at mid-term and renewal) during each term of your title V operating permit.

(b) For each baghouse applied to pushing emissions from a coke oven battery and subject to the operating limit in § 63.7290(b)(1), you must demonstrate continuous compliance by having met the requirements of paragraphs (b)(1) through (3) of this section:

(1) Maintaining each baghouse such that the bag leak detection system alarm does not sound for more than 5 percent of the operating time during any semiannual reporting period. Follow the procedures in paragraphs (b)(1)(i) through (v) of this section to determine the percent of time the alarm sounded.

(i) Alarms that occur due solely to a malfunction of the bag leak detection system are not included in the calculation.

(ii) Alarms that occur during startup, shutdown, or malfunction are not included in the calculation if the condition is described in the startup, shutdown, and malfunction plan and all the actions you took during the startup, shutdown, or malfunction were consistent with the procedures in the startup, shutdown, and malfunction plan.

(iii) Count 1 hour of alarm time for each alarm when you initiated procedures to determine the cause of the alarm within 1 hour.

(iv) Count the actual amount of time you took to initiate procedures to determine the cause of the alarm if you did not initiate procedures to determine the cause of the alarm within 1 hour of the alarm.

(v) Calculate the percentage of time the alarm on the bag leak detection system sounds as the ratio of the sum of alarm times to the total operating time multiplied by 100.

(2) Maintaining records of the times the bag leak detection system alarm sounded, and for each valid alarm, the time you initiated corrective action, the corrective action(s) taken, and the date on which corrective action was completed.

(3) Inspecting and maintaining each baghouse according to the requirements in § 63.7330(a)(1) through (8) and recording all information needed to document conformance with these requirements. If you increase or decrease the sensitivity of the bag leak detection system beyond the limits specified in § 63.7331(a)(6), you must include a copy of the required written certification by a responsible official in the next semiannual compliance report.

(c) For each venturi scrubber applied to pushing emissions from a coke oven battery and subject to the operating limits in § 63.7290(b)(2), you must demonstrate continuous compliance by having met the requirements of paragraphs (c)(1) through (3) of this section:

(1) Maintaining the daily average pressure drop and scrubber water flow rate at levels no lower than those established during the initial or subsequent performance test;

(2) Inspecting and maintaining each CPMS according to § 63.7331(b)(1) and (2) and recording all information needed to document conformance with these requirements; and

(3) Collecting and reducing monitoring data for pressure drop and scrubber water flow rate according to § 63.7331(b)(3).

(d) For each capture system applied to pushing emissions from a coke oven battery and subject to the operating limit in § 63.7290(b)(3), you must demonstrate continuous compliance by having met the requirements of paragraphs (d)(1) and (2) of this section:

(1) If you elect the operating limit for fan motor amperes in § 63.7290(b)(3)(i):

(i) Maintaining the fan motor amperes at or above the minimum level established during the initial or subsequent performance test; and

(ii) Checking the fan motor amperes at least every 8 hours to verify the amperes are at or above the minimum level established during the initial or

subsequent performance test and recording the results of each check.

(2) If you elect the operating limit for volumetric flow rate in § 63.7290(b)(3)(ii):

(i) Maintaining the volumetric flow rate at the inlet of the control device at or above the minimum level established during the initial or subsequent performance test; and

(ii) Checking the volumetric flow rate at least every 8 hours to verify the volumetric flow rate is at or above the minimum level established during the initial or subsequent performance test and recording the results of each check.

(e) For each by-product coke oven battery with vertical flues subject to the opacity limit for fugitive pushing emissions (Option 1) in § 63.7291(a), you must demonstrate continuous compliance by having met the requirements of paragraphs (c)(1) and (2) of this section:

(1) Maintaining the daily average opacity of fugitive emissions at no more than 20 percent for a short battery or 25 percent for a tall battery; and

(2) Determining and recording the opacity of fugitive emissions for four consecutive pushes per operating day according to the performance test procedures in § 63.7324(b), and ensuring that each oven in an affected battery is observed at least once every 3 months.

(f) For each by-product coke oven battery subject to the opacity limit for stacks in § 63.7296(a), you must demonstrate continuous compliance by having met the requirements of paragraphs (f)(1) and (2) of this section:

(1) Maintaining the daily average opacity at or below 15 percent for a battery on a normal coking cycle or 20 percent for a battery on batterywide extended coking; and

(2) Operating and maintaining a COMS and collecting and reducing the COMS data according to § 63.7331(e).

§ 63.7334 How do I demonstrate continuous compliance with the work practice standards that apply to me?

(a) For each by-product coke oven battery with vertical flues subject to the work practice standards for fugitive pushing emissions (Option 2) in § 63.7291(b), you must demonstrate continuous compliance by having met the requirements of paragraphs (a)(1) and (2) of this section:

(1) Determining and recording the opacity of fugitive emissions for four consecutive pushes per operating day according to the procedures in § 63.7324(b)(1) through (3), and ensuring that each oven in an affected battery is observed at least once every 3 months; and

(2) Assigning each oven observed that exceeds the opacity trigger of 30 percent for any short battery or 35 percent for any tall battery to the oven-directed program and recording all relevant information according to the requirements in § 63.7291(b)(5) through (11), including but not limited to, daily pushing schedules, records of diagnostic procedures, corrective actions, and oven repairs.

(b) For each by-product coke oven battery with horizontal flues subject to the work practice standards for fugitive pushing emissions in § 63.7292(a), you must demonstrate continuous compliance by having met the requirements of paragraphs (b)(1) through (3) of this section:

(1) Measuring and recording the temperature of all flues on two ovens per day within 2 hours of the oven's scheduled pushing time and ensuring that the temperature of each oven is measured and recorded at least once every month;

(2) Recording the time each oven is charged and pushed and calculating and recording the net coking time for each oven; and

(3) Extending the coking time for each oven that falls below the minimum flue temperature trigger established for that oven's coking time in the written plan required in § 63.7292(a)(1), assigning the oven to the oven-directed program, and recording all relevant information according to the requirements in § 63.7292(a)(6) including, but not limited to, daily pushing schedules, diagnostic procedures, corrective actions, and oven repairs.

(c) For each non-recovery coke oven battery subject to the work practice standards in § 63.7293(a), you must demonstrate continuous compliance by maintaining records that document each visual inspection of an oven prior to pushing and that the oven was not pushed unless there was no smoke in the open space above the coke bed and there was an unobstructed view of the door on the opposite side of the oven.

(d) For each by-product coke oven battery subject to the work practice standard for soaking in § 63.7294(a), you must demonstrate continuous compliance by maintaining records that document the automatic or manual ignition of vented gases from each standpipe. If the vented gases do not ignite automatically, the records must include the time the standpipe cap is opened and the time the vented gases are manually ignited.

(e) For each coke oven battery, you must demonstrate continuous compliance with the work practice standard for quenching in § 63.7295(a) by having met the requirements of paragraphs (e)(1) and (2) of this section:

(1) Maintaining baffles in each quench tower such that at least 95 percent of the cross-sectional area of the tower is covered as required in § 63.7295(a)(1); and

(2) Maintaining records that document conformance with the washing, inspection, and repair requirements in § 63.7295(a)(2) through (4).

§ 63.7335 How do I demonstrate continuous compliance with the operation and maintenance requirements that apply to me?

(a) For each by-product coke oven battery, you must demonstrate continuous compliance with the operation and maintenance requirements in § 63.7300(b) by adhering at all times to the plan requirements and recording all information needed to document conformance.

(b) For each coke oven battery with a capture system or control device applied to pushing emissions, you must demonstrate continuous compliance with the operation and maintenance requirements in § 63.7300(c) by meeting the requirements of paragraphs (b)(1) through (3) of this section:

(1) Making monthly inspections of capture systems according to § 63.7300(c)(1) and recording all information needed to document conformance with these requirements;

(2) Performing preventative maintenance for each control device according to § 63.7300(c)(2) and recording all information needed to document conformance with these requirements; and

(3) Initiating and completing corrective action for a bag leak detection system alarm according to § 63.7300(c)(3) and recording all information needed to document conformance with these requirements.

(c) You must maintain a current copy of the operation and maintenance plans required in § 63.7300(b) and (c) onsite and available for inspection upon request. You must keep the plans for the life of the affected source or until the affected source is no longer subject to the requirements of this subpart.

§ 63.7336 What other requirements must I meet to demonstrate continuous compliance?

(a) *Deviations.* You must report each instance in which you did not meet each emission limitation in this subpart that applies to you. This includes periods of startup, shutdown, and malfunction. You must also report each instance in which you did not meet

each work practice standard or operation and maintenance requirement in this subpart that applies to you. These instances are deviations from the emission limitations (including operating limits), work practice standards, and operation and maintenance requirements in this subpart. These deviations must be reported according to the requirements in § 63.7341.

(b) *Startup, shutdowns, and malfunctions.* During periods of startup, shutdown, and malfunction, you must operate in accordance with your startup, shutdown, and malfunction plan.

(1) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan.

(2) The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in § 63.6(e).

§§ 63.7337–63.7339 [Reserved]

Notification, Reports, and Records

§ 63.7340 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.6(h)(4) and (h)(5), 63.7(b) and (c), 63.8(e) and (f)(4), and 63.9(b) through (h) that apply to you by the specified dates.

(b) As specified in § 63.9(b)(2), if you startup your affected source before [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must submit your initial notification no later than [120 DAYS FROM THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(c) As specified in § 63.9(b)(3), if you startup your new affected source on or after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must submit your initial notification no later than 120 calendar days after you become subject to this subpart.

(d) If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required in § 63.7(b)(1).

(e) If you are required to conduct a performance test, opacity observation, or other initial compliance demonstration, you must submit a notification of compliance status according to § 63.9(h)(2)(ii).

(1) For each initial compliance demonstration that does not include a performance test, you must submit the notification of compliance status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration that does include a performance test, you must submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following completion of the performance test according to § 63.10(d)(2).

§ 63.7341 What reports must I submit and when?

(a) *Compliance report due dates.* Unless the Administrator has approved a different schedule, you must submit monthly compliance reports for battery stacks and semiannual compliance reports for all other affected sources to your permitting authority according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) The first monthly compliance report for battery stacks must cover the period beginning on the compliance date that is specified for your affected source in § 63.7283 and ending on the last date of the same calendar month. Each subsequent compliance report must cover the next calendar month.

(2) The first semiannual compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.7283 and ending on June 30 or December 31, whichever date comes first after the compliance date that is specified for your affected source. Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(3) All monthly compliance report for battery stacks must be postmarked or delivered no later than one calendar month following the end of the monthly reporting period. All semiannual compliance reports must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(4) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(a)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (a)(1) through (3) of this section.

(b) *Monthly compliance report contents.* Each monthly report must provide information on compliance with the emission limitations for battery stacks in § 63.7296. The reports must include the information in paragraphs (c)(1) through (3), and as applicable, paragraphs (c)(4) through (8) of this section.

(c) *Semiannual compliance report contents.* Each compliance report must provide information on compliance with the emission limitations, work practice standards, and operation and maintenance requirements for all affected sources except battery stacks. The reports must include the information in paragraphs (c)(1) through (3) of this section, and as applicable, paragraphs (c)(4) through (8) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in § 63.10(d)(5)(i).

(5) If there were no deviations from the continuous compliance requirements in § 63.7333(f) for battery stacks, a statement that there were no deviations from the emission limitations during the reporting period. If there were no deviations from the continuous compliance requirements in §§ 63.7333 through 63.7335 that apply to you (for all affected sources other than battery stacks), a statement that there were no deviations from the emission limitations, work practice standards, or operation and maintenance requirements during the reporting period.

(6) If there were no periods during which a continuous monitoring system (including COMS, continuous emission monitoring system (CEMS), or CPMS) was out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which a continuous monitoring system was out-of-control during the reporting period.

(7) For each deviation from an emission limitation in this subpart and for each deviation from the

requirements for work practice standards in this subpart that occurs at an affected source where you are not using a continuous monitoring system (including a COMS, CEMS, or CPMS) to comply with the emission limitations in this subpart, the compliance report must contain the information in paragraphs (c)(4) and (c)(7)(i) and (ii) of this section. This includes periods of startup, shutdown, and malfunction.

(i) The total operating time of each affected source during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

(8) For each deviation from an emission limitation occurring at an affected source where you are using a continuous monitoring system (including COMS, CEMS, or CPMS) to comply with the emission limitation in this subpart, you must include the information in paragraphs (c)(4) and (c)(8)(i) through (xii) of this section. This includes periods of startup, shutdown, and malfunction.

(i) The date and time that each malfunction started and stopped.

(ii) The date and time that each continuous monitoring system (including COMS, CEMS, or CPMS) was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time, and duration that each continuous monitoring system (including COMS, CEMS, or CPMS) was out-of-control, including the information in § 63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(v) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

(viii) An identification of each HAP that was monitored at the affected source.

(ix) A brief description of the process units.

(x) A brief description of the continuous monitoring system.

(xi) The date of the latest continuous monitoring system certification or audit.

(xii) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

(d) *Immediate startup, shutdown, and malfunction report.* If you had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with your startup, shutdown, and malfunction plan, you must submit an immediate startup, shutdown, and malfunction report according to the requirements in § 63.10(d)(5)(ii).

(e) *Part 70 monitoring report.* If you have obtained a title V operating permit for an affected source pursuant to 40 CFR part 70 or 71, you must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If you submit a compliance report for an affected source along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emission limitation or work practice standard in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation you may have to report deviations from permit requirements to your permitting authority.

§ 63.7342 What records must I keep?

(a) You must keep the records specified in paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) The records in § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, performance evaluations, and opacity observations as required in § 63.10(b)(2)(viii).

(b) For each COMS or CEMS, you must keep the records specified in paragraphs (b)(1) through (4) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Monitoring data for COMS during a performance evaluation as required in § 63.6(h)(7)(i) and (ii).

(3) Previous (that is, superceded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records in § 63.6(h)(6) for visual observations.

(d) You must keep the records required in §§ 63.7333 through 63.7335 to show continuous compliance with each emission limitation, work practice standard, and operation and maintenance requirement that applies to you.

§ 63.7343 In what form and how long must I keep my records?

(a) You must keep your records in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records offsite for the remaining 3 years.

§§ 63.7344–63.7349 [Reserved]

Other Requirements and Information

§ 63.7350 What parts of the General Provisions apply to me?

Table 1 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

§ 63.7351 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities

contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities in paragraphs (c)(1) through (5) of this section will not be delegated to State, local, or tribal agencies.

(1) Approval of alternatives to work practice standards for fugitive pushing emissions (Option 2) in § 63.7291(b) for a by-product coke oven battery with vertical flues, fugitive pushing emissions in § 63.7292(a) for a by-product coke oven battery with horizontal flues, fugitive pushing emissions in § 63.7293 for a non-recovery coke oven battery, soaking for a by-product coke oven battery in § 63.7294(a), and quenching for a coke oven battery in § 63.7295(a) under § 63.6(g).

(2) Approval of alternative opacity emission limitations for fugitive pushing emissions (Option 1) in § 63.7291(a) and battery stacks in § 63.7296(a) for a by-product coke oven battery under § 63.6(h)(9).

(3) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(4) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(5) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

§ 63.7352 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA), in § 63.2, and in this section as follows:

Baffles means an apparatus comprised of obstructions for checking or deflecting the flow of gases. Baffles are installed in a quench tower to remove droplets of water and particles from the rising vapors by providing a point of impact. Baffles may be installed either inside or on top of quench towers and are typically constructed of treated wood, steel, or plastic.

Battery stack means the stack that is the point of discharge to the atmosphere of the combustion gases from a battery's underfiring system.

Batterywide extended coking means increasing the average coking time for all ovens in the coke oven battery by 25 percent or more over the normal coking time.

By-product coke oven battery means 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.

Clean water means surface water from a river, lake, or stream; water meeting drinking water standards; water that has been used for non-contact cooling; or process wastewater that has been treated to remove organic compounds and/or dissolved solids.

Coke oven battery means a group of ovens connected by common walls, where coal undergoes destructive distillation to produce coke. A coke oven battery includes by-product and non-recovery processes.

Coke plant means a facility that produces coke from coal in either a by-product coke oven battery or a non-recovery coke oven battery.

Cokeside shed means a structure used to capture pushing emissions that encloses the cokeside of the battery and ventilates the emissions to a control device.

Coking time means the time interval that starts when an oven is charged with coal and ends when the oven is pushed.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation (including operating limits) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Emission limitation means any emission limit, opacity limit, or operating limit.

Extended coking means increasing the charge-to-push time for an individual oven.

Four consecutive pushes means four pushes observed successively. Exclude any push during which the observer's view is obstructed or obscured by interferences, and observe the next available push to complete the set of four pushes.

Fugitive pushing emissions means emissions from pushing that are not collected by a capture system.

Horizontal flue means a type of coke oven heating system used on Semet-Solvay batteries where the heating flues run horizontally from one end of the oven to the other end, and the flues are not shared with adjacent ovens.

Independent certified observer means a visible emission observer certified to perform opacity observations under EPA Method 9 in appendix A of 40 CFR part 60 that is not an employee of or consultant to the owner or operator of the coke plant or coke oven battery.

Non-recovery coke oven battery means 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.

Normal coking time means the batterywide coking time that is representative of routine operation.

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

Pushing means the process of removing the coke from the oven. Pushing begins when coke first begins to fall from the oven into the quench car and ends when the quench car enters the quench tower.

Quenching means the wet process of cooling (wet quenching) the hot incandescent coke by direct contact with water that begins when the quench car enters the quench tower and ends when the quench car exits the quench tower.

Quench tower means the structure in which hot incandescent coke in the quench car is deluged or quenched with water.

Remove from service means that an oven is not charged with coal and is not used for coking. When removed from service, the oven may remain at the operating temperature or it may be cooled down for extensive repairs.

Responsible official means responsible official as defined in § 63.2.

Short battery means a by-product coke oven battery with ovens less than five meters in height.

Soaking means that period in the coking cycle that starts when an oven is dampered off the collecting main and vented to the atmosphere through an open standpipe prior to pushing and ends when the coke begins to be pushed from the oven.

Standpipe means an apparatus on the oven that provides a passage for gases from an oven to the collecting main or to the atmosphere when the oven is dampered off the collecting main and the standpipe cap is opened.

Tall battery means a by-product coke oven battery with ovens five meters or more in height.

Vertical flue means a type of coke oven heating system in which the heating flues run vertically from the

bottom to the top of the oven, and flues are shared between adjacent ovens.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

§§ 63.7353–63.7359 [Reserved]

Tables to Subpart CCCCC

Table 1 to Subpart CCCCC. Applicability of General Provisions to Subpart CCCCC

As required in § 63.7350, you must comply with each applicable requirement of the NESHAP General Provisions (40 CFR part 63, subpart A) as shown in the following table:

Citation	Subject	Applies to Subpart CCCCC?	Explanation
§ 63.1	Applicability	Yes.	
§ 63.2	Definitions	Yes.	
§ 63.3	Units and Abbreviations	Yes.	
§ 63.4	Prohibited Activities	Yes.	
§ 63.5	Construction/Reconstruction	Yes.	
§ 63.6(a), (b), (c), (d), (e), (f), (g), (h)(2)(ii)–(8).	Compliance with Standards and Maintenance Requirements.	Yes.	
§ 63.6(h)(2)(i)	Determining Compliance with Opacity and VE Standards.	No	Subpart CCCCC specifies Method 9 (40 CFR Part 60) for determining the opacity of fugitive emissions from pushing under Option 1 for proposal.
§ 63.6(h)(9)	Adjustment to an Opacity Emission Standard.	Yes	Except subpart CCCCC specifies additional information to be submitted.
§ 63.7(a)(3), (b), (c)–(h)	Performance Testing Requirements	Yes.	
§ 63.7(a)(1)–(2)	Applicability and Performance Test Dates.	No	Subpart CCCCC specifies applicability and dates.
§ 63.8(a)(1)–(3), (b), (c)(1)–(3), (c)(4)(i)–(ii), (c)(5)–(8), (f) (1)–(5), (g) (1)–(4).	Monitoring Requirements	Yes	CMS requirements in § 63.8(c)(4)(i)–(ii),(c)(5), (c)(6), (d), and (e) apply only to COMS for battery stacks.
§ 63.8(a)(4)	Additional Monitoring Requirements for Control Devices in § 63.11.	No	Flares are not a control device for Subpart CCCCC affected sources.
§ 63.8(c)(4)	Continuous Monitoring System (CMS) Requirements.	No	Subpart CCCCC specifies requirements for operation of CMS.
§ 63.8(f)(6)	RATA Alternative	No	Subpart CCCCC does not require CEMS.
§ 63.8(g)(5)	Data Reduction	No	Subpart CCCCC specifies data that can't be used in computing averages for COMS.
§ 63.9	Notification Requirements	Yes	Additional notifications for CMS in § 63.9(g) apply only to COMS for battery stacks.
§ 63.10(a), (b)(1)–(b)(2)(xii), (b)(2)(xii) (b)(2)(xiv), (b)(3), (c)(1), (6), (c)(9)–(6), (c)(9), (15), (d), (e)(1)–(2), (e) (4), (f).	Recordkeeping and Reporting Requirements.	Yes	Additional records for CMS in § 63.10(c) (1)–(6), (9)–(15), and reports in § 63.10(d) (1)–(2) apply only to COMS for battery stacks.
§ 63.10(b)(2)(xi–(xii)	CMS Records for RATA Alternative	No	Subpart CCCCC doesn't require CEMS.
§ 63.10(c) (7)–(8)	Records Parameter Monitoring Exceedances for CMS.	No	Subpart CCCCC specifies record requirements.
§ 63.10(e)(3)	Excess Emission Reports	No	Subpart CCCCC specifies reporting requirements.
§ 63.11	Control Device Requirements	No	Subpart CCCCC does not require flares.
§ 63.12	State Authority and Delegations	Yes.	
§§ 63.13–63.15	Addresses, Incorporation by Reference, Availability of Information.	Yes.	

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