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Part II

# Environmental Protection Agency

**40 CFR Part 64, et al.**

**Compliance Assurance Monitoring; Final Rule**

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Parts 64, 70, and 71

**[IL–64–2–5807; FRL–5908–6]**

**RIN 2060–AD18**

### Compliance Assurance Monitoring

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule; Final rule revisions.

**SUMMARY:** Pursuant to requirements concerning enhanced monitoring and compliance certification under the Clean Air Act (the Act), EPA is promulgating new regulations and revised regulations to implement compliance assurance monitoring (CAM) for major stationary sources of air pollution that are required to obtain operating permits under title V of the Act. Subject to certain exemptions, the new regulations require owners or operators of such sources to conduct monitoring that satisfies particular criteria established in the rule to provide a reasonable assurance of compliance with applicable requirements under the Act. Monitoring will focus on emissions units that rely on pollution control device equipment to achieve compliance with applicable standards. The regulations also provide procedures for coordinating these new requirements with EPA's operating permits program regulations. Revisions to the operating permits program regulations clarify the relationship between the 64 requirements and periodic monitoring and compliance certification requirements. The rulemaking is estimated to improve compliance with existing regulations which will potentially reduce the need for further regulation to achieve clean air goals at a cost significantly less than that of the 1993 proposed rule.

**DATES:** The effective date of this rule is November 21, 1997.

**ADDRESSES:** *Docket.* Supporting information used in developing the regulations is contained in Docket No. A–91–52. This docket is available for public inspection and copying between 8:00 a.m. and 5:30 p.m. Monday through Friday, excluding government holidays, and is located at: EPA Air Docket (LE–131), Room M–1500, Waterside Mall, 401 M Street SW, Washington, DC 20460. A reasonable fee may be charged for copying.

**FOR FURTHER INFORMATION CONTACT:** Peter Westlin, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, at (919) 541–1058.

**SUPPLEMENTARY INFORMATION:** The contents of the preamble are listed in the following outline:



The first section of this preamble provides an introduction to the principles underlying EPA's CAM approach, the benefits of the part 64 rulemaking, and background on the statutory provisions and key issues involved with developing the rule. This section also summarizes the public's participation in the development of the rulemaking. The second section of the preamble presents a more detailed summary of the regulations. This section includes a description of the provisions and the basic purpose of each provision. This section also describes the Agency's response to the comments received on the original proposal, as supplemented by additional comments during subsequent periods in which public input was requested and obtained. The preamble describes how the final rule has been changed from the proposal in response to the input received. The final section of the preamble addresses administrative requirements for Federal regulatory actions.

The preamble includes many citations which refer the reader to more detailed discussions of a topic or to the origin of certain requirements. These citation sections generally will not be followed by their source, such as "of this preamble" or "of the Act." Rather, the reader can recognize the origins of the sections by their nature: sections of the preamble begin with a Roman numeral; sections of the regulations in 40 CFR part 64 range from §§ 64.1 to 64.11; sections of the regulations in 40 CFR part 70 range from §§ 70.1 to 70.11; sections of other existing EPA regulations are preceded by 40 CFR; and sections of the Act are referenced by a three-digit number, such as 114 or 504.

This preamble often refers to "State" or "permitting authority." The reader should assume that where the preamble refers to a "State", such term also includes local air pollution agencies, Indian tribes, and territories of the United States to the extent they are or will be the permitting authority for their area, or have been or will be delegated permitting responsibilities under the Act. In addition, the term "permitting authority" would also include EPA to the extent EPA is the permitting authority of record.

Finally, this preamble often refers to 40 CFR part 70, the regulations promulgated July 21, 1992, implementing the operating permits program under title V of the Act (57 FR 32250). The EPA has proposed revisions to those regulations on August 29, 1994 (59 FR 44460), and August 31, 1995 (60 FR 45530). Those regulations, including the proposed revisions, provide requirements applicable to federally-approved, State-administered operating permits programs. Where a State fails to submit an approvable program or to adequately administer and enforce an approved program, EPA will have to promulgate, administer and enforce a Federal program for title V permits in that State. The reader should assume that where the preamble refers to 40 CFR part 70, such term may also refer to an EPA-administered (Federal) operating permits program, which EPA has promulgated under 40 CFR part 71 (see July 1, 1996, 61 FR 34202).

## I. Background and Summary of the Rulemaking

### *A. Statutory Authority*

The part 64 regulations respond to the statutory mandate in the Clean Air Act Amendments of 1990. The 1990 Amendments contain several provisions directing the Agency to require owners or operators to conduct monitoring and to make compliance certifications. These provisions are set forth in both title V (operating permits provisions) and title VII (enforcement provisions) of the 1990 Amendments.

Title V directs the Agency to implement monitoring and compliance certification requirements through the

operating permits program. Section 503(b)(2) requires at least annual certifications of compliance with permit requirements and prompt reporting of deviations from permit requirements. Section 504(a) mandates that owners or operators submit to the permitting authority the results of any required monitoring at least every six months. This section also requires permits to include "such other conditions as are necessary to assure compliance with applicable requirements" of the Act. Section 504(b) of the Act also allows the Agency to prescribe, by rule, methods and procedures for determining compliance, and states that continuous emission monitoring systems need not be required if other methods or procedures provide sufficiently reliable and timely information for determining compliance. Under section 504(c), each operating permit must "set forth inspection, entry, monitoring, compliance certification, and reporting requirements to assure compliance with the permit terms and conditions."

Title VII of the 1990 Amendments added a new section 114(a)(3) that requires EPA to promulgate rules on enhanced monitoring and compliance certifications. This paragraph provides, in part:

> The Administrator shall in the case of any person which is the owner or operator of a major stationary source, and may, in the case of any other person, require enhanced monitoring and submission of compliance certifications. Compliance certifications shall include (A) identification of the applicable requirement that is the basis of the certification, (B) the method used for determining the compliance status of the source, (C) the compliance status, (D) whether compliance is continuous or intermittent, (E) such other facts as the Administrator may require.

The 1990 Amendments also revised section 114(a)(1) of the Act to provide additional authority concerning monitoring, reporting, and recordkeeping requirements. As amended, that section provides the Administrator with the authority to require any owner or operator of a source:

> On a one-time, periodic or continuous basis to—
>
> (A) Establish and maintain such records;
>
> (B) Make such reports;
>
> (C) Install, use, and maintain such monitoring equipment;
>
> (D) Sample such emissions (in accordance with such procedures or methods, at such locations, at such intervals, during such periods and in such manner as the Administrator shall prescribe);
>
> (E) Keep records on control equipment parameters, production variables, or other indirect data when direct monitoring of emissions is impractical;
>
> (F) Submit compliance certifications in accordance with section 114(a)(3); and
>
> (G) Provide such other information as the Administrator may reasonably require.

*B. Rulemaking History*

The EPA has acted to implement the statutory provisions discussed above in two separate ways. First, the part 70 operating permits program includes basic monitoring and compliance certification requirements. Section 70.6(a)(3)(i) requires that permits include all existing monitoring and testing requirements set forth in applicable requirements. In many cases, the monitoring requirements in the underlying regulations will suffice for assessing compliance. However, if particular applicable requirements do not include periodic testing or monitoring, then § 70.6(a)(3)(i)(B) requires the permit to include "periodic monitoring" to fill that gap. Section 70.6(c)(5)(iii) requires the submittal of compliance certifications no less frequently than annually, and generally incorporates the language on compliance certifications included in section 114(a)(3) of the Act.

To implement the statutory requirement for enhanced monitoring, EPA has developed through this rulemaking a general monitoring rule in 40 CFR part 64 to be implemented through the part 70 operating permits program. The Agency first provided notice in the **Federal Register** of an opportunity for public review and comment on this concept in August 1991 (see 56 FR 37700). A public information document was made available, a public meeting was held, and written comments were received after the meeting. A subsequent public meeting was held in August 1993, and a proposed rule was published on October 22, 1993 (58 FR 54648). This proposed rule is referred to as the "1993 EM proposal" throughout the remainder of this preamble.

The Agency received approximately 2000 comment letters during the public comment period. These letters contained several thousand individual comments on more than 500 major and minor issue topics. Because of some of the complex and difficult issues raised, the Agency held a series of stakeholder meetings in the fall of 1994, released draft sections of a possible final rule, and then officially reopened the public comment period on specific issues on December 28, 1994 (59 FR 66844). An additional stakeholder meeting was held near the close of that reopened comment period, and more than 200 additional comment letters were received.

In April 1995, EPA decided to shift the emphasis of part 64. The Agency issued a press release in early April 1995 that indicated EPA's intent to hold a public meeting to discuss the potential changes to the proposed enhanced monitoring rule, and then contacted various stakeholder groups so that they would have the opportunity to participate. A formal notice of the meeting was also published in the **Federal Register** on May 26, 1995 (60 FR 27943). Approximately 200 people attended the meeting on May 31, 1995, and many additional people attended the follow-up meetings held in June 1995 in Washington, DC, Cincinnati, Austin, and Portland, Oregon. The Agency then drafted a preamble and rule for public discussion and comment, and held another public meeting in September 1995. (See 60 FR 48679, September 20, 1995, for the formal **Federal Register** notice of that meeting and request for comment.) Approximately 150 people attended that meeting, and EPA received more than 60 written comment letters on the draft rule package. The Agency subsequently issued a draft final part 64 and discussion document in August 1996 (see 61 FR 41991, August 13, 1996) and held another public meeting in September 1996. The 1995 and 1996 draft rules are referred to as the "1995 part 64 Draft" and "1996 part 64 Draft," respectively, throughout the remainder of this preamble. Approximately 200 people attended and 120 written comment letters were submitted during the comment period. The Agency also has held numerous informal stakeholder discussions with interested parties to discuss the CAM approach, and received additional written comments during the period since April 1995. (See the items in sections II–D, II–E, IV–D, IV–E, IV–F, VI–D, VI–E, and VI–F of Docket A–91–52 for a complete record of written comments submitted by stakeholders, and discussions between EPA and interested parties concerning the rulemaking.)

This preamble addresses the changes to part 64 that have been made in response to the significant public comment received during the course of the rulemaking. The focus is on documenting the changes made in response to the comments received on the formal 1993 proposed rule, as well as specific changes made in response to comments received on the draft rule materials made available in 1995 and 1996. The Agency has also prepared a detailed, three–part Response to Comments Document which includes a response to all material comments on

the rule. See Docket Items A–91–52–VII–C–1 through VII–C–3.

*C. Overview of the CAM Approach*

1. General Approach

The CAM approach as defined in part 64 is intended to address the requirement in title VII of the 1990 Amendments that EPA promulgate enhanced monitoring and compliance certification requirements for major sources, and the related requirement in title V that operating permits include monitoring, compliance certification, reporting and recordkeeping provisions to assure compliance. The EPA has long recognized that obtaining ongoing compliance is a two-step process. First, the Agency must determine whether properly designed control measures—including, as applicable, control devices, process modifications, operating limitations or other control measures—are installed or otherwise employed, and that those control measures are proven to be capable of achieving applicable requirements. In the past, this step has been addressed through new source review permitting, initial stack testing, compliance inspections and similar mechanisms. The title V permit application and review process, including the applicant's initial compliance certification and compliance plan obligations, will add another tool for assuring that source owners or operators have adopted the proper control measures for achieving compliance. The second step is to monitor to determine that the source continues to meet applicable requirements. An important aspect of this second step is to assure that the control measures, once installed or otherwise employed, are properly operated and maintained so that they do not deteriorate to the point where the owner or operator fails to remain in compliance with applicable requirements. The Agency believes that monitoring, reporting, recordkeeping and ongoing or recurring compliance certification requirements under title VII should be designed so that owners or operators carry out this second step in assuring ongoing compliance.

There are two basic approaches to assuring that control measures taken by the owner or operator to achieve compliance are properly operated and maintained so that the owner or operator continues to achieve compliance with applicable requirements. One method is to establish monitoring as a method for directly determining continuous compliance with applicable requirements. The Agency has adopted this approach in some rulemakings and, as discussed below, is committed to following this approach whenever appropriate in future rulemakings. Another approach is to establish monitoring for the purpose of: (1) Documenting continued operation of the control measures within ranges of specified indicators of performance (such as emissions, control device parameters and process parameters) that are designed to provide a reasonable assurance of compliance with applicable requirements; (2) indicating any excursions from these ranges; and (3) responding to the data so that excursions are corrected. The part 64 published today adopts this second approach as an appropriate approach to enhancing monitoring in the context of title V permitting for significant emission units that use control devices to achieve compliance with emission limits. For units not covered by part 64, a similar but less detailed approach is provided for in the monitoring and related recordkeeping and reporting provisions of part 70 (see § 70.6(a)(3)).

The rule defines "control devices" to mean equipment that removes pollutants or transforms pollutants to passive emissions (see § 64.1), as opposed to other control measures, such as process modifications, material substitution, and other control options. For significant units that use control devices to achieve compliance, the owner or operator will have to develop and propose, through the part 70 permit process, monitoring that meets specified criteria for selecting appropriate indicators of control performance, establishing ranges for those indicators, and for responding to any excursions from those ranges. The final rule also includes performance and operating criteria that must be achieved, as well as documentation requirements for the monitoring proposed by the owner or operator.

The final element of part 64 is the concept of a quality improvement plan (QIP). Under the final rule, a QIP may be required where the owner or operator has failed to satisfy the general duty to properly operate and maintain an emissions unit (including the applicable control device) or the owner or operator has evidence of a failure to comply with an applicable requirement, as determined through part 64 monitoring data and/or other appropriate information (such as inspections). The rule allows for the permit to establish a "bright line" test for implementing a QIP, but does not require such a test.

The QIP would include both an initial "problem investigation" phase and a "corrective action" phase. The rule provides for the QIP mechanism so that permitting authorities have a specific regulatory tool to address situations in which an owner or operator operates in a manner that involves excursions followed by ineffective actions to bring the monitored indicators back into the acceptable ranges established in the permit. Thus, the QIP will help assure that the owner or operator pays attention to the data and, if necessary, improves performance to the point where ongoing compliance with applicable requirements is reasonably assured. See Section II.H. for further discussion of QIP issues.

2. Implementation through Permits

a. *Burdens to the Permitting Process.* Many commenters, including State and local agencies, industry, and environmental groups raised concerns in their comments that the part 64 process of selecting the appropriate monitoring for a particular source would overburden the permitting process and lead to poor implementation. The Agency is very sensitive to these concerns; however, the Agency continues to believe that, consistent with the preamble to the 1993 EM proposal, the permit implementation approach provides the greatest amount of flexibility to the regulated community and States while at the same time ensuring that enhanced monitoring will be implemented for all major sources in a reasonably expeditious time frame. In addition, the Agency has taken several significant steps in the final rule to reduce the potential burden to the permitting process, including the actions discussed below.

i. *Applicability.* The focus of applicability on those pollutant-specific emissions units that rely on control devices to achieve compliance has reduced the estimated number of units that will be subject to part 64 and also has reduced the variety of emissions unit types that will be affected by part 64. This reduction in the volume and breadth of units covered by part 64 will reduce the overall burdens on the permit process.

ii. *Extended Implementation Period.* As discussed in Section II.E., the final rule provides for a new extended implementation schedule. Only those units which are major units based on their potential to emit will be subject to part 64 requirements prior to the renewal of an initial part 64 permit. In addition, in many cases, implementation will not be required for these large units until permit renewal. For the smaller units covered by part 64, implementation will not occur until

permit renewal. This extended implementation schedule will relieve much of the burden on source owners or operators to develop and prepare proposed monitoring during the initial part 70 permitting process and will similarly relieve the burdens of the approval process on permitting authorities.

iii. *Guidance Development Process.* The Agency is committed to developing non-prescriptive examples of the types of monitoring that can be used to satisfy part 64 for various types of control devices and emissions units. The guidance development process will provide an opportunity for source owners or operators and other interested parties to submit suggestions, review drafts and generally clarify the part 64 requirements. The Agency emphasizes that the development of example monitoring approaches is intended to assist both regulated industry and permitting authorities to streamline permit review in those instances where a source owner or operator proposes monitoring based on one of the examples. These examples should not be considered as an implied limitation on the owner or operator's ability to propose a different approach that the owner or operator can demonstrate satisfies the part 64 requirements or on the permitting authority's authority to require additional monitoring.

iv. *General Clarifications.* Finally, the potential implementation burdens have been reduced by adopting many general clarifications in the final rule. For instance, the final rule clearly states that emissions units that are not subject to applicable requirements are not required to conduct part 64 monitoring. A second example is the streamlined performance and operating design criteria in the final rule, which are substantially less complex and burdensome than the comparable requirements in the appendices to the 1993 EM proposal.

b. *Creation of New Substantive Standards.* Many commenters argued that the requirements in part 64 were inconsistent with EPA's stated position that the part 70 operating permits program was intended solely to collect existing requirements in one document, without creating new substantive obligations for source owners or operators. The Agency disagrees with these arguments. As mentioned in section I.A., the part 64 regulations respond to the statutory mandate in the Clean Air Act Amendments of 1990 and the part 70 regulations implement title V of the Clean Air Act Amendments of 1990, which directs the Agency to implement monitoring and compliance certification requirements through the operating permits program. The part 64 requirements are independently applicable, substantive requirements that an owner or operator must achieve. The fundamental requirements of part 64 are to: (a) Monitor compliance in a manner that is sufficient to yield data that provide a reasonable assurance of compliance and allow an owner or operator to make an informed certification of compliance; (b) take necessary corrective actions in response to the monitoring data; (c) report on the results of such monitoring; and (d) maintain records of such monitoring. None of these fundamental obligations under part 64 will be added as part of a part 70 permit independently of part 64. What will be added as part of the permit process are the particulars as to how a specific source owner or operator will satisfy these general part 64 requirements. This type of regulatory structure is entirely consistent with the purpose of a permit process which is to specify how general obligations will be achieved in particular circumstances.

c. *Consistency of Implementation.* Implementation of part 64 through the part 70 permits program means that part 64 will be implemented on a case-by-case basis. Many industry and State and local agencies supported EPA's proposal to allow for a flexible implementation approach that allows for adopting monitoring that is most appropriate to a particular emission unit's circumstances. However, many industry, environmental and State and local agency commenters also raised concerns that the case-by-case implementation process in part 64 may not be implemented in a reasonably consistent manner by different permitting authorities.

The EPA acknowledges the potential significance of these concerns; however, EPA believes that they have been overstated by the commenters. As discussed in Section II. below, EPA has taken steps to minimize potential inconsistencies by simplifying and clarifying the final rule. Also, EPA must weigh these concerns against the significant policy concerns that would exist if the Agency attempted to develop specific enhanced monitoring requirements for each NSPS and NESHAP standard, as well as the burdens on States to revisit each SIP regulation, as well as individual State preconstruction and operating permits. The administrative burdens associated with that approach would severely hinder the effective and timely implementation of enhanced monitoring for most sources for many years. In addition, such an approach fails to acknowledge the new benefits of the operating permits program to tailor general requirements in a manner that is most appropriate to the circumstances at a particular source. For these reasons, EPA believes that the benefits of the permit implementation approach far outweigh the concerns over consistency in implementation.

d. *Programmatic Options.* Some stakeholders have suggested alternative means of implementing part 64 requirements. One alternative suggested was to allow a State the option of implementing part 64 monitoring requirements through programmatic rule changes instead of implementing CAM through source-specific part 64 requirements. One potential method for allowing this option is to exempt from part 64 monitoring any emissions units for which a State has developed requirements specifically designed to satisfy part 64 in a rule that has been submitted and approved as part of the SIP. Another would be to delay implementation of part 64 to provide an opportunity for a State to devise a competitive monitoring program for submittal to and approval by EPA.

The final rule will allow states to implement CAM through rulemaking pertaining to categories of sources. The EPA encourages States to consider adding monitoring requirements to existing and new rules that are consistent with part 64 requirements. In this manner, the burdens associated with source-specific monitoring development could be reduced. To provide an incentive for this type of rule, the final rule includes a provision (see § 64.4(b)) that allows the owner or operator to rely upon this type of programmatic rule as the primary documentation of the appropriateness of its monitoring. This approach would reduce the number of case-by-case reviews necessary to implement part 64.

On the other hand, EPA does not agree with commenters who suggest that states that choose to use programmatic rulemaking should be allowed to apply different criteria in determining monitoring and to have additional time to implement such an approach. The EPA believes monitoring decisions should be made on the same basis whether done on a programmatic or case-by-case basis. Second, EPA questions both the need for a substantial delay for programmatic rulemaking and whether the purported advantages of a programmatic approach justify any substantial delay. The final part 64 does not include an option for permitting authorities to delay implementation of part 64 through use of a programmatic approach.

Because of the implementation schedule for part 64 (see Section II.E.), owners or operators will not have to implement part 64 for many emissions units until renewal of initial part 70 permits. These include both large units that are at sources which have already received or are in the process of receiving part 70 permits, and smaller units for which the rule explicitly delays implementation until permit renewal. This schedule provides substantial time for States to adopt SIP regulations, as discussed above, that are consistent with part 64, especially for smaller units that could most benefit from generic monitoring requirements that could be developed through programmatic SIP rule changes.

3. Limited Purpose of Part 64

Part 64 is intended to provide a reasonable means of supplementing existing regulatory provisions that are not consistent with the statutory requirements of titles V and VII of the 1990 Amendments to the Act. The EPA believes that the CAM approach is a reasonable approach commensurate with this role. The Agency does not believe that existing monitoring requirements that are more rigorous than part 64 should be reduced or that monitoring imposed in future regulatory actions necessarily should be guided by part 64.

If existing requirements are more rigorous than part 64, those requirements should continue to exist unaffected by part 64. This point is made explicitly in several instances in the final rule. In addition, EPA is committed to developing new emission standards subsequent to the 1990 Amendments with methods specified for directly determining continuous compliance whenever possible, taking into account technical and economic feasibility, and other pertinent factors. In recognition of this EPA commitment, the rule exempts New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) rules that are proposed after the 1990 Amendments to the Act from part 64 requirements. The Agency believes that States should approach their regulatory actions from the same perspective and thus the Agency does not believe that part 64 will have a significant impact on requirements imposed subsequent to the 1990 Amendments.

Comments on the 1996 part 64 Draft received from environmental, public health and labor organizations emphasized the public's right to information about air pollution from major stationary sources. These commenters argued that the CAM approach provides insufficient information about actual emissions and thus will frustrate the public's right to know about actual emissions from a source. Their comments also asserted that source owners should not be allowed to use information gathered under the CAM approach, including information on pollution control operations and practices, to certify compliance with applicable standards.

The Agency responded to those comments (see letter from Mary Nichols to various environmental and other organizations dated December 19, 1996, docket item A–91–52–VI–C–18) and summarizes its response here. The Agency agrees with incorporating direct emissions and compliance monitoring where the technology is available and feasible, and promoting public disclosure of air pollution emissions information. On the other hand, the Agency does not believe that such a broad, expensive, and technically complex objective can be accomplished through a single rulemaking at this time. Not only would trying to impose such monitoring requirements across the board in the short term be technically unrealistic, doing so would put in jeopardy the possibility of advancing monitoring of existing emissions sources through part 70 operating permits program already in progress.

The Agency notes that current requirements for submission of emission statements prepared by owners of industrial air pollution sources continues independent of part 64 (such as statements required under section 182(a)(3) of the Act) and such statements will be based on the most currently available information, including new monitoring data produced under part 64.

As described above, the Agency firmly believes that continued proper operation and maintenance of process operations and air pollution controls demonstrated capable of achieving applicable standards is vital to ongoing compliance. By providing the necessary data and requiring appropriate corrective action, part 64 will result in owners and operators being more conscientious in the attention paid to the operation and maintenance of air pollution control equipment and practices than has been the case in the past. This approach has proven effective in reducing air pollution emissions and improving compliance performance in the implementation of many existing regulations with similar requirements. See further discussion on the use of part 64 data for purposes of part 70 compliance certifications in Section I.C.5., below.

4. Relationship to Part 70 Monitoring

Part 70 currently requires all title V operating permits to include monitoring to assure compliance with the permit. This includes all existing monitoring requirements as well as additional monitoring (generally referred to as "periodic monitoring") if current requirements fail to specify appropriate monitoring. As noted in the 1993 EM proposal, because part 64 contains applicable monitoring requirements sufficient to demonstrate compliance with applicable emission limitations or standards, the part 70 periodic monitoring requirements will not apply to the emissions units and applicable requirements covered by part 64. This conclusion is equally applicable under the final part 64 rule. However, during the course of the rulemaking, two other issues have been raised that concern the relationship of the final part 64 rule to the existing part 70 periodic monitoring requirements: (1) The extent to which periodic monitoring should be relied on as "enhanced monitoring" and (2) timing concerns where periodic monitoring may be required prior to implementation of part 64.

With respect to relying on part 70 periodic monitoring as "enhanced monitoring" for at least some units, EPA suggested this option in both the 1993 EM proposal and the December 1994 notice reopening the comment period on that proposal (see 58 FR 54648, 54653 and 59 FR 66844, 66849). Industry commenters generally supported this option; although, many suggested that EPA rely completely on periodic monitoring as "enhanced monitoring." Some environmental groups, however, argued against this option. They asserted further that EPA's part 64 applicability provisions would not meet the statutory requirement that all major stationary sources conduct enhanced monitoring. The EPA considered including in part 64 requirements analogous to the existing part 70 provisions (see subpart C of part 64 in the 1996 part 64 Draft). This approach would clearly indicate EPA's position that the part 70 monitoring requirements including periodic monitoring if necessary, constitute the appropriate "enhanced monitoring" for units not covered by part 64. However, in the final rule, EPA has determined to rely on the position originally discussed in the 1993 EM proposal that existing monitoring when supplemented as necessary by periodic monitoring is sufficiently enhanced for emissions units not subject to part 64. The Agency

decided not to pursue the Subpart C option included in the 1996 part 64 Draft based on the comments received (see Section II.B., below) and also because of concerns about disrupting the ongoing implementation of part 70.

Because of the delays in finalizing part 64 and the delayed implementation schedule included in the final rule (see Section II.E., below), many part 70 permits will address periodic monitoring issues prior to implementation of part 64. To address concerns about the potential duplication and disruption that this situation could cause, EPA has taken certain steps. First, the "Subpart C" option has been rejected and the existing part 70 monitoring, including periodic monitoring, requirements will continue to apply. Because the majority of emissions units do not use control devices, this decision will result in part 64 creating no duplication or disruption for the majority of emissions units. As discussed in the Regulatory Impact Analysis (RIA) for this rulemaking, EPA estimates that the final part 64 rule will affect less than 27,000 emissions units, while an additional 54,000 units that could have been affected by subpart C will remain affected by part 70 monitoring requirements.

Second, for units with control devices, EPA has adopted a phased implementation schedule under which part 64 will apply only to the largest units prior to the first renewal of a part 70 permit. To the extent part 64 and periodic monitoring may have some overlap for these largest units, any overlap should be minimal because these units are most likely to have existing monitoring that would make the periodic monitoring provisions in part 70 unnecessary. For the smaller units that will not be required to implement part 64 until part 70 permit renewal, the periodic monitoring provisions of part 70 may apply. While there may be some concern that this will result in installation of monitoring that could later be found inappropriate for part 64, EPA does not believe this would generally be the case. In many instances, such periodic monitoring would likely serve as the basis, in whole or in part, for compliance with part 64. For instance, a source owner or operator may conduct intermittent monitoring of visible emissions or certain parameters to satisfy part 70 periodic monitoring. To the extent successful, the experience with that monitoring could be used to justify its use under part 64. At the least, the experience gained under periodic monitoring could be used to develop data to support proposed part 64 monitoring at permit renewal. Such data could be used, for example, to justify appropriate indicator ranges, quality assurance procedures, monitoring frequency and similar part 64 requirements. Just as importantly, the continued presence of part 70 monitoring requirements during the initial permit term is essential to provide the minimum level of assurance that a source remains in compliance with a part 70 permit as required under title V of the Act. Thus, EPA rejects the position suggested by some commenters that it should immediately suspend the part 70 periodic monitoring requirements pending implementation of part 64.

5. Relationship to part 70 Compliance Certifications

In developing an implementation approach in the 1993 EM proposal, EPA indicated that owners or operators must rely on methods for determining continuous compliance to submit a certification of whether compliance is continuous or intermittent. Many industry representatives and State and local agencies objected to the burdens associated with the 1993 proposal. A large part of those burdens would have occurred as a result of having to develop monitoring that could produce data of sufficient reliability to make determinations of continuous compliance with a degree of representativeness, accuracy, precision, and reliability equivalent to that provided by conducting the test method established for a particular requirement. In response to those concerns, the Agency opted to pursue the CAM approach which provides a reasonable assurance of compliance through monitoring of control operations. The EPA believes that the CAM approach does enhance existing monitoring requirements and provides sufficient information for an owner or operator to reach a conclusion about the compliance status of the owner or operator's source that is adequate to satisfy the compliance certification obligations in the Act. Such monitoring also provides data sufficient for EPA, permitting authorities, and the public to evaluate a source's compliance and to take appropriate action where potential compliance problems are discovered.

The part 64 rulemaking also clarifies the Agency's interpretation of the phrase "continuous or intermittent" as used in section 114(a)(3) of the Act. The 1993 EM proposal interpreted the requirement that source owners or operators certify "whether compliance is continuous or intermittent" to require monitoring sufficient to determine if compliance was continuous. (58 FR 54654, 54658) Thus the term "continuous" was read as meaning that compliance was achieved during all averaging periods for a standard and "intermittent" was read generally as meaning that one or more deviations occurred during the certification period. (58 FR 54665). This proposed interpretation was consistent with the Agency's position in the preamble to proposed part 70 as well (see 56 FR 21737, May 10, 1991 ("The compliance certification must document * * * whether compliance was continuous or intermittent (i.e., whether there were periods of noncompliance).").

The Agency reconsidered this interpretation in reopening the public comment period on the 1993 EM proposal and noted that "intermittent" could mean either that noncompliance had occurred or that the owner or operator has data sufficient to certify compliance only on an intermittent basis. (See 59 FR 66848, col. 2 ("nothing in section 114(a)(3) dictates that all source owners or operators must certify to being in either continuous compliance or else be considered in noncompliance; source owners or operators may also certify to being in compliance as demonstrated on an intermittent basis.")). The EPA believes that the statutory interpretation discussed in the preamble to the 1993 EM proposal and this alternative interpretation are both reasonable, and that EPA has discretion to clarify the meaning of this statutory provision given the ambiguity in the legislation. As outlined below, today's rulemaking (see the revisions to § 70.6(c)(5)) is derived from the interpretation contained in the December 1994 notice reopening the comment period on the 1993 EM proposal.

6. Consistency with Regulatory Reinvention Efforts

The approach in this rule lays out broad principles and performance criteria for appropriate monitoring, but does not mandate the use of a particular technology. The proposal is intended to reflect the principles articulated in President Clinton's and Vice President Gore's March 16, 1995 report, "Reinventing Environmental Regulation." That report established as goals for environmental regulation building partnerships between EPA and State and local agencies, minimizing costs, providing flexibility in implementing programs, tailoring solutions to the problem, and shifting responsibilities to State and local agencies. The Agency believes that part 64 meets the goals of the report.

This approach also is consistent with President Clinton's regulatory reform initiatives and EPA's Common Sense Initiative in that it focuses on steps to prevent pollution rather than to impose unnecessary command and control regulations on regulated sources. The approach is based on the assumption that pollution control is an integral part of doing business and that owners or operators should pay attention to their pollution control operations with the same care they do their product operations. The CAM approach emphasizes the role of the owner or operator in developing a plan to achieve this goal for specific circumstances.

*D. Benefits of a CAM Approach and Potential Control Costs*

The EPA believes that monitoring under part 64 can in some situations, reduce operating costs. For example, monitoring data can be used to increase combustion efficiency in an industrial boiler or to increase capture and reuse of solvents at a coating plant. A 1990 study by the General Accounting Office entitled "Air Pollution: Improvements Needed in Detecting and Preventing Violations" (see docket item A–91–52–VI–I–12) noted several instances in which companies have achieved such operating cost reductions. The CAM approach also alerts owners or operators that potential control device problems may exist. The owner or operator can use this information to target control devices for routine maintenance and repair, and reduce the potential for costly breakdowns. While benefits may occur to some facilities as the result of better awareness of equipment operation, changes in equipment operation are not required by part 64.

Part 64 does not itself have emissions reductions benefits, EPA does expect, however, that some sources may have to reduce emissions in order to comply with their underlying emissions standards in response to monitoring under part 64. EPA expects that some emissions reductions may result from sources having to reduce emissions overall, and/or to respond to periods of excess emissions more quickly, thus reducing their frequency and duration. EPA has not estimated the emissions reductions that may result from this; EPA believes these reductions and any associated health and welfare benefits are not attributable to part 64—but to the underlying emissions standards.

The Agency believes that there is adequate evidence that monitoring control performance will assure continuing compliance with applicable requirements. Studies conducted by the Agency have shown that control device operation and maintenance problems are a significant factor in creating excess emissions (see docket items II–A–22 and VI–A–2). In addition, these studies have documented that assumptions about compliance status are often inaccurate when detailed inspections of control devices are conducted (see, for example, docket item VI–A–2). Moreover, information included in the Regulatory Impact Analyses (RIA) documents that, based on data sheets compiled for all major sources by State agency inspectors in fifteen States, approximately 20 percent of all major sources have significant compliance problems and there is a significant corollary between the adequacy of a source's operation and maintenance procedures and compliance risk.

There will be real costs associated with measures sources may take to reduce emissions in order to comply with their underlying emissions standards in response to monitoring under part 64. Costs as well as emissions reductions benefits will result from sources having to reduce emissions overall, and/or to respond to periods of excess emissions more quickly, thus reducing their frequency and duration. Such costs would be due to increase expenditures for operation and maintenance and capital equipment. The EPA has not estimated the cost associated with emissions reductions that may result; EPA believes such costs are not attributable to part 64—but to the underlying emissions standard.

*E. The Relationship of Part 64 to Credible Evidence and Enforcement Issues*

1. General CAM Enforcement Policy

As a general matter, the Agency expects that source owners or operators will be in compliance with all applicable emission requirements if they conform to the requirements of part 64. Further, the Agency expects that there will be relatively limited information available to override the information provided by the owner or operator on an emissions unit's compliance status beyond that provided through monitoring that satisfies part 64 or part 70. However, neither these expectations nor complete compliance with part 64 will prohibit the Agency from undertaking enforcement investigations when appropriate under the circumstances, such as when information indicates there are conditions that may threaten or result in harm to public health or the environment, indicates a pattern of noncompliance, indicates serious misconduct, or presents other circumstances warranting enforcement.

2. The Credible Evidence Revisions to 40 CFR parts 51, 52, 60, and 61 ("The CE Revisions")

See the CE Revisions as published in the **Federal Register** on February 24, 1997 (62 FR 8314) for discussion of that rulemaking history. During the many public comment periods for the CE Revisions and the CAM proposal, the Agency received numerous comments stating that the two rules are inextricably connected, impact each other, and should be proposed together in order for meaningful public comment from interested stakeholders. The Agency reviewed these comments but decided to proceed with the CE rulemaking separately from this rulemaking for several reasons. First, the Agency believes that there was sufficient opportunity for all interested parties to comment on any perceived relationship or any substantive issues regarding the proposed credible evidence revisions and the CAM proposal before the promulgation of the CE Revisions in February, 1997. The Agency released a public draft of the CAM approach in September, 1995, and then conducted a public meeting in April, 1996, on the credible evidence revisions. The Agency also accepted public comments on the credible evidence rulemaking and the CAM proposals between September, 1995, and the promulgation of the CE Revisions. Thus, all interested parties had the opportunity to comment on the two rulemakings and the Agency received numerous comments on this topic before the CE Revisions were promulgated. In addition, there was also ample opportunity for public comment on any perceived relationship after promulgation of the CE Revisions and before the finalization of part 64. The Agency released a public draft of the CAM approach in August, 1996, and held a public meeting regarding the 1996 part 64 Draft. The Agency also reopened the comment period on part 64 on April 25, 1997, ( 62 FR 20147) to allow for comments on the relationship between part 64 and the CE Revisions. See the Response to Comments Document (Part III) at section 14 for the Agency's response to these comments. Thus, all interested parties had the opportunity to comment on the relationship between part 64 and the CE Revisions before each of these rulemakings was promulgated.

Second, the Agency decided to promulgate the CE Revisions separate from part 64 because the two programs are different in scope. The CE Revisions

are not limited to part 64 data or information collected pursuant to a part 70 permit generally. Other types of CE could include information from monitoring that is not required by regulation (such as monitoring conducted pursuant to a consent agreement or a specific section 114 request) or information from inspections by the permitting authority. In addition, the CE Revisions affect all sources regulated by 40 CFR parts 51, 52, 60, and 61, not just sources who will be covered by part 64. Thus, although sources covered by this rulemaking are regulated under the provisions amended by the CE Revisions, both the sources covered by this rulemaking and the data generated by this rulemaking are subsets of the sources and potential credible evidence addressed in the CE Revisions. Therefore, it was appropriate for the Agency to promulgate these two rulemakings separately. See 63 FR 8314 for a discussion of the scope of the CE Revisions.

Even though the CE Revisions and part 64 rulemakings are distinct regulatory actions, there are complementary aspects to the two rules. As noted above, consistent with the existing provisions of part 70, the CE revisions reiterate that data other than compliance test data can be used as a basis for title V compliance certifications. Most importantly, the CE rulemaking affects the potential consequences of identifying deviations, exceedances or excursions in a compliance certification based on data, such as part 64 data, that are from sources other than the compliance or reference test method. The CE revisions clarify the authority to rely on these data to prove that a source is in compliance or that a violation has occurred.

Finally, the CE Revisions and this rulemaking did not need to be promulgated together because these regulations have different statutory bases. The Agency promulgated the CE Revisions based primarily on section 113(a) of the Act, which authorizes the Agency to bring an administrative, civil or criminal action "on the basis of any information available to the Administrator." See 62 FR at 8320–23. The part 64 regulations, however, respond to the statutory mandates of the CAA Amendments of 1990, including but not limited to section 114(a)(3).

3. Potential Enforcement Consequences Related to CAM and CE

As a general matter, the Agency notes that it intends to apply its current enforcement policies in instances where the Agency believes, based on a review of CAM data, that a source has violated underlying emission limits. During the public comment period, commenters raised several issues about the relationship between the proposed part 64 monitoring information, the CE Revisions, and enforcement of violations of the Act. The following discussion generally addresses those concerns. See section 14.2 (Part III) of the Response to Comments Document (A–91–53–VII–C–3) for responses to specific issues raised.

First, these commenters suggested that compliance with indicator ranges under part 64 should act as a shield to enforcement actions. The Agency disagrees. Complete compliance with an approved part 64 monitoring plan does not shield a source from enforcement actions for violations of applicable requirements of the Act if other credible evidence proves violations of applicable emission limitations or standards. The Agency expects that a unit that is operating within appropriately established indicator ranges as part of approved monitoring will, in fact, be in compliance with its applicable limits. Part 64 does not prohibit the Agency, however, from undertaking enforcement where appropriate (such as cases where the part 64 indicator ranges may have been set improperly and other data such as information collected during an inspection provides clear evidence that enforcement is warranted).

Similarly, several commenters stated that if a source owner or operator identified excursions or exceedances of the applicable indicator ranges and conducted a prompt correction, with or without a QIP, then there should be a shield from enforcement for any potential violation of an underlying emissions limitation. This is also incorrect. If a source owner or operator identifies one or more excursions or exceedances of its indicator ranges established under part 64, prompt correction of the condition does not establish a shield. At the same time, the CAM excursions do not necessarily give rise to liability under part 64 or the Act (unless an excursion is specifically made an enforceable permit term). The Agency understands that many sources operate well within permitted limits over a range of process and pollution control device operating parameters. Depending on the nature of pollution control devices installed and the specific compliance strategy adopted by the source or the permitting authority, part 64 indicator ranges may be established that generally represent emission levels significantly below the applicable underlying emission limit. For this reason, and because the Agency anticipates a wide variance in CAM indicator range setting practices, the Agency intends to draw no firm inferences as to whether excursions from CAM parameter levels warrant enforcement of underlying emission levels without further investigation into the particular circumstances at the source. Thus, although staying within appropriately established indicator ranges gives a reasonable assurance of compliance, excursions from indicator ranges do not necessarily indicate noncompliance. The Agency may investigate such excursions for possible violations based on the general enforcement criteria identified above. A proper and prompt correction of the problem causing the excursion or exceedance, with or without a QIP, will factor into the Agency's decision on whether to investigate a source for potential violations but does not shield the source from an enforcement action by the Agency.

Second, several comments have stated that the use of CAM monitoring data as credible evidence to demonstrate the existence of a violation would increase the stringency of many standards. Although it is correct that the Agency, as well as states, public citizens, and sources, could potentially use CAM monitoring data as credible evidence of either compliance or noncompliance with an emission standard, the evidence could only be used if, as stated in the CE Revisions, the information is relevant to whether the source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed. The CE Revisions and the use of CAM data as potential credible evidence do not change the stringency of any emission standard for the reasons set forth in the preamble to the CE Revisions. See 63 FR 8314.

Finally, it has been suggested during the part 64 and credible evidence rulemakings that a Title V permit may be written to limit the types of evidence used to prove violations of emissions standards. As mentioned in the CE Revisions, even if a Title V permit specifies that certain monitoring, CAM or other monitoring, be performed and that this monitoring is the sole or exclusive means of establishing compliance or non-compliance, EPA views such provisions as null and void. Such an attempt to eliminate the possible use of credible evidence other than the monitoring specified in a Title V permit is antithetical to the credible evidence rule and to section 113(e)(1). If such a provision is nonetheless included in a permit, the permit should

be vetoed to avoid any ambiguity. If the provision is not vetoed, the provision is without meaning, as it is *ultra vires,* that is, beyond the authority of the permit writer to limit what evidence may be used to prove violations, just as if a permit writer were to attempt to write in a provision that a source may not be assessed a penalty of $25,000 per day of violation for each violation. Evidence that is permitted by statute to be used for enforcement purposes, fines that may be levied, and any other statutory provisions, may not be altered by a permit.

**II. Detailed Discussion of Regulatory Provisions**

*A. Section 64.1—Definitions*

Section 64.1 defines most of the key terms and phrases used in part 64. Certain definitions which were contained in § 64.2 of the 1993 EM proposal have been deleted from the final rule, while other definitions from the proposed rule have been considerably revised. In addition, a number of new definitions have been added to the final rule. The Agency believes these deletions, revisions, and additions accomplish the following goals: They reflect changes to the objectives and substantive provisions of part 64; they respond to concerns and comments made about the definitions in the 1993 EM proposal; and they bring part 64 more closely into accord with the regulatory language of part 70. The final definitions also reflect changes made in response to comments received on the 1995 and 1996 part 64 Drafts. These are discussed below.

1. Definitions Deleted from the Final Rule

The revisions to the substantive provisions of part 64 in the final rule have necessitated the deletion of certain definitions set forth in § 64.2 of the 1993 EM proposal. In some instances, these definitions have been superseded by new terminology relating to the same or similar concepts. In other cases, the deleted definitions related to matters which are inapplicable to the final rule. The eliminated definitions are as follows:

a. *Continuous Compliance and Intermittent Compliance.* The 1993 EM proposal would have required the use of data from an enhanced monitoring protocol to determine and certify whether an affected source or emissions unit complied with applicable emission limitations or standards and whether such compliance was "continuous" or "intermittent." Section 64.2 of the 1993 EM proposal defined the term "continuous compliance" as requiring the attainment of quality-assured data from an enhanced monitoring protocol for all required periods, the demonstration by such data that an owner or operator has complied with the applicable emission limitation or standard during all monitored periods, and a demonstration of compliance by any other data collected for the purpose of determining compliance during the monitored periods if such other data were collected. The 1993 EM proposal stated that a source or emissions unit was in "intermittent compliance" if, during the reporting period, either the data availability requirement was not satisfied because insufficient data was obtained from the enhanced monitoring protocol, or the owner or operator violated the applicable emission limitation or standard because a deviation occurred during a period for which no federally-approved or federally-promulgated excused period applied.

Many commenters objected to these definitions for various reasons, including a contention that EPA had merged the concept of achieving continuous compliance with the concept of demonstrating compliance. The definitions of continuous compliance and intermittent compliance in the proposed rule were also closely tied to the Agency's interpretation of section 114(a)(3) of the Act under the 1993 EM proposal. Section 114(a)(3) directs the Administrator to require certification of "whether compliance is continuous or intermittent." Under the 1993 EM proposal, this language was interpreted as requiring a certification that compliance was achieved during all averaging periods for a standard, and "intermittent" meant that one or more unexcused deviations occurred during the certification period. This interpretation was also the subject of much public comment. As described in greater detail above, the Agency has responded to these comments by adopting an alternative interpretation of section 114(a)(3). The Agency has therefore deleted the EM proposed definitions of continuous and intermittent compliance from the final rule. (See Section II.K.2. for additional discussion of the interpretation of compliance certifications.)

b. *Deviation.* The proposed rule stated that a "deviation" included any condition determined by enhanced monitoring or other collected data which identifies that an emissions unit has failed to meet an applicable emission limitation or standard. This definition included any conditions that either violated an applicable emission limitation or standard or would have violated such limitation or standard but for a federally-promulgated exemption.

A number of commenters raised concerns about the proposed definition of deviation. Some argued that the proposed definition was too closely tied to the violation of an emission limitation or standard. These commenters requested clarification that a deviation is not necessarily a violation of an emission limitation or standard. Other commenters objected to portions of the definition which would have allowed a deviation to be based on "data collected that can be used to certify compliance," such as the data obtained through a voluntary audit. These commenters argued that such a definition created a disincentive for owners and operators to engage in certain types of self-monitoring.

The final rule does not refer to "deviations" in part 64 and thus does not include a definition of "deviation." The 1996 part 64 Draft did contain a revised definition of "deviation" to be included in the part 71 provisions covering the federal operating permits program. This definition would have clarified that a deviation is not always a violation and that types of events that were to be considered deviations included "exceedances" and "excursions" as defined under part 64. The state operating permit programs authorized by part 70 of this chapter allow permitting authorities to define the term "deviation" in the context of their individual programs. The 1996 part 64 Draft did not include a definition of "deviation" to be included in part 70 because the Agency did not want to restrict the power of permitting authorities to define this term.

Public comments on the 1996 part 64 Draft pointed out that there are permitting authorities which define a "deviation" as a violation of the underlying emission limitation or standard. The provisions in the 1996 part 64 Draft which stated that exceedances and excursions are to be considered deviations without necessarily being violations arguably conflict with those definitions of "deviation." In response to these concerns, the Agency has eliminated all references to "deviations" from part 64.

c. *Other Deleted Definitions.* The proposed rule contained a definition for "established monitoring." This definition applied to certain types of monitoring methodologies which had been demonstrated to be a feasible means of assessing compliance with emissions limitations or standards. The concept of "established monitoring"

was used in the monitoring selection process under the 1993 EM proposal. As discussed below in Section II.D., these provisions have been eliminated in part 64. Because the concept of "established monitoring" serves no function in the final rule, this definition has been deleted.

The proposed rule defined "fugitive emissions" as those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening. This definition was necessary because § 64.4(d) of the proposed rule would have established separate monitoring protocol requirements for fugitive emissions monitoring. As discussed below in Section II.B., fugitive emissions are not subject to any specific part 64 monitoring requirements. The Agency has therefore deleted this definition from the final rule.

Section 64.4(c) of the 1993 EM proposal established certain requirements for owners or operators who sought to use the monitoring of process or control device parameters as part of an enhanced monitoring protocol. In certain instances, the proposed rule required the establishment of a "demonstrated compliance parameter level" (DCPL) to determine which levels of the parameter being monitored correlated with a demonstration of compliance with the applicable emission limitation or standard. Under the requirements in the final rule, the Agency has modified its approach to parameter monitoring (see Section II.C. for a more detailed discussion). Accordingly, the definition of "demonstrated compliance parameter level" or DCPL has been deleted from the final rule.

Both the terms "enhanced monitoring" and "enhanced monitoring protocol" have been eliminated in the final rule. The 1993 EM proposal defined "enhanced monitoring" as the methodology used by an owner or operator to detect deviations with sufficient representativeness, accuracy, precision, reliability, frequency, and timeliness in order to determine if compliance is continuous during a reporting period. An "enhanced monitoring protocol" was defined as the monitoring methodology and all installation, equipment, performance, operation, and quality assurance requirements applicable to that methodology. The final part 64 establishes monitoring performance criteria in the body of the rule rather than in a definition; thus, the definitions of "enhanced monitoring" and "enhanced monitoring protocol" have been deleted. The 1996 part 64 Draft included a related concept, the "compliance assurance monitoring (CAM) plan," which distinguished monitoring for units with control devices subject to subpart B of that draft rule and monitoring for other units under subpart C of that draft rule. Because the final rule does not include subpart C, this term is not used in the final rule.

"Responsible official" was defined under the 1993 EM proposal as having the same meaning as provided under § 70.2. This term was used in § 64.5(c) of the 1993 EM proposal, which required that the personal certification of a responsible official be included in each enhanced monitoring report. In response to a number of objections to this requirement, the Agency has not included a part 64 report signature requirement in the final part 64 rule but generally relies on part 70 reporting procedures. Thus, there is no need to define "responsible official" in part 64. It should be noted that § 70.5(d) outlines the responsible official's duties with respect to submitting reports, including part 64 reports.

2. Revised Definitions

There are a number of definitions that were in the 1993 EM proposal that have been revised in the final rule. Some of these revisions are relatively minor, such as technical revisions designed to reflect changes to the substantive provisions of part 64 or to more closely parallel the definitions found in part 70. Other revisions are intended to address more significant concerns with the proposed definitions. The revised definitions are as follows:

a. *Emission Limitation or Standard and Applicable Requirement.* The 1993 EM proposal defined an "emission limitation or standard" as any federally enforceable emission limitation, emission standard, standard of performance or means of emission limitation as defined under the Act. This term is actually a hybrid of several terms used under the Act. The proposed definition stated that an emission limitation or standard may be expressed as a specific quantity, rate or concentration of emissions; as the relationship of controlled to uncontrolled emissions (e.g., control efficiency); as a work practice; as a process or control device parameter; or as another form of design, equipment, operational, or operation and maintenance requirement.

Section 64.2 of the 1993 EM proposal also defined an "applicable emission limitation or standard" as any emission limitation or standard subject to the requirements of part 64 including: (1) An emission limitation or standard applicable to a regulated hazardous air pollutant under 40 CFR part 61; or (2) an emission limitation or standard applicable to a regulated air pollutant other than a hazardous air pollutant under section 112 of the Act, for which the source is classified as a major source.

The definition of "applicable emission limitation or standard" was closely tied to the applicability provisions of the 1993 EM proposal. For example, the separate treatment of hazardous air pollutant emissions limitations or standards in the definition followed the proposed rule's separate applicability provisions for hazardous air pollutants. Those applicability provisions have been significantly revised in part 64. Commenters raised concerns that the meaning of the term "applicable emission limitation or standard" was unclear. The Agency agrees that the proposed definitions of "applicable emission limitation or standard" and "emission limitation or standard" could be confusing, especially when interpreted in conjunction with the pre-existing definition of "applicable requirement" in part 70. The final rule replaces the term "applicable emission limitation or standard" with the term "applicable requirement." Part 64 states that "applicable requirement" shall have the same meaning as provided under part 70. The Agency made this change in the final rule to avoid any potential confusion and to bring part 64 into closer agreement with the definitions of part 70.

Part 64 retains the basic definition of "emission limitation or standard" with several revisions. Several commenters requested clarification on the meaning of "federally enforceable" in this definition. The final rule eliminates the phrase "federally enforceable" in the definition and defines an emission limitation or standard as "any applicable requirement that constitutes an emission limitation, emission standard, standard of performance or means of emission limitation * * *" This adjustment reflects the addition of the term "applicable requirement" in the final rule. The term "applicable requirement" is used in part 70 permitting to refer to the standards, requirements, terms, and conditions that are contained in the part 70 permit as federally-enforceable requirements. Thus, the reference to "federally enforceable" was eliminated because, through the permitting process, all "applicable requirements" become federally enforceable.

Additional language in the part 64 definition of "emission limitation or standard" clarifies that, for purposes of part 64, the definition of "emission limitation or standard" does not include general operation requirements that an owner or operator may be required to meet, such as requirements to obtain a permit, to operate and maintain sources in accordance with good air pollution control practices, to develop and maintain a malfunction abatement plan, or to conduct monitoring, submit reports or keep records. As noted below (see detailed discussion of § 64.2), requirements of this type generally apply to an entire facility. The Agency has specifically excluded such requirements so that otherwise unregulated emissions units are not inappropriately subject to part 64 monitoring requirements.

A number of commenters requested that EPA further narrow the definition of emission limitation or standard so that it would not apply to work practice, design or similar types of requirements. The commenters argued that part 64 monitoring for these types of standards did not make sense and would be redundant. The Agency disagrees to the extent that a control device is used to achieve compliance with these types of standards. As discussed in Section II.B., the final rule applies only to pollutant-specific emissions units which achieve compliance by using a control device. The monitoring is designed to document that the control device is properly operated and maintained. Many work practice, design or similar standards will not apply to these types of units (i.e., with control devices), which addresses many of the commenters' concerns. For units that are subject to such requirements and that do use a control device (see, e.g., 40 CFR 60.692–5, which imposes a "design" standard that certain emissions be controlled by a control device with 95 percent design efficiency), the nature of the standard is immaterial to the assessment of whether the control device is properly operated and maintained. The Agency notes that in the example, the NSPS requires the owner or operator to monitor the control device to assure proper operation and maintenance (see § 60.695). Part 64 will act in a similar manner.

b. *Part 70/Part 71 Permit.* The term "permit" as defined in the 1993 EM proposal meant any applicable permit issued, renewed, amended, revised, or modified under part C or D of title I of the Act, or title V of the Act. Under the 1993 EM proposal, part 64 would have been implemented through both the part 70 operating permits program and the preconstruction permits programs developed under parts C and D of title I of the Act. Public commenters raised a variety of objections and concerns to this proposed implementation structure. The Agency has responded to these comments in part by limiting part 64 implementation under part 64 to permits covered by title V of the Act.

To reflect this change in the implementation approach, the Agency has replaced the proposed definition of "permit" with a definition for a "part 70 or 71 permit." Section 64.1 of the final rule states that "part 70 or 71 permit" shall have the same meaning as provided under part 70 (or part 71) of this chapter. The Agency believes this definition is consistent with the goal of bringing part 64 definitions into closer agreement with their part 70 (or part 71) counterparts.

The Agency has also added a related definition in part 64. The definition of a "part 70 or 71 permit application" includes any application that is submitted by an owner or operator in order to obtain a part 70 or 71 permit, including any supplement to a previously submitted application. The Agency believes the addition of this definition is necessary because the implementation provisions set forth in § 64.3 of part 64 are connected to the submission of a part 70 or 71 permit application.

c. *Major Source.* The 1993 EM proposal defined the term "major source" as including any major source meeting the definition in § 70.2, excluding any hazardous air pollutant (HAP) source included in paragraph (1) of that definition. One commenter requested clarification of why this definition excluded major HAP sources included in the major source definition of part 70. The form of the proposed definition was necessary because the 1993 EM proposal treated HAP requirements separately from other requirements. For HAP requirements, the 1993 EM proposal would have applied to any source required to obtain a part 70 operating permit or a preconstruction permit under part C or D of title I of the Act and not just to "major sources." As discussed below, the applicability provisions of part 64 have been substantially modified in the final rule such that there are no separate applicability provisions for HAP requirements (see Section II.B.). In the final rule, the definition of "major source" has been revised to reflect these changes. Part 64 simply states that "major source" shall have the same meaning as provided in part 70.

The U.S. Small Business Administration (SBA) submitted for discussion at the September 10, 1996 meeting a proposal to retain, in part 64, EPA's current practice of excluding from major source status those sources whose actual emissions are less than 50 percent of the major source threshold. SBA apparently was referring to EPA's policy issued in January 1995 to establish a two-year (extended until July 31, 1998) transition policy that guides EPA in applying the definition of "major source" in part 70. Because part 64 relies on part 70's definition of "major source," SBA's concern is met. As long as that policy remains in effect, it will be relevant to determining applicability under part 64. *See also National Mining Association* versus *U.S. EPA*, 59 F.3d 1351 (D.C. Cir. 1995).

d. Other Part 70 Related Definitions. Section 64.2 of the proposed rule contained a definition for "potential to emit" which tracked the language of the part 70 definition of "potential to emit" with technical edits to reflect the 1993 EM proposal's focus on emissions units as opposed to the focus on major sources in part 70. The text of the proposed rule did not make it clear, however, that part 70 was the source for the proposed definition. Under part 64, "potential to emit" is explicitly defined as having "the same meaning as provided under part 70 of this chapter, provided that it shall be applied with respect to an 'emissions unit' as defined under this part in addition to a 'stationary source' as provided under part 70 of this chapter." Although the text of the definition has been changed, the meaning of "potential to emit" in the final rule is effectively the same as in the proposed rule. The Agency made these revisions to clarify the connection of this term with the definitions of part 70.

The 1993 EM proposal defined "emissions unit" as any part or activity of a source that emits or has the potential to emit any regulated air pollutant for which an emission limitation or standard had been established. This definition was a modification of the definition of "emissions unit" set forth in part 70. The Agency received a variety of public comments on this definition. One commenter recommended using the part 70 definition of "emissions unit" in part 64. Several other commenters expressed concern over the use of the phrase "any part or activity" in the definition, stating that the definition was not clear as to whether an emissions unit is a single piece of equipment or a group of multiple units located together within a source. In response to these comments, the definition of "emissions unit" has been revised in the final rule to have the same meaning as provided under part

70. This approach clarifies potential ambiguity in the definition by relying on the established part 70 definition of the term and brings part 64 into closer agreement with the provisions of the operating permits program thorough which part 64 will be implemented.

The 1993 EM proposal contained a definition of "permitting authority" which tracked the language of the part 70 definition of "permitting authority" with technical edits to reflect the proposed EM rule's implementation through both title V permitting programs and title I preconstruction permit programs. The text of the proposed rule did not make it clear, however, that part 70 was the source for the proposed definition. In addition, the final rule is not implemented through title I preconstruction permits. The Agency has therefore revised the definition of "permitting authority" to have expressly the same meaning as provided under part 70.

3. Definitions Added in the Final Rule

Many of the definitions in § 64.1 of the final rule have been added to reflect changes in the substantive requirements of part 64 monitoring under part 64. These definitions are generally addressed in the detailed discussion of the appropriate substantive sections of the final rule. The following discussion provides a brief overview of some key terms added to the definitions section of the final rule.

The Agency has added definitions for the terms "monitoring" and "data" to the final rule. The rule defines "monitoring" as any form of collecting data on a routine basis to determine or otherwise assess compliance with emission limitations or standards. The rule also includes a non-exclusive list of data collection techniques which may be considered appropriate monitoring under part 64. This list is similar to the list included in § 64.6 of the 1993 EM proposal with minor changes in response to comments on that section. "Data" is defined as the results of any type of monitoring or compliance determination method. Some commenters had raised concerns that the use of the term "data" in the substantive provisions of proposed part 64 reflected a bias toward instrumental monitoring methods. The Agency believes that by adding these two definitions, the final rule reflects the Agency's intent that a wide variety of information and means of collecting information potentially can be used to satisfy the requirements of part 64.

Definitions for the terms "exceedance" and "excursion" have been added to the final rule. These terms are closely related. Section 64.1 defines an "exceedance" as a condition detected by monitoring which provides data in terms of an emission limitation or standard and which indicates that emissions or opacity are greater than that limitation or standard, consistent with the applicable averaging period. An "excursion" is defined as a departure from an indicator range established as part of part 64 monitoring, also as consistent with the applicable averaging period. As discussed above, the 1996 part 64 Draft would have stated that an exceedance or excursion would be considered a deviation in the part 70 compliance certification. This statement has been removed in response to comments that such conditions should not necessarily constitute deviations, especially since some permitting authorities equate a deviation with a violation. See Section II.K.2. of this preamble for additional discussion on the status of excursions for a part 70 compliance certification. The 1996 part 64 Draft also omitted reference to the applicable averaging period. That omission has been corrected in the final rule.

The final definition added to the final rule describes the meaning of a "predictive emissions monitoring system (PEMS)." Several commenters to the 1993 EM proposal suggested that a definition for this term should be added to part 64. The Agency agrees with this suggestion and has included an appropriate definition in § 64.1 of the final rule. This definition is included in the final part 64 rule because § 64.3(c) sets forth special criteria for the use of predictive monitoring systems when employed to fulfill part 64 monitoring requirements. The same section also provides special criteria for the use of continuous emission or opacity monitoring systems. Because these latter types of systems are well understood, no explicit definition was considered necessary for purposes of part 64.

*B. Section 64.2—Applicability*

1. Overview

The applicability provisions in § 64.2 reflect EPA's decision to focus part 64 requirements on units that use control devices to achieve compliance. The types of emission exceedance problems that can arise from poor operation and maintenance of a control device can be severe and represent a significant compliance concern. Moreover, although units with control devices represent a smaller percentage of the overall number of emissions units than other units, these controlled units represent a disproportionate share of the overall potential emissions from all emissions units. By concentrating the requirements of part 64 on these units with control devices, the Agency has focused the rule on units that represent a significant portion of the overall potential emissions regulated under the Act and that are generally most likely to raise compliance concerns.

The Agency notes that the term "pollutant-specific emissions unit," defined in § 64.1, is used in part 64 to clarify that applicability is determined with respect to each pollutant at an emissions unit separately. For example, a coal-fired boiler emitting through a single stack could constitute several pollutant-specific emissions units, such as for particulate matter, $SO_2$, $NO_X$, and CO. This term is used throughout the remainder of this document where appropriate.

2. Significant Changes in the Applicability Threshold and Related Definitions

Section 64.2(a) of the final rule requires the owner or operator to apply part 64 to significant pollutant-specific emissions units that use control devices to achieve compliance at major sources subject to part 70 permit requirements. The issues raised with respect to applicability during the development of the rule are described below.

a. *Applicability Options Presented in the 1993 EM Proposal.* The preamble to the 1993 EM proposal solicited comments on five options for determining which emissions units would be subject to enhanced monitoring requirements under part 64. These options set the threshold for applicability based on each unit's potential to emit the regulated air pollutant(s) for which a stationary source is classified as a major source. Option 1 set no percentage threshold, making all units with applicable requirements for the pollutant for which a source is major subject to part 64 monitoring. Options 2, 3, 4, and 5 would have made part 64 applicable to all units that have the potential to emit pollutants in an amount equal to or greater than 10, 30, 50, and 100 percent of the applicable major source definition, respectively. The 1993 EM proposal incorporated Option 3, setting the threshold at 30 percent. Under the proposed rule, the source of an air pollutant which is defined as being major at 100 tons per year would be required to conduct enhanced monitoring at all emissions units within its facility that had the potential to emit 30 tons or more of the pollutant per year.

Applicability under the 1993 EM proposal was based on an emission unit's "potential to emit." The proposal defined this term as an emission unit's maximum capacity to emit a regulated air pollutant under the unit's physical and operational design, taking into account such operating restrictions and control equipment as constitute federally-enforceable limitations. As noted above, the 1993 EM proposal also would have applied only to the pollutants for which a source is major. The 1993 EM proposal solicited comment on the applicability approach in the proposed rule, and specifically noted that one other option would be to use uncontrolled emissions rather than potential to emit to determine part 64 applicability. The Agency noted that such an approach arguably would better address the units with the greatest environmental risk. This request for comment was accompanied by an assertion that in a monitoring rule such as part 64, it may be appropriate to use a different definition of potential to emit than EPA has used for other purposes.

b. *Final Part 64 Applicability Provisions.* In response to the many comments received on the 1993 EM proposal, the Agency modified part 64 to bring about the CAM approach including a somewhat different approach to applicability. The Agency received numerous public comments on the applicability provisions of the 1993 EM proposal. Relatively few commenters supported the Option 3 (30 percent) threshold. Many of the comments critical of Option 3 argued that the benefits of increased pollutant monitoring obtained by covering additional emissions units at the 30 percent threshold was far outweighed by the additional costs and burdens of implementation at that threshold. Most industry and many State and local commenters supported Option 5 or a higher threshold. Many of the commenters also recommended that EPA exempt various types of units, especially uncontrolled units that are subject to design, work practice, or similar operational restrictions. In addition, a number of commenters suggested alternative approaches to determining the applicability threshold of part 64. Industry commenters generally favored the focus of the 1993 EM proposal on the pollutants for which a source is a major, while environmental groups opposed that approach.

The final part 64 retains the basic concept of an applicability threshold as contained in the 1993 EM proposal, but also narrows the focus so that part 64 applies only to those pollutant-specific emissions units that use a control device to achieve compliance with an applicable emission limitation or standard. In addition, units using control devices must have potential pre-control device emissions equal to or greater than 100 percent of the applicable major source definition to be subject to part 64. Since part 64 applies its size threshold only to the proportionally small number of emissions units that use control devices, the number of units required to meet part 64 monitoring requirements is lower than would have been subject to the 1993 EM proposal. The final RIA estimates that part 64 will affect fewer than 27,000 units as compared to the over 35,000 units which EPA had estimated would be affected under the 1993 EM proposal.

For part 64 to apply, § 64.2(a) specifies that a pollutant-specific emissions unit must meet the following three criteria: (1) The unit must be subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate of that pollutant); (2) the unit must use a control device to achieve compliance with an emission limitation or standard; and (3) the unit must have "potential pre-control device emissions" in the amount, in tons per year, required to classify the unit as a major source under part 70.

i. *Emission Limitation or Standard Criterion.* For the first criterion, the Agency notes that part 64 applies only if an applicable emission limitation or standard applies because the purpose of part 64 is to provide a reasonable assurance of compliance with such requirements. Numerous comments on the 1993 EM proposal supported EPA's position that part 64 should apply only if an underlying applicable emission limitation or standard applies, but many commenters suggested that the final rule should contain explicit language concerning the necessity for an underlying standard to trigger part 64 applicability. The commenters believed inclusion of such language was critical because a part 70 operating permit will be required to include units without applicable requirements, and part 70 permits will be required for sources without any applicable requirements (so-called "hollow permits"). Their concern was that part 64 could be interpreted as applying to units and sources of this type and that determining compliance with the rule under such an interpretation would be exceedingly difficult. The Agency agrees that the rule should clearly state that part 64 applies only where a federally enforceable emission limitation or standard applies and thus has added this first criterion to the applicability determination. The Agency also notes that the applicability provisions in part 64 include a "surrogate" of a regulated air pollutant to address situations in which the emission limitation or standard is expressed in terms of a pollutant (or other surrogate) that is different from the regulated air pollutant that is being controlled. A common example would be emission limits expressed in terms of particulate matter and opacity rather than PM–10. Another example would be an emission limit expressed as a control device operating requirement rather than in terms of the applicable regulated air pollutant.

ii. *Control Devices Criterion.* Second, the final rule applies only to pollutant-specific emissions units that rely on a control device to achieve compliance. The final rule provides a definition of "control device" that reflects the focus of part 64 on those types of control devices that are usually considered as "add-on controls." This definition does not encompass all conceivable control approaches but rather those types of control devices that may be prone to upset and malfunction, and that are most likely to benefit from monitoring of critical parameters to assure that they continue to function properly. In addition, a regulatory obligation to monitor control devices is appropriate because these devices generally are not an inherent part of the source's process and may not be watched as closely as devices that have a direct bearing on the efficiency or productivity of the source.

The control device definition is based on similar definitions in State regulations (see, e.g., North Carolina Administrative Code, title 15A, chapter 2, subchapter 2D, section .0101 (definition of "control device"); Texas Administrative Code, title 30, section 101.1 (definition of "control device"). The definition is in contrast to broader definitions of "control device," "air cleaning equipment," "control measure," or similar terms included in some States' regulations (see, e.g., Codes, Rules, and Regulations of the State of New York, title 6, chapter III, section 200.1 (definition of "air cleaning device" or "control equipment")). These broader definitions often include any method, process or equipment which removes, reduces or renders less noxious air contaminants released to the ambient air. Those types of controls could include material substitution, process modification, operating restrictions and similar types of controls. The definition in part 64 relies on the narrow interpretation of a control device that focuses on control

equipment that removes or destroys air pollutants.

Certain NSPS and NESHAP regulations also have targeted definitions of "control device" or "add-on control device" that apply to the specific type of affected facility covered by the applicable NSPS or NESHAP subpart (see, e.g., 40 CFR 60.581, 60.670, 60.691, 60.731, 61.171, 61.241, 63.161, 63.561, and 63.702). The part 64 control device definition generally is consistent with these prior Agency definitions, but without language targeted to a particular affected facility type.

The Agency notes that EPA's Aerometric Information Retrieval System (AIRS) contains a list of various air pollution control equipment codes that address a wide variety of possible control methods, processes and equipment; this list includes both active control devices and other types of controls. In conjunction with the release of the 1996 part 64 Draft, the Agency placed in the docket (item VI–I–3) a document that reflects EPA's position on which of those equipment codes refer to a "control device" as defined in the 1996 part 64 Draft and which refer to other types of controls. The Agency continues to believe that this document provides an appropriate list of the types of equipment which may constitute control devices.

For the final part 64 rule, the control device definition has been revised in response to public comments. In the discussion document accompanying the 1996 part 64 Draft, the Agency solicited comment on the appropriateness of the definition of control device and received numerous comments and requests for additional clarifications. Generally, commenters felt that the control device definition in the 1996 part 64 Draft was overly broad and that additional language was needed to clarify that EPA does not intend the rule to apply to inherent process equipment such as certain types of recovery devices.

The final rule defines a control device as "equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere." Thus, the Agency has specifically excluded inherent process equipment from the control device definition in the final rule. The EPA suggested in the discussion document accompanying the 1996 part 64 Draft a list of three criteria that would be used to distinguish inherent process equipment from control devices:

(1) Is the primary purpose of the equipment to control air pollution?

(2) Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment?

(3) Would the equipment be installed if no air quality regulations are in place? (See letter from David Solomon, EPA, to Timothy J. Mohin, Intel Government Affairs, dated November 27, 1995. Included in the docket as Item VI–C–14.)

The Agency received a number of comments on these criteria, some of which supported including the criteria in the rule and others of which suggested other approaches. Based on the comments received, the final rule defines "inherent process equipment" as "equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations." If equipment must be operated at an efficiency higher than that achieved during normal process operations in order to comply with applicable requirements, that equipment will not qualify as inherent process equipment. In addition, the control device definition has been revised to include a list of several control techniques that do not constitute "control devices" as defined in part 64.

Finally, the definition also makes clear that part 64 does not override definitions in underlying requirements that may provide that certain equipment is not to be considered a control device for pollutant-specific emissions units affected by that regulation. Although not subject to part 64, an example of this type of provision is § 63.111 in subpart G to 40 CFR part 63 (NESHAP requirements for Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater). The definition in that section states that recovery devices used in conjunction with process vents and primary condensers used in conjunction with a steam stripper do not constitute "control devices." Certain commenters asserted that part 64 should not override these types of existing rules and EPA agrees. The Agency notes, however, that if an emissions unit is regulated for another pollutant, and the control device also is used to comply with a limit that applies to that second pollutant, the equipment will be considered a "control device" for the second pollutant unless the standards for the second pollutant also explicitly establish that the equipment is not a control device.

The final rule also includes a definition of a "capture system" because the rule requires, where applicable, monitoring of a capture system associated with a control device. The monitoring requirements for control devices extend to capture systems as well because they are essential to assuring that the overall emission reduction goals associated with the control device are achieved. See Section II.C., below. The Agency notes that duct work, ventilation fans and similar equipment are not considered to be a capture system if the equipment is used to vent emissions from a source to the atmosphere without being processed through a control device. For instance, roof vents that remove air pollutants from inside a building but do not transport the pollutants to a control device to reduce or destroy emissions would not be subject to the rule.

The Agency notes that some commenters, especially environmental and other public interest organizations, opposed limiting the applicability of part 64 to emissions units that rely on control devices. They argued that other significant emissions units with other types of control measures, such as low $NO_X$ burners or similar combustion modification controls, should be subject to part 64 requirements.

Low $NO_X$ burner technology and certain other types of combustion control measures are not included in the definition of "control device" in the final rule. For most large emissions units that employ such measures, such as utility boilers, separate applicable requirements already require the use of CEMS or similar monitoring for such units. Under part 70, that monitoring will have to be included in the permit and considered in certifying compliance with applicable requirements. Some types of combustion units (e.g., package boilers) that may use low $NO_X$ burner technology do not use the same types of technology used by utility and large industrial boilers. The technology used for many units with automatic combustion control does not provide significant operational flexibility that could afford the owner or operator with an opportunity or incentive to manipulate $NO_X$ control levels. (See docket item A–91–52–VI–A–9) For these types of units, the recordkeeping of regular inspection and maintenance of the low $NO_X$ burners (e.g., annular flow ratio adjustment settings, burner replacement, portable instrument readings, etc.) in combination with periodic checks of emission levels with appropriate test methods, as necessary, are very likely sufficient to ensure that the unit is being operated in a manner

consistent with good air pollution control practices and that the low $NO_X$ technology continues to reduce emissions at least to the level of the standard. The general monitoring requirements in part 70 are adequate to assure that this type of appropriate monitoring is employed.

For these reasons, EPA believes that monitoring for this control technology is best addressed through part 70 periodic monitoring requirements and not through expansion of part 64 to units with these types of control measures. Of course, if there are particular units which raise a significant continuous compliance concern, such as units with an historically poor compliance history, the permitting authority can require more detailed monitoring under the general part 70 monitoring provisions given that the permit must include appropriate monitoring for assuring compliance with the permit. In those cases, permitting authorities may want to consider elements of part 64 as potentially appropriate, but they would not be bound to satisfy each element of part 64.

iii. *Potential Pre-control Device Emissions Criterion.* Finally, for the third criterion for applicability, § 64.2(a) relies on the concept of "potential pre-control device emissions." This term has the same meaning as "potential to emit," except that any emission reductions achieved by the control device are not taken into account, even if the owner or operator generally is allowed to do so under the regulatory definition of "potential to emit."

The Agency first notes that numerous commenters expressed objections to the 1993 EM proposal's definition of potential to emit, believing the definition resulted in unrealistically high emissions numbers. The EPA notes that, contrary to beliefs expressed in many of those comments, that definition does take into account enforceable operating hour restrictions, throughput restrictions, control system efficiency factors, and similar enforceable restrictions. The Agency also points out that the same definition has been used in the part 70 operating permits program as well as the part 63 NESHAP general provisions.

The Agency also notes that the majority of commenters did favor the use of potential to emit over uncontrolled emissions because the latter approach would not take into account any emissions reductions achieved through any means. However, the 1993 EM proposal noted that EPA was considering basing applicability on uncontrolled emissions and the potential pre-control emissions approach was suggested subsequently by State and local agencies (see docket items VI–D–42 and 49) during further consideration of part 64 options. As noted in the discussion document accompanying the 1996 part 64 Draft, the Agency agrees with this approach and believes that excluding the assumed efficiency of the control device from the calculation of potential to emit for purposes of part 64 applicability provides an appropriate means of distinguishing between units based on environmental significance. It allows the Agency to distinguish between units based on their true size and based on the degree of control required to achieve compliance. The Agency notes that this approach does take into account all federally-enforceable emissions reductions except for those resulting from control devices (e.g., emission reductions that occur as a result of operating hour or throughput restrictions would be taken into account in determining potential pre-control device emissions).

Many commenters objected to the reliance on potential pre-control device emissions, primarily because the use of the potential pre-control device emissions threshold would result in too many units being subject to the rule. Some commenters noted that the 1993 EM proposal similarly had requested comment on the use of uncontrolled emissions, and that the comments strongly objected to that idea.

The Agency first notes that, contrary to some commenters' assertions, EPA estimates that the final rule will apply to fewer units than the 1993 EM proposal because the final rule only applies to the proportionally small number of emissions units that use equipment meeting the "control device" definition. The final RIA estimates that fewer than 27,000 pollutant-specific emissions units will be subject to part 64, whereas the 30 percent option in the 1993 EM proposal would have covered over 35,000 such units. The EPA has also delayed implementation for those units subject to the rule that have the "potential to emit" (post-control device) less than the major source threshold. This delayed implementation will reduce the burdens of part 64 on the initial round of part 70 permitting. The Agency feels that these changes should alleviate the commenters' concerns and that further reductions in the number of units to which the rule applies are not appropriate.

The CAM approach is necessarily concerned with significant, controlled units even if the potential to emit after the control device is low. The reason for covering these units is two-fold. First, part 64 monitoring will be designed to detect long-term under-performance of control devices that periodic evaluations such as stack tests may be unable to document. For example, a unit may have the potential to emit 20 tons per year after a control device which is required to operate with a 99 percent control efficiency. The pre-control device potential to emit for that unit is 2,000 tons per year; if the required control device efficiency is 99.9 percent, that figure increases to 20,000 tons per year. If the long-term actual control performance of that device decreases to 95 percent, the actual emissions could increase to 100 or 1000 tons per year, respectively. Part 64 is aimed first at addressing this type of long-term, significant loss of control efficiency that can occur without complete failure of a control device. The second type of problem is short-term complete loss of control. As indicated in some of the comments, for many types of control devices this type of problem could be detected after the fact with monitoring less detailed than part 64. However, the goal of air pollution control is to prevent these types of problems before they occur, if possible, at a reasonable cost. The EPA believes that part 64 in many instances can be designed to provide early indications of control equipment problems that could be addressed prior to such catastrophic failures. For these reasons, EPA believes that the use of pre-control device potential to emit is a rational basis on which to evaluate whether specific units should be subject to part 64.

Some comments on the 1996 part 64 Draft also objected to the potential pre-control device emissions threshold based on the argument that the creation of a new size calculation that source owners or operators must perform to determine applicability will cause confusion and result in additional burdens. The Agency disagrees since owners will simply need to remove the design efficiency of the control device from the calculation of the applicable unit's potential to emit. Potential pre-control emissions will otherwise be calculated in exactly the same way as potential to emit. The two figures will both factor in enforceable operational restrictions, so only the effect of the control device's efficiency, a factor which has to be quantified for determining the standard meaning of "potential to emit," will be treated differently.

Commenters also noted that part 64 would expand the 1993 EM proposal by not limiting applicability to those pollutants for which the source is major. The final rule does limit applicability to

the pollutants for which a pollutant-specific emissions unit would be major except for the emissions reductions assumed to occur as a result of a control device. As explained above, EPA believes that the focus of the rule on the potential to emit of units prior to a control device is an appropriate screening tool to determine which units should be monitored under part 64. For that reason, the focus of the 1993 EM proposal on major pollutants only would be inappropriate. In addition, as some commenters pointed out in response to the proposed rule, the Agency typically does not focus on only the major pollutants even where applicability of a program is focused solely on whether a source is a major source.

Finally, EPA believes it would be irrational to continue to focus solely on the pollutants for which a source is major when the Agency is focusing on units that have installed control devices. For instance, a source could be "major" for $NO_X$ with no $NO_X$ control devices (and even no $NO_X$ requirements in an attainment area) but have a unit with the potential to emit 20 tons of particulate matter after a control device that has a rated removal efficiency of 99.9 percent. The post-control particulate potential to emit from this particular emissions unit would be less than the major source threshold of 100 tons/year; however, the precontrol potential to emit of 20,000 tons/year of particulate matter emissions would be greater than the 100 tons/year major source threshold. As noted in the example discussed above, small decreases in efficiency of that control device could lead to actual emission increases significantly above the major source threshold. Thus, while the source in this example may not have the potential to emit particulate matter (taking into account the control device) in amounts sufficient for the source to be classified as a major source for particulate matter, the pollutant-specific emissions unit for particulate matter, not for $NO_X$, in this example is clearly one which the Agency believes should be subject to part 64.

Other commenters questioned whether the applicability provisions were self-implementing. They argued that unit-by-unit negative declarations would be highly burdensome. The Agency agrees and part 64 does not require that owners or operators justify in a permit application why part 64 is not applicable, or that owners or operators apply for exemptions. However, the Agency notes that the permitting authority can request further explanation as to how a source owner or operator determined that part 64 did or did not apply for any pollutant-specific emissions unit for which there may be an issue about applicability. In addition, an owner or operator that wishes to take advantage of the exemption for certain municipally-owned utility units will have to provide the documentation required to satisfy that exemption (see the following discussion of this exemption).

3. Development of the Exemption Provisions

Part 64 exempts owners or operators with respect to certain emission limitations or standards for which the underlying requirements already establish adequate monitoring for the emission limits being monitored, and with respect to certain municipally-owned utility units.

a. *Exemptions in the 1993 EM proposal.* The 1993 EM proposal established exemptions for the following types of emission limits:

—Emission limitations or standards under the NESHAP program (pursuant to section 112 of the Act), except for standards established in part 61. This exemption reflected the Agency's intent that the provisions of part 63, the MACT standards, will include appropriate enhanced monitoring provisions pursuant to the authority in section 114(a)(3) of the Act.

—Stratospheric ozone protection requirements under title VI of the Act. The type of requirements that apply under that program are significantly different than typical emission limitations or standards, and the appropriate monitoring for such requirements will be handled under regulations implementing those requirements. The exemption is unchanged from the proposed rule but for a technical correction (substituting title VI of the Act for the original reference to section 603).

—Acid Rain Program emission limits under title IV of the Act. The Acid Rain monitoring requirements under 40 CFR part 75 already establish all appropriate compliance assurance monitoring for such requirements. The exemption is unchanged from the proposed rule but for a technical correction (to include emission limits applicable to opt-in units under section 410 of the Act).

—NESHAP standards for asbestos demolition and renovation projects. These sources are exempt under part 70 and are not required to obtain operating permits.

—NSPS standards for residential wood heaters. These sources are also exempt under part 70 and are not required to obtain operating permits.

b. *Exemptions in the Final Rule.* Issues raised by comments on the 1993 EM proposal prompted EPA to include certain additional exemption provisions in the final part 64 rule. The exemptions that were changed or added are:

—Emission limitations or standards under the NSPS program that are proposed after November 15, 1990. This expands on the proposed rule, which provided for only the NESHAP exemption. Commenters suggested that EPA exempt all NSPS, arguing that existing NSPS contain enhanced monitoring requirements. The EPA disagrees that this is the case for all NSPS. Existing monitoring of covered units and sources under some NSPS may be sufficient to meet part 64 requirements; however, the question of sufficiency of any particular monitoring requirement from a non-exempt standard will have to be determined in accordance with the requirements of part 64. Future federal rulemakings, including NSPS rulemakings, will satisfy the monitoring requirements of titles V and VII of the 1990 Amendments (see preamble to 40 CFR part 70, 57 FR 32278, July 21, 1992). The EPA intends to focus on including methods for directly determining continuous compliance in these new federal rulemakings where such methods are feasible. Only where such approaches are not feasible would the Agency consider using an approach similar to the CAM approach in such requirements. Since there will be no gaps in their monitoring provisions, EPA exempts future NSPS as well as NESHAP standards. The Agency notes that this exemption does not apply to State emission limits or standards developed under section 111(d) of the Act.

—Emission limits that apply solely under an emissions trading program approved or promulgated by EPA and emission cap requirements that meet the requirements of § 70.4(b)(12) or § 71.6(a)(13)(iii) are exempt from part 64. This exemption was developed in response to comments received on a provision in the 1993 EM proposal which made certain "group[s] of emissions units at a major source" subject to enhanced monitoring requirements. The 1993 EM proposal's preamble suggested that this provision applied to emissions units involved in some form of "bubbling" or trading plan within a single facility as well as to fugitive emission points for which compliance is evaluated on a process-wide or facility-wide basis.

The EPA received many comments on the 1993 EM proposal that opposed applying enhanced monitoring to

groups of emissions units. Several industry commenters believed that applying part 64 to groups of emissions units would be too inclusive and would apply enhanced monitoring requirements to emissions units that otherwise would fall below the applicability threshold. Other commenters predicted that applying enhanced monitoring to groups of emissions units would discourage source owners or operators from participating in emissions trading, aggregating, or similar programs. Some industry representatives and State and local agencies also recommended providing an exemption in part 64 for source owners or operators who participate in programs such as RECLAIM in California's South Coast Air Quality Management District.

The final part 64 rule addresses these concerns in a number of ways. First, both emission limits that apply solely under an emissions trading program approved or promulgated by EPA and emission caps that meet the requirements of § 70.4(b)(12) or § 71.6(a)(13)(iii) are explicitly exempt from part 64 under § 64.2(b)(1)(iv) and (v). By their nature, these types of standards require methods to confirm trades or to calculate overall compliance with the cap, taking into account the contribution of emissions from all covered units. These types of emission limits also often cover all emissions units at a facility, including those with extremely low amounts of emissions, those without control devices, and those that are not subject to other applicable requirements. Because of the need to consider the interrelationships among units covered by this type of requirement, the type of monitoring in part 64 would not be appropriate. Instead, the Agency believes that the existing requirements for monitoring compliance with such standards should be followed.

For instance, the requirements for statutory economic incentive programs (40 CFR 51.490—.494) specify the quantification methods that must be included as part of any SIP economic incentive program developed pursuant to sections 182(g)(3), 182(g)(5), 187(d)(3), or 187(g) of the Act. In addition, EPA has proposed revisions to § 70.4(b)(12) to clarify that emission caps must include "replicable procedures and permit terms that ensure the emissions cap is enforceable and trades pursuant to it are quantifiable and enforceable." (59 FR 44460, August 29, 1994). These provisions highlight the need to include as part of any emission trading or cap requirement the appropriate methods for quantifying emissions and assuring that the trade or cap limitation is enforceable. The Agency believes that the imposition of part 64 on these types of standards would not provide any additional benefit.

In addition, other groups of emissions units are generally not subject to monitoring requirements under part 64. Part 64 requirements apply only to individual pollutant-specific emissions units that use a control device to achieve compliance and whose pre-control device emissions of an applicable pollutant are equal to or greater than the amount needed for a unit to be classified as a major source. Groups of emissions units are not aggregated for this determination, so such groups would not be subject to part 64. In addition, fugitive emissions are generally not controlled through the use of control devices, so there is no need for special applicability or monitoring provisions for fugitive emission sources.

—Emission limitations or standards for which a part 70 permit already includes monitoring that is used as a continuous compliance determination method. In these instances, there generally is no need to require any additional compliance assurance monitoring for that emission limitation or standard. There is one exception to using this exemption. In some instances a continuous compliance determination method may be contingent upon an assumed control device efficiency factor. For example, a VOC coating source that includes add-on control equipment that destroys VOC emissions may use an assumed control device efficiency factor for the control equipment together with coating records to calculate compliance with an NSPS requirement. In this example, a monthly calculation generally is made using coating records and an assumed destruction efficiency factor that is based on the last control system performance test. In this example, § 64.2(b)(1)(vi) does not allow the exemption from part 64 because the owner or operator must assure proper operation and maintenance of the control device for the destruction efficiency factor to remain valid. The Agency notes that this position is consistent with the NSPS, which generally require monitoring of the control equipment in addition to the monthly compliance calculation in this type of example. The Agency notes that the monitoring under part 64 does not have to be included or otherwise affect the existing continuous compliance determination method. In the coating example, direct compliance will still be calculated based on the approved continuous compliance method. Part 64 monitoring will be used to document that the control device continues to operate properly and to indicate the need to reestablish the destruction efficiency factor through a control device performance test.

This exemption also raises a question about what constitutes a "continuous compliance determination method." Section 64.1 defines this type of method as a means established in an applicable requirement or a part 70 permit for determining compliance on a continuous basis, consistent with the averaging period for the applicable requirement. The EPA has prepared initial guidance that includes some example of this type of monitoring. (See docket item A–91–52–VI–A–8 for a draft of this guidance.)

The Agency notes that if emission limitations or standards other than the exempt emission limits described above apply to the same pollutant-specific emissions unit, the owner or operator would still be subject to part 64 for that pollutant-specific emissions unit and may have to upgrade the existing monitoring or add other types of monitoring. The Agency believes that for many situations in which both exempt and non-exempt emission limits apply to a particular pollutant-specific emissions unit, the monitoring for the exempt limit may be adequate to satisfy part 64 for the other non-exempt emission limit(s). Section 64.4(b)(4) of the rule recognizes this possibility and allows the owner or operator to meet the obligation to explain the appropriateness of its proposed monitoring by stating that it is proposing monitoring for non-exempt limits that is based on the monitoring conducted for certain types of exempt emission limits.

Examples of situations that may involve both exempt and non-exempt limits for the same pollutant-specific emissions unit include the following. One example would be a pollutant-specific emissions unit that is subject to both a particulate matter limit and enforceable conditions to operate a control device within certain parameters. In this example, if compliance with the parameter conditions is determined by a continuous compliance determination method, that monitoring could be used to provide a reasonable assurance of compliance with the particulate matter limit, provided that the monitoring included all necessary parameters to satisfy § 64.3(a). In contrast, another example of multiple emission limitations or standards could be an emissions unit that is subject to a short

term emission rate limit and an annual throughput limit that has a means for determining compliance with total annual throughput. In this example, demonstrating compliance with the annual throughput limit is unlikely to assure that a control device used to comply with the short term limit continues to perform properly, and the owner or operator may have to use different or supplemental monitoring to satisfy part 64.

As noted above, emission limits established under the Acid Rain Program are exempt from part 64. The Agency expects that the part 75 monitoring required for Acid Rain sources likely will generate the data necessary to comply with part 64 as applied to other standards applicable to the same unit. However, because part 64 requires that CEMS data be reported in terms of the applicable emission limit, the owner or operator may face some additional requirements in order to generate the data in terms of the other non-Acid Rain emission limits that apply (such as a lb/mmBtu $SO_2$ standard).

—Two exemptions provided for in the 1993 EM proposal have been eliminated in part 64. The 1993 EM proposal included exemptions for NESHAP standards for asbestos demolition and renovation projects and NSPS standards for residential wood heaters. These source categories are exempt under part 70 and are not required to obtain operating permits. Since part 64 explicitly applies only to sources required to obtain a part 70 permit, separate exemptions for these source categories are unnecessary in the final rule.

—In addition to exempting certain emission limitations or standards, the 1996 part 64 Draft also introduced an exemption for small municipal utility emissions units in response to the large number of comments received on this issue during the extended comment period on the 1993 EM proposal (over 80 municipal power utilities submitted comments on this issue). The exemption applies to small (under 25 megawatts) existing municipal utility emissions units that are exempt from the Acid Rain Program and that supply power for sale only in peak demand or emergency situations. As commenters pointed out, these units have historically low usage rates, but, because of their nature, owners or operators cannot accept enforceable restrictions on the operation of these units for any particular year without violating their contractual obligations. Thus, these units usually have extremely high potential to emit values in comparison to actual emissions. In addition, the Agency notes that these units often are owned and operated by small municipal authorities and that the actual emissions from these units are minimal in many cases. The Agency therefore believes that a limited exemption for these units is appropriate.

To qualify for the exemption, the owners or operators of these units must include in their part 70 permit applications documentation showing that the unit is exempt from all of the monitoring requirements in 40 CFR part 75, and showing that the emissions unit is operated only to provide electricity during peaking hours or emergencies. This documentation should consist of historical operating data and contractual information.

The owner or operator must also demonstrate that the emissions unit has low annual average emissions. The rule requires the owner or operator to document that average annual emissions over the last 3 calendar years of operation are less than 50 percent of the amount required to classify the unit as a major source. If less than 3 years of historical data are available, the owner or operator can use such shorter time period that is available as the appropriate look back period.

The Agency chose the 3-year period to be consistent with the time frame used under the Acid Rain Program to define a peaking unit (see § 72.2). The 3-year period used under the CAM approach recognizes the similar circumstances presented by these small municipal power sources. The use of a 50 percent threshold is consistent with EPA's January 1995 potential to emit transition policy setting forth EPA guidance under which sources that have actual emissions well below title V applicability thresholds may avoid title V permitting by documenting those low actual emissions (see docket item A–91–52–VI–I–5 for a copy of this policy). If actual emissions exceed that 50 percent value, then the policy requires a source to obtain an enforceable restriction to reduce its potential to emit below the title V applicability threshold. The Agency believes that the principle behind that policy is equally applicable for purposes of this part 64 exemption. Based on the information supplied in comments submitted by the affected municipal utility companies, EPA believes that the vast majority of the emissions units under 25 megawatts operated at these sources will qualify for this exemption.

In response to the 1996 part 64 Draft, the Agency again received many comments that argued for expansion of the municipal utility exemption to other units which have low actual emissions. For example, the U.S. Small Business Administration submitted for discussion at the September 10, 1996, meeting a proposal (SBA proposal) to exclude entirely from part 64 any unit with emissions between 50 percent and 90 percent of the major source threshold so that the resources that would otherwise be spent on implementing part 64 for those sources could be saved; further, the SBA comments included a recommendation that EPA give partial credit for emission control measures rather than determining applicability based on total potential pre-control device emissions. The SBA proposal stated that this would eliminate possibly thousands of sources that do not need to be covered by part 64 since the reasonable assurance can be obtained through the facilities' own records. A number of commenters specifically expressed their support for the SBA proposal and others stated generally that they were in favor of such an exemption, arguing that any unit that can demonstrate a history of limited usage and an expectation of continued limited usage should be exempted.

The EPA disagrees with the concept of using actual emissions as the overall basis for part 64 applicability or as the basis for expanding significantly the municipal utility exemption. First, actual emissions can vary with changes in production. More importantly, for units with control devices, calculations of actual emissions necessarily rely on assumptions about on-going performance that part 64 is intended to verify. Further, to assure that units remain under the major source threshold is not the goal of part 64, but, instead, the goal of part 64 is to assure that sources meet all applicable requirements. Finally, because the types of sources to which commenters referred are unlikely to meet the control device applicability criterion of the final rule, the Agency feels even more strongly that the final rule will not subject small units to inappropriate monitoring. The Agency notes, however, that such units will remain subject to the monitoring requirements in part 70, and may have to adopt new or modified monitoring to comply with those requirements, even though part 64 does not apply.

4. Hazardous Air Pollutant Requirements

Under the 1993 EM proposal, part 64 would have applied to all emission limitations or standards established under 40 CFR part 61 at any source that is required to obtain an operating permit under part 70. The proposed rule contained an exemption, retained in

modified form in the final part 64 rule, for all hazardous air pollutant emissions standards promulgated pursuant to section 112 of the Clean Air Act except for those standards established in part 61 prior to the 1990 Amendments to the Act.

After receiving substantial public comment on the applicability of part 64 to hazardous air pollutants, the Agency has significantly modified its approach to HAPs under part 64. Hazardous air pollutant sources are no longer a separate category subject to a different applicability test. Instead, hazardous air pollutant emissions limitations and standards are treated the same as those for criteria air pollutants. Thus, a hazardous air pollutant-specific emissions unit is subject to part 64 only if it meets the applicability criteria set forth in § 64.2(a).

This approach is consistent with the Agency's overall goal of streamlining part 64. The EPA believes the final part 64, in conjunction with other regulatory provisions, provides for sufficient monitoring of hazardous air pollutant sources to both satisfy the statutory enhanced monitoring mandate and to meet the special concerns associated with regulating pollutants of this type. In addition, units and sources which do not meet the part 64 applicability threshold will still be subject to part 61 compliance monitoring and, if applicable, part 70 monitoring. For those units, EPA considers such monitoring sufficient to address the special concerns of regulating hazardous air pollutants.

With respect to emissions units subject to new hazardous air pollutant standards under amended section 112 of the Act, EPA will include appropriate monitoring requirements as part of those new hazardous air pollutant standards. Since part 64 monitoring for these standards would be needlessly duplicative, such standards are covered by the exemption in § 64.2(b)(1)(i). This approach is consistent with EPA's statement in the July 21, 1992 preamble to 40 CFR part 70 that all future rulemakings will have no gap in their monitoring provisions (see 57 FR 32278).

### *C. Section 64.3—Monitoring Design Criteria*

Section 64.3 contains the design criteria for satisfying part 64. The selection and design of monitoring have undergone revision in the final rule. Some of these revisions were necessary to conform these provisions to applicability and implementation requirements under the final rule. Others have been made in response to public comments on the monitoring design and selection requirements in the 1993 proposed EM rule and subsequent drafts of part 64. These revisions reflect both the objective of providing a reasonable assurance of compliance with applicable requirements at lower cost than the 1993 proposed EM rule and the Agency's goal of developing a more simplified structure for part 64. The following section describes the specific revisions to these provisions and the Agency's rationale for making these changes.

1. General Criteria

a. *Overview.* The general purpose of the monitoring required by part 64 is to assure compliance with emission standards through requiring monitoring of the operation and maintenance of the control equipment and, if applicable, operating conditions of the pollutant-specific emissions unit. A basic assumption of EPA air pollution control rulemaking, at least under technology-based programs such as the NSPS program, is that an emission limit should be established at a point where a well operated and maintained source can achieve the limit under all expected operating conditions using control equipment that has been shown through a performance test to be capable of achieving the emission limit. This demonstration through a performance test is conducted under conditions specified by the applicable rule or, if not specified, generally under conditions representative of maximum emission potential under anticipated operating conditions (generally, but not always, at full load). Logically, therefore, once an owner or operator has shown that the installed control equipment can comply with an emission limit, there will be a reasonable assurance of ongoing compliance with the emission limit as long as the emissions unit is operated under the conditions anticipated and the control equipment is operated and maintained properly. This logical assumption is the basis of EPA standard-setting under the NSPS program and serves as the model for the CAM approach as well.

For example, under 40 CFR part 60, subpart NN, Phosphate Rock Plants, the standard for particulate matter is determined through Method 5 testing. The final preamble noted that certain commenters believed that the particulate emission limits "were too stringent to be achieved on a continuous basis." Upon review of the information, EPA revised the standard because its evaluation "indicated that the proposed emission limits . . . could not be achieved continuously under all operating conditions which are likely to occur." 47 FR 16584 (April 16, 1982). EPA then stated that "(a)s required by the Clean Air Act, the promulgated . . . emission limits are based on the performance of the best available control equipment on the worst case uncontrolled emission levels. The best control systems have been demonstrated to be continuously effective. Therefore, there should be no problems achieving the standards if the control equipment is properly maintained and operated." Id. at 16585. This example documents the close nexus of first demonstrating through a performance test that the installed control equipment is capable of achieving the standard on a continuous basis and then properly operating and maintaining that equipment so as to provide a reasonable assurance of continuous compliance with the standard.

In EPA's Response to Remand in *Portland Cement Association* v. *Ruckelshaus* (see docket item A–91–52–VI–I–11), EPA further emphasized, in its discussion on opacity, the important relationship between proper operation and maintenance and attainment of the standards. The Agency stated, "[T]he opacity standards and maintenance requirements were both promulgated, and work in tandem to guarantee that proper maintenance and operation of pollution control equipment, the sine qua non of continuous compliance with emission limits, can in fact be required and monitored." (Response to Remand, p. 87.) EPA discussed the fact that opacity standards provide enforcement agencies with a convenient indicator of whether pollution control devices are being properly operated and maintained, and therefore whether the standards are being met. (Response to Remand, p. 27–28.)

These examples point to the underlying assumption that there is a reasonable assurance of compliance with emission limits so long as the emission unit is operated under the conditions anticipated and the control equipment that has been proven capable of complying continues to be operated and maintained properly. In most cases, this relationship can be shown to exist through the performance testing without additional site-specific correlation of operational indicators with actual emission values. The monitoring design criteria in § 64.3(a) build on this fundamental premise of the regulatory structure.

Thus, § 64.3(a) states that units with control devices must meet certain general monitoring design criteria in order to provide a reasonable assurance

of compliance with emission limitations or standards for the anticipated range of operations at a pollutant-specific emissions unit. These criteria mandate the monitoring of one or more indicators of the performance of the applicable control device, associated capture system, and/or any processes significant to achieving compliance. The owner or operator shall establish appropriate ranges or designated conditions for the selected indicators such that operating within the established ranges will provide a reasonable assurance of compliance for the anticipated range of operating conditions. The requirement to establish an indicator range provides the objective screening measure to indicate proper operation and maintenance of the emissions unit and the control technology, i.e., operation and maintenance such that there is a reasonable assurance of compliance with emission limitations or standards. Monitoring based on indicator ranges that establish expected operating conditions and the proper functioning of control technology should take into account reasonably anticipated operating conditions and the process and pollution control device parameters that significantly affect emission control performance. The Agency notes that monitoring which fails to take into account significant process or control device parameters is unlikely to provide the reasonable assurance of compliance with emissions limitations or standards. The Agency does not expect that such parameters would normally include records of regular maintenance practices (e.g., periodic inspection and replacement of parts); these records may or may not be addressed in separate permit conditions relative to part 70 requirements. The Agency also emphasizes that a failure to stay within the indicator range does not automatically indicate a failure to satisfy applicable requirements. The failure to stay within an indicator range (over the appropriate averaging period, as discussed below) does indicate the need for the owner or operator to evaluate and determine whether corrective action is necessary to return operations within design parameters, and to act upon that determination as appropriate.

The use of operational data collected during performance testing is a key element in establishing indicator ranges; however, other relevant information in establishing indicator ranges would be engineering assessments, historical data, and vendor data. Indicator ranges do not need to be correlated across the whole range of potential emissions. Criteria developed in the design of the control equipment for the emissions unit may be used in establishing operating indicator ranges. For example, the engineering specifications for a venturi scrubber installed to control particulate emissions from an affected unit may include design operational ranges for liquid flow rate and pressure drop across the venturi. Assume for this simplified example that the scrubber design conditions are intended to achieve the desired emission reduction for uncontrolled pollutant rates that correspond to 120 percent of the affected unit's process design rate. The results of a performance test during which the scrubber is operated within these design conditions and the process is operated at conditions representative of high load (near 100 percent of process design rate) would be used to confirm that operating within the design conditions, the design ranges for the liquid flow rate in conjunction with the pressure drop across the venturi, achieves the emission reduction desired and provides a reasonable assurance of compliance across the anticipated range of process conditions for ongoing operation.

Review of historical monitoring data may also be used in defining an indicator range that provides a reasonable assurance of compliance with emission limits. Consider the example of a process dryer equipped with a low-energy wet scrubber for particulate matter control. The scrubber exhaust gas temperature is indicative of adequate water flow (as a result of the heat exchange between the dryer effluent stream and the scrubber water). However, since the inlet scrubber water temperature is affected by ambient temperature, the resulting scrubber outlet temperature will be affected by ambient conditions. Since the scrubber outlet temperature will vary somewhat as a result of ambient temperature, it makes sense to consider historical data from different seasons of the year when establishing the indicator range (maximum allowable exhaust temperature). In other words, if the performance test were conducted in the spring, one should also consider the historical data from the summer months (when the exhaust temperature would be expected to be slightly higher) when establishing the indicator range.

b. *Possible Monitoring Methods.* Section 64.4(a)(2) of the 1993 proposed EM rule stated that an enhanced monitoring protocol could include existing, modified, or new monitoring systems. It also contained a list of possible monitoring methods which could satisfy the rule. The basic elements of this subsection have been moved in the final rule to the definition of "monitoring" in § 64.1. The Agency has made several technical changes to the list of monitoring methodologies in response to comments received. See Section II.A. and the Response to Comments Document for further discussion.

c. *Indicator Ranges or Designated Conditions.* Sections 64.3(a)(2) and (3) of the final rule require the owner or operator of an affected pollutant-specific emissions unit to establish ranges or designated conditions of the indicators to be monitored. These ranges (e.g., minimum to maximum parameter value) or conditions (e.g., specific fuel or raw material type or control device adjustment) must be established at a level where the monitoring can assess whether there is a reasonable assurance of compliance with applicable requirements.

The addition of indicator range requirements to the general monitoring design criteria serves the objectives of part 64 and provides the permitting authority and the owner or operator of an affected source with information about the operation and maintenance of control measures in order to address any problems with that operation and maintenance before an emissions unit fails to comply with applicable requirements. An excursion from an indicator range or designated condition indicates a potential problem in the operation and maintenance of the control device and a possible exception to compliance with applicable requirements. The excursion signals, at a minimum, that the owner or operator should take appropriate corrective action to return operations within the established ranges. However, an excursion from an indicator range does not necessarily constitute a failure to comply with the underlying emissions limitation or standard. See Section II.D. below for further discussion on the degree of documentation required to establish indicator ranges under the final rule.

Sections 64.3(a)(3)(i)-(iv) state that ranges may be set as follows: established as a single maximum or minimum value if appropriate or at different levels that vary depending on alternative operating conditions; expressed as a function of process variables; expressed as maintaining the applicable parameter in a particular operational status; or expressed as interdependent between more than one indicator. These sections also provide examples of how such different forms of ranges might be employed. The description of what type of indicators and indicator ranges may

be employed under part 64 is designed to have a great deal of flexibility. This allows owners or operators to develop indicators and ranges that are most appropriate for their affected emissions units, so long as the basic design criteria of part 64 are met. The Agency is also developing guidance materials that will provide more specific examples of the various forms indicator ranges may take.

d. *Control Device Bypass.* Another monitor design requirement in the final rule addresses the possibility of control device bypass. Section 64.3(a)(2) requires that the monitoring be designed to detect any bypass of a control device or capture system, if such bypass can occur based on the design of the pollutant-specific emissions unit. The Agency believes this requirement is necessary under the CAM approach. Only pollutant-specific emissions units which use control devices to achieve regulatory compliance are subject to part 64. Part 64 monitoring generally will consist of monitoring parameters critical to the operation of those control devices. The monitoring will not be able to provide a reasonable assurance of compliance with applicable requirements if air pollutant emissions are potentially circumventing the control devices and/or capture systems being monitored. The Agency has therefore added this requirement to ensure that no emissions are bypassing the control device or capture system.

The Agency notes that certain comments on the 1996 part 64 Draft objected to this requirement. One objection was that it could be read to require monitoring of "bypass" that involves routine recycling of vent streams to a process where the control device is used as a backup in case such process recycling cannot occur. The final rule adds the phrase "to the atmosphere" to clarify that only bypasses which result in discharge to the atmosphere require monitoring. Another concern was that whether bypass monitoring should be required is often negotiated as part of underlying rulemakings and this requirement could undo agreements reached on those underlying rules. The Agency has added a provision to clarify that bypass monitoring is not required if an underlying rule specifically provides that it is not required for certain operations or units. Finally, a concern was raised that certain underlying rules provide for design features that obviate the need for monitoring (such as the use of locking car seals). The final rule requires bypass monitoring only if the bypass can occur based on the unit's design. Where features such as locking car seals are used, the design of the unit effectively prevents bypass and thus monitoring would not be required.

e. *Process and Capture System Monitoring.* Commenters on the 1996 part 64 Draft also objected to the requirement that the monitoring include process monitoring if necessary to assure proper operation and maintenance of the control device. The final rule retains this requirement, but the language has been rephrased to clarify that process monitoring must be conducted only as necessary to document that the control equipment is being operated properly. The simplest example would be throughput monitoring to assure that the design capacity of the control equipment is not exceeded. The Agency believes that this type of monitoring is essential to assuring that the control equipment is used in accordance with its design and in a manner that will provide a reasonable assurance of compliance.

Similarly, some commenters objected to the monitoring of capture systems. The Agency believes that this monitoring is essential for the same reasons as bypass and process monitoring may be critical to assuring proper operation and maintenance of control equipment and providing a reasonable assurance of compliance with emission limits. If emissions are not properly captured, those emissions will be released uncontrolled. That result likely would constitute a significant compliance problem even if the control equipment itself was being operated and maintained properly. It is essential that the emissions which a control device is supposed to be controlling are in fact sent to the device for control. Thus the Agency believes that assuring that the capture system is properly operated and maintained is also essential.

f. *Fugitive Emissions Monitoring.* Under the 1993 EM proposal, fugitive emission points for which compliance is evaluated on a process-wide or facility-wide basis were potentially subject to part 64 enhanced monitoring requirements. Section 64.4(d) of the proposed rule would have established enhanced monitoring protocol requirements for such fugitive emissions points. Many commenters raised objections to these provisions, arguing that § 64.4(d) required either burdensome monitoring of emissions from each fugitive emissions point or the use of costly monitoring devices to monitor fugitive emissions. The Agency does not necessarily agree with these comments, noting that proposed § 64.4(d) was intended to allow for cost-effective multi-point monitoring at affected fugitive emissions sources. The final rule, however, applies only to those emissions units for which emissions are vented to a control device. By definition, fugitive emissions are those emissions which cannot reasonably be vented through a stack, chimney, vent, or similar opening and thus will not be subject to part 64. Since there is no need for detailed fugitive emissions monitoring requirements under the final rule, the provisions in proposed § 64.4(d) have been eliminated.

2. Performance and Operating Criteria

The final part 64, like the 1993 EM proposal, requires that part 64 monitoring be subject to minimum performance specifications, quality assurance and control requirements, monitoring frequency requirements, and data availability requirements. These requirements assure that the data generated by the monitoring under part 64 present valid and sufficient information on the actual conditions being monitored. The final rule includes a series of performance and operating design criteria in §§ 64.3(b) through (d). The Agency received substantial public comment on the performance and operating criteria of the 1993 EM proposal, which were contained in a series of four appendices. Many commenters raised concerns that the organization of the appendices was confusing. A number of commenters suggested that the appendices required certain monitoring options to achieve inapplicable specifications or did not provide adequate guidance on the requirements for non-instrumental monitoring options. Commenters also raised a number of concerns specific to individual requirements. Finally, a great many commenters argued that the reliance on detailed specifications in the appendices which focused on the use of certain monitoring methodologies, such as CEMS, precluded the use of more cost-effective alternative methodologies, creating a strong bias for the use of continuous emission monitoring methodologies.

The Agency agrees with a number of those comments and has substantially revised the performance and operating criteria in the final rule to address the concerns they raised. Overall, these requirements have been greatly streamlined and simplified. There are no appendices to the final rule delineating more detailed performance and operating criteria. To assure consistency with existing monitoring programs, the performance criteria in the final rule also reflect other federal monitoring requirements, such as the NSPS general provisions in 40 CFR part

60 and the NESHAP general provisions in 40 CFR part 63. The following discussion addresses each of the key performance and operating criteria in the final rule.

a. *Data Representativeness.* Section 64.3(b)(1) of the final rule requires that the monitoring proposed by the owner or operator include location and installation specifications (if applicable) that allow for the obtaining of data which are representative of the emissions or parameters being monitored. Although this provision describes no specific tests for monitoring plan acceptability, it does establish an objective duty to insure that the data collected are representative of the operations being monitored. This provision is similar to the analogous requirements included in appendix B of the 1993 EM proposal. It is also analogous to the general monitoring provisions applicable to all monitoring under the NSPS program in § 60.13. The Agency has added the phrase "if applicable" to clarify that noninstrumental monitoring approaches may not require location or installation specifications.

The 1993 EM proposal would have required owners or operators to "[s]atisfy applicable performance, equipment, installation and calibration gas specifications in accordance with the specifications and procedures provided in appendices A and B of this part." The appendices then required all enhanced monitoring protocols to satisfy generally applicable performance specifications including relative accuracy requirements; maximum levels of calibration error; measurement span requirements; response time requirements; measurement technique procedures; and requirements for equipment design, installation, and location. Many commenters observed that the high level of specificity required in the proposed appendices would limit the types of monitoring protocols that could be approved, while many other commenters argued that the performance and operating requirements were too subjective when applied in the context of demonstrating compliance with the 1993 EM proposed rule's general monitoring requirements. The Agency believes that such detailed requirements are unnecessary for the type of monitoring that is required to satisfy the final rule, but does believe that the general obligation to assure that representative data are obtained is necessary in part 64 just as it is in other programs such as NSPS.

b. *Verification of Operational Status.* Section 64.3(b)(2) requires verification procedures to confirm the initial operational status of new or modified monitoring equipment. These requirements specify that the owner or operator must consider manufacturer requirements or recommendations for installation, calibration and start-up operation. Owners or operators must provide documentation where the manufacturer's procedures are not followed. The Agency notes that under the NSPS program such manufacturer requirements and recommendations must be followed. However, because of the breadth of part 64 applicability, the Agency believes that the more flexible language in § 64.3(b)(2) is appropriate, especially given that the submittal requirements in § 64.4 will require that the owner or operator document the changes it proposes.

Some comments on the 1996 part 64 Draft stated that the requirements to verify operational status were overly burdensome given that many units will rely on existing monitoring to satisfy part 64. The final rule clarifies that verification of operational status is required only for units with new or modified monitoring.

c. *Quality Assurance and Control.* Section 64.3(b)(3) of the final rule requires quality assurance and control practices which are "adequate to ensure the continuing validity of the data." This language ensures that monitoring under part 64 will have to include adequate procedures to document that the monitoring remains operational and can provide suitable readings for the purpose of measuring changes in control performance. Satisfying this general design criterion should not be confused with the detailed quality assurance provisions required for monitors that are used to determine direct emission limit compliance, such as appendix F to part 60. The 1993 EM proposal generally would have required compliance with appendix F for CEMS or comparable quality assurance requirements for other monitoring approaches. Numerous commenters expressed concerns about the burdens of quality assurance under the proposed EM rule. They pointed out several instances in the proposed appendices that appeared to establish presumptions of daily calibrations for all types of enhanced monitoring protocols or appeared to require overly frequent reverification of parametric correlations.

In contrast, the focus of the final rule's quality assurance requirements is on the minimum degree of ongoing quality checks that are necessary to rely on the data for purposes of indicating whether the unit remains in compliance and whether corrective action is necessary. The Agency recognizes that many types of monitoring which satisfy the final rule will not be based on the type of sophisticated equipment that is prone to calibration drift and loss of data quality over time, and the revised quality assurance provisions of the final rule reflect this understanding. The required level of quality assurance differs from certain existing quality assurance procedures such as appendix F of 40 CFR part 60 for a CEMS. With respect to a CEMS, the general requirements for assuring ongoing data quality that are contained in 40 CFR 60.13 and the performance specifications in appendix B of part 60 (such as zero and span checks) provide adequate quality control checks for the purpose of using the CEMS to indicate control performance for providing assurance of compliance. This approach of requiring only limited quality assurance is followed under the NSPS where a CEMS is not used as the compliance test method for direct continuous compliance monitoring. For types of monitoring other than CEMS, ongoing quality control measures must be adequate to ensure that the monitoring remains operational and can provide readings suitable for the purpose of measuring changes in control performance that indicate possible exceptions to compliance. An example of this type of requirement is the quarterly recalibration requirement in § 60.683(c) for wet scrubber parameter monitoring at wool fiberglass insulation manufacturing plants.

Again, the final § 64.3(b) directs owners or operators to consider manufacturer requirements or recommendations in developing quality assurance practices, and § 64.4 requires the owner or operator to document any changes in recommended quality assurance practices. The permitting authority and others can then evaluate the proposed procedures during the permitting process.

d. *Frequency of Monitoring.* Section 64.3(b)(4) of the final rule establishes the general criteria for monitoring frequency, data collection procedures (such as manual log entry, strip chart, or computerized collection procedures), and data averaging periods, if applicable to the proposed monitoring. The final rule requires that the monitoring frequency (including associated averaging periods) be designed to obtain data at such intervals that are, at a minimum, commensurate with the time period over which an excursion from an indicator range is likely to be observed based on the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system).

In addition, the final rule specifies minimum data collection frequency for pollutant-specific emissions units in accordance with their potential to emit. For "large" pollutant-specific emissions units (i.e., those units with the potential to emit the applicable pollutant emitted in an amount equivalent to or in excess of the amount established for classification as a major source), the monitoring frequency generally must satisfy a design criterion of four or more data values equally spaced over each hour of operation. This minimum data collection frequency is consistent with the frequency established by the Agency for continuous monitoring systems. Note that a permitting authority may reduce this minimum data collection frequency upon submission and approval of a request prepared by the owner or operator, and the rule provides a non-exclusive list of situations in which less frequent monitoring of certain parameters may be warranted. Other pollutant-specific emissions units are subject to a less frequent data collection requirement but some data must be collected for every unit subject to this rule at least once per day. The final rule thus sets a monitoring frequency standard appropriate to the focus on detecting changes in control device performance which could indicate possible noncompliance and for which corrective action is appropriate.

For example, many types of control devices are subject to rapid changes in performance and thus the frequency design criterion could result in frequent, near continuous collection of parametric data that are subsequently averaged over an appropriate period of time. Many NSPS subparts require continuous parametric control device data, which are then averaged over an appropriate interval (often consistent with the required minimum time for conducting a compliance test). Recent NESHAP have required control device parameter monitoring for direct compliance purposes. In these instances, a daily average of continuous data (i.e., data recorded at least every 15 minutes) is often used (see, e.g., § 63.152(b)(2)). For some control devices, the intervals between data collection points may be increased. The Agency is in the process of developing guidance for part 64 implementation, including example monitoring approaches. The guidance will indicate how the frequency of monitoring, data collection procedures, and averaging of data points can vary based on the type of emissions unit and the control device involved.

e. *Data Availability.* The 1996 part 64 Draft rule included a presumptive minimum data availability of 90 percent for the averaging periods in a reporting period. The final rule does not include such a presumptive requirement opting instead for affording the source owner or operator and the permitting authority flexibility in establishing appropriate site-specific conditions. Further, the final rule maintains the general duty requirement in § 64.7 that the owner or operator shall maintain and operate the monitoring at all times the pollutant-specific emissions unit is operating except for periods of monitoring malfunctions, associated repairs, and required quality assurance or control activities (such as calibration checks and (if applicable) required zero and span adjustments). This section of the final rule also requires that the owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. Under the savings provisions of § 64.10 of the final rule, source owners or operators must satisfy any existing data availability requirement established for monitoring associated with a particular emission limitation or standard.

The 1993 EM proposal would have required that an enhanced monitoring protocol satisfy any minimum data availability requirement that is applicable to the monitoring under a separate applicable emission limitation or standard pursuant to part 60 or 61 of this chapter. Where no existing data availability requirement would have applied, the proposed rule would have required the enhanced monitoring protocol to satisfy a data availability requirement that reflected obtaining quality-assured data for all emissions unit operating time periods excluding a fixed percentage of operating time that the owner or operator justified to the permitting authority as necessary to conduct quality assurance procedures. The preamble to the proposed rule stated that the only acceptable downtime under this requirement would be the time necessary to perform quality assurance testing and routine maintenance. The primary concern expressed in public comments on the data availability requirement was that the default requirement failed to take into account the likelihood that some repairs of instrumental components would be necessary even if the owner or operator performed all routine maintenance as appropriate. The Agency believes that the general duty requirement in the final rule effectively addresses the commenters' concerns, while still assuring that the owner or operator is responsible for collecting data at all required intervals, except where downtime is necessary to conduct required quality assurance or to respond to malfunctions that could not reasonably have been prevented.

A number of comments on the 1996 part 64 Draft objected to the 90 percent data availability presumption. Many pointed to a number of applicable requirements in which EPA has used 75 percent as the required minimum data availability. Others argued that EPA failed to present any data to document the reasonableness of the presumption. The Agency agrees with some of the commenters that a presumptive minimum data availability requirement may not be not generally applicable; although, the general obligations to operate the monitoring at all times with only specific exception periods and to collect and use all the data for reporting purposes are universal. The final rule reflects this position and allows the source owner or operator and the permitting authority the flexibility to specify a separate minimum data availability if justified or required under a separate rule.

3. Special Considerations for CEMS, COMS and PEMS

One method of assessing control performance is to calculate emission (or opacity) rates directly in order to track trends in emissions (or opacity) that document decreased control effectiveness. This type of monitoring could include a continuous emission or opacity monitoring system (CEMS or COMS) or a predictive emission monitoring system (PEMS) in which various process and control parameters are evaluated to predict emissions. (Where this type of monitoring is specified by the applicable standard to be used to determine compliance with an emission standard or limitation on a continuous basis, the requirements of part 64 do not apply to that emission standard or limitation. *See* § 64.2(b)(1)(vi).)

The EPA believes that these types of monitoring are preferable from a technical and policy perspective as a means of assuring compliance with applicable requirements because they can provide data directly in terms of the applicable emission limitation or standard. Therefore, where such systems are already required, § 64.3(d)(1) mandates that the design of the monitoring under part 64 incorporate such systems. This means that source owners and or operators whose emission units have had CEMS, COMS, and/or PEMS imposed by underlying regulations, emissions trading programs, judicial settlements,

or through other circumstances must use those CEMS, COMS, and/or PEMS when complying with part 64 for those emissions units. Even where the use of such monitoring is not mandated, the use of any of these types of systems in accordance with general monitoring requirements and performance specifications (or comparable permitting authority requirements if there are no requirements specified for a particular system) will be sufficient for a CEMS, COMS or PEMS to satisfy generally the design criteria in § 64.3(a) and (b).

One exception to this general rule is that if a COMS is used as a control performance indicator, and both a particulate matter and opacity standard apply, the monitoring will have to include an indicator range satisfying § 64.3(a)(2) and (3). Comments received in response to the 1996 part 64 Draft included the suggestion that COMS not be subject to the requirement to establish indicator ranges. The Agency has decided to retain this requirement. A CEMS or PEMS will provide data in terms of the applicable pollutant and therefore the process of identifying and reporting exceedances serves the same purpose as an indicator range. For assuring compliance with an opacity standard, a COMS also achieves this objective. However, depending on the type of control equipment being used and the design of an emissions unit (especially stack diameter), opacity standards are often established at a level which represents a likely significant exceedance of the particulate matter standard. In those circumstances, an opacity level below a required opacity standard would be more appropriate as a CAM indicator. Therefore, the use of a COMS may require an appropriate indicator range to be established that is different than the applicable opacity standard. The Agency notes that the averaging period for such an indicator range would not necessarily have to be consistent with the typical averaging time of an opacity standard (i.e., six minutes).

The final special design criterion for a CEMS, COMS or PEMS is to design the system to allow for reporting of exceedances. Again, in many cases, the reporting requirements for exceedances (or excess emissions) will already be established in existing requirements. However, in some cases the owner or operator, prior to implementing part 64, will not have continuous monitoring associated with an applicable emission limit, and the underlying regulation may not specify an appropriate time period for averaging data to report excess emissions. For example, this situation could arise in the example provided above for a part 75 Acid Rain CEMS being used to monitor compliance with a SIP limit. In this circumstance, the owner or operator will have to design the system to include an appropriate period for defining exceedances consistent with the emission limitation or standard. If the underlying applicable requirement does not require use of a specific averaging period, the averaging period should be designed using the same criteria as used for other part 64 monitoring under § 64.3(b)(4).

There was a concern about a perceived bias towards continuous emission monitoring methodologies in many public comments on the monitoring design and selection provisions of the 1993 EM proposal. In addition, many comments supported the notion that existing monitoring should be used wherever possible to reduce the burdens of part 64. Section 64.3(d) addresses both of these comment areas. It emphasizes the use of existing monitoring where that monitoring on its face is able to meet the part 64 design criteria, but it clarifies that the rule does not mandate the use of CEMS in situations where such monitoring is not already required. See also Section II.D. below which discusses in further detail the potential use of existing monitoring to satisfy part 64.

Stakeholders commented that the 1996 part 64 Draft rule did not address procedures for approving alternatives to CEMS or COMS as per the procedures specified in the general provisions of 40 CFR parts 60, 61, and 63. The Agency already has procedures for documenting, reviewing, and approving alternatives to performance test methods and monitoring procedures. Part 64 need not address these procedures. The Agency recommends that source owners or operators wishing to pursue alternatives to CEMS or COMS follow existing alternative methods processes.

4. Monitor Failures

Section 64.4(g) of the 1993 EM proposal would have provided a defense to violations of the data availability requirement where an interruption of the normal operation of an enhanced monitoring protocol was the result of a monitor failure or malfunction. This section would have operated in conjunction with proposed § 64.5(e) to establish general notification and corrective action requirements in response to monitor failures and malfunctions. The proposed rule would have provided a defense to data availability violations where the following criteria were met: The monitoring failure was the result of a sudden and unforeseeable malfunction; the monitoring systems and procedures had been properly operated and maintained prior to and up to the time of the malfunction; and the owner or operator took all reasonable steps to minimize the period the monitoring system was inoperative.

This section has been eliminated in the final rule. The Agency does not believe that there is a need for a data availability violation defense in part 64. The final rule does not require that the permit establish a specific data availability requirement. Rather, the owner or operator is under a general duty to operate the monitoring at all required intervals whenever the emissions unit is operating. The only exception to this duty is if the inoperation of the monitoring is caused by a monitor malfunction, associated repairs or required quality assurance or control activities. Monitor malfunctions are limited to those breakdowns which occur as a result of a sudden, infrequent, and not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not considered malfunctions. This approach is similar to the malfunction defense included in the proposed rule, but does not entail the elaborate procedural elements of the proposed rule. To the extent a particular data availability requirement cannot be achieved for reasons that are no fault of the owner or operator, EPA believes that the proper use of oversight discretion can account for those situations.

*D. Section 64.4—Submittal Requirements*

Section 64.4 of the final rule outlines what information the owner or operator must submit with a part 70 permit application to propose the monitoring approach selected by the owner or operator. The required information has two basic components: general information necessary to justify the appropriateness of the proposed monitoring; and information to justify the appropriateness of the indicator ranges to be used for reporting exceedances or excursions.

1. General Information on the Proposed Monitoring

Section 64.4(a) first requires that the owner or operator identify the basic monitoring approach and indicator ranges that will form the primary elements of the monitoring, as well as the key performance and operating specifications needed to meet the design criteria in § 64.3. In submitting proposed indicator ranges, the owner or

operator can either submit the actual proposed ranges or the methodology that will be followed to establish the indicator ranges.

Section 64.4(b) then requires that the owner or operator submit relevant information to justify the proposed monitoring approach. The justification can rely on any available information, including appropriate reference materials and guidance documents. If an existing requirement already establishes monitoring for the pollutant-specific emissions unit, the justification can rely in part on that existing requirement. For certain types of monitoring, no extensive justification should be necessary because the final rule creates a rebuttable presumption that the monitoring satisfies part 64. When an owner or operator relies on one of these monitoring approaches, all that initially should be necessary is an explanation of why the monitoring is applicable to the unit in question. These types of monitoring include CEMS, COMS, or PEMS; excepted or alternative monitoring approaches allowed under part 75; and continuous compliance determination monitoring or monitoring for post-11/90 NSPS and NESHAP requirements that are exempt under § 64.2(b) but that may be applicable to the control equipment for other non-exempt emissions limitations at the same emissions unit. The reason for this presumption is similar to the reason for excepting from part 64 units that have such monitoring as their compliance determination method. The rule also notes that presumptively acceptable or required monitoring approaches established by rule by a State to achieve compliance with part 64 are deemed presumptively acceptable. This last option is included to promote the adoption of State programmatic rules designed to detail presumptively appropriate part 64 monitoring.

Finally, consistent with *Panhandle Producers & Royalty Owners Ass'n* v. *Economic Regulatory Administration,* 822 F.2d 1105 (D.C. Cir. 1987), the rule includes as presumptively acceptable monitoring, monitoring that is so designated by EPA through guidance documents. Such presumptively acceptable monitoring identified by EPA in guidance may also serve as models for permitting authorities to consider in programmatic rulemaking. Generally, EPA intends to issue such guidance only after providing notice and seeking comment on such monitoring. After considering comments received on the monitoring requirements for flares in 40 CFR 60.18, EPA is designating, at this time, that monitoring as presumptively acceptable. This designation is being made in recognition that some published monitoring practices or protocols provide sufficient design and monitoring performance specifications to satisfy CAM requirements while not fully satisfying the part 64 definition for a continuous compliance determination method. Some presumptively monitoring protocols may include procedures for calculating compliance with applicable emission limitations or standards but have some portions subject to CAM requirements (e.g., monitoring to indicate a reasonable assurance that control device efficiency is maintained at an assumed level) as indicated in § 64.2(b)(1)(vi) of the rule.

Reliance on presumptively acceptable monitoring will relieve owners and operators of the initial burden of justifying that the monitoring selected satisfies part 64. However, this presumption of acceptability is rebuttable, and, if information or evidence rebutting the presumption is brought forward, the owner or operator must bear the burden of justifying that the proposed monitoring complies with part 64. Final decisions as to the acceptability of monitoring rest with the informed discretion of the permitting authority, subject to permit review by EPA under 40 CFR 70.8, taking into account any appropriate presumption and all other relevant information and data.

Finally, § 64.4(b) requires the owner or operator to identify and explain any changes in manufacturer recommendations or requirements applicable to installation, verification and quality assurance of the monitoring. As explained above, the § 64.3(b) design criteria allow for these differences even though EPA generally requires the owner or operator to comply with such provisions. This documentation requirement is important to allow an appropriate evaluation of the reasons for changing these manufacturer specifications.

These submittal requirements streamline the similar requirements in the 1993 EM proposal. First, § 64.7 of the proposed rule would have required that a permit application incorporate a proposed enhanced monitoring protocol for every applicable emission limitation or standard at each emissions unit subject to the proposed rule. This protocol would have had to contain information about and supporting documentation for a number of elements, including proposed performance specifications, quality assurance procedures, test plans for conducting performance verification tests, and a list of all technologically feasible monitoring methodologies which could have been employed in the proposed protocol. Owners or operators of affected emissions units would have also been required to identify new technologically feasible monitoring methodologies when submitting a permit renewal application. Second, § 64.4(e)(3) of the proposed rule also covered permit application submittal requirements. That section would have required the owner or operator of an affected emissions unit to submit as part of a permit application all of the descriptions, explanations, justifications, and supporting data necessary to justify that a proposed enhanced monitoring protocol could satisfy the requirements of the proposed rule. This section explicitly placed the burden of proof on the owner or operator proposing an enhanced monitoring protocol to show that the protocol met the rule's requirements.

A number of commenters raised concerns about these permit application requirements. Some argued that the specific information requested, such as information pertaining to a parametric relationship, may not be available prior to installation of control technology and permit issuance. Others contended that the requirements to include information on all technologically feasible monitoring methodologies was an illustration of a perceived bias towards the use of costly continuous emission monitoring methods under the 1993 EM proposal. In response to some of these concerns and in furtherance of the goal of providing a reasonable assurance of compliance with applicable requirements, the Agency has replaced these detailed permit application requirements with the provisions described above in the final rule.

Third, many industry commenters opposed the enhanced monitoring protocol selection and proposal requirements in § 64.4(f) of the 1993 EM proposal. The proposal would have established a procedure for the selection of enhanced monitoring protocols that required owners or operators to justify the use of a proposed enhanced monitoring protocol over other available monitoring methodologies. Under this proposed procedure, owners or operators were first directed to consider "established monitoring," defined as monitoring that had been previously demonstrated as a feasible means of assessing compliance at a specific emissions unit. An owner or operator could propose to use the "best established monitoring." The determination of which established monitoring methodology was "best" was intended to be an evaluation of what type of monitoring was most

appropriate to determine continuous compliance at a specific emissions unit. If no "established" monitoring methodology could satisfy the performance and operating requirements of the proposed rule, owners or operators could propose additions or modifications to an established form of monitoring. If no established monitoring methodology applied, or if the owner or operator considered the established monitoring inappropriate, then an alternative monitoring could be proposed. In these circumstances, the proposed rule required the owner or operator to identify all monitoring methodologies that were technologically feasible for the particular emissions unit, selecting from that list the "best" methodology for that unit based on a site-specific assessment.

Commenters argued that the requirement to select "best monitoring" would impose a "top-down" selection process with a bias towards selection of a CEMS or similar monitoring system. Several commenters contended that the legislative history of section 114(a)(3) did not support a requirement that the approved enhanced monitoring protocol be the "best" available. Industry commenters also stated that requiring an owner or operator who proposed alternative monitoring to list all technologically feasible monitoring methodologies would impose unnecessary costs and burdens. Most of those opposing the selection provisions suggested that the rule should allow the owner or operator to propose any monitoring that met the basic requirements of the rule. In the alternative, many commenters suggested making cost an explicit criterion in the monitoring selection process.

Under the CAM approach, the owner or operator may propose any monitoring that can meet the design criteria in § 64.3 of the final rule. Thus, the comments regarding whether 1993 EM proposal imposed a top-down selection hierarchy are no longer relevant.

In response to the 1996 draft part 64, some commenters objected to the need to submit a rationale or justification for the proposed monitoring. The Agency disagrees. This information will be necessary for the permitting authority, the public, and EPA to judge the appropriateness of the proposed monitoring for satisfying the design criteria in § 64.3. In addition, this requirement builds on similar regulatory precedents in the NSPS and NESHAP programs. Under those programs, EPA has routinely required the owner or operator to submit a proposed monitoring approach and supporting rationale where the owner or operator intends to use a control device for which the underlying standard does not contain specific monitoring procedures. (See, e.g., 40 CFR 60.473(c), 60.544(b), 60.563(e), 60.613(e) and 60.663(e).)

Commenters on the 1996 part 64 Draft also raised concerns that the rule did not contain any provisions promoting the use of existing monitoring to satisfy part 64. Clearly, many existing monitoring requirements include some degree of monitoring that is used to indicate compliance through documenting important operating variables. As such, these requirements are generally consistent with the CAM approach. Thus, §§ 64.3(b) and 64.4(b) specifically allow for the owner or operator to design and justify proposed part 64 monitoring applying or building on existing applicable requirements. The rule uses the phrase "in part" because there is no assurance that the existing monitoring necessarily satisfies all of the part 64 design criteria. As described above, for certain monitoring that the Agency believes already meets the part 64 design criteria categorically, the owner or operator is likely to be able to rely completely on those regulatory precedents to justify the monitoring proposed to satisfy part 64. The Agency believes these provisions adequately provide for the consideration of existing monitoring and build upon the "established monitoring" concept in the 1993 EM proposal without the cumbersome selection process hurdles included in that proposal.

Industry commenters on the 1996 part 64 Draft proposed that the cost of monitoring that will provide a reasonable assurance of compliance be considered in light of the reliability of the pollution control technology, the margin of compliance demonstrated for the emissions unit, the emissions variability, and the reliability of the monitoring. State and local agency commenters noted that a demonstration of a credible relationship between parameter monitoring and actual emissions was primary in determining a reasonable assurance of compliance. These agency commenters also listed reliability of monitoring, margin of compliance, and potential emissions variability as elements to consider in such a demonstration. The Agency agrees that part 64 should enable the owner or operator and the permitting authority to consider these factors in developing and approving monitoring in a manner that both allows flexibility in design and provides a reasonable assurance of compliance. As noted above, the rule specifically allows for the use and augmentation of existing monitoring in lieu of developing and installing completely new monitoring approaches. Further, §§ 64.3(c) and 64.6(a) of the final rule reference the evaluation factors mentioned by both groups of commenters to apply in developing and reviewing monitoring to meet part 64 requirements. The Agency believes that in this manner, the owner or operator and the permitting authority can agree on cost-effective monitoring that results in the reasonable assurance of compliance required by part 64.

2. Documentation and Justification for Indicator Ranges

Section 64.4(c) of the final rule requires that an owner or operator propose indicator ranges supported by data obtained during the conduct of the applicable compliance or performance testing at the pollutant-specific emissions unit and supplemented, as necessary, by engineering assessments and manufacturer's recommendations. An owner or operator can satisfy this requirement with existing compliance test method data, if applicable. The use of existing data is limited to circumstances in which no changes have occurred since the data were obtained that could significantly affect the conditions for which the indicator ranges were established since the performance testing was conducted. Such significant changes include, but are not limited to, an increase in process capacity, a modification to the control system operating conditions, or a change in fuel or raw material type or chemical content. Because of the assurances provided through representative performance testing in conjunction with documentation provided by the use of engineering and other information, the final rule also explicitly states that testing over the entire indicator range or range of potential emissions is not required.

If site-specific compliance testing method data are unavailable, § 64.4(c) gives an owner or operator two options. Indicator ranges can be based on testing to be conducted pursuant to a test plan and schedule for obtaining the necessary data. An owner or operator may also choose to rely on other forms of data to establish the proper indicator ranges. However, if the owner or operator proposes to rely on engineering assessments and other data without conducting site-specific compliance method testing, § 64.4(c)(2) requires submission of documentation to demonstrate that factors applicable to the owner or operator's specific circumstances make compliance method testing unnecessary. Section 64.6(b) gives the permitting authority the discretion to require compliance

method testing where necessary to confirm the ability of the monitoring to provide data that are sufficient to satisfy part 64.

These provisions are similar to but are less prescriptive than the comparable provisions in the 1993 EM proposal as well as less contingent upon a statistical correlation between operational parameters and emission levels. Section 64.4(f) of the 1993 EM proposal would have operated with proposed § 64.4(b)(2) and appendix C to describe all requirements related to performance verification testing under the 1993 EM proposal. Section 64.4(b)(2) of the EM proposal established a duty under the proposed rule's general performance and operating criteria to conduct applicable performance verification test procedures in accordance with appendix C. Appendix C of the proposal contained specifications on the procedures to be used by an owner or operator for validating the representativeness of a monitoring protocol and the performance verification procedures for continuous monitoring systems. Section 64.4(f) would have required owners to submit with a permit application a test schedule and test plan that described the procedures, reference methods, test preparations, locations and other pertinent information for all required performance verification tests.

Section 64.4(b)(2) would have required an owner or operator who sought to include process or control device parameter monitoring in an enhanced monitoring protocol to conduct verification testing in accordance with appendix C. Section 7 of proposed appendix C described the required procedures for testing the correlation between the parameter(s) to be monitored and the applicable emission limitations or standards. Section 64.4(f)(1) of the proposed EM rule stated that a test plan for parameter monitoring correlation tests must describe any significant process or control device parameters not included in the proposed enhanced monitoring protocol and must demonstrate that excluding such parameters will not adversely affect the validity of the correlation. This section also would have required the owner or operator proposing the use of parameter monitoring to demonstrate the validity of the parameter correlation over the potential range of facility operations.

Industry commenters had a number of objections to and suggestions for improvement of the proposed rule's performance verification testing requirements and related permit application requirements. To reduce costs, some commenters suggested that performance verification tests should not need to be conducted under part 64 where adequate prior tests have been conducted pursuant to another applicable requirement. The Agency agrees and has adopted this approach in the final rule. A number of commenters expressed concerns about the level of detail which had to be included in the monitoring verification test plan. The EPA believes that the documentation provisions of the final rule will generally not require the same level of detail that would have been required under the proposed rule. Several commenters objected to the requirement to account in detail for all potentially significant parameters when documenting parameter range correlation testing. The Agency has not included a similar explicit requirement in the final rule's documentation and testing requirements for the establishment of indicator ranges. The Agency does note that an indicator range which fails to take into account significant control device parameters is unlikely to provide the reasonable assurance of compliance with emission limitations or standards required by § 64.3(a).

Finally, a number of commenters who supported the availability of parameter monitoring under the proposed rule stated that the correlation testing requirements would be difficult and expensive to meet and would discourage source owners or operators from using parameter monitoring. In addition, in response to the 1996 part 64 Draft, a number of commenters opposed the requirement to establish indicator ranges by conducting performance or compliance testing. They asserted that this either was an improper attempt to revive the correlation requirements in the 1993 EM proposal, or unnecessary to establish the appropriate range for most parameters.

As discussed above in Section II.C., the CAM approach builds on the premise that if an emissions unit is proven to be capable of achieving compliance as documented by a compliance or performance test and is thereafter operated under the conditions anticipated and if the control equipment is properly operated and maintained, then there will be a reasonable assurance that the emissions unit will remain in compliance. In most cases, this relationship can be shown to exist through results from the performance testing without additional site-specific correlation of operational indicators with actual emission values. The CAM approach builds on this fundamental premise of the regulatory structure.

However, as raised in the *Portland Cement* Response to Remand discussed in Section II.C., one difficult element of using "proper operation and maintenance" as a regulatory tool is the potential difficulty in determining whether proper operation and maintenance has in fact occurred. Thus, a critical issue that the CAM approach must address is establishing appropriate objective indicators of whether a source is "properly operated and maintained." In developing the final rule, EPA looked to past regulatory experience in developing a balanced approach to establishing indicator ranges and using the monitoring to assure compliance performance.

In proposing the operation and maintenance requirements in 40 CFR 60.11(d), EPA required that owners or operators maintain and operate their facilities "in a manner consistent with operations during the most recent performance test indicating compliance." 38 FR 10821, May 2, 1973. The obvious rationale behind this original language was that if the source was in compliance during the test, and it continued to operate its equipment as it was operated during the test, there was a reasonable assurance that the source would remain in compliance. This language, however, was revised when the rule was promulgated on October 15, 1973. In the preamble to the promulgated rule, EPA explained that the language was changed because of comments which questioned "whether it would be possible or wise to require that all of the operating conditions that happened to exist during the most recent performance test be continually maintained." 38 FR 28565. The EPA therefore revised § 60.11(d) to require that source owners or operators operate and maintain their pollution control devices "in a manner consistent with good air pollution control practices for minimizing emissions." Id.

This regulatory history argues against a strict requirement that part 64 require indicator ranges to be related exactly to the operating conditions that existed during a performance test. However, in many NSPS subparts, and more recently in MACT standards, EPA generally has required that operation and maintenance indicators be established during an initial performance test, with some allowance for adjusting the indicator values observed during the test. For instance, where a thermal incinerator is used to comply with a VOC emission limit, the NSPS subparts usually require the owner or operator to establish a baseline temperature value as an indication of whether the incinerator is properly operated and

maintained. The baseline temperature value is established at a value 50 degrees Fahrenheit below the average temperature recorded during the most recent performance test (see, e.g., 40 CFR 60.615(c)(1).) In recent MACT examples, EPA has required the indicator ranges to be established during performance testing, but with an allowance to supplement the performance test data with engineering assessments; in addition, the MACT requirements often state that testing across the full range of operating conditions is not required where the indicator range is subject to review and approval. (See, e.g., 40 CFR 63.654(f)(3)(ii)(A) and 63.1334(c).)

Based on these NSPS and MACT examples, the presumptive approach for establishing indicator ranges in part 64 is to establish the ranges in the context of performance testing. To assure that conditions represented by performance testing are also generally representative of anticipated operating conditions, a performance test should be conducted under conditions specified by the applicable rule or, if not specified, generally under conditions representative of maximum emission potential under anticipated operating conditions. In addition, the rule allows for adjusting the baseline values recorded during a performance test to account for the inappropriateness of requiring that indicator conditions stay exactly the same as during a test. The use of operational data collected during performance testing is a key element in establishing indicator ranges; however, other relevant information in establishing indicator ranges would be engineering assessments, historical data, and vendor data. Indicator ranges do not need to be correlated across the whole range of potential emissions.

Finally, because the emissions units subject to part 64 will not necessarily be undergoing performance testing absent part 64 (unlike the comparable units subject to initial compliance testing under the NSPS and MACT programs), the rule does not require establishment of indicator ranges during compliance or performance testing but rather presumes the appropriateness of doing so. The Agency believes that this approach makes part 64 consistent with underlying regulations but with appropriate alternatives that reflect the different universe of emissions units subject to part 64.

*E. Section 64.5—Deadlines for Submittal*

The final rule establishes two alternative schedules for implementing part 64 depending on the size of the pollutant-specific emissions unit involved. Under § 64.5(a), "large" pollutant-specific emissions units are subject to the shortest implementation timetable. "Large" units are those that have the potential to emit (after controls) the applicable pollutant at or above the major source threshold. If the owner or operator has not submitted the permit application for the applicable source prior to April 20, 1998, the owner or operator must submit proposed part 64 monitoring in the next part 70 permit application. If a permit application has been submitted by the rule's effective date, but the permitting authority has not yet determined by that date that the application is complete, the owner or operator will have to supplement the application with the relevant information required under part 64. If the application has already been found complete, then the part 64 information will generally not have to be submitted until the next permit renewal application. In the interim, the monitoring requirements adopted by permitting authorities in response to the requirements in part 70 will continue to apply.

There are two circumstances where information must be submitted prior to the next permit renewal application. First, if the owner or operator submits an application for a significant permit modification after April 20, 1998, the owner or operator must submit the appropriate part 64 information for any pollutant-specific emissions unit(s) covered by the modification. This requirement will assure that significant permit revisions affecting particular emissions units are not considered in a piecemeal fashion and that part 64 is implemented as quickly as reasonably practicable. In response to comments on the 1996 part 64 Draft, the Agency has limited this provision to only significant permit revisions so that part 64 requirements will not impede permit revisions made under expedited permit revision processes, such as administrative amendments, notice only changes, or de minimis permit revision procedures that are under consideration by the Agency. Second, if the permit application has been found complete but the permit has not issued, and the owner or operator proposes to revise the application to include a change of a type that would have been subject to the significant permit revision process, had the permit been issued, then the owner or operator must include part 64 required information for the pollutant-specific emissions unit(s) identified in the application revision. This circumstance triggers part 64 implementation because this type of permit application revision would require a second completeness determination by the permitting authority, and the implementation provision of § 64.5(a)(1)(ii) would be applicable.

Also in response to comments, the final rule does not include a provision in the 1996 part 64 Draft that would have required implementation prior to permit renewal for certain permit applications being processed under a part 70 transition plan for initial permit issuance. The Agency believes that this provision unnecessarily complicates the part 64 implementation process. The Agency also notes that the current part 70 monitoring provisions will continue to apply in the interim if part 64 is not implemented until permit renewal.

For the remaining smaller pollutant-specific emissions units, part 64 implementation is delayed until permit renewal. This approach was suggested in many comments as one way to reduce the implementation burdens of the rule. Such an approach will also allow permitting authorities and owners or operators to gain experience with implementing part 64 for the largest emissions units before having to address the more numerous, but in terms of overall site emissions, less significant, smaller units. As noted above, permitting authorities can use the delay in implementation to develop programmatic requirements that can be relied on in proposing and approving part 64 monitoring; this approach will be of the most benefit for the smaller emissions units that can use these generic requirements to reduce the burdens of part 64.

The phased-in implementation approach embodied in the final part 64 rule is a departure from the implementation schedule in the 1993 EM proposal. The effective date of the proposed rule was to be 30 days after publication of the final rule in the **Federal Register**. The proposed rule did not specify how operating permits issued prior to the rule's effective date would be treated. The preamble to the proposed rule suggested that these situations would be covered by 40 CFR 70.7(f)(1)(i). Section 70.7(f)(1)(i) requires that an operating permit be reopened to address an applicable requirement which becomes applicable during the permit term if the permit has a remaining term of three or more years. Thus, under the proposed rule, the owner or operator of any facility with an operating permit that had a remaining term of three or more years after the effective date of part 64 would have been required to reopen the permit and

provide the required part 64 information.

The Agency considered relying on this part 70 provision to set the implementation schedule for the rule, but chose to adopt the phased-in approach described above. Thus, the provisions in § 64.5(a) supersede the language of § 70.7(f)(1)(i). The part 70 approach would have required that a great many operating permits be reopened as soon as the rule became effective, while the phased-in approach initially focuses on new permit applications. The former is therefore more likely to cause initial burdens and delays in the permitting program. The Agency believes that the extended implementation timetable resulting from the phased-in approach is better suited to facilitating implementation through the operating permits program. In the December 1994 notice reopening the 1993 EM proposal for comment, EPA discussed the possibility of using a phased-in implementation approach as well as a "hammer" provision, which would have required enhanced monitoring to be implemented by all affected sources by January 1, 2000. Multiple commenters expressed concerns that an absolute deadline of this type would cause systemic logjams and delays in the operating permits program because it could require numerous permit revisions or reopenings outside of the normal permit renewal process.

In lieu of a "hammer" provision and to clarify that the monitoring requirements of part 70 apply irrespective of the part 64 requirements, the Agency has added explicit language to the rule stating that prior to approval and operation of part 64 monitoring, part 70 monitoring requirements apply. These part 70 monitoring requirements continue to apply even after approval and operation of part 64 monitoring; however, because part 64 contains applicable monitoring requirements sufficient to demonstrate compliance with applicable emission limitations or standards, the part 64 monitoring requirements can serve in the place of part 70 monitoring requirements.

*F. Section 64.6—Approval of Monitoring*

Consistent with the part 64 implementation approach, § 64.6 requires the permitting authority to approve or disapprove the monitoring proposed by the owner or operator. The following discussion highlights the key elements of this section and the key issues raised during development of the rule.

1. Approval and Permit Incorporation

If the monitoring is approved, the permitting authority must act in accordance with § 70.6(a)(3) to include appropriate permit terms that reflect the part 64 monitoring requirements. The requirements that must be reflected in the permit are: the monitoring approach (including the basic method, appropriate performance specifications, and required quality assurance checks), any specific data availability requirements, the indicator range(s), and a general statement that the owner or operator will conduct the monitoring, submit reports, maintain records, and, if applicable, identify any QIP obligations, all as required by §§ 64.7 through 64.9.

It is important to note that the rule provides for two different options for incorporating indicator range(s) in the permit. First, the actual range can be included (such as maintaining temperature of an incinerator at or above a specific number). Second, the permit can include a statement that describes how the indicator range will be established (such as "The incinerator will be maintained at a temperature at or above a temperature which is 50 degrees Fahrenheit lower than the baseline temperature recorded during the most recent performance test."). This latter type of condition would allow for reestablishment of the indicator range without the need for a permit modification. Several commenters raised concerns that there would be a need for changes to indicator ranges, especially near the beginning of the program, and that requiring permit modifications for all such changes would be burdensome and unwieldy. The Agency agrees and believes this latter option addresses the commenters' concerns while still providing adequate public comment and review on the establishment of indicator ranges at specific sources. If this type of approach is used, the permit would also need to specify how the permitting authority will be notified of the currently applicable indicator range(s).

These provisions are generally the same as required in § 64.8 of the 1993 EM proposal, although the requirements have been modified to reflect the changes in the design criteria for the monitoring required by part 64. The 1995 and 1996 part 64 Drafts included more elaborate conditions than are included in the final rule, including certain enforceability components that the Agency does not believe are necessary for effective implementation of part 64. These deleted components include provisions in the 1996 part 64 Draft that would have enabled a permitting authority to establish an indicator range as an enforceable condition and that would have established a second QIP during a permit term as a permit violation.

Whether the failure to meet an indicator range is an enforceable violation will be a matter of examining the relevant underlying applicable requirements, as well as the ability of the permitting authority to establish that type of requirement as a federally-enforceable element of a permit pursuant to approved SIP authority or as a State-only requirement pursuant to State law. As described above, for purposes of part 64, § 64.6 clarifies that the indicator ranges or the means by which they are to be established are to be included in the permit to indicate when an owner or operator is required to report excursions or exceedances. In addition, it should be noted that § 64.7 establishes the independent obligation for the owner or operator to take appropriate corrective action in response to excursions or exceedances that occur.

The Agency also decided to delete the draft requirement that a second QIP during a permit term constitutes a violation. This provision was widely criticized by both industry and State commenters. The Agency had specifically noted in the discussion accompanying the 1996 part 64 Draft that it was concerned that this approach may not be appropriate. As discussed in Sections II.G. and H., the final rule, consistent with the precedent of 40 CFR 60.11(d), provides for the general use of part 64 data and other information to document that the owner or operator has failed to operate and maintain an emission unit properly and provides for the QIP mechanism as one option for addressing situations in which such a failure has occurred. In that respect, any time a QIP is required there will be an underlying finding that the owner or operator has failed to take appropriate action and may be subject to enforcement for that violation. Thus, there is no need for the final rule to include separate enforcement consequences related to multiple QIPs.

The Agency notes that many commenters on the 1996 part 64 Draft suggested that the rule would impose too many permit requirements and that the permit should merely state that compliance with part 64 is required and that the owner or operator will take appropriate action in response to the data. Commenters pointed to the requirements for startup, shutdown, malfunction plans (SSMPs) under part 63 and section 112(r) risk management plans (RMPs) required under part 68 as examples of this approach to referencing