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■

AMBIENT AIR MONITORING REFERENCE AND EQUIVALENT METHODS

Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[FRL 314-4]

PART 50—NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS

PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

Ambient Air Monitoring Reference and Equivalent Methods

Elsewhere in this issue of the FEDERAL REGISTER, EPA is adding a new Part 53, entitled "Ambient Air Monitoring Reference and Equivalent Methods," to Title 40 of the Code of Federal Regulations. As more fully described in the preamble to the new Part 53, that part establishes definitive requirements and procedures according to which methods of sampling and analyzing the ambient air may be designated as "reference methods" or "equivalent methods" for the measurement of specified air pollutants. The amendments set forth below make related changes in 40 CFR Parts 50 and 51.

Amendments similar to those set forth below were proposed in the FEDERAL REGISTER (38 FR 28438) on October 12, 1973, and interested persons were afforded an opportunity to comment on them. After considering public comments on the proposed amendments, as well as comments on the proposed Part 53, EPA has revised the amendments in several respects. The most significant comments and changes are discussed below.

REVISION OF CERTAIN APPENDICES TO PART 50

Some comments suggested that Appendices C and D to Part 50 (concerning measurement of CO and photochemical oxidants, respectively) should be revised to make them fully consistent with the provisions and purposes of the proposed Part 53. In effect, these comments also indicated the desirability of clarifying the role of the two appendices in designation of "automated" reference methods for CO and oxidants under Part 53.

As reflected in § 53.5 of the proposed Part 53 (38 FR 28438, October 12, 1973), EPA's intent was that automated methods would be designated as reference methods, regardless of their design, if they were based on the measurement principles and calibration procedures specified in the appropriate appendices to Part 50 and were shown to meet the performance requirements specified in Subpart B of the new Part 53. After reviewing Appendices C and D in light of the comments, EPA concluded that they were inconsistent with the intended scheme in several respects: (1) They specified performance characteristics intended to be superseded by the requirements of Part 53; and (2) they purported to specify reference methods per se, rather than measurement principles and calibration procedures on which reference methods must be based. Accordingly, today's amendments revise Appendices C and D by deleting provisions inconsistent with Part 53, by retitling them to make clear that each specifies only a measurement principle and calibration procedure (rather than a reference method per se), and by adding language to make clear that analyzers based on the two appendices will be considered reference methods only if designated as such in accordance with Part 53. Corresponding changes (included in the amendments set forth below) have been made in several other provisions of Parts 50 and 51 to conform them to the intended scheme.

NEW § 51.17A

With respect to certain pollutants, 40 CFR 51.17(a) presently requires use of reference or equivalent methods in State air quality surveillance systems. For reasons discussed below and in connection with proposed amendments to Part 51 appearing elsewhere in this issue of the FEDERAL REGISTER, EPA has concluded that certain exceptions to this rule are desirable. To avoid burdening § 51.17(a) with further detail in this regard, the general rule and certain exceptions adopted in response to public comments (discussed below) have been set forth in a new § 51.17a. If further exceptions are adopted, as proposed elsewhere in this issue of the FEDERAL REGISTER, they will be added to the new § 51.17a.

EXCEPTIONS PERMITTING CONTINUED USE OF EXISTING METHODS

As discussed above, methods used to measure certain pollutants for purposes of 40 CFR 51.17(a) must ordinarily be reference or equivalent methods. Because Part 53 supersedes certain existing provisions concerning reference and equivalent methods, no method (other than manual reference methods specified as such in appendices to Part 50) will be considered to be a reference or equivalent method unless it has been designated as such in accordance with the requirements of Part 53. Of particular concern are the many analyzers in current use for purposes of 40 CFR 51.17(a). When the new Part 53 regulations were proposed on October 12, 1973, State and local governments and other interested parties were specifically invited to comment on a proposal to permit continued use of such analyzers for a reasonable period of time and to suggest alternative courses of action (38 FR 28439).

A number of State and local agencies responded with detailed comments on the number, type, age, and cost of the analyzers currently in operation. In general, these comments emphasized the potential burden and expense that would result if the State or local agencies were required to test such analyzers in accordance with the proposed Part 53, or to replace them with new analyzers. Many commenters expressed concern about their ability to obtain funds to purchase new analyzers, to have their existing analyzers tested, or to hire skilled personnel to test their own analyzers. Concern was also expressed that separate testing of existing analyzers by each agency would involve duplication of effort, as various agencies operate similar analyzers. Others comments concerned the potential disruption of local control programs that might result from a diversion of funds and manpower to a program of testing or replacing existing analyzers; the loss of air quality data that would result if existing analyzers were removed from service for testing; the economic waste that would result if analyzers had to be replaced before the end of their useful lives; and the fact that some analyzers not likely to meet all requirements of the proposed Part 53 might still yield useful data in certain geographical areas (a subject addressed in proposed amendments to Part 51 appearing elsewhere in this issue of the FEDERAL REGISTER).

Some comments suggested that use of analyzers partially or substantially meeting the requirements of Part 53 be allowed for the remainder of their useful lives; others suggested that use of existing analyzers be allowed without restriction. Many government agencies indicated that testing or replacement of existing analyzers would take two to five years to implement, assuming sufficient funds would be available. Others suggested that financial and other burdens of testing or replacing existing analyzers should not be imposed solely on State or local agencies, and that EPA should establish a centralized program of testing existing analyzers.

After carefully weighing these comments, as well as other considerations, in light of the purposes of the Clean Air Act and the objectives of Part 53, EPA has concluded: (1) That use of existing methods should not be allowed indefinitely for purposes of 40 CFR 51.17(a) (unless they are designated hereafter as reference or equivalent methods as discussed below); (2) that a period of five years should be permitted for replacement (or designation) of existing automated methods for measuring SO_2, CO, and photochemical oxidants (unless further use is approved under proposed amendments discussed below); and (3) that a period of six months should be permitted for replacement (or designation) of existing manual methods for measuring the same three pollutants. Accordingly, new § 51.17a (discussed above) retains the general rule that all methods used to measure SO_2, CO, and photochemical oxidants for purposes of § 51.17(a) must be reference or equivalent methods but provides "grace periods" of five years and six months for the continued use of existing automated and manual methods, respectively, as exceptions to the general rule.

The five-year period for replacement of existing automated methods (analyzers) has been selected as a practical compromise reflecting: (1) The need to assure the reliability and national comparability of air quality data obtained under 40 CFR 51.17(a) at the earliest practicable date, and (2) the desirability of mitigating the economic impact and program disruptions that might be experienced by State and local control

agencies if a shorter period were established. Considering the present rate of advancement in analyzer technology, some current models of analyzers may well become obsolete within the next five years. It should also be noted that many analyzers in current use are not in fact new, so that the five-year period will permit continued use in addition to that which has already occurred; and, further, that replacement of existing methods will not be required if they are designated hereafter as reference or equivalent methods as discussed in the next section of this preamble. In addition, five years should allow ample time for State and local control agencies to seek and obtain funds for the purchase of new analyzers where replacement of existing analyzers proves to be necessary.

It should also be noted that the new § 51.17a provides in effect that automated methods purchased during the next year (in addition to those already in use) will be considered "existing" analyzers for purposes of the five-year grace period. This will allow time for manufacturers to seek and obtain determinations that their analyzers are reference or equivalent methods and will allow any present purchase commitments to be fulfilled.

Finally, as discussed elsewhere in this issue of the FEDERAL REGISTER, EPA is proposing several amendments to the new § 51.17a that would allow use of existing analyzers for the remainder of their useful lives, rather than for five years, in circumstances providing reasonable assurance that air quality data obtained with the analyzers will be reliable and comparable to that obtained with reference or equivalent methods. It is expected that these amendments, modified as appropriate after consideration of comments received on the proposal, will be promulgated within a few months, so that decisions on replacement of analyzers that might be eligible for continued use under the amendments can be made before the one-year period referred to above has expired.

For all the above reasons, EPA believes that five years is a reasonable period to allow for replacement of existing analyzers where replacement proves to be necessary.

With respect to the six-month period for replacement of manual methods, EPA believes the time provided is more than reasonable because such methods involve only nominal costs.

DESIGNATION OF EXISTING ANALYZERS AS REFERENCE OR EQUIVALENT METHODS

Under new § 51.17a, automated methods used to measure SO_2, CO, and photochemical oxidants for purposes of 40 CFR 51.17(a) after the expiration of the five-year "grace period" discussed above must be reference or equivalent methods. Existing analyzers will meet this requirement, of course, if designated in the interim as reference or equivalent methods in accordance with Part 53. As discussed in the preamble to Part 53, it is not EPA's intent to require State or local control agencies to apply for reference or equivalent method determinations for their existing analyzers, although they are free to do so if they wish. Many existing analyzers are in current production, and their manufacturers are likely to apply for reference or equivalent method determinations with respect to them. To the extent that its resources permit, EPA intends to test other existing analyzers (see 40 CFR 53.7) and, if they meet the requirements of Part 53, to designate them as reference or equivalent methods; in general, priority will be given to those analyzers in widest use. State and local agencies using analyzers identical to one designated as a reference or equivalent method under Part 53 may consider them covered by the designation, provided that the come effective on February 18, 1975.

Effective date: These amendments become effective on February 18, 1975.

Dated: January 31, 1975.

RUSSELL E. TRAIN,
Administrator,
Environmental Protection Agency.

Chapter I of Title 40, Code of Federal Regulations, is amended as follows:

1. In the table of sections for Part 50, the titles of Appendices C and D are revised to read as follows:

Appendix C—Measurement Principle and Calibration Procedure for the Continuous Measurement of Carbon Monoxide in the Atmosphere (Non-Dispersive Infrared Spectrometry)
Appendix D—Measurement Principle and Calibration Procedure for the Measurement of Photochemical Oxidants Corrected for Interferences Due to Nitrogen Oxides and Sulfur Dioxide

2. In § 50.1, paragraphs (f) and (g) are revised to read as follows:

§ 50.1 Definitions.

* * * * *

(f) "Reference method" means a method of sampling and analyzing the ambient air for an air pollutant that is specified as a reference method in an appendix to this part, or a method that has been designated as a reference method in accordance with Part 53 of this chapter; it does not include a method for which a reference method designation has been cancelled in accordance with § 53.11 of this chapter.

(g) "Equivalent method" means a method of sampling and analyzing the ambient air for an air pollutant that has been designated as an equivalent method in accordance with Part 53 of this chapter; it does not include a method for which an equivalent method designation has been cancelled in accordance with § 53.11 of this chapter.

3. In § 50.8, the introductory portion is revised to read as follows:

§ 50.8 National primary and secondary ambient air quality standards for carbon monoxide.

The national primary and secondary ambient air quality standards for carbon monoxide, measured by a reference method based on Appendix C to this part and designated in accordance with Part 53 of this chapter, or by an equivalent method, are: * * *

4. Section 50.9 is revised to read as follows:

§ 50.9 National primary and secondary ambient air quality standards for photochemical oxidants.

The national primary and secondary ambient air quality standard for photochemical oxidants, measured and corrected for interferences due to nitrogen oxides and sulfur dioxide by a reference method based on Appendix D to this part and designated in accordance with Part 53 of this chapter, or by an equivalent method, is: 160 micrograms per cubic meter (0.08 p.p.m.) maximum 1-hour concentration not to be exceeded more than once per year.

5. In Appendix C to Part 50, paragraphs 2 through 6 are revoked and reserved; the Addenda is revoked; and the title, the first sentence of paragraph 1.1, and paragraph 1.2 are revised to read as follows:

Appendix C—Measurement Principle and Calibration Procedure for the Continuous Measurement of Carbon Monoxide in the Atmosphere (Non-Dispersive Infrared Spectrometry)

1. *Principle and applicability.*

1.1 This principle is based on the absorption of infrared radiation by carbon monoxide in a non-dispersive photometer. * * *

1.2 An analyzer based on this principle will be considered a reference method only if it has been designated as a reference method in accordance with Part 53 of this chapter.

6. In Appendix D to Part 50, paragraphs 2 through 5.9 are revoked and reserved; the title and paragraph 1.2 are revised to read as follows:

Appendix D—Measurement Principle and Calibration Procedure for the Measurement of Photochemical Oxidants Corrected for Interferences due to Nitrogen Oxides and Sulfur Dioxide.

1. *Principle and Applicability.* * * *

1.2 An analyzer based on this principle will be considered a reference method only if it has been designated as a reference method in accordance with Part 53 of this chapter.

(Sec. 4, Pub. L. 91-604, 84 Stat. 1679)

§ 51.14 [Amended]

7. In § 51.14, the table in subparagraph (1) of paragraph (e) is revised by revising the heading of the second column to read "Measurement method or principle[1]" and by revising footnote 1 to read as follows:

[1] Named measurement methods and principles are described in Part 50 of this Chapter.

§ 51.17 [Amended]

8. In § 51.17, the table in subparagraph (1) of paragraph (a) is revised by revising the heading of the third column to read "Measurement method or principle[1]"; by revoking and reserving footnotes d, e, and f; by revoking the table of performance specifications and associated definitions appearing after the colon in the second sentence of footnote

1; and by revising footnote 1 to read as follows:

[1] Named methods and principles, except the tape sampler method, are described in Part 50 of this chapter. The tape sampler method is described in Hemeon, W. C. L., Haines, G. F., Jr, and Ide, H. M., "Determination of Haze and Smoke Concentrations by Filter Paper Samplers", J. Air Pollution Control Association, Vol. 3, pp. 22–28, 1953. Use of these and other methods shall be as specified in § 51.17a.

9. A new § 51.17a is added, reading as follows:

§ 51.17a Air quality monitoring methods.

(a) *General requirements.* (1) Except as otherwise provided in this paragraph (a), each method for measuring SO_2, CO, or photochemical oxidant used for purposes of § 51.17(a) shall be a reference method or equivalent method as defined in § 53.1 of this chapter. Concentrations of particulate matter shall be measured by the reference method specified in Appendix B to Part 50 of this chapter and by the tape sampler method.

NOTE.—Part 53 of this chapter does not presently provide for reference or equivalent method determinations with respect to methods of measuring nitrogen dioxide, hydrocarbons corrected for methane, or suspended particulates. Guidance for the selection of automated methods for measuring nitrogen dioxide and hydrocarbons may be found in the EPA Environmental Monitoring Series document (EPA–650/4–74–018), *Guidelines for Determining Performance Characteristics of Automated Methods for Measuring Nitrogen Dioxide and Hydrocarbons Corrected for Methane in Ambient Air*, which may be obtained from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151. For SO_2, CO and photochemical oxidant, a list of methods designated as reference or equivalent methods under Part 53 may be obtained as provided in § 53.8 of this chapter.

(2) Any analyzer purchased prior to one year after February 18, 1975, may be used for purposes of § 51.17(a) for a period not to exceed five years after February 18, 1975.

(3) Any manual method in use prior to February 18, 1975, may be used for purposes of § 51.17(a) up to and including August 18, 1975.

(b) [Reserved]

(c) [Reserved]

(d) [Reserved]

(e) [Reserved]

(Sec. 301(a) of the Clean Air Act (42 U.S.C. 1857g(a)), as amended by sec. 15(c)(2) of Pub. L. 91–604, 84 Stat. 1713)

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[FRL 314–3]

PART 53—AMBIENT AIR MONITORING REFERENCE AND EQUIVALENT METHODS

On October 12, 1973, EPA proposed regulations to establish definitive requirements and procedures by which methods for sampling and analyzing the ambient air may be designated "reference methods" or "equivalent methods" for the measurement of specified air pollutants (38 FR 28438). Interested persons were afforded an opportunity to participate in the rulemaking by submitting written comments. Following consideration of all the written comments and a thorough evaluation of the test procedures both within EPA and under contract, the proposed regulations have been revised and are being promulgated today.

BACKGROUND

Pursuant to section 109 of the Clean Air Act, as amended in 1970, EPA promulgated national ambient air quality standards for six pollutants on April 30, 1971. The standards are now codified as 40 CFR Part 50. At the same time, EPA published "reference methods," presently described in appendices to Part 50, to be used by EPA and by State and local agencies in measuring ambient concentrations of the six air pollutants.

The national ambient air quality standards presently provide that measurements are to be made by the appropriate reference method or by an "equivalent method." "Equivalent method" is presently defined in 40 CFR 50.1(g) as "any method of sampling and analyzing for an air pollutant which can be demonstrated to the Administrator's satisfaction to have a consistent relationship to the reference method." Under 40 CFR 51.17(a)(1), an "equivalent method" is also required, at present, to meet certain performance specifications set forth in that section. Because Part 53 is intended to supersede these requirements, appropriate amendments to 40 CFR 50.1(g) and 40 CFR 51.17(a) are being made today as described elsewhere in this issue of the FEDERAL REGISTER.

Within nine months after promulgation of the national ambient air quality standards, each State was required by section 110 of the Act to adopt and submit to the Administrator a plan which provided for the implementation, maintenance, and enforcement of the standards within each air quality control region (or portion thereof) within the State. The Act requires the Administrator to approve an implementation plan, or any portion thereof, if he determines that the plan (or portion thereof) was adopted after reasonable notice and hearing and that it satisfies detailed criteria set forth in section 110(a)(2)(A)–(H) of the Act. To assist the States in the development of implementation plans, EPA proposed and promulgated regulations entitled "Requirements for Preparation, Adoption, and Submittal of Implementation Plans," now codified in 40 CFR Part 51.

The purpose of Part 53 is to assist State and local governments with respect to one of the requirements applicable to approval of implementation plans. Section 110(a)(2)(C) of the Act provides in part that a plan must include:

* * * provision for establishment and operation of appropriate devices, methods, systems, and procedures necessary to (1) monitor, compile, and analyze data on ambient air quality * * *.

This provision has been amplified in 40 CFR 51.17, "Air Quality Surveillance." Among other things, § 51.17 requires that plans provide for the establishment of air quality surveillance systems. Each such system must meet certain requirements, one of which is that each method used by a State to monitor the ambient air for certain pollutants must ordinarily be either the appropriate reference method or a method that is "equivalent" to the reference method. (See 40 CFR 51.17(a) and 51.17a, as amended and promulgated, respectively, elsewhere in this issue of the FEDERAL REGISTER.) To assist State and local governments in meeting this requirement, Part 53 establishes a definitive scheme by which monitoring methods may be determined to be reference or equivalent methods for the measurement of specified air pollutants.

SUMMARY OF REGULATIONS

The new Part 53 is divided into three subparts, the contents of which are summarized briefly below. Changes from the regulations as proposed (reflected to some extent in the following summaries) are discussed more fully in the next section of this preamble.

Subpart A of Part 53 contains the general requirements to be satisfied for a reference or equivalent method determination for both automated methods ("analyzers") and manual methods. It also specifies the information that must be submitted in applications for such determinations and procedures for processing the applications. The primary responsibility for conducting tests required in connection with reference or equivalent method determinations rests with the applicant (ordinarily the manufacturer of the method in question). The general requirements for such determinations may be summarized as follows:

(1) *Reference method determinations.* As discussed more fully below, the definition of "reference method" in § 53.1(e) contemplates two kinds of reference methods: (a) Those designated in accordance with Part 53; and (b) those specified as reference methods in appendices to 40 CFR Part 50 (as amended elsewhere in this issue of the FEDERAL REGISTER). Under § 53.2, any automated method for measuring CO or oxidants may be designated as a reference method if it is based on the measurement principle and calibration procedure specified in the appropriate appendix to Part 50 and meets the performance requirements specified in Subpart B of the new Part 53. For other pollutants, reference methods are specified as such in the appropriate appendices to Part 50, and the requirements of Part 53 are inapplicable to those methods.

(2) *Equivalent method determinations.* Under § 53.3, candidate automated methods designed to measure sulfur dioxide, carbon monoxide, or photochemical oxidants will be designated as equivalent methods if they meet the performance requirements specified in Sub-

part B and demonstrate a consistent relationship to the reference method as required by Subpart C. (As discussed more fully below, Part 53 does not presently provide for equivalent method determinations with respect to methods of measuring pollutants other than SO_2, CO, and oxidants.) Candidate manual methods need only demonstrate a consistent relationship as required by Subpart C to be determined equivalent.

Subpart A also provides that any method determined to be a reference or equivalent method will be officially designated as such and notice of the designation will be published in the FEDERAL REGISTER. Any applicant whose application for a reference or equivalent method determination is rejected may appeal the rejection by various means specified in § 53.10. A reference or equivalent method designation may be cancelled if the method in question is subsequently found not to be in compliance with the provisions of Part 53. Prior to cancellation, the applicant who obtained the designation will be sent written notice of the facts that the Administrator believes warrant cancellation and will be given an opportunity to demonstrate that the facts presented are sufficient, or come into compliance. In such cases, the applicant or any other interested person (e.g., a user of the method in question) may request an evidentiary hearing and will be granted such a hearing if the request raises a substantial factual issue. If a hearing is granted, the presiding officer may permit interested persons to intervene.

Subpart B of Part 53 specifies: (1) Performance requirements for automated methods with respect to interference, lower detectable limit, precision, rise time, fall time, zero drift, span drift, lag time, and noise, and (2) procedures for testing the performance characteristics of candidate methods. It should be noted that the specifications given for interference equivalents are not intended to indicate the allowable measurement inaccuracy at the levels of the air quality standards but, rather, are predicated on challenging a candidate analyzer with larger concentrations of potential interferents than are likely to be encountered in actual use. This allows the method's interferent susceptibility to be estimated more accurately.

Subpart C contains the general provisions and test procedures necessary for demonstrating a consistent relationship between candidate methods (whether automated or manual) and reference methods.

COMMENTS RECEIVED ON PROPOSED REGULATIONS AND CHANGES MADE IN FINAL REGULATIONS

EPA received 32 comments on the proposed regulations from State and local air pollution control agencies, analyzer manufacturers, industrial users of monitoring equipment, other Federal agencies, research organizations, and individuals. Perhaps the most frequent comment concerned the fate of monitoring instruments in current use. That subject is considered in connection with the amendments to 40 CFR Part 51 appearing elsewhere in this issue of the FEDERAL REGISTER.

All comments were carefully considered. Additional information was obtained from evaluations of the test procedures conducted both by EPA and by an independent laboratory under an EPA contract. A large number of changes suggested in comments were made, as well as many recommended by the laboratory evaluations. Although such changes were numerous, most were of a relatively minor nature. Many provisions were reworded to resolve ambiguities or otherwise to clarify their meaning, and some were combined or otherwise reganized to clarify and simplify the overall organization of Part 53.

The most significant differences between the proposed and final regulations are discussed below. Documents providing further information on changes made in response to comments received, the rationale for such changes, and the identity of the commentors may be obtained from the Quality Assurance and Environmental Monitoring Laboratory, United States Environmental Protection Agency, National Environmental Research Center, Research Triangle Park, North Carolina 27711, attention: Dr. David Shearer.

(1) *Definitions and basic concepts.* A number of comments referred to possible ambiguities in the use of such terms as "method," "instrument," and "technique" in the proposed regulations. In response to these and similar suggestions, EPA has revised some definitions and reworded some provisions to clarify their meaning or to make them consistent with the general concepts underlying Part 53.

Several possible ambiguities arise from the fact that the term "method" has a number of possible meanings when used in referring to air monitoring techniques and instruments. In common usage, for example, some "methods" of measuring pollutants (e.g., the pararosaniline method of measuring SO_2) are essentially techniques that may be specified as a series of actions performed manually with common laboratory equipment; others are essentially measurement principles (e.g., non-dispersive infrared spectrometry) utilized in wholly automatic instruments (themselves sometimes referred to as "methods") that vary in design depending on the manufacturer; still other "methods" are instruments employing a combination of manual and automatic functions. Another possible ambiguity arises from common use of the term "method" to denote either a particular instrument or the manufacturer's model of which the particular instrument is representative. Although it may be impossible to resolve all such ambiguities without unduly increasing the length and complexity of the regulations, a number of changes have been made in an attempt to minimize potential confusion in this area. Thus, the definitions of "manual method" and "automated method" in § 53.1 have been revised to specify more clearly which types of methods will be considered "manual" and which "automated" for purposes of Part 53. In addition, minor changes in terminology have been made throughout Part 53 to make clear that, depending on its context, the term "automated method" (or "analyzer") may refer either to a particular instrument (i.e., one owned by a particular user) or to the model of which the particular instrument is representative. Finally, the term "test analyzer" has been defined in § 53.1 and used in Subparts B and C as meaning a particular analyzer (representative of a model) that is subjected to testing for purposes of Part 53.

Other comments suggested that some of the appendices to 40 CFR Part 50 should be revised to make them fully consistent with the provisions and purposes of Part 53. In effect, these comments highlighted the differences between "methods" that may be specified as a series of actions performed manually and those that are instruments based on a specified measurement principle. Elsewhere in this issue of the FEDERAL REGISTER, EPA is amending Appendices C and D to Part 50 (concerning measurement of CO and photochemical oxidants, respectively) to make clear that each specifies only a measurement principle and calibration procedure (rather than a reference method per se) and that analyzers based on those measurement principles will be considered reference methods only if designated as such in accordance with Part 53. Manual reference methods (e.g., the reference method for measuring SO_2), however, are still specified in other appendices to Part 50. Thus, as reflected in the definition of "reference method" in § 53.1(e), there will be two types of reference methods for purposes of Part 53: (1) Manual methods that are specified as reference methods for certain pollutants in appendices to Part 50; and (2) automated methods (analyzers) for measuring CO and photochemical oxidants that are based on the measurement principles and calibration procedures specified in Appendices C and D to Part 50 and designated as reference methods in accordance with Part 53. As to the latter, it is possible to construct different types of analyzers based on a single measurement principle; accordingly, a number of different analyzers may be designated as reference methods for CO and photochemical oxidants.

As reflected in proposed § 53.5, the proposed regulations did not contemplate designation of manual methods as reference methods under Part 53 (as opposed to specification of manual reference methods in appendices to 40 CFR Part 50). In addition, it was not intended to provide for designation of automated methods as reference methods under Part 53 where manual reference methods are already specified, for the pollutants in question, in appropriate appendices to Part 50. Accordingly, the general requirements for a reference method determination (now § 53.2) have been revised to make clear that manual methods will not be considered for reference method

determinations under Part 53 (although some manual methods are specified as reference methods in appendices to Part 50 and may be used as such without regard to Part 53), and that an automated method will not be considered where a reference method is already specified as such in an appendix to Part 50. However, manual and automated methods that are ineligible for reference method determinations under § 53.2 may be considered for equivalent method determinations under § 53.3, and amendments to Part 53 proposed elsewhere in this issue of the FEDERAL REGISTER would permit consideration of any manual or automated method for purposes of replacement ("supersession") of existing reference methods.

Finally, the definitions of "reference methods" and "equivalent method" in § 53.1 have been revised to make clear that they do not include methods for which reference or equivalent method designations have been cancelled under § 53.11. Elsewhere in this issue of the FEDERAL REGISTER, EPA is proposing an amendment to 40 CFR Part 51 that would permit continued use of such methods for a reasonable period for purposes of 40 CFR 51.17(a).

(2) *General provisions.* A number of comments suggested changes in the procedures governing submission and processing of applications for reference or equivalent method determinations, and a number of changes have been made to simplify or otherwise improve the procedures. In response to criticism of the "right of entry" provision (proposed § 53.7), for example, the provision has been changed to assure a mutual right to witness pertinent tests at a time and place agreeable to both parties (§ 53.6). As suggested in a number of comments and discussed in connection with amendments to 40 CFR Part 51 appearing elsewhere in this issue of the FEDERAL REGISTER, EPA will perform testing of some analyzers in current use; a provision has been added to make clear that analyzers so tested may be designated as reference or equivalent methods in the absence of applications for such designations (§ 53.7). Another provision has been added to make clear that material submitted to EPA and identified as containing trade secrets or other confidential information will not be routinely disclosed in connection with hearings on cancellation of designations (§ 53.13(b)(2)).

Section 53.6 of the proposed regulations provided that, except where additional information or testing was necessary, decisions on applications for reference or equivalent method determinations would be made within 60 calendar days. Several comments suggested that the length of the review period would adversely affect marketing and other schedules and requested that the period be shortened. EPA has carefully considered these comments and recognizes that the review period may delay production and marketing schedules. However, EPA believes very strongly that adequate review of applications is essential to the purposes of Part 53. In order to assure adequate time for review, EPA has extended the period for review to 75 calendar days (§ 53.5). One reason for the change is that a relatively large number of applications may be received in a short period of time after promulgation of Part 53, and review of such applications may in some cases take longer than 60 days. It should also be noted that the 75-day provision specifies the *maximum* period for review. In many cases, review of applications may take much less time than the maximum period, and EPA will expedite processing of all applications to the extent permitted by manpower and budgetary constraints.

(3) *Public participation in cancellation proceedings and notice of certain actions.* A number of comments suggested the desirability of permitting greater opportunity for interested parties (e.g., users of methods) to take part in proceedings to cancel reference or equivalent method designations. In response, EPA has provided that any interested person may request a hearing in connection with a cancellation proceeding (§ 53.12), and that the presiding officer in a hearing on cancellation may permit interested persons to intervene (§ 53.13(c)). In addition, it should be noted that States and other users of particular methods are free to support applications for reference or equivalent method determinations if they wish by providing test data and other information to applicants and to oppose cancellation of reference or equivalent method designations by providing test data, expert witnesses, and other assistance in cancellation proceedings.

Other comments suggested the desirability of providing systematic notice of actions that may affect or otherwise be of interest to instrument manufacturers and users. In response, EPA has provided that notices will be published in the FEDERAL REGISTER in connection with such events or actions as receipt of applications for reference or equivalent method determinations (§ 53.5), designations of reference or equivalent methods (§ 53.8(a)), preliminary findings relating to cancellation of such designations § 53.11(b)(1)), notices of cancellation (§ 53.11(d)), hearings on cancellations (§ 53.13(a)(2)), and certain determinations in connection with proposed modifications of reference or equivalent methods by manufacturers (§ 53.14(c)). In addition, a current list of methods designated as reference or equivalent methods will be maintained by EPA, and copies of the list will be available at EPA's Regional Offices (§ 53.8(c)).

One comment suggested that EPA publish a list of methods for which applications have been submitted and rejected under Part 53. As indicated above, notices of reference or equivalent method designations will be published in the FEDERAL REGISTER, and a list of methods that have been designated as reference or equivalent methods will be available on request. In addition, EPA is proposing amendments to § 53.9 (published elsewhere in this isue of the FEDERAL REGISTER) that would require labeling of analyzers so designated. These measures will enable prospective purchasers to determinate with relative ease whether methods of interest have been designated as reference or equivalent methods. For these reasons, EPA has concluded that a list of methods for which applications have been submitted and rejected is unnecessary.

(4) *Modification of reference or equivalent methods.* Proposed § 53.12 and § 53.13 would have required reporting of any modification of a reference or equivalent method within 15 calendar days after the modification; if the Administrator made a preliminary finding that the method as modified did not satisfy the requirements of Part 53, he would have initiated proceedings to cancel the reference or equivalent method designation applicable to the method. A number of comments raised questions about the scope and effect of these provisions. After consideration of the comments, EPA has revised the provisions (now combined in § 53.14) in several respects. The most significant changes are as follows.

First, language has been included in § 53.14 to make clear that it applies only to modifications made by sellers of methods. Elsewhere in this issue of the FEDERAL REGISTER, EPA is proposing an amendment to 40 CFR Part 51 concerning approval of modifications made by users of methods.

Second, an unacceptable modification of a reference or equivalent method by a seller will not be a ground for cancellation of the reference or equivalent method designation applicable to the method. The reason for this change is essentially that such a cancellation would (contrary to EPA's intent) preclude use of the method for purposes of 40 CFR 51.17(a) by State and local control agencies who bought the method (in its unmodified form) prior to the modification; the more appropriate remedy, now provided in § 53.14(c)(3), is to determine that the designation will not apply to the method as modified. Such a determination would affect only future sales, and only if the seller chose to implement the modification. State and local control agencies would still be free to use (and the seller free to sell) the method in its unmodified form for purposes of 40 CFR 51.17(a).

Third, § 53.14 in effect requires prior approval of intended modifications rather than approval after the fact of modifications already implemented. Although this change may have the effect of delaying incorporation of desirable modifications into production processes, EPA believes that prior approval is necessary to assure the acceptability of instruments offered for sale as reference or equivalent methods and that other changes in § 53.14 (discussed below) will help to limit any delays resulting from the requirements of prior approval.

Finally, § 53.14(b) specifies the information to be reported with respect to an intended modification. The intent of this provision is to minimize the burdens and delays that might otherwise result

under § 53.14. Brevity is encouraged, and the seller is asked to state whether the modification is likely to affect the performance characteristics of the method and, if so, what the probable effect will be. In many cases, little information will be necessary to demonstrate that an intended modification will have no significant adverse effect on the performance characteristics of the method, and in such cases the time necessary for EPA review should be short. In any event, § 53.14(c) requires final EPA action on intended modifications within 30 calendar days, unless further information or testing is necessary before a determination can be made.

Some comments suggested that reporting of "insignificant" modifications should not be required, and that the reporting requirement will discourage innovative modifications. Although EPA is sympathetic to these arguments, it believes § 53.14 will not impose unreasonable burdens in view of the importance of assuring the reliability and comparability of data obtained for purposes of 40 CFR 51.17(a). Where the seller believes that an intended modification will have no significant adverse effect on the performance characteristics of a method (or where a modification is intended to improve performance), it is likely that the modification can be explained and approved with relatively little burden or delay. With respect to innovative modifications, EPA believes improvement of methods will confer a competitive advantage on their sellers, particularly where an improved method occasions supersession of a reference method under a proposed amendment to Part 53 (proposed § 53.16) appearing elsewhere in this issue of the FEDERAL REGISTER. The possibility of such an advantage should provide an incentive for innovation notwithstanding the requirements of § 53.14.

(5) *Specifications and test procedures.* The proposed test procedures for zero drift, lag time, rise time, fall time, and precision have been combined into a single, sequential procedure (§ 53.23 (e)) which eliminates redundant steps and significantly reduces the time required to complete the tests. Optional forms for reporting test data have also been provided in appendices to Subparts B and C to facilitate preparation and processing of applications.

As a result of laboratory testing of the procedures, the performance specifications in Table B–1 of Subpart B were reevaluated. It was evident from the tests that the proposed specifications for precision were too lenient, as many commercially available instruments performed much better than required by the specifications. At the time the precision standards were established, they were set rather conservatively because relatively little precision data, obtained in accordance with prescribed test procedures, were available. On the basis of the tests mentioned above, the precision specifications in Table B–1 have been made more restrictive; this should contribute to more reliable data. Except that the specification for span drift is now expressed in "per cent" instead of "ppm," the other specifications in Table B–1 remain unchanged.

One comment suggested that provision should be made for methods having more than one selectable range and for assuring the reliability of methods used to measure concentrations greater than the upper range limits specified in Table B–1 of Subpart B. In some cases, it is necessary to measure such concentrations in order to calculate average concentrations as contemplated by some of the national ambient air quality standards. Accordingly, Subparts B and C have been revised to permit designation of methods having more than one selecable range as reference or equivalent methods, provided that one range is the appropriate range specified in Table B–1 and that the method passes pertinent tests in that range and in any other range for which a reference or equivalent method designation is sought (see §§ 53.20(b), 53.31(d)).

Two limitations will apply for the present. First, a range broader (i.e., extending to higher concentrations) than that specified in Table B–1 will be eligible for a reference or equivalent method designation only if it does not extend to concentrations more than two times the upper range limit specified in Table B–1. EPA believes that this limitation is necessary for the present to assure that methods capable of operation in broader ranges will have adequate resolution for purposes of 40 CFR 51.17(a), and that it will permit designation of methods capable of measuring nearly all ambient concentrations likely to be experienced. Second, ranges narrower (i.e., extending to lower concentrations) than that specified in Table B–1 will be eligible only for reference method designations. This limitation is necessary because the comparison tests required by Subpart C for equivalent method determinations cannot be performed, in many if not all cases, in ranges narrower than that specified in Table B–1.

These limitations should not present any immediate problem to State and local control agencies possessing analyzers with ranges other than those specified in Table B–1, because an amendment to 40 CFR Part 51 appearing elsewhere in this issue of the FEDERAL REGISTER will permit use of existing analyzers for five years, without regard to the requirements of Part 53, for purposes of 40 CFR 51.17(a). To provide still greater flexibility with respect to use of methods having nonconforming ranges, EPA is proposing further amendments to Part 51 elsewhere in this issue of the FEDERAL REGISTER that would permit use in certain circumstances of such methods, including methods with ranges broader than two times the upper range limits specified in Table B–1, for purposes of 40 CFR 51.17(a). In connection with the proposed amendments, EPA is also inviting comments on the possibility of eliminating or relaxing the two limitations described above.

Use of existing analyzers not meeting the interference requirements of Part 53 is considered in connection with the proposed amendments to 40 CFR Part 51 appearing elsewhere in this issue of the FEDERAL REGISTER.

Other technical changes in Subparts B and C include revision of the test atmosphere requirements, addition of a requirement to substantiate flow measurements, substitution of a single formula for calculating standard deviations, use of a chart recorder instead of a stopwatch to measure lag time, rise time, and fall time, and correction of several typographical errors in the proposed regulation. These and other minor changes should improve the procedures by making them more meaningful and easier to carry out.

(6) *Other comments and changes.* A number of comments expressed concern that Part 53 would impose substantial burdens on State and local control agencies, a number of whom indicated that they lacked adequate resources to test their methods and apply for reference or equivalent method determinations. The principal purpose of Part 53, however, is to provide a means by which manufacturers may have their analyzers officially designated as reference or equivalent methods. The burden of testing a candidate method, obtaining a reference or equivalent method determination, and assuring that analyzers subsequently offered for sale as reference or equivalent methods meet the requirements of Part 53 is being placed on the manufacturer and not on the purchasing agency. (As indicated previously, an amendment to 40 CFR Part 51 appearing elsewhere in this issue of the FEDERAL REGISTER will permit continued use of existing analyzers for five years, without regard to the requirements of Part 53, for purposes of 40 CFR 51.17(a).) Although it is expected that most applicants for reference and equivalent method determinations will be instrument manufacturers, States and others may perform the necessary tests and apply for such determinations if they so desire.

Several provisions that appeared in various parts of the proposed regulations have been brought together in a new § 53.9 to emphasize that they are conditions of any reference or equivalent method designation. One such condition, concerning durability of methods (§ 53.9 (c)), has been revised in response to comments: (1) By substituting the phrase "when maintained and operated in accordance with the (manufacturer's operation manual)" for the vaguer phrase "when properly maintained and operated," and (2) by providing that the durability requirement applies for one year after "delivery and acceptance" rather than for one year after "installation in the field." The latter change should avoid problems concerning analyzers that are not promptly installed after delivery.

Some comments reflected confusion regarding the scope of Part 53. Although Part 50 presently contains "reference methods" for SO_2, CO, photochemical oxidants, suspended particulates, NO_2,

and hydrocarbons, Part 53 concerns reference and equivalent methods for only the first three of these pollutants. Because there is no agreed upon reference or standard suspended particulate, the reference method for suspended particulates is not being addressed in Part 53 for the present, and methods for nitrogen dioxide and hydrocarbons corrected for methane are not covered in Part 53 because of technical problems with the designated reference methods. However, guidance for evaluating the performance characteristics of automated methods for measuring the latter two pollutants may be found in the Environmental Monitoring Series document (EPA–650/5–74–018), *Guidelines for Determining Performance Characteristics of Automated Methods for Measuring Nitrogen Dioxide and Hydrocarbons Corrected for Methane in Ambient Air*, which may be obtained from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151.

Several comments suggested that EPA should have solicited more active participation from the professional standards-setting organizations in the development of Part 53, or that the entire regulation might have been written in acceptable fashion by such organizations. EPA agrees that for voluntary, consensus-type standards the latter approach might have been feasible. However, the present regulation is not such a standard. It is intended to assure not only the reliability but also the national comparability of ambient air quality data obtained from the surveillance networks required by 40 CFR 51.17(a), not only for purposes of judging the attainment and maintenance of the national ambient air quality standards but also so that trend analyses of ambient air pollution may be made, based on data submitted from myriads of air quality control regions. Consensus standards developed by competing private organizations would not necessarily provide a single base on which to judge analyzer performance and might not be sufficiently stringent to achieve the purposes mentioned above. For these and other reasons, EPA has chosen to develop the Part 53 regulations itself, rather than rely on standards developed in the private sector. In the course of the rulemaking process, EPA has solicited and considered comments from the professional standards-setting organizations, just as it has with respect to instrument manufacturers, State and local control agencies, and the general public.

Many comments expressed opinions to the effect that the proposed performance specifications were reasonable and appropriate, and no comments were received from analyzer manufacturers indicating that the specifications were unreasonable or unattainable. Only one comment suggested (without explanation) that existing methods could not meet the specifications. EPA has evaluated a number of commercially available analyzers for their ability to meet the performance specifications prescribed in Part 53 and has concluded that at least several state-of-the-art analyzers can meet the specifications or can be made to do so by relatively simple modifications by the manufacturer. In addition, EPA is confident, on the basis of these evaluations, that most analyzer manufacturers, once they know the performance specifications their products must meet to qualify for reference or equivalent method designations under Part 53, will be able to modify or redesign their analyzers to meet those specifications. Copies of a document (entitled "Technical Justification for the Performance Specification Given in Subpart B of 40 CFR Part 53") that contains further information about the evaluations mentioned above, as well as information on the rationale and methods for selection of the Part 53 performance specifications, may be obtained by writing to the Quality Assurance and Environmental Monitoring Laboratory, United States Environmental Protection Agency, National Environmental Research Center, Research Triangle Park, North Carolina 27711, attention: Dr. David Shearer.

General Discussion

Pollutant profiles across the nation are sufficiently uniform that some methods of measuring ambient air quality may be designated as generally applicable; i.e., without restrictions as to their use in particular geographic areas. For this reason, Part 53 provides in effect for "certification" of model lines, rather than for approval of particular instruments to be used in particular locations. This approach takes advantage of the similarity in meteorological characteristics associated with ambient air pollutants across the nation and should be much less burdensome for all concerned than any system requiring case-by-case approval of particular instruments for use in particular locations.

The measurement of air pollutants emitted from stationary sources presents an entirely different set of circumstances for monitoring. In brief, the sources themselves often create unique, localized conditions (e.g., unusual concentrations of interferents) that can affect the performance of monitoring instruments. In proposed amendments to 40 CFR Parts 51 and 60 concerning monitoring of stationary sources (39 FR 32852, 32871, Sept. 11, 1974), therefore, EPA has proposed to require approval of particular monitoring instruments for use in particular locations.

As indicated previously, EPA is amending Appendices C and D to 40 CFR Part 50 (concerning measurement of CO and photochemical oxidants, respectively) elsewhere in this issue of the Federal Register to make clear that each specifies only a measurement principle and calibration procedure (rather than a reference method per se), and that analyzers based on those measurement principles will be considered reference methods only if designated as such in accordance with Part 53. Accordingly, there will be no reference methods for CO and oxidants until at least one analyzer for each has been designated as such under Part 53. (It should be noted that reference methods are still specified as such for other pollutants in the appropriate appendices to Part 50.) In addition, candidate methods cannot be designated as equivalent methods for CO and oxidants until reference methods for the two pollutants are available for the comparison testing required by Subpart C for equivalent method determinations. This should present no problem for State and local control agencies because an amendment to Part 51 appearing elsewhere in this issue of the Federal Register will permit them to use existing CO and oxidant analyzers for purposes of 40 CFR 51.17(a) for five years, and to use CO and oxidant analyzers bought within the next year for at least four years, without regard to the requirements of Part 53. In addition, it may be possible to use existing analyzers for their useful lives in various circumstances, as discussed elsewhere in this issue of the Federal Register in connection with amendments and proposed amendments to Part 51.

As indicated above, an amendment to Part 51 appearing elsewhere in this issue of the Federal Register will permit State and local control agencies to use CO and oxidant analyzers bought within the next year for at least four years without regard to the requirements of Part 53. Agencies purchasing new analyzers in the next year, however, are urged to require through appropriate contractual provisions that the manufacturer supply instruments meeting the performance specifications set forth in Subpart B of Part 53 and require that any deficiencies be corrected within the warranty period for such instruments.

It is the intent of EPA to encourage and take advantage of advances in the art of monitoring pollutants in ambient air. As better analyzers become available, EPA will, from time to time, revise performance specifications to require a higher level of performance. This will help to provide ambient air quality data of better quality in years to come. In addition, EPA is proposing elsewhere in this issue of the Federal Register an amendment to Part 53 that would permit replacement ("supersession") of existing reference methods with better methods, while permitting continued use of replaced methods for a reasonable period by control agencies that had previously purchased them.

Promulgation of Part 53, of course, does not render past or current air quality data invalid. Such data will still be as useful as it ever was. However, Part 53 will help to improve the accuracy, reliability, and overall quality of data collected in the future. It should be emphasized that the use of designated methods for air monitoring will not by itself assure the collection of adequate air quality data. Nor will it in any way diminish the need for well-planned, thorough, functional quality control activities including frequent calibrations, periodic audit checks, proper mainte-

nance, careful data validations, and adequate operator training. Use of designated methods is only one necessary part of a complete and effective quality control program.

Applications for reference or equivalent method determinations will be processed in the order received. Processing of applications which require additional tests or information will necessarily involve delays. As indicated in § 53.15, confidential or proprietary information submitted by applicants or other persons should be clearly identified as such. Should a question of public access to such information arise, the information will be treated in accordance with 40 CFR Part 2, which concerns EPA's policies and procedures with respect to requests for information under 5 U.S.C. 552, often referred to as the Freedom of Information Act.

Effective date. This part becomes effective on February 18, 1975.

Dated: January 31, 1975.

RUSSELL E. TRAIN,
Administrator,
Environmental Protection Agency.

A new Part 53 is added to Chapter I, Title 40, Code of Federal Regulations, as follows:

Subpart A—General Provisions

AUTHORITY: Section 301(a) of the Clean Air Act (42 U.S.C. section 1857g(a)), as amended by sec. 15(c)(2) of Public Law 91-604, 84 Stat. 1713.

Subpart A—General Provisions

§ 53.1 Definitions.

(a) Terms used but not defined in this part shall have the meaning given them by the Act.

(b) "Act" means the Clean Air Act (42 U.S.C. 1857–1857*l*), as amended.

(c) "Agency" means the Environmental Protection Agency.

(d) "Administrator" means the Administrator of the Environmental Protection Agency or his authorized representative.

(e) "Reference method" means a method of sampling and analyzing the ambient air for an air pollutant that is specified as a reference method in an appendix to Part 50 of this chapter, or a method that has been designated as a reference method in accordance with this part; it does not include a method for which a reference method designation has been cancelled in accordance with § 53.11.

(f) "Equivalent method" means a method of sampling and analyzing the ambient air for an air pollutant that has been designated as an equivalent method in accordance with this part; it does not include a method for which an equivalent method designation has been cancelled in accordance with § 53.11.

(g) "Candidate method" means a method of sampling and analyzing the ambient air for an air pollutant for which an application for a reference method determination or an equivalent method determination is submitted in accordance with § 53.4, or a method tested at the initiative of the Administrator in accordance with § 53.7.

(h) "Manual method" means a method for measuring concentrations of an ambient air pollutant in which sample collection, analysis, or measurement, or some combination thereof, is performed manually.

(i) "Automated method" or "analyzer" means a method for measuring concentrations of an ambient air pollutant in which sample collection, analysis, and measurement are performed automatically.

(j) "Test analyzer" means an analyzer subjected to testing as a candidate method in accordance with Subpart B of this part, Subpart C of this part, or both.

(k) "Applicant" means a person who submits an application for a reference or equivalent method determination in accordance with § 53.4.

(l) "Ultimate purchaser" means the first person who purchases a reference method or an equivalent method for purposes other than resale.

§ 53.2 General requirements for a reference method determination.

(a) *Manual methods.* Manual methods will not be considered for reference method determinations under this part.

NOTE.—As defined in § 53.1(e), "reference method" includes a manual method specified in an appendix to Part 50 of this chapter. The provisions of this part are inapplicable to such a method.

(b) *Automated methods.* A candidate automated method must utilize the measurement principle and calibration procedures specified in the appropriate appendix to Part 50 of this Chapter and meet the requirements specified in Subpart B of this part.

NOTE.—An automated method will not be considered for a reference method determination under this part if a reference method is specified in the appropriate appendix to Part 50.

§ 53.3 General requirements for an equivalent method determination.

(a) *Manual methods.* Candidate manual methods must satisfy the requirements specified in Subpart C of this part.

(b) *Automated methods.* Candidate automated methods must satisfy the requirements specified in Subparts B and C of this part.

§ 53.4 Applications for reference or equivalent method determinations.

(a) Applications for reference or equivalent method determinations shall be submitted in triplicate to:

Director, Quality Assurance & Environmental Monitoring Laboratory, Department E, United States Environmental Protection Agency, National Environmental Research Center, Research Triangle Park, North Carolina 27711.

(b) Each application shall be signed by an authorized representative of the applicant, shall be marked in accordance with § 53.15 (if applicable), and shall contain the following:

(1) A clear identification of the candidate method which will distinguish it from all other methods and by which it may be referred to unambiguously.

(2) A detailed description of the candidate method including but not limited to the following: The measurement principle, manufacturer, name, model number, and other forms of identification; a listing of the significant components; schematic diagrams; and a detailed description of the apparatus and measurement procedures.

(3) A copy of a comprehensive operation or instruction manual providing a complete and detailed description of the operational and calibration procedures prescribed for field use of the candidate method and all instruments utilized as part of that method. The manual shall include adequate warning of potential safety hazards that may result from normal use, or (if the method is automated) from normal use or malfunction, of the method and a description of necessary safety precautions (see § 53.9(b)). For automated methods, the manual shall include a clear description of installation and operation procedures and of necessary periodic maintenance, as well as comprehensive trouble-shooting and corrective maintenance procedures and

parts identification diagrams.[1] The manual may be used to satisfy the requirements of paragraphs (b) (1) and (2) of this section to the extent that it includes information necessary to meet those requirements.

(4) A statement that the candidate method has been tested in accordance with the procedures described in Subpart B of this part, Subpart C of this part, or both, as applicable.

(5) Test data, records, calculations, and test results as specified in Subpart B of this part, Subpart C of this part, or both, as applicable.

(6) A statement that the method or analyzer tested in accordance with this part is representative of the candidate method described in the application.

(c) For candidate automated methods, the application shall also contain the following:

(1) A detailed description of the quality control program that will be utilized, if the candidate method is designated as a reference or equivalent method, to ensure that all analyzers offered for sale under that designation will have essentially the same performance characteristics as the analyzer tested in accordance with this part.

(2) A description of the durability characteristics of such analyzers (see § 53.9(c)).

§ 53.5 Processing of applications.

After receiving an application for a reference or equivalent method determination, the Administrator will publish notice of the application in the FEDERAL REGISTER and, within 75 calendar days after receipt of the application, take one or more of the following actions:

(a) Send notice to the applicant, in accordance with § 53.8, that the candidate method has been determined to be a reference or equivalent method;

(b) Send notice to the applicant that his application has been rejected, including a statement of reasons for rejection;

(c) Send notice to the applicant that additional information must be submitted before a determination can be made and specify the additional information that is needed (in such cases, the 75-day period shall commence upon receipt of the additional information);

(d) Send notice to the applicant that additional tests are necessary and specify what tests are necessary and how they shall be interpreted (in such cases, the 75-day period shall commence upon receipt of the additional test data); or

(e) Send notice to the applicant that additional tests will be conducted by the Administrator, specifying the nature of and reasons for the additional tests and the estimated time required (in such cases, the 75-day period shall commence 1 calendar day after the additional tests have been completed).

§ 53.6 Right to witness conduct of tests.

(a) Submission of an application for a reference or equivalent method determination shall constitute consent for the Administrator or his authorized representative, upon presentation of appropriate credentials, to witness or observe any tests required by this part in connection with the application or in connection with any modification or intended modification of the method by the applicant.

(b) The applicant shall have the right to witness or observe any test conducted by the Administrator in connection with the application or in connection with any modficaton or intended modification of the method by the applicant.

(c) Any tests by either party that are to be witnessed or observed by the other party shall be conducted at a time and place mutually agreeable to both parties.

§ 53.7 Testing of methods at the initiative of the Administrator.

(a) In the absence of an application for a reference or equivalent method determination, the Administrator may conduct the tests required by this part for such a determination, may compile such other information as may be necessary in his judgment to make such a determination, and on the basis of the tests and information may determine that a method satisfies applicable requirements of this part.

(b) [Reserved]

(c) [Reserved]

§ 53.8 Designation of reference and equivalent methods.

(a) A candidate method determined by the Administrator to satisfy the applicable requirements of this part shall be designated as a reference method or equivalent method (as applicable), and a notice of the designation shall be submitted for publication in the FEDERAL REGISTER not later than 15 days after the determination is made.

(b) A notice indicating that the method has been determined to be a reference method or an equivalent method shall be sent to the applicant. This notice shall constitute proof of the determination until a notice of designation is published in accordance with paragraph (a) of this section.

(c) The Administrator will maintain a current list of methods designated as reference or equivalent methods in accordance with this part and will send a copy of the list to any person or group upon request. A copy of the list will be available for inspection or copying at EPA Regional Offices.

§ 53.9 Conditions of Designation.

Designation of a candidate method as a reference method or equivalent method shall be conditioned on the applicant's compliance with the following requirements. Failure to comply with any of the requirements shall constitute a ground for cancellation of the designation in accordance with section 53.11.

(a) Any method offered for sale as a reference or equivalent method shall be accompanied by a copy of the manual referred to in section 53.4(b)(3) when delivered to any ultimate purchaser.

(b) Any method offered for sale as a reference or equivalent method shall generate no unreasonable hazard to operators or to the environment during normal use or (if the method is automated) during normal use or when malfunctioning.

(c) Any analyzer offered for sale as a reference or equivalent method shall function within the limits of the performance specifications referred to in § 53.20(a) for at least 1 year after delivery and acceptance when maintained and operated in accordance with the manual referred to in § 53.4(b)(3).

§ 53.10 Appeal from rejection of application.

Any applicant whose application for a reference or equivalent method determination has been rejected may appeal the Administrator's decision by taking one or more of the following actions:

(a) The applicant may submit new or additional information in support of the application.

(b) The applicant may request that the Administrator reconsider the data and information already submitted.

(c) The applicant may request that any test conducted by the Administrator that was a material factor in his decision to reject the application be repeated.

§ 53.11 Cancellation of reference or equivalent method designation.

(a) *Preliminary finding.* If the Administrator makes a preliminary finding on the basis of any information available to him that a representative sample of a method designated as a reference or equivalent method and offered for sale as such does not fully satisfy the requirements of this part or that there is any violation of the requirements set forth in § 53.9, he may initiate proceedings to cancel the designation in accordance with the following procedures.

(b) *Notification and opportunity to demonstrate or achieve compliance.* (1) After making a preliminary finding in accordance with paragraph (a) of this section, the Administrator will send notice of the preliminary finding to the applicant, together with a statement of the facts and reasons on which the preliminary finding is based, and will publish notice of the preliminary finding in the FEDERAL REGISTER.

(2) The applicant will be afforded an opportunity to demonstrate or to achieve compliance with the requirements of this part within 60 days after publication of notice in accordance with paragraph (b)(1) of this section or within such further period as the Administrator may allow, by demonstrating to the satisfaction of the Administrator that the method

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[1] Guidance for the development of such a manual may be found in the EPA report, "Guideline Specifications for the Development of Instruction Manuals for Automatic Air Monitoring Instruments," available from: National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151. (702-321-8543).

An example manual based on the above report and titled "Fully Proceduralized Instruction Manual for the Bendix Ozone Monitor, Model 8002" is available from the same source.

in question satisfies the requirements of this part, by commencing a program to make any adjustments that are necessary to bring the method into compliance, or by taking such action as may be necessary to cure any violation of the requirements of § 53.9. If adjustments are necessary to bring the method into compliance, all such adjustments shall be made within a reasonable time as determined by the Administrator. If the applicant demonstrates or achieves compliance in accordance with this paragraph (b)(2), the Administrator will publish notice of such demonstration or achievement in the FEDERAL REGISTER.

(c) *Request for hearing.* Within 60 days after publication of notice in accordance with paragraph (b)(1) of this section, the applicant or any interested person may request a hearing as provided in § 53.12.

(d) *Notice of cancellation.* If, at the end of the period referred to in paragraph (b)(2) of this section, the Administrator determines that the reference or equivalent method designation should be cancelled, he will publish a notice of cancellation in the FEDERAL REGISTER and delete the designation from the list maintained under § 53.8(c). If a hearing has been requested and granted in accordance with § 53.12, action under this paragraph (d) will be taken only after completion of proceedings (including any administrative review) conducted in accordance with § 53.13 and only if the decision of the Administrator reached in such proceedings is that the designation in question should be cancelled.

§ 53.12 Request for hearing on cancellation.

Within 60 days after publication of notice in accordance with § 53.11(b)(1), the applicant or any interested person may request a hearing on the Administrator's action. The request shall be in writing, signed by an authorized representative of the applicant or interested person, and shall include a statement specifying (a) any objections to the Administrator's action and (b) data or other information in support of such objections. If, after reviewing the request and supporting data, the Administrator finds that the request raises a substantial issue of fact, he will grant a hearing in accordance with § 53.13 with respect to such issue.

§ 53.13 Hearings.

(a)(1) After granting a request for a hearing under § 53.12, the Administrator will designate a presiding officer for the hearing.

(2) If a time and place for the hearing have not been fixed by the Administrator, the hearing will be held as soon as practicable at a time and place fixed by the presiding officer, except that the hearing shall in no case be held sooner than 30 days after publication of a notice of hearing in the FEDERAL REGISTER.

(3) For purposes of the hearing, the parties shall include the Environmental Protection Agency, the applicant or interested person(s) who requested the hearing, and any person permitted to intervene in accordance with paragraph (c) of this section.

(4) The Deputy General Counsel or his representative will represent the Environmental Protection Agency in any hearing under this section.

(5) Each party other than the Environmental Protection Agency may be represented by counsel or by any other duly authorized representative.

(b)(1) Upon his appointment, the presiding officer will establish a hearing file. The file shall contain copies of the notices issued by the Administrator pursuant to § 53.11(b)(1), together with any accompanying material, the request for a hearing and supporting data submitted therewith, the notice of hearing published in accordance with paragraph (a)(2) of this section, and correspondence and other material data relevant to the hearing.

(2) The hearing file shall be available for inspection by the parties or their representatives at the office of the presiding officer, except to the extent that it contains information identified in accordance with § 53.15.

(c) At his discretion, the presiding officer may permit any interested person to intervene in the hearing upon such a showing of interest as the presiding officer may require; provided that leave to intervene may be denied in the interest of expediting the hearing where it appears that the interests of the person seeking to intervene will be adequately represented by another party (or by other parties), including the Environmental Protection Agency.

(d)(1) The presiding officer, upon the request of any party or at his discretion, may arrange for a prehearing conference at a time and place specified by him to consider the following:

(i) Simplification of the issues.

(ii) Stipulations, admissions of fact, and the introduction of documents.

(iii) Limitation of the number of expert witnesses.

(iv) Possibility of agreement disposing of all or any of the issues in dispute.

(v) Such other matters as may aid in the disposition of the hearing, including such additional tests as may be agreed upon by the parties.

(2) The results of the conference shall be reduced to writing by the presiding officer and made part of the record.

(e)(1) Hearings shall be conducted by the presiding officer in an informal but orderly and expeditious manner. The parties may offer oral or written evidence, subject to exclusion by the presiding officer of irrelevant, immaterial, or repetitious evidence.

(2) Witnesses shall be placed under oath.

(3) Any witness may be examined or cross-examined by the presiding officer, the parties, or their representatives. The presiding officer may, at his discretion, limit cross-examination to relevant and material issues.

(4) Hearings shall be reported verbatim. Copies of transcripts of proceedings may be purchased from the reporter.

(5) All written statements, charts, tabulations, and data offered in evidence at the hearing shall, upon a showing satisfactory to the presiding officer of their authenticity, relevancy, and materiality, be received in evidence and shall constitute part of the record.

(6) Oral argument shall be permitted. The presiding officer may limit oral presentations to relevant and material issues and designate the amount of time allowed for oral argument.

(f)(1) The presiding officer shall make an initial decision which shall include written findings and conclusions and the reasons therefor on all the material issues of fact, law, or discretion presented on the record. The findings, conclusions, and written decision shall be provided to the parties and made part of the record. The initial decision shall become the decision of the Administrator without further proceedings unless there is an appeal to, or review on motion of, the Administrator within 30-calendar days after the initial decision is filed.

(2) On appeal from or review of the initial decision, the Administrator will have all the powers which he would have in making the initial decision, including the discretion to require or allow briefs, oral argument, the taking of additional evidence or the remanding to the presiding officer for additional proceedings. The decision by the Administrator will include written findings and conclusions and the reasons or basis therefor on all the material issues of fact, law, or discretion presented on the appeal or considered in the review.

§ 53.14 Modification of a reference or equivalent method.

(a) An applicant who offers a method for sale as a reference or equivalent method shall report any intended modification of the method, including but not limited to modifications of design or construction or of operational and maintenance procedures specified in the operation manual, to the Administrator prior to implementation of the modification. The report shall be signed by an authorized representative of the applicant, marked in accordance with § 53.15 (if applicable), and addressed as specified in § 53.4(a).

(b) A report submitted under paragraph (a) of this section shall include:

(1) A description, in such detail as may be appropriate, of the intended modification;

(2) A brief statement of the applicant's belief that the modification will, will not, or may affect the performance characteristics of the method;

(3) If the applicant believes the modification will or may affect the performance characteristics of the method, a brief statement of the probable effect; and

(4) Such further information, including test data, as may be necessary to explain and support any statement required

by paragraphs (b)(2) and (b)(3) of this section.

(c) Within 30-calendar days after receiving a report under paragraph (a) of this section, the Administrator will take one or more of the following actions:

(1) Notify the applicant that the designation will continue to apply to the method if the modification is implemented.

(2) Send notice to the applicant that a new designation will apply to the method (as modified) if the modification is implemented, submit notice of the determination for publication in the FEDERAL REGISTER, and revise or supplement the list referred to in § 53.8(c) to reflect the determination.

(3) Send notice to the applicant that the designation will not apply to the method (as modified) if the modification is implemented and submit notice of the determination for publication in the FEDERAL REGISTER;

(4) Send notice to the applicant that additional information must be submitted before a determination can be made and specify the additional information that is needed (in such cases, the 30-day period shall commence upon receipt of the additional information);

(5) Send notice to the applicant that additional tests are necessary and specify what tests are necessary and how they shall be interpreted (in such cases, the 30-day period shall commence upon receipt of the additional test data); or

(6) Send notice to the applicant that additional tests will be conducted by the Administrator and specify the reasons for and the nature of the additional tests (in such cases, the 30-day period shall commence one calendar day after the additional tests are completed).

(d) Applicant who has received a notice under paragraph (c)(3) of this section may appeal the Administrator's action as follows:

(1) The applicant may submit new or additional information pertinent to the intended modification.

(2) The applicant may request the Administrator to reconsider data and information already submitted.

(3) The applicant may request that the Administrator repeat any test he conducted that was a material factor in his determination. A representative of the applicant may be present during the performance of any such retest.

§ 53.15 Trade secrets and confidential or privileged information.

Any information submitted under this part that is claimed to be a trade secret or confidential or privileged information shall be marked or otherwise clearly identified as such in the submittal. Information so identified will be treated in accordance with Part 2 of this chapter (concerning public information).

Subpart B—Procedures for Testing Performance Characteristics of Automated Methods

§ 53.20 General provisions.

(a) The test procedures given in this subpart shall be used to test the performance of candidate automated methods against the performance specifications given in Table B–1. A test analyzer representative of the candidate automated method must exhibit performance better than, or equal to, the specified value for each such specification (except Range) to satisfy the requirements of this subpart. Except as provided in paragraph (b) of this section, the range of the candidate method must be the range specified in Table B–1 to satisfy the requirements of this subpart.

(b) For a candidate method having more than one selectable range, one range must be that specified in Table B–1 and a test analyzer representative of the method must pass the tests required by this subpart while operated in that range. The tests may be repeated for a broader range (i.e., one extending to higher concentrations) than that specified in Table B–1 provided that the range does not extend to concentrations more than two times the upper range limit specified in Table B–1. If the application is for a reference method determination, the tests may be repeated for a narrower range (one extending to lower concentrations) than that specified in Table B–1.

If the tests are conducted or passed only for the specified range, any reference or equivalent method determination with respect to the method will be limited to that range. If the tests are passed for both the specified range and a broader range (or ranges), any such determination will include the broader range(s) as well as the specified range, provided that the tests required by Subpart C of this part (if applicable) are met for the broader range(s). If the tests are passed for both the specified range and a narrower range, a reference method determination for the method will include the narrower range as well as the specified range. Appropriate test data shall be submitted for each range sought to be included in a reference or equivalent method determination under this paragraph (b).

(c) For each performance specification (except Range), the test procedure shall be initially repeated seven (7) times to yield 7 test results. Each result shall be compared with the corresponding specification in Table B–1; a value higher than that specified constitutes a failure. These 7 results for each parameter shall be interpreted as follows:

(1) Zero (0) failures: candidate method passes the performance parameter.

(2) Three (3) or more failures: candidate method fails the performance parameter.

(3) One (1) or two (2) failures: Repeat the test procedures for the parameter eight (8) additional times yielding a total of fifteen (15) test results. The combined total of 15 test results shall then be interpreted as follows:

(i) One (1) or two (2) failures: candidate method passes the performance parameter.

(ii) Three (3) or more failures: candidate method fails the performance parameter.

TABLE B-1. PERFORMANCE SPECIFICATIONS FOR AUTOMATED METHODS

Performance parameter	Units [1]	Sulfur dioxide	Oxidants	Carbon monoxide	Definitions and test procedures
1. Range	Parts per million	0–0.5	0–0.5	0–50	§ 53.23(a).
2. Noise	do	0.005	0.005	0.50	§ 53.23(b).
3. Lower detectable limit	do	0.01	0.01	1.0	§ 53.23(c).
4. Interference 7quivalent					§ 53.23(d).
Each interferent	do	±0.02	±0.02	±1.0	
Total interferent	do	0.06	0.06	1.5	
5. Zero drift, 12 and 24 hr	do	±0.02	±0.02	±1.0	§ 53.23 (e).
6. Span drift, 24 hr	Percent	±5.0	±5.0	±2.5	§ 53.23 (e).
7. Lag time	Minutes	20	20	10	§ 53.23 (e).
8. Rise time	do	15	15	5	§ 53-23 (e).
9. Fall time	do	15	15	5	§ 53.23 (e).
10. Precision					§ 53.23 (e).
20 percent of upper range limit	Parts per million	0.01	0.01	0.5	
80 percent of upper range limit	do	0.015	0.01	0.5	

[1] To convert from parts per million to microgram per cubic meter at 25° C and 760 mm Hg, multiply by M/O.02447, where M is the molecular weight of the gas.

(d) The tests for *zero drift, span drift, lag time, rise time, fall time,* and *precision* shall be combined into a single sequential procedure to be conducted at various line voltages and ambient temperatures specified in § 53.23(e). The tests for *noise, lower detectable limit,* and *interference equivalents* shall be made at any temperature between 20° C. and 30° C. and at any normal line voltage between 105 and 125 volts, and shall be conducted such that not more than three (3) test results for each parameter are obtained per 24 hours.

(e) All response readings to be recorded shall first be converted to concentration units according to the calibration curve constructed in accordance with § 53.21(b).

(f) All recorder chart tracings, records, test data and other documentation obtained from or pertinent to these tests shall be identified, dated, signed by the analyst performing the test, and submitted.

NOTE.—Suggested formats for reporting the test results and calculations are provided in Figures B–2, B–3, B–4, B–5, and B–6 in Appendix A. Symbols and abbreviations used in this subpart are listed in Table B–5, Appendix A.

§ 53.21 Test conditions.

(a) *Set-up and start-up* of the test analyzer shall be in strict accordance with the operating instructions specified in the manual referred to in § 53.4(b)(3). Allow adequate warm-up or stabil-

ization time as indicated in the operating instructions before beginning the tests. If the candidate method does not include an integral strip chart recorder, connect the output signal of the test analyzer to a suitable strip chart recorder of the servo, null-balance type. This recorder shall have a chart width of at least 25 centimeters, chart speeds up to 10 cm per hour, a response time of 1 second or less, a deadband of not more than 0.25 percent of full scale, and capability either of reading measurements at least 5 percent below zero or of offsetting the zero by at least 5 percent.

NOTE.—Other data acquisition components may be used along with the chart recorder during conduct of these tests. Use of the chart recorder is intended only to facilitate evaluation of data submitted.

(b) *Calibration* of the test analyzer shall be as indicated in the manual referred to in § 53.4(b)(3) and as follows: If the chart recorder does not have below zero capability, adjust either the controls of the test analyzer or the chart recorder to obtain a +5% offset zero reading on the recorder chart to facilitate observing negative response or drift. If the candidate method is not capable of negative response, the test analyzer (not recorder) shall be operated with an offset zero. Construct and submit a calibration curve showing a plot of recorder scale readings (ordinate) against pollutant concentrations (abscissa). A plot of output units (volts, millivolts, milliamps, etc.) against pollutant concentrations shall also be shown for methods not including an integral chart recorder. All such plots shall consist of at least seven (7) approximately equally spaced, identifiable points, including 0 and 90 ± 5 percent of full scale.

(c) Once the test analyzer has been set up and calibrated and the tests started, manual adjustment or normal periodic maintenance is permitted only every 3 days. Automatic adjustments which the test analyzer performs by itself are permitted at any time. The submitted records shall show clearly when any manual adjustment or periodic maintenance was made and describe the operations performed.

(d) If the test analyzer should malfunction during any of the performance tests, the tests for that parameter shall be repeated. A detailed explanation of the malfunction, remedial action taken, and whether recalibration was necessary (along with all pertinent records and charts) shall be submitted. If more than one malfunction occurs, all performance test procedures for all parameters shall be repeated.

(e) Tests for all performance parameters shall be completed on the same test analyzer, except that use of multiple test analyzers to accelerate testing will be permitted when alternate ranges of a multi-range candidate method are being tested.

§ 53.22 Generation of test atmospheres.

(a) Table B–2 specifies preferred methods for generating test atmospheres and suggested methods of verifying the concentrations. Only one means of establishing the concentration of a test atmosphere is normally required. If the method of generation can produce reproducible concentrations, verification is optional. If the method of generation is not reproducible, then establishment of the concentration by some verification method is required. However, when a method of generation other than that given in Table B–2 is used, the test concentration shall be verified.

(b) The test atmosphere delivery system shall be designed and constructed so as not to significantly alter the test atmosphere composition or concentration during the period of the test. The delivery system shall be fabricated from borosilicate glass or FEP Teflon.

(c) The output of the test atmosphere generation system shall be sufficiently stable to obtain stable response during the required tests. If a permeation device is used for generation of a test atmosphere, the device, as well as the air passing over it, shall be controlled to ±0.1° C.

TABLE B–2. TEST ATMOSPHERES

Test gas	Generation	Verification
Ammonia	Permeation device. Similar to system described in references 1 and 2.	Indophenol method, reference 3.
Carbon dioxide.	Cylinder of zero air or nitrogen containing CO_2 as required to obtain the concentration specified in table B–3.	Use NBS-certified standards wherever possible. If NBS standards are not available, obtain 2 standards from independent sources which agree within 2 percent; or obtain one standard and submit it to an independent laboratory for analysis which must agree within 2 percent of the supplier's nominal analysis.
Carbon monoxide.	Cylinder of zero air or nitrogen containing CO as required to obtain the concentration specified in table B–3.	
Ethane	Cylinder of zero air or nitrogen containing ethane as required to obtain the concentration specified in table B–3.	
Ethylene	Cylinder of prepurified nitrogen containing ethylene as required to obtain the concentration specified in table B–3.	
Hydrogen chloride.	Cylinder[a] of prepurified nitrogen containing approximately 100 p/m of gaseous HCl. Dilute with zero air to concentration specified in table B–3.	Collect samples in bubbler containing distilled water and analyze by the mercuric thiocyanate method, ASTM (D512), p. 29, reference 4.
Hydrogen sulfide.	Permeation device system described in references 1 and 2.	Tentative method of analysis for H_2S content of the atmosphere, p. 426, reference 5.
Methane	Cylinder of zero air containing methane as required to obtain the concentration specified in table B–3.	Use NBS-certified standards whenever possible. If NBS standards are not available, obtain 2 standards, from independent sources which agree within 2 percent; or obtain one standard and submit it to an independent laboratory for an analysis which must agree within 2 percent of the supplier's nominal analysis.
Nitric oxide	Cylinder[1] of prepurified nitrogen containing approximately 100 p/m. NO. Dilute with zero air to required concentration.	Gas-phase titration as described in reference 6, section 7.1.
Nitrogen dioxide.	1. Gas phase titration as described in reference 6.	1. Use an NO_2 analyzer calibrated with a gravimetrically calibrated permeation device.
	2. Permeation device, similar to system described in references 1 and 2.	2. Use an NO_2 analyzer calibrated by gas-phase tritration as described in reference 6.
Ozone	Calibrated ozone generator as described in reference 7, appendix D.	Use an ozone analyzer calibrated by gas-phase titration as described in reference 6.
Sulfur dioxide	Permeation device. Similar to system described in reference method for SO_2, reference 7, appendix A.	P-rosaniline method. Reference 7, appendix A.
Water	Pass zero air through distilled water at a fixed known temperature between 20° and 30° C such that the air stream becomes saturated. Dilute with zero air to concentration specified in table B–3.	Measure relative humidity by means of a dew-point indicator, calibrated electrolytic or piezo-electric hygrometer, or wet/dry bulb thermometer.
Xylene	Cylinder of prepurified nitrogen containing 100 p/m xylene. Dilute with zero air to concentration specified in table B–3.	Use NBS-certified standards whenever possible. If NBS standards are not available, obtain 2 standards from independent sources which agree within 2 percent; or obtain one standard and submit it to an independent laboratory for an analysis which must agree within 2 percent of the supplier's nominal analysis.
Zero air	1. Ambient air purified by appropriate scrubbers or other devices such that it is free of contaminants likely to cause a detectable response on the analyzer.	
	2. Cylinder of compressed zero air certified by the supplier or an independent laboratory to be free of contaminants likely to cause a detectable response on the analyzer.	

[1] Use stainless steel pressure regulator dedicated to the pollutant measured.

Reference 1. O'Keeffe, A. E., and Ortman, G. C., "Primary Standards for Trace Gas Analysis," *Anal. Chem.* 38, 760 (1966).

Reference 2. Scaringelli, F. P., A. E., Rosenbert, E., and Bell, J. P., "Primary Standards for Trace Gas Analysis," *Anal. Chem.* 42, 871 (1970).

Reference 3. "Tentative Method of Analysis for Ammonia in the Atmosphere (Indophenol Method)", *Health Lab Sciences*, vol. 10, No. 2, 115–118, April 1973.

Reference 4. *1973 Annual Book of ASTM Standards*, American Society for Testing and Materials, 1916 Race St., Philadelphia, Pa.

Reference 5. *Methods of Air Sampling and Analysis*, Intersociety Committee, 1972, American Public Health Association, 1015.

Reference 6. *Federal Register*, vol. 38, No. 110, Tentative Method for the Continuous Measurement of Nitrogen Dioxide (Chemiluminescent) addenda C. (June 8, 1973).

Reference 7. *Federal Register*, vol. 36, No. 228, National Primary and Secondary Ambient Air Quality Standards, Nov. 25, 1971.

(d) All diluent air shall be zero air free of contaminants likely to cause a detectable response on the test analyzer.

(e) The concentration of each test atmosphere shall be established and/or verified before or during each series of tests. Samples for verifying test concentrations shall be collected from the test atmosphere delivery system as close as possible to the sample intake port of the test analyzer.

(f) The accuracy of all flow measure-

ments used to calculate test atmosphere concentrations shall be documented and referenced to a primary standard (such as a spirometer bubble meter, etc.). Any corrections shall be clearly shown. All flow measurements given in volume units shall be standardized to 25° C. and 760 mm Hg.

(g) Schematic drawings and other information showing complete procedural details of the test atmosphere generation, verification, and delivery system shall be provided. All pertinent calculations shall be clearly indicated.

§ 53.23 Test procedures.

(a) *Range*—(1) *Technical Definition.* Nominal minimum and maximum concentrations which a method is capable of measuring.

NOTE.—The nominal range is specified at the lower and upper range limits in concentration limits; for example, 0–0.5 ppm.

(2) *Test Procedure.* Submit a suitable calibration curve, as specified in § 53.21 (b), showing the test analyzer's response over at least 95 percent of the required range.

NOTE.—A single calibration curve will normally suffice.

(b) *Noise*—(1) *Technical Definition.* Spontaneous, short duration deviations in output, about the mean output, which are not caused by input concentration changes. Noise is determined as the standard deviation about the mean and is expressed in concentration units.

(2) *Test Procedure.* (i) Allow sufficient time for the test analyzer to warm up and stabilize. Determine at two concentrations, first using zero air and then a pollutant test gas concentration as indicated below. The noise specification in Table B–1 shall apply to both of these tests.

(ii) Connect an integrating-type digital meter (DM) suitable for the test analyzer's output and accurate to three significant digits, to measure the analyzer's output signal.

NOTE.—Use of a chart recorder in addition to the DM is optional.

(iii) Measure zero air for 60 minutes. During this 60-minute interval, record twenty-five (25) readings at 2-minute intervals. (See Figure B–2 in Appendix A.)

(iv) Convert each DM reading to concentration units (ppm) by reference to the test analyzer's calibration curve as determined in § 53.21(b). Label the converted DM readings $r_1, r_2, r_3 \ldots r_i \ldots r_{25}$.

(v) Calculate the standard deviation, S, as follows:

$$S=\sqrt{\frac{\sum_{i=1}^{25}(r_1)^2-1/25\left(\sum_{i=1}^{25}r_i\right)^2}{24}}\ (\text{ppm})$$

where i indicates the i-th DM reading in ppm.

(vi) Let S at 0 ppm be identified as S_0; compare S_0 to the noise specification given in Table B–1.

(vii) Repeat steps (iii) through (vi) using a pollutant test atmosphere concentration of 80±5 percent of the upper range limit (URL) instead of zero gas, and let S at 80 percent of the URL be identified as S_{80}. Compare S_{80} to the noise specification given in Table B–1.

(viii) Both S_0 and S_{80} must be less than or equal to the specification for noise to pass the test for the noise parameter.

(c) *Lower Detectable Limit*—(1) *Technical Definition.* The minimum pollutant concentration which produces a signal of twice the noise level.

(2) *Test Procedure.* (i) Allow sufficient time for the test analyzer to warm up and stabilize. Measure zero air and record the stable reading in ppm as B_Z. (See Figure B–3 in Appendix A.)

(ii) Generate and measure a pollutant test atmosphere concentration equal to the value for the lower detectable limit specified in Table B–1.

NOTE.—If necessary, the test atmosphere concentration may be generated or verified at a higher concentration, then accurately diluted with zero air to the final required concentration.

(iii) Record the test analyzer's stable indicated reading, in ppm, as B_L.

(iv) Determine the Lower Detectable Limit (LDL) as $LDL=B_L-B_Z$. Compare this LDL value with the noise level, S_0, determined in § 53.23(b), for 0 concentration test atmosphere. LDL must be equal to or higher than $2xS_0$ to pass this test.

(d) *Interference Equivalent* — (1) *Technical Definition.* Positive or negative response caused by a substance other than the one being measured.

(2) *Test Procedure.* The test analyzer shall be tested for all substances likely to cause a detectable response. The test analyzer shall be challenged, in turn, with each interfering agent specified in Table B–3. In the event that there are substances likely to cause a significant interference which have not been specified in Table B–3, these substances shall be tested at a concentration substantially higher than that normally found in the ambient air. The interference may be either positive or negative, depending on whether the test analyzer's response is increased or decreased by the presence of the interferent. Interference equivalents shall be detemined by mixing each interferent, one at a time, with the pollutant at the concentrations specified in Table B–3, and comparing the test analyzer's response to the response caused by the pollutant alone. Known gas-phase reactions that might occur between an interferent and the pollutant are designated by footnote (c) in Table B–3. In these cases, the interference equivalent shall be determined in the absence of the pollutant.

TABLE B-3. INTERFERENT TEST CONCENTRATION,[1] PARTS PER MILLION

Pollutant	Analyzer type[2]	Hydrochloric acid	Ammonia	Hydrogen sulfide	Sulfur dioxide	Nitrogen dioxide	Nitric oxide	Carbon dioxide	Ethylene	Ozone	M-Xylene	Water vapor	Carbon monoxide	Methane	Ethane
SO_2	Flame photometric (FPD)			0.1	[4]0.14			750				[3]20,000	50		
SO_2	Gas chromatography (FPD).			0.1	[4]0.14			750				[3]20,000	50		
SO_2	Spectrophotometric-wet chemical (pararosaniline reaction).	0.2	[3]0.1	0.1	[4]0.14	0.5		750		0.5					
SO_2	Electrochemical	0.2	[3]0.1	0.1	[4]0.14	0.5	0.5		0.2	0.5		[3]20,000			
SO_2	Conductivity	0.2	[3]0.1		[4]0.14	0.5		750							
SO_2	Spectrophotometric-gas phase.				[4]0.14	0.5	0.5			0.5	0.2				
O_3	Chemiluminescent			[3]0.1				750		[4]0.08		[3]20,000			
O_3	Electrochemical		[3]0.1		0.5	0.5				[4]0.08		[3]20,000			
O_3	Spectrophotometric-wet chemical (potassium iodide reaction).		[3]0.1		0.5	0.5	[3]0.5			[4]0.08					
O_3	Spectrophotometric-gas phase.				0.5	0.5	[3]0.5			[4]0.08					
CO	Infrared							750				20,000	[4]10		
CO	Gas chromatography with flame photometric detector.											20,000	[4]10		0.5
CO	Electrochemical						0.5		0.2			20,000	[4]10		
CO	Catalytic combustion-thermal detection.		0.1					750	0.2			20,000	[3]10	5.0	0.5
CO	IR fluorescence							750				20,000	[3]10		0.5
CO	Mercury replacement-UV photometric.								0.2				[3]10		0.5

[1] Concentrations of interferent listed must be prepared and controlled to ±10 percent of the stated value.
[2] Analyzer types not listed will be considered by the Administrator as special cases.
[3] Do not mix with pollutant.
[4] Concentration of pollutant used for test. These pollutant concentrations must be prepared to ±10 percent of the stated value.

(i) Allow sufficient time for warm-up and stabilization of the test analyzer.

(ii) For a candidate method using a prefilter or scrubber based upon a chemical reaction to derive part of its specificity, and which requires periodic service or maintenance, the test analyzer shall be "conditioned" prior to each interference test as follows:

(A) Service or perform the indicated maintenance on the scrubber or prefilter as directed in the manual referred to in § 53.4(b)(3).

(B) Before testing for each interferent, allow the test analyzer to sample through the scrubber a test atmosphere containing the interferent at a concentration equal to the value specified in Table B–3. Sampling shall be at the normal flow rate and shall be continued for 6 continuous hours prior to testing.

(iii) Generate three test atmosphere streams as follows:

(A) Test atmosphere *P*: Pollutant concentration.

(B) Test atmosphere *I*: Interference concentration.

(C) Test atmosphere *Z*: Zero air.

(iv) Adjust the individual flow rates and the pollutant or interferent generators for the three test atmospheres as follows:

(A) The flow rates of test atmospheres *I* and *Z* shall be identical.

(B) The concentration of pollutant in test atmosphere *P* shall be adjusted such that when *P* is mixed (diluted) with either test atmosphere *I* or *Z*, the resulting concentration of pollutant shall be as specified in Table B–3.

(C) The concentration of interferent in test atmosphere *I* shall be adjusted such that when *I* is mixed (diluted) with test atmosphere *P*, the resulting concentration of interferent shall be equal to the value specified in Table B–3.

(D) To minimize concentration errors due to flow rate differences between *I* and *Z*, it is recommended that, when possible, the flow rate of *P* be from 10 to 20 times larger than the flow rates of *I* and *Z*.

(v) Mix test atmospheres *P* and *Z* by passing the total flow of both atmospheres through a mixing flask.

(vi) Sample and measure the mixture of test atmospheres *P* and *Z* with the test analyzer. Allow for a stable reading, and record the reading, in concentration units, as *R* (see Figure B–3).

(vii) Mix test atmospheres *P* and *I* by passing the total flow of both atmospheres through a mixing flask.

(viii) Sample and measure this mixture. Record the stable reading, in concentration units, as R_I.

(ix) Calculate the interference equivalent (*IE*) as:

$$IE = R_I - R$$

IE must be equal to or less than the specification given in Table B–1 for each interferent to pass the test.

(x) Follow steps (iii) through (ix), in turn, to determine the interference equivalent for each interferent.

(xi) For those interferents which cannot be mixed with the pollutant, as indicated by footnote (c) in Table B–3, adjust the concentration of test atmosphere *I* to the specified value without being mixed or diluted by the pollutant test atmosphere. Determine *IE* as follows:

(A) Sample and measure test atmosphere *Z* (zero air). Allow for a stable reading and record the reading, in concentration units, as *R*.

(B) Sample and measure the interferent test atmosphere *I*. If the test analyzer is not capable of negative readings, adjust the analyzer (not the recorder) to give an offset zero. Record the stable reading in concentration units as R_I, extrapolating the calibration curve, if necessary, to represent negative readings.

(C) Calculate $IE = R_I - R$. *IE* must be equal to or less than the specification in Table B–1 to pass the test.

(xii) Sum the absolute value of all the individual interferences equivalents. This sum must be equal to or less than the total interferent specification given in Table B–1 to pass the test.

(e) *Zero Drift, Span Drift, Lag Time, Rise Time, Fall Time, and Precision*—(1) *Technical Definitions*—(i) *Zero Drift:* The change in response to zero pollutant concentration, over 12- and 24-hour periods of continuous unadjusted operation.

(ii) *Span Drift:* The percent change in response to an up-scale pollutant concentration over a 24-hour period of continuous unadjusted operation.

(iii) *Lag Time:* The time interval between a step change in input concentration and the first observable corresponding change in response.

(iv) *Rise Time:* The time interval between initial response and 95 percent of final response after a step increase in input concentration.

(v) *Fall Time:* The time interval between initial response and 95 percent of final response after a step decrease in input concentration.

(vi) *Precision:* Variation about the mean of repeated measurements of the same pollutant concentration, expressed as one standard deviation about the mean.

(2) Tests for these performance parameters shall be accomplished over a period of seven (7) or more days. During this time, the line voltage supplied to the test analyzer and the ambient temperature surrounding the analyzer shall be varied from day to day. One test result for each performance parameter shall be obtained each test day, for seven (7) or fifteen (15) test days as necessary. The tests are performed sequentially in a single procedure.

(3) The 24-hour test day may begin at any clock hour. The first 12 hours out of each test day are required for testing 12-hour zero drift. Tests for the other parameters shall be conducted during the remaining 12 hours.

(4) Table B–4 specifies the line voltage and room temperature to be used for each test day. The line voltage and temperature shall be changed to the specified values at the start of each test day (i.e., at the start of the 12-hour zero test). Initial adjustments (day zero) shall be made at a line voltage of 115 volts (rms) and a room temperature of 25° C.

(5) The tests shall be conducted in blocks consisting of 3 test days each until 7 or 15 test results have been obtained. (The final block may contain fewer than three test days.) If a test is interrupted by an occurrence other than a malfunction of the test analyzer, only the block during which the interruption occurred shall be repeated.

(6) During each block, manual adjustments to the electronics, gas, or reagent flows or periodic maintenance shall not be permitted. Automatic adjustments which the test analyzer performs by itself are permitted at any time.

(7) At least 4 hours prior to the start of the first test day of each block, the test analyzer may be adjusted and/or serviced according to the periodic maintenance procedures specified in the manual referred to in § 53.4(b)(3). If a new block is to immediately follow a previous block, such adjustments or servicing may be done immediately after completion of the day's tests for the last day of the previous block and at the voltage and temperature specified for that day, but only on test days 3, 6, 9, and 12.

(8) All response readings to be recorded shall first be converted to concentration units according to the calibration curve. Whenever a test atmosphere is to be measured but a stable reading is not required, the test atmosphere shall be measured long enough to cause a change in response of at least 10% of full scale. Indentify all readings and other pertinent data on the strip chart. (See Figure B–1 illustrating the pattern of the required readings.)

(9) *Test Procedure.* (i) Arrange to generate pollutant test atmospheres as follows:

Test atmosphere:	*Pollutant concentration (percent)*
A_0	zero gas.
A_{20}	20±5 of the upper range limit.
A_{30}	30±5 of the upper range limit.
A_{80}	80±5 of the upper range limit.
A_{90}	90±5 of the upper range limit.

Test atmospheres A_0, A_{20}, and A_{80} shall be consistent during the tests and from day to day.

NOTE.—If necessary, the beginning of the test days succeeding such maintenance or adjustment may be delayed as necessary to complete the service or adjustment operation.

TABLE B–4.—*Line voltage and room temperature test conditions*

Test day	Line voltage,[1] rms	Room temperature,[2] °C	Comments
0	115	25	Initial set-up and adjustments.
1	125	20	
2	105	20	
3	125	30	Adjustments and/or periodic maintenance permitted at end of tests.
4	105	30	
5	125	20	
6	105	20	Adjustments and/or periodic maintenance permitted at end of tests.
7	125	30	Examine test results to ascertain if further testing is required.
8	105	30	
9	125	20	Adjustments and/or periodic maintenance permitted at end of tests.
10	105	20	
11	125	30	
12	105	30	Adjustments and/or periodic maintenance permitted at end of tests.
13	125	20	
14	105	20	
15	125	30	

[1] Voltage specified shall be controlled to ±1 volt.
[2] Temperature specified shall be controlled to ±1°C.

(ii) For steps (xxv) through (xxxi), a chart speed of at least 10 centimeters per hour shall be used. The actual chart speed, chart speed changes, and time checks shall be clearly marked on the chart.

(iii) Allow sufficient time for test analyzer to warm up and stabilize at a line voltage of 115 volts and a room temperature of 25° C. Recalibrate, if necessary, and adjust the zero baseline to 5 percent of chart. No further adjustments shall be made to the analyzer until the end of the tests on the third day.

(iv) Measure test atmosphere A_0 until a stable reading is obtained, and record this reading (in ppm) as Z'_n, where $n=0$ (see Figure B–4 in Appendix A).

(v) Measure test atmosphere A_{20}. Allow for a stable reading and record it as M'_n, where $n=0$.

(vi) Measure a test atmosphere A_{80}. Allow for a stable reading and record it as S'_n, where $n=0$.

(vii) The above readings for Z'_0, M'_0, and S'_0 should be taken at least four (4) hours prior to the beginning of test day 1.

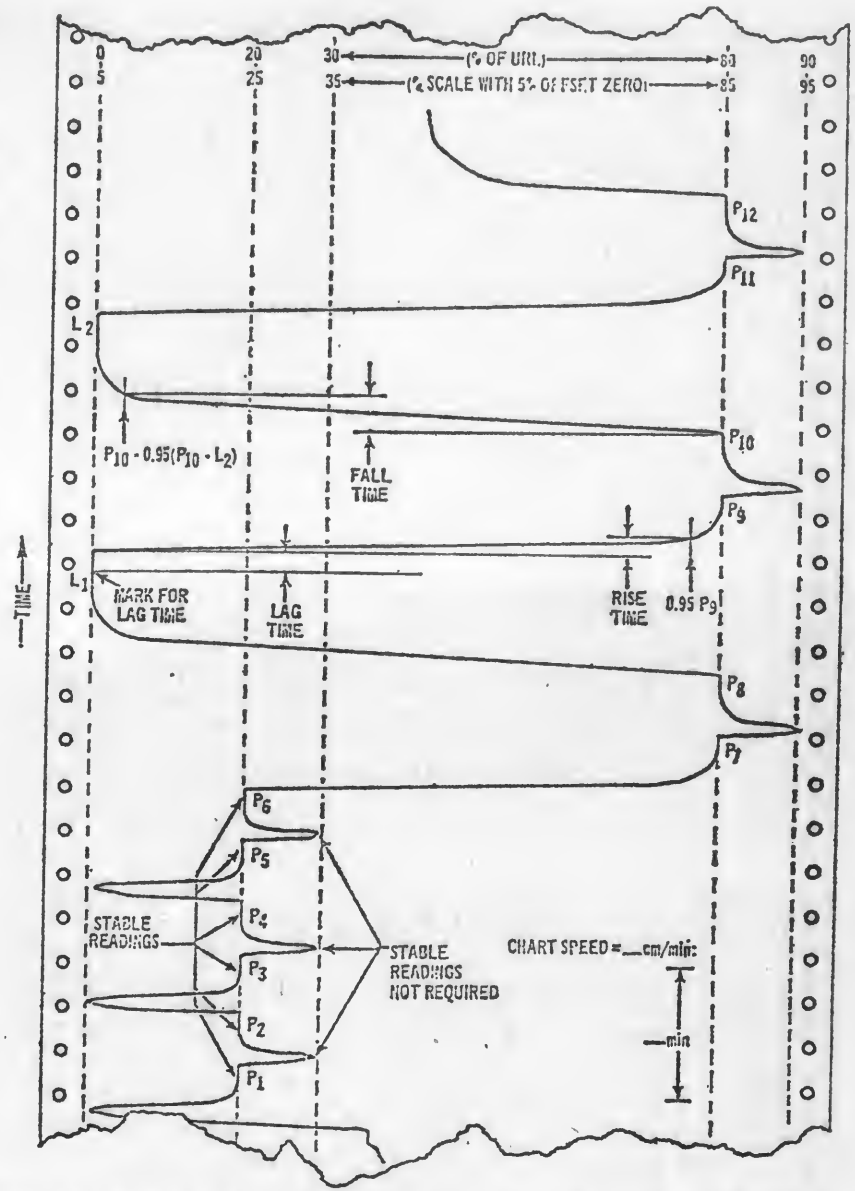

FIGURE B–1.—Example showing the nature of the tracing obtained during the test for drift, lag time, rise time, fall time, and precision. The time scale has been greatly compressed.

(viii) At the beginning of each test day, adjust the line voltage and room temperature to the values given in Table B–4.

(ix) Measure test atmosphere A_0 continuously for at least twelve (12) continuous hours during each test day.

(x) After the 12-hour zero drift test (step ix), sample test atmosphere A_0 until the analyzer reading is below 15 percent of full scale. A stable reading is not required.

(xi) Measure test atmosphere A_{20} and record the stable reading (in ppm) as P_1. (See Figure B–4 in Appendix A.)

(xii) Sample test atmosphere A_{30}; a stable reading is not required.

(xiii) Measure test atmosphere A_{20} and record the stable reading as P_2.

(xiv) Sample test atmosphere A_0; a stable reading is not required.

(xv) Measure test atmosphere A_{20} and record the stable reading as P_3.

(xvi) Sample test atmosphere A_{30}; a stable reading is not required.

(xvii) Measure test atmosphere A_{20} and record the stable reading as P_4.

(xviii) Sample test atmosphere A_0; a stable reading is not required.

(xix) Measure test atmosphere A_{20} and record the stable reading as P_5.

(xx) Sample test atmosphere A_{30}; a stable reading is not required.

(xxi) Measure test atmosphere A_{20} and record the stable reading as P_6.

(xxii) Measure test atmosphere A_{80} and record the stable reading as P_7.

(xxiii) Sample test atmosphere A_{90}; a stable reading is not required.

(xxiv) Measure test atmosphere A_{80} and record the stable reading as P_8. Increase chart speed to at least 10 centimeters per hour.

(xxv) Measure test atmosphere A_0. Record the stable reading as L_1.

(xxvi) Quickly switch the test analyzer to measure test atmosphere A_{80} and mark the recorder chart to show the exact time when the switch occurred.

(xxvii) Measure test atmosphere A_{80} and record the stable reading as P_9.

(xxviii) Sample test atmosphere A_{90}; a stable reading is not required.

(xxix) Measure test atmosphere A_{80} and record the stable reading as P_{10}.

(xxx) Measure test atmosphere A_0 and record the stable reading as L_2.

(xxxi) Measure test atmosphere A_{80} and record the stable reading as P_{11}.

(xxxii) Sample test atmosphere A_{90}; a stable reading is not required.

(xxxiii) Measure test atmosphere A_{80} and record the stable reading as P_{12}.

(xxxiv) Repeat steps (viii) through (xxxiii) each test day.

(xxxv) If zero and span adjustments are made after the readings are taken on test days 3, 6, 9, or 12, complete all adjustments; then measure test atmospheres A_0, A_{80}, and A_{20}. Allow for a stable reading on each, and record the readings as Z'_n, S'_n, and M'_n, respectively, where n=the test day number.

(10) Determine the results of each day's tests as follows. Mark the recorder chart to show readings and determinations.

(i) *Zero Drift.* (A) 12-hour. Examine the strip chart pertaining to the 12-hour continuous zero gas test. Determine the minimum (°min.) and maximum (°max.) readings (in ppm) during this period of 12 consecutive hours, extrapolating the calibration curve to negative concentration units if necessary. Determine the 12-hour zero drift (12*ZD*) as 12*ZD*=°max. —°min. (See Fgure B–5 in Appendix A.)

(B) Calculate the 24-hour zero drift (24*ZD*) for the n-th test day as $24\,ZD_n = Z_n - Z_{n-1}$, or $24ZD_n = Z_n - Z'_{n-1}$ if zero adjustment was made on the previous day, where $Z_n = 1/2(L_1 + L_2)$ for L_1 and L_2 taken on the n-th test day.

(C) Compare 12*ZD* and 24*ZD* to the zero drift specification in Table B–1. Both 12*ZD* and 24*ZD* must be equal to or less than the specified value to pass the test for zero drift.

(ii) *Span Drift*

(A) Span drift at 20 percent of URL (MSD):

$$MSD_n = \frac{M_n - M_{n-1}}{M_{n-1}} \times 100\%,$$

or

$$MSD_n = \frac{M_n - M'_{n-1}}{M'_{n-1}} \times 100\%$$

if span adjustment was made on the previous day, where

$$M_n = \frac{1}{6} \sum_{i=1}^{6} P_i$$

n indicates the n-th test day, and i indicates the i-th reading on the nth day.

(B) Span drift at 80 percent of URL (USD):

$$USD_n = \frac{S_n - S_{n-1}}{S_{n-1}} \times 100\%,$$

or

$$USD_n = \frac{S_n - S'_{n-1}}{S'_{n-1}} \times 100\%$$

if span adjustment was made on the previous day, where

$$S_n = \frac{1}{6} \sum_{i=7}^{12} P_i$$

n indicates the n-th test day, and i indicates the i-th reading on the n-th test day.

(C) Both USD and MSD must be equal to or less than the specification given in Table B–1 to pass the test for span drift.

(iii) *Lag Time.* Determine, from the strip chart, the elapsed time in minutes between the mark made in step (xxvi) and the first observable (two times the noise level) response. This time must be equal to or less than the time specified in Table B–1 to pass the test for lag time.

(iv) *Rise Time.* Calculate 95 percent of reading P_8 and determine from the recorder chart, the elapsed time between the first observable (two times noise level) response and a response equal to 95 percent of the P_8 reading. This time must be equal to or less than the rise time specified in Table B–1 to pass the test for rise time.

(v) *Fall Time.* Calculate 95 percent of (P_{10}–L_2) and determine, from the strip chart, the elapsed time in minutes between the first observable decrease in response following reading P_{10} and a response equal to 95 percent of (P_{10}–L_2). This time must be equal to or less than the fall time specification in Table B–1 to pass the test for fall time.

(vi) *Precision.* Calculate precision (P_{20} and P_{80}) for each day's test as follows:

(A)

$$P_{20} = \sqrt{\frac{1}{5}\left[\sum_{i=1}^{6} P_i^2 - \frac{1}{6}\left(\sum_{i=1}^{6} P_i\right)^2\right]}$$

(B)

$$P_{80} = \sqrt{\frac{1}{5}\left[\sum_{i=7}^{12} P_i^2 - \frac{1}{6}\left(\sum_{i=7}^{12} P_i\right)^2\right]}$$

(C) Both P_{20} and P_{80} must be equal to or less than the specification given in Table B–1 to pass the test for precision.

Appendix A—Optional Forms for Reporting Test Results

Table B–5. Symbols and Abbreviations

B_L	Analyzer reading at specified *LDL* concentration.
B_Z	Analyzer reading at 0 concentration for *LDL* test.
DM	Digital meter.
C_{max}	Maximum analyzer reading during 12*ZD* test.
C_{min}	Minimum analyzer reading during 12*ZD* test.
i	Subscript indicating the *i*-th quantity in a series.
IE	Interference equivalent.
L_1	First analyzer zero reading for 24*ZD* test.
L_2	Second analyzer zero reading for 24*ZD* test.
M_n	Average of $P_1 \ldots P_6$ for the n-th test day.
M'_n	Adjusted span reading at 20 percent of *URL* on the n-th test day.
MSD	Span drift at 20 percent of *URL*.
n	Subscript indicating the test day number.
P	Analyzer reading for precision test.
P_i	The i-th analyzer reading for precision test.
P_{20}	Precision at 20 percent of *URL*.
P_{80}	Precision at 80 percent of *URL*.
R	Analyzer reading of pollutant alone for *IE* test.
R_I	Analyzer reading with interferent added for *IE* test.
r_i	The i-th *DM* reading for noise test.
S	Standard deviation of noise readings.
S_0	Noise value (*S*) measured at 0 concentration.
S_{80}	Noise value (*S*) measured at 80 percent of *URL*.
S_n	Average of $P_7 \ldots P_{12}$ for the n-th test day.
S'_n	Adjusted span reading at 80 percent of *URL* on the n-th test day.
URL	Upper range limit.
USD	Span drift at 80 percent of *URL*.
Z	Average of L_1 and L_2.
Z_n	Average of L_1 and L_2 on the n-th test day.
Z'_n	Adjusted zero reading on the n-th test day.
ZD	Zero drift.
12*ZD*	12-hour zero drift.
24*ZD*	24-hour zero drift.

Applicant _____ Date _____

Test No. _____

Analyzer _____ Range _____

READING NUMBER (i)	TIME	0% of URL		85% of URL	
		DR READING	r_i, ppm	DR READING	r_i, ppm
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
$\sum_{i=1}^{25} r_i$					
$\sum_{i=1}^{25} r_i^2$					
S			S_0 =		S_{85} =

Figure B-2. Form for noise data.

Applicant _____

Analyzer _____ Range _____

TEST PARAMETER		READING OR CALCULATION	TEST NUMBER														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LOWER DETECTABLE LIMIT		B_Z															
		B_L															
		$LDL = B_L - B_Z$															
INTERFERENCE EQUIVALENT	1	R_1															
		R_{11}															
		$IE_1 = R_{11} - R_1$															
	2	R_2															
		R_{12}															
		$IE_2 = R_{12} - R_2$															
	3	R_3															
		R_{13}															
		$IE_3 = R_{13} - R_3$															
	4	R_4															
		R_{14}															
		$IE_4 = R_{14} - R_4$															
	5	R_5															
		R_{15}															
		$IE_5 = R_{15} - R_5$															
	TOTAL	$IE_T = \sum_{i=1}^{m} \lvert IE_i \rvert$															

Figure B-3. Form for data and calculations for lower detectable limit and interference equivalent.

Applicant _____

Analyzer _____ Range _____

TEST DAY (N)	ANALYZER READING, ppm															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DATE																
P_1																
P_2																
P_3																
P_4																
P_5																
P_6																
$\sum_{i=1}^{6} P_i^2$																
P_7																
P_8																
P_9																
P_{10}																
P_{11}																
P_{12}																
$\sum_{i=7}^{12} P_i^2$																
L_1																
L_2																
Z_a																
S_a																
C_{max}																
C_{min}																

Figure B-4. Form for recording data for drift and precision.

Applicant _____

Analyzer _____ Range _____

TEST PARAMETER		CALCULATION	n - th TEST DAY														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Zero drift	12 hour	$12ZD = C_{max} - C_{min}$															
	24 hour	$Z = \frac{1}{2}(L_1 + L_2)$															
		$24ZD_n = Z_n - Z_{n-1}$															
		$24ZD_n = Z_n - Z'_{n-1}$															
Span drift	20% URL	$M_n = \frac{1}{6}\sum_{i=1}^{6} P_i$															
		$MSD_n = \frac{M_n - M_{n-1}}{M_{n-1}} \times 100\%$															
		$MSD_n = \frac{M_n - M'_{n-1}}{M'_{n-1}} \times 100\%$															
	80% URL	$S_n = \frac{1}{6}\sum_{i=7}^{12} P_i$															
		$USD_n = \frac{S_n - S_{n-1}}{S_{n-1}} \times 100\%$															
		$USD_n = \frac{S_n - S'_{n-1}}{S'_{n-1}} \times 100\%$															
Precision	20% URL	$P_{20} = \sqrt{\frac{1}{5}\left[\sum_{i=1}^{6} P_i^2 - \frac{1}{6}\left(\sum_{i=1}^{6} P_i\right)^2\right]}$															
	80% URL	$P_{80} = \sqrt{\frac{1}{5}\left[\sum_{i=7}^{12} P_i^2 - \frac{1}{6}\left(\sum_{i=7}^{12} P_i\right)^2\right]}$															

Figure B-5. Form for calculating zero drift, span drift and precision.

Applicant _____ Analysts _____

Analyzer _____

Range _____

PERFORMANCE PARAMETER		Table B-1 spec.	TEST							TEST								No. of test failures	Pass or fail
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
NOISE, ppm	0% URL (S_0)																		
	80% URL (S_{80})																		
LDL (must be 2 x noise)																			
INTERFERENCE EQUIVALENT, ppm	IE_1																		
	IE_2																		
	IE_3																		
	IE_4																		
	IE_5																		
	TOTAL (IE_T)																		
ZERO DRIFT, ppm	12 hour ($12ZD_T$)																		
	24 hour ($24ZD$)																		
SPAN DRIFT, %	20% URL (MSD)																		
	80% URL (USD)																		
LAG TIME, min																			
RISE TIME, min																			
FALL TIME, min																			
PRECISION, ppm	20% URL (P_{20})																		
	80% URL (P_{80})																		

[6] Compare each test LDL reading with the corresponding noise measurements; LDL reading must exceed the 0% URL noise value by a factor of 2 to pass the test for LDL.

Figure B-6. Form for summary of test results.

Subpart C—Procedures for Determining a Consistent Relationship Between Candidate Methods and Reference Methods

§ 53.30 General provisions.

(a) *Determination of Consistent Relationship.* The test procedures given in this subpart shall be used to determine if a candidate method has a consistent relationship to a reference method when both methods measure pollutant concentrations in a real atmosphere. A consistent relationship is shown when the differences between (1) measurements made by a candidate manual method or by a test analyzer representative of a candidate automated method, and (2) measurements made simultaneously by a reference method are less than or equal to the value specified in the last column of Table C–1.

(b) *Selection of Test Sites.* The test site shall be in a predominantly urban area away from large bodies of water, and shall be one having a history of at least moderate concentrations of various pollutants. The site shall be clearly identified and shall be justified with suitable supporting evidence such as maps, population density data, vehicular traffic data, emission inventories, pollutant measurements from previous years, concurrent pollutant measurements, and wind or weather data. The Administrator may in his discretion select a different site (or sites) for any additional tests he decides to conduct.

(c) *Test Atmosphere.* Ambient air sampled at the test site shall be used for these tests. Simultaneous concentration measurements shall be made in each of three ranges as specified in Table C–1. If necessary, the concentration of pollutant in the sampled ambient air may be augmented with artificially generated pollutant to facilitate measurements in these specified rages. However, at all times the gas measured by the candidate and reference methods under test shall consist of not less than 80 percent ambient air by volume.

(d) *Submission of Test Data and Other Information.* All recorder charts, calibration data, records, test data, procedural descriptions and details, and other documentation obtained from (or pertinent to) these tests shall be identified, dated, signed by the analyst performing the test, and submitted.

(e) *Sample Manifold.* All test concentration measurements shall be made on air sampled from a common intake and distribution manifold, and in such a way that both the candidate method and the reference method receive homogeneous air samples. Precautions shall be taken in the design and construction of this manifold to minimize the removal of particulates and trace gases, and to insure that identical samples reach the two methods. Schematic drawings, physical illustrations, descriptions, and complete details of this manifold system shall be submitted.

§ 53.31 Test conditions.

(a) *All Methods.* All test measurements made or test samples collected shall be at a room temperature between 20° and 30° C., and at a line voltage between 105 and 125 volts. All methods shall be calibrated as specified in paragraph (c) of this section prior to initiation of the tests.

(b) *Automated Methods.* Set-up and start-up of the test analyzer (and the reference method if automated) shall be in strict accordance with the applicable operation manual(s). If the test analyzer does not have an integral strip chart recorder, connect the analyzer output to a suitable strip chart recorder of the servo, null-balance type. This recorder shall have a chart width of at least 25 centimeters, a response time of 1 second or less, and a deadband of not more than 0.25 percent of full scale, and capability of either reading measurements at least 5 percent below zero or offsetting the zero by at least 5 percent.

NOTE.—Other data acquisition components may be used along with the chart recorder during the conduct of these tests. Use of the chart recorder is intended only to facilitate evaluation of data submitted.

Allow adequate warmup or stabilization time as indicated in the applicable operation manual(s) before beginning the tests.

(c) *Calibration.* The reference method shall be calibrated according to the applicable operation manual. A candidate manual method (or portion thereof) shall be calibrated if such calibration is a part of the method. For a candidate automated method, the test analyzer shall be calibrated according to the manual referred to in § 53.4(b)(3) and as follows: If the chart recorder does not have below zero capability, adjust either the test analyzer's controls or the chart recorder to obtain a +5 percent offset zero reading on the recorder chart to facilitate observing negative drift. Construct and submit a calibration curve showing a plot of recorder scale readings (ordinate) against pollutant concentrations (abscissa). A plot of test analyzer output units (volts, millivolts, milliamps, etc.) against pollutant concentrations shall also be shown for candidate methods not including integral chart recorders. All such plots shall consist of at least seven (7) approximately equally spaced, identifiable points, including 0 and 90±5 percent of full scale.

(d) *Range.* (1) Except as provided in paragraph (d)(2) of this section, each method shall be operated in the range specified in Table B–1 of Subpart B of this part.

(2) For a candidate method having more than one selectable range, one range must be that specified in Table B–1 and a test analyzer representative of the method must pass the tests required by this subpart while operated in that range. The tests may be repeated for a broader range (i.e., one extending to higher concentrations) than the one specified in Table B–1, provided that the range does not extend to concentrations more than two times the upper range limit specified in Table B–1 and that the test analyzer has passed the tests required by Subpart B of this part (if applicable) for the broader range. If the tests required by this subpart are conducted or passed only for the range specified in Table B–1, any equivalent method determination with respect to the method will be limited to that range. If the tests are passed for both the specified range and a broader range (or ranges), any such determination will include the broader range(s) as well as the specified range. Appropriate test data shall be submitted for each range sought to be included in such a determination.

(e) *Operation of Automated Methods.* (1) Once the test analyzer has been set up and calibrated and tests started, manual adjustment or normal periodic maintenance is permitted only every 3 days. Automatic adjustments which the test analyzer performs by itself are permitted at any time. At 3-day intervals, only adjustments and periodic maintenance as specified in the manual referred to in § 53.4(b)(3) are permitted. The submitted records shall show clearly when manual adjustments were made and describe the operations performed.

(2) All test measurements shall be made with the same test analyzer; use of multiple test analyzers is not permitted. The test analyzer shall be operated continuously during the entire series of test measurements.

(3) If a test analyzer should malfunction during any of these tests, the entire set of measurements shall be repeated, and a detailed explanation of the malfunction, remedial action taken, and whether recalibration was necessary (along with all pertinent records and charts) shall be submitted.

§ 53.32 Test procedures.

(a) Conduct the first set of simultaneous measurements with the candidate and reference methods:

(1) Table C–1 specifies the type (1- or 24-hour) and number of measurements to be made in each of the three test concentration ranges.

(2) The pollutant concentration must fall within the specified range as measured by the reference method.

(3) The measurements shall be made in the sequence specified in Table C–2, except for the 1-hour SO_2 measurements, which are all in the high range.

(b) For each pair of measurements, determine the difference (discrepancy) between the candidate method measurement and reference method measurement. A discrepancy which exceeds the discrepancy specified in Table C–1 constitutes a failure. (See Figure C–1 in Appendix A for a suggested format for reporting the test results).

(c) The results of the first set of measurements shall be interpreted as follows:

(1) Zero (0) failures: The candidate method passes the test for consistent relationship.

(2) Three (3) or more failures: The candidate method fails the test for consistent relationship.

(3) One (1) or two (2) failures: Conduct a second set of simultaneous measurements as specified in Table C–1. The results of the combined total of first-set and second-set measurements shall be interpreted as follows:

(i) One (1) or two (2) failures: The candidate method passes the test for consistent relationship.

(ii) Three (3) or more failures: The candidate method fails the test for consistent relationship.

(4) For sulfur dioxide, the 1-hour and and 24-hour measurements shall be interpreted separately, and the candidate method must pass the tests for both 1- and 24-hour measurements to pass the test for consistent relationship.

(d) A 1-hour measurement consists of the integral of the instantaneous concentration over a 60-minute continuous period divided by the time period. Integration of the instantaneous concentration may be performed by any appropriate means such as chemical ,electronic, mechanical, visual judgment, or by calculating the mean of not less than 12 equally spaced instantaneous readings. Appropriate allowances or corrections shall be made in cases where significant errors could occur due to characteristic lag time or rise/fall-time differences between the candidate and reference methods. Details of the means of integration and any corrections shall be submitted.

(e) A 24-hour measurement consists of the integral of the instantaneous concentration over a 24-hour continuous period divided by the time period. This integration may be performed by any appropriate means such as chemical, electronic, mechanical, or by calculating the mean of twenty-four (24) sequential 1-hour measurements.

(f) For oxidant and carbon monoxide, no more than six (6) 1-hour measurements shall be made per day. For sulfur dioxide, no more than four (4) 1-hour measurements or one (1) 24-hour measurement shall be made per day. One-hour measurements may be made concurrently with 24-hour measurements if appropriate.

(g) For applicable methods, control or calibration checks may be performed once per day without adjusting the test analyzer or method. These checks may be used as a basis for a linear interpolation-type correction to be applied to the measurements to correct for drift. If such a correction is used, it shall be applied to all measurements made with the method, and the correction procedure shall become a part of the method.

TABLE C-1. TEST CONCENTRATION RANGES, NUMBER OF MEASUREMENTS REQUIRED, AND MAXIMUM DISCREPANCY SPECIFICATION

Pollutant	Concentration range	Simultaneous measurements required				Maximum discrepancy specification
		1 hr		24 hr		
		First set	Second set	First set	Second set	
Oxidants	Low 0.06–0.10	5	6			0.02
	Medium 0.15–0.25	5	6			.03
	High 0.35–0.45	4	6			.04
	Total	14	18			
Carbon monoxide.	Low 7–11	5	6			1.5
	Medium 20–30	5	6			2.0
	High 35–45	4	6			3.0
	Total	14	18			
Sulfur dioxide	Low 0.02–0.05			3	3	.02
	Medium 0.10–0.15			2	3	.03
	High 0.40–0.50	7	8	2	2	.04
	Total	7	8	7	8	

TABLE C-2. SEQUENCE OF TEST MEASUREMENTS

Measurement	Concentration range	
	First set	Second set
1	Low	Medium.
2	High	High.
3	Medium	Low.
4	High	High.
5	Low	Medium.
6	Medium	Low.
7	Low	Medium.
8	Medium	Low.
9	High	High.
10	Medium	Low.
11	High	Medium.
12	Low	High.
13	Medium	Medium
14	Low	High.
15		Low.
16		Medium.
17		Low.
18		High.

APPENDIX A—OPTIONAL FORM FOR REPORTING TEST RESULTS

Candidate Method _____

Reference Method _____

Applicant _____ Pollutant _____

☐ First Set ☐ Second Set ☐ Type ☐ 1 hour ☐ 24 hour

CONCENTRATION RANGE		DATE	TIME	CONCENTRATION, ppm		DIFFERENCE	TABLE C-1 SPEC.	PASS OR FAIL
				CANDIDATE	REFERENCE			
LOW _____ ppm to _____ ppm	1							
	2							
	3							
	4							
	5							
	6							
MEDIUM _____ ppm to _____ ppm	1							
	2							
	3							
	4							
	5							
	6							
HIGH _____ ppm to _____ ppm	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
						TOTAL FAILURES:		

Figure C-1. Form for Subpart C test results.

[FR Doc.75-3820 Filed 2-14-75;8:45 am]

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Parts 50, 51, 53]

[FRL 314–5]

AMBIENT AIR MONITORING REFERENCE AND EQUIVALENT METHODS

Notice of Proposed Rulemaking

Notice is hereby given that the Environmental Protection Agency is considering amendments to Parts 50, 51, and 53 of Title 40, Code of Federal Regulations, as set forth below.

Elsewhere in this issue of the FEDERAL REGISTER, EPA is amending Chapter I of Title 40, Code of Federal Regulations, by adding a new Part 53, entitled "Ambient Air Monitoring Reference and Equivalent Methods," and by revising related provisions of Parts 50 and 51. As discussed more fully in the preamble accompanying the new Part 53 regulations, the purpose of those regulations is to establish definitive requirements and procedures by which methods of sampling and analyzing the ambient air may be designated as "reference methods" or "equivalent methods" for the measurement of specified air pollutants. In general, the amendments proposed in this notice were inspired by public comments on Part 53 as originally proposed (38 FR 28438, Oct. 12, 1973) and are intended to add flexibility to Part 53 and related provisions by providing for situations not already addressed.

SUPERSESSION OF REFERENCE METHODS

EPA intends to encourage and take advantage of advances in the art of monitoring pollutants in ambient air. Accordingly, it is proposed to amend Part 53 by adding a new § 53.16, set forth below, establishing procedures and criteria applicable to requests that the Administrator specify a new manual reference method, or a new measurement principle and calibration procedure for automated reference methods, by revising the appropriate appendix to 40 CFR Part 50. A corresponding amendment to § 53.7 would make clear that the Administrator may take such action in the absence of a request under § 53.16. For purposes of 40 CFR 51.17(a), supersession of a reference method under the proposed § 53.16 would ordinarily require replacement of existing air monitoring methods within a reasonable period as discussed more fully below.

(1) *Criteria for supersession.* The Administrator would ordinarily take action under the proposed § 53.16 only if he determined that a candidate method (or some variation thereof) were substantially superior to the existing reference method(s). In exercising his discretion, the Administrator would consider not only the benefits that would result from such action but also the potential economic consequences for State and local air pollution control agencies and any disruption of State and local air quality monitoring programs that might result from the necessity of replacing existing air monitoring equipment within a reasonable period. As a result, it is expected that supersession of reference methods would occur relatively infrequently, and only when the advantages of such action appeared to outweigh potential disadvantages by a substantial margin.

(2) *Procedures.* Because action under the proposed § 53.16 would involve amendment of Part 50 and would affect both manufacturers and users of air monitoring methods, as well as the public interest in effective air pollution control programs, EPA believes such action should be governed by the requirements for informal rulemaking (sometimes referred to as "notice-and-comment" rulemaking) specified in section 4 of the Administrative Procedure Act, 5 U.S.C. 553. Accordingly, proposed § 53.16 provides that informal rulemaking procedures would be followed once the Administrator had reached a tentative conclusion that revision of an appendix to Part 50 would be appropriate under § 53.16. As discussed more fully below, § 53.16 would also establish procedures by which an applicant could seek to invoke the informal rulemaking process. In effect, these procedures would implement 5 U.S.C. 553(e), which requires in general terms that agencies afford interested persons the right to petition for the issuance, amendment, or repeal of a rule.

A person requesting action under the proposed § 53.16 would submit an application similar to that required by § 53.4 for a reference or equivalent method determination. Within 75 days, the Administrator would make a "preliminary finding" on the application or notify the applicant that further information or tests were needed before a preliminary finding could be made. If the preliminary finding were negative (in which case the Administrator would determine whether the applicant's candidate method were a reference or equivalent method), the applicant could appeal the finding by various means. If the preliminary finding were affirmative (or if a negative preliminary finding were reversed after an appeal), the Administrator would publish a notice of proposed rulemaking in the FEDERAL REGISTER, indicating that he proposed: (a) To revise the appropriate appendix to Part 50, and (b) to take appropriate action to cancel existing reference or equivalent method designations. The notice would indicate what period(s) of time the Administrator proposed to allow for replacement of existing methods (discussed below) and would solicit public comments on the proposal. If, after consideration of comments received, the Administrator determined that the appendix in question should be revised, he would take appropriate action by publication in the FEDERAL REGISTER.

(3) *Replacement of existing methods.* 40 CFR 51.17(a), as amended elsewhere in this issue of the FEDERAL REGISTER, requires that State implementation plans adopted pursuant to § 110 of the Clean Air Act (42 U.S.C. 1857c–5) provide for the establishment of air quality surveillance systems. Each such system must comply with certain requirements, one of which is that each method used by a State to monitor the ambient air for certain pollutants must ordinarily be either the appropriate reference method or an equivalent method (see 40 CFR 51.17a, promulgated elsewhere in this issue of the FEDERAL REGISTER). In the event that an appendix to 40 CFR Part 50 were revised (and existing reference or equivalent method designations cancelled) under the proposed § 53.16, 40 CFR 51.17a, would ordinarily require State and local control agencies to replace existing monitoring methods with new reference or equivalent methods based on the revised appendix. To minimize the costs and disruption that might result, it is proposed to amend § 51.17(a) to provide a reasonable period, to be determined by the Administrator, for the replacement of existing equipment in such cases. As indicated above, the period(s) the Administrator proposed to allow would be included in the notice of proposed rulemaking that would precede revision of the appendix in question, and the period(s) could be revised after consideration of comments received in response to the notice.

USE OF NON-CONFORMING ANALYZERS IN CERTAIN CASES

Some comments on Part 53 as originally proposed suggested that use of existing analyzers be permitted for the remainder of their useful lives under 40 CFR 51.17(a) where the anlyzers partially or substantially meet the requirements of Part 53. In response, EPA is proposing the following additional exceptions to the general rule requiring use of reference or equivalent methods for purposes of 40 CFR 51.17(a).

(1) *Interference exception.* Some comments suggested that use of existing analyzers not meeting the interference requirements of Part 53 be allowed in geographical areas where pertinent interferents are not present in ambient air. EPA believes that an exception to the general rule requiring use of reference or equivalent methods would be appropriate in such cases, provided that the circumstances justifying the exception were satisfactorily demonstrated. Accordingly, it is proposed to amend § 51.17a by adding a new paragraph (b), set forth below, that would permit use of existing analyzers for their useful lives where such circumstances were demonstrated to exist. The new paragraph (b) would require submittal of information showing that such analyzers met all applicable requirements of Part 53 (other than those pertaining to interference) and that the pertinent interferents did not occur in significant concentrations in the geographical areas in question. To minimize the burden of such submittals, paragraph (b) would provide that agencies applying for the exception could rely on data or other information known to EPA from its own testing, from manufacurers' applications for reference or equivalent method determinations, or from other requests for exceptions involving analyzers of the same type. Although approval of an exception under

paragraph (b) could be withdrawn if circumstances changed, the proposed amendment would provide an option for State and local agencies that are reluctant to replace existing analyzers.

(2) *Range exceptions.* Some comments suggested that use of existing analyzers having ranges other than those specified in Table B–1 of Subpart B of Part 53 should be permitted for purposes of 40 CFR 51.17(a). EPA believes two exceptions to the general rule requiring use of reference or equivalent methods may be appropriate for existing analyzers that have non-conforming ranges but otherwise meet the requirements of Part 53.

First, it is proposed to amend 40 CFR 51.17a by adding a new paragraph (c), set forth below, which would permit use of existing analyzers for their useful lives where they met all requirements of Part 53 other than the range specification, provided that the range of each such analyzer did not extend to concentrations more than two times the upper range limit specified in Table B–1 (or, if the analyzer had more than one selectable range, that it would not be used in any range extending to such concentrations). The purpose of the limitation just stated would be to exclude use of analyzers having such broad ranges that their resolution may be inadequate for purposes of 40 CFR 51.17(a).

Second, it is proposed to amend 40 CFR 51.17a by adding a new paragraph (d), set forth below, that would permit use in some cases of analyzers having ranges broader (i.e., extending to higher concentrations) than those permitted by the proposed paragraph (c). Unusually high concentrations of pollutants occur on occasion in some geographical areas, and paragraph (d) would permit use in those areas of analyzers capable of measuring the higher concentrations if the requirements of Part 53 were otherwise met and (a) one range of each analyzer were the range specified in Table B–1 (or one approved under the proposed paragraph (c)), and (b) the range used to measure higher concentrations had adequate resolution for its intended use. In view of the special purpose of the exception, it would apply not only to existing analyzers but also to analyzers bought in the future.

As with the interference exception discussed above, both range exceptions would require approval by EPA, but agencies applying for the exceptions could rely on data or other information known to EPA from its own testing and from other sources. Although the exceptions would not apply in all cases, they would provide additional options for some State and local agencies.

As indicated previously, the two provisions just discussed would be exceptions to the general rule requiring use of reference or equivalent methods under 40 CFR 51.17(a); they would not affect the criteria applicable to designation of reference or equivalent methods under Part 53 and should not be confused with special provisions in Part 53 (§§ 53.20(b) and 53.31(d)) that concern designation of additional ranges in multirange analyzers.

Modification of Methods By Users

Several comments received on Part 53 as originally proposed expressed concern about provisions (proposed §§ 53.12 and 53.13) concerning modification of reference or equivalent methods. In particular, there was confusion whether the provisions (now combined in § 53.14) were addressed to manufacturers of methods, to users of methods, or to both. As discussed in the preamble to Part 53, promulgated elsewhere in this issue of the Federal Register, language has been included in § 53.14 to make clear that it applies only to sellers of reference or equivalent methods. To assure the reliability and national comparability of air quality data obtained under 40 CFR 51.17(a), however, EPA believes some provision is necessary for approval of user modifications as well.

Accordingly, it is proposed to amend 40 CFR 51.17a by adding a new paragraph (e), set forth below, that would require prior approval of user modifications that would or might "significantly" alter the performance characteristics of a reference method, equivalent method, or "alternative method." (For purposes of the proposed paragraph (e), "alternative method" would be defined as an analyzer the use of which had been approved under one or more of the interference and range exceptions discussed above.) As with 40 CFR 53.14, promulgated elsewhere in this issue of the Federal Register, the proposed paragraph (e) would attempt to minimize any burdens and delays resulting from the requirement of prior approval by encouraging brevity in requests for approval and by asking the user to state the probable effect of the modification. In many cases, little information would probably be necessary to demonstrate that the modification would have no significant adverse effect on the performance characteristics of the method, and in such cases the time necessary for EPA review should be short. In addition, requests for approval would be necessary, as indicated above, only for modifications that would or might "significantly" alter the performance characteristics of the method; accordingly, requests for approval should be unnecessary for most minor modifications of methods. Finally, provision would be made to permit temporary modifications without prior approval in certain cases.

Conditions of Designation

In response to several comments received on Part 53 as originally proposed, it is proposed to amend 40 CFR 53.9 by adding several further conditions applicable to designations of reference or equivalent methods. As with the conditions already specified in § 53.9, failure to comply with any of the proposed additional conditions would constitute grounds for cancellation of such designations.

The proposed additional conditions may be summarized as follows:

(1) Any analyzer offered for sale as a reference or equivalent method would be required to bear a label or sticker indicating that it had been designated as a reference or equivalent method in accordance with Part 53.

(2) If such an analyzer had one or more selectable ranges, the label or sticker would be required to be placed in close proximity to the range selector and to indicate which range or ranges had been designated as reference or equivalent methods.

(3) An applicant who offered analyzers for sale as reference or equivalent methods would be required to maintain a list of ultimate purchasers of such analyzers and to notify them within 30 days if a reference or equivalent method designation applicable to the analyzers had been cancelled or if adjustment of the analyzers were necessary under 40 CFR 53.11 (b) to avoid a cancellation.

(4) An applicant who modified an analyzer previously designated as a reference or equivalent method would not be permitted to sell the analyzer (as modified) as a reference or equivalent method (although he might choose to sell it without such representations), nor to attach a label or sticker to the analyzer (as modified) under the provisions described above, until he had received notice under 40 CFR 53.14(c) that the original designation or a new designation would apply to the method as modified or until he had applied for and received notice of a new reference or equivalent method determination for the analyzer as modified.

The general purposes of these proposed conditions are to provide assurance to purchasers of analyzers offered for sale as reference or equivalent methods that they are representative of those actually tested and designated in accordance with Part 53, to make clear to users of multirange analyzers which ranges have been so tested and designated, to provide notice to purchasers of developments affecting the status of their analyzers for purposes of 40 CFR 51.17(a), and to provide some protection for prospective purchasers in the event that a manufacturer modifies a reference or equivalent method without obtaining prior approval of the modification.

Other Amendments

As indicated previously, an amendment to 40 CFR 53.7, set forth below, would make clear that the Administrator may take action under proposed 40 CFR 53.16 ("Supersession of reference methods") in the absence of a request for such action. The amendment would complement § 53.7(a), which provides in effect that the Administrator may test methods on his own initiative for the purpose of making reference or equivalent method determinations.

A further amendment to § 53.7, set forth below, would provide that any person who offered for sale as a reference or equivalent method a method specified or designated as such on the

basis of EPA testing under § 53.7 would assume the rights and obligations of an applicant (with appropriate exceptions) for purposes of Part 53. If a manufacturer chose not to apply for a reference or equivalent method determination with respect to an out-of-production model, for example, and that model were subsequently designated as a reference or equivalent method after EPA testing under § 53.7(a), the manufacturer would assume most of the obligations and rights of an applicant if he thereafter chose to resume production and marketing of the method as a reference or equivalent method. Thus, the purpose of the amendment is to provide appropriate protection for the interests of both users and manufacturers where there is commercial exploitation of methods tested and designated at the initiative of the Administrator.

As indicated previously, an amendment to 40 CFR 51.17a(a), set forth below, would provide a "reasonable period" for replacement of existing methods after cancellation of reference or equivalent method designations applicable to them in connection with supersession of reference methods under proposed 40 CFR 53.16. The amendment would also apply to cancellations under 40 CFR 53.11. Because longer or shorter periods for replacement of existing methods may be appropriate depending on the reasons for cancellation and other circumstances in each case, the proposed amendment would provide for case-by-case determinations of the "reasonable period" by the Administrator.

40 CFR 53.2, as promulgated elsewhere in this issue of the FEDERAL REGISTER, provides that manual methods will not be considered for reference method determinations under Part 53 and that automated methods will not be considered for such determinations in certain cases. Because both types of methods could be candidates to supersede existing reference methods under proposed 40 CFR 53.16, however, amendments to § 53.2 (set forth below) are proposed to state appropriate exceptions to the general rules set forth in § 53.2. Similarly, other miscellaneous amendments (set forth below) are proposed in Parts 50, 51, and 53 to cross-reference or otherwise reflect various amendments described in this preamble.

In addition to the proposed amendments set forth below, EPA is considering the possibility of amending Subparts B and C of Part 53 to provide additional flexibility with respect to designation of analyzers having ranges other than those specified in Table B–1 of Subpart B. One objective would be to establish appropriate requirements and procedures for the designation of analyzers having ranges broader (i.e., extending to higher concentrations) than two times the upper range limits specified in Table B–1 but offering high resolution in such ranges. Another objective would be to provide for equivalent method designations applicable to ranges narrower (i.e., extending to lower concentrations) than those specified in Table B–1, for multi-range analyzers having one range identical to the appropriate range in Table B–1. For reasons discussed in the preamble to Part 53, promulgated elsewhere in this issue of the FEDERAL REGISTER, Subparts B and C of Part 53 presently preclude the types of designations just described. Comments suggesting ways of providing for such designations are invited.

Interested persons may submit written comments on the proposed amendments in triplicate to the Director, Quality Assurance and Environmental Monitoring Laboratory, Department E, United States Environmental Protection Agency, National Environmental Research Center, Research Triangle Park, North Carolina 27711. All relevant comments postmarked on or before April 4, 1975, will be considered. All comments will be available for public inspection during normal business hours at the address specified above. The amendments, modified as the Administrator deems appropriate after consideration of comments, will be effective approximately 30 days after republication in the FEDERAL REGISTER.

This notice of proposed rulemaking is issued under the authority of section 109 of the Clean Air Act (42 U.S.C. 1857c–4), as amended by section 4 of Pub. L. 91–604, 84 Stat. 1679, with respect to the proposed amendments of 40 CFR Part 50; and under the authority of section 301(a) of the Clean Air Act (42 U.S.C. 1857g(a)), as amended by section 15(c)(2) of Pub. L. 91–604, 84 Stat. 1713, with respect to the proposed amendments of 40 CFR Parts 51 and 53.

Dated: January 31, 1975.

RUSSELL E. TRAIN,
Administrator,
Environmental Protection Agency.

Chapter I of Title 40, Code of Federal Regulations, is proposed to be amended as follows:

PART 50—NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS

1. By revising paragraphs (f) and (g) in § 50.1 to read as follows:

§ 50.1 Definitions.

* * * * *

(f) "Reference method" means a method of sampling and analyzing the ambient air for an air pollutant that is specified as a reference method in an appendix to this part, or a method that has been designated as a reference method in accordance with Part 53 of this chapter; it does not include a method for which a reference method designation has been cancelled in accordance with § 53.11 or § 53.16 of this chapter.

(g) "Equivalent method" means a method of sampling and analyzing the ambient air for an air pollutant that has been designated as an equivalent method in accordance with Part 53 of this chapter; it does not include a method for which an equivalent method designation has been cancelled in accordance with § 53.11 or § 53.16 of this chapter.

(Sec. 4, Pub. L. 91–604, 84 Stat. 1679)

PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

2. By adding new paragraphs (a)(4), (a)(5), (b), (c), (d), and (e) to § 51.17a, reading as follows:

§ 51.17a Air quality monitoring methods.

(a) *General requirements.* * * *

(4) Any manual or automated method purchased prior to cancellation of a reference or equivalent method designation applicable to that method under § 53.11 or § 53.16 of this chapter may be used for purposes of § 51.17(a) for a reasonable period to be determined by the Administrator.

(5) An analyzer may be used for its useful life for purposes of § 51.17(a) if such use is approved by the Administrator under paragraph (b), (c), or (d) of this section, or any combination thereof, unless the approval is withdrawn.

(b) *Use of nonconforming analyzers in certain geographical areas.* (1) The Administrator may approve use in a particular geographical area of an analyzer that is not a reference or equivalent method for purposes of § 51.17(a) if the analyzer was purchased prior to February 18, 1975, and the Administrator determines:

(i) That the analyzer (or the method of which the analyzer is representative) meets all the requirements of Part 53 of this chapter that would apply if an application for a reference or equivalent method determination were submitted for the method of which the analyzer is representative except, (A) the test for interference equivalent specified in § 53.23(d) of Part 53, and (B) the requirements of Subpart C of Part 53, if applicable, to the extent that failure to meet the Subpart C requirements results from sensitivity to interferents; and

(ii) That interferents that cause or would cause the analyzer to fail the requirements of § 53.23(d) and Subpart C of Part 53 do not occur in significant concentrations in the geographical area in which use of the analyzer is proposed. For purposes of this paragraph (b), a "significant concentration" means one that would cause a measurement error equal to or greater than the lower detectable limit specification in Table B–1 of 40 CFR Part 53.

(2) Requests for approval under this paragraph (b) shall be submitted to:

Director, Quality Assurance and Environmental Monitoring Laboratory, Department E, U.S. Environmental Protection Agency, National Environmental Research Center, Research Triangle Park, N.C. 27711.

(3) Except as provided in paragraph (b)(4) of this section, each request submitted under this paragraph (b) shall contain:

(i) A statement identifying the analyzer (e.g., by serial number) and the method of which the analyzer is representative (e.g., by manufacturer and model number) and specifying the date on which the analyzer was purchased;

(ii) Test data, records, calculations, and test results for the analyzer (or for the method of which the analyzer is representative) as specified in Subpart B, Subpart C, or both (as applicable) of Part 53 of this chapter;

(iii) An identification and description of the geographical area in which use of the analyzer is proposed;

(iv) Such data or other information as may be necessary to demonstrate that the interferents referred to in paragraph (b)(1)(ii) of this section do not occur in significant concentrations in the geographical area in which use of the analyzer is proposed; and

(v) If Subpart C of Part 53 of this chapter would apply if an application for a reference or equivalent method determination were submitted for the method of which the analyzer is representative, test data for tests conducted with the analyzer in accordance with Subpart C in the geographical area in which use of the analyzer is proposed.

(4)(i) A request submitted under this paragraph (b) may concern more than one analyzer or geographical area and may incorporate by reference any data or other information known to EPA from one or more of the following:

(A) An application for a reference or equivalent method determination submitted by any person for the method of which the analyzer is representative or testing conducted in connection with the application;

(B) Testing of the method of which the analyzer is representative at the initiative of the Administrator under § 53.7 of this chapter; or

(C) A previous or concurrent request for approval submitted by any person under this paragraph (b) or under paragraph (c) or (d) of this section.

(ii) To the extent that such incorporation by reference provides data or information required by paragraph (b)(3) of this section, independent data or duplicative information need not be submitted.

(5) After receiving a request under this paragraph (b), the Administrator may request such additional testing or information or conduct such tests as may be necessary in his judgment for a decision on the request.

(6) Any person who has obtained approval of a request under this paragraph (b) shall:

(i) Assure that the analyzer for which approval was obtained is used for purposes of § 51.17(a) only in the geographical area identified in the request;

(ii) Report to the Administrator within 60 days any significant increase in concentrations of the interferents referred to in paragraph (b)(1)(ii) of this section in the geographical area identified in the request and concurrently submit such new or additional information as may be necessary to supplement the demonstration required by paragraph (b)(3)(iv); and

(iii) On a semi-annual basis submit reports containing such data or other information as may be necessary to demonstrate that the interferents referred to in paragraph (b)(1)(ii) of this section continue to occur in insignificant concentrations in the geographical area identified in the request. Reports required by this paragraph (b)(6) shall be submitted to the address specified in paragraph (b)(2) of this section.

(7) If the Administrator determines, on the basis of any information available to him, that any of the determinations on which approval of a request under this paragraph (b) was based are invalid or no longer valid, or that the requirements of paragraph (b)(6) of this section have not been met, he may withdraw the approval after affording the person who obtained the approval an opportunity to submit information and arguments opposing such action.

(c) *Use of methods with non-conforming ranges.* (1) The Administrator may approve use of an analyzer that is not a reference or equivalent method for purposes of § 51.17(a) if:

(i) The analyzer was purchased prior to February 18, 1975;

(ii) The Administrator determines that the analyzer (or the method of which the analyzer is representative) meets all requirements of Part 53 of this chapter that would apply if an application for a reference or equivalent method determination were submitted for the method of which the analyzer is representative except the range requirement specified in Table B–1 in Subpart B of Part 53; and

(iii) The range of the analyzer does not extend to concentrations more than two times the upper range limit specified in Table B–1, or, if the analyzer has more than one selectable range, the analyzer will not be used for purposes of § 51.17(a) while operated in any range extending to such concentrations.

NOTE.—If use of the analyzer is approved under paragraph (d) of this section, the limitations specified in this paragraph (c)(1)(iii) will not apply unless the approval under paragraph (d) is later withdrawn.

(2) Requests for approval under this paragraph (c) shall be submitted to:

Director, Quality Assurance and Environmental Monitoring Laboratory, Department E, U.S. Environmental Protection Agency, National Environmental Research Center, Research Triangle Park, N.C. 27711.

(3) Except as provided in paragraph (c)(4) of this section, each request submitted under this paragraph (b) shall contain:

(i) A statement identifying the analyzer (e.g., by serial number) and the method of which the analyzer is representative (e.g., by manufacturer and model number) and specifying the date on which the analyzer was purchased;

(ii) Test data, records, calculations, and test results for the analyzer (or for the method of which the analyzer is representative) as specified in Supbart B, Subpart C, or both (as applicable) of Part 53 of this chapter; and

(iii) A statement that the range of the analyzer does not extend to concentrations more than two times the upper range limit specified in Table B–1 in Subpart B of Part 53, or, if the analyzer has more than one selectable range, that the analyzer will not be used for purposes of § 51.17(a) while operated in any range extending to such concentrations.

NOTE.—If use of the analyzer is approved under paragraph (d) of this section, the statements required by this paragraph (c)(3)(iii) will be considered inapplicable unless the approval under paragraph (d) is later withdrawn.

(4)(i) A request submitted under this paragraph (c) may concern more than one analyzer and may incorporate by reference any data or other information known to EPA from one or more of the following:

(A) An application for a reference or equivalent method determination submitted by any person for the method of which the analyzer is representative or testing conducted in connection with the application;

(B) Testing of the method of which the analyzer is representative at the initiative of the Administrator under § 53.7 of this chapter; or

(C) A previous or concurrent request for approval submitted by any person under paragraph (b) or (d) of this section or under this paragraph (c).

(ii) To the extent that such incorporation by reference provides data or information required by paragraph (c)(3) of this section, independent data or duplicative information need not be submitted.

(5) After receiving a request under this paragraph (c), the Administrator may request such additional testing or information or conduct such tests as may be necessary in his judgment for a decision on the request.

(6) Any person who has obtained approval of a request under this paragraph (c) shall, if the analyzer has more than one selectable range, assure that the analyzer is not used for purposes of § 51.17(a) while operated in any range extending to concentrations more than two times the upper range limit specified in Table B–1 in Subpart B of Part 53.

(7) If the Administrator determines, on the basis of any information available to him, that any of the determinations or statements on which approval of a request under this paragraph (c) was based are invalid or no longer valid, or that the requirements of paragraph (c)(6) of this section have not been met, he may withdraw the approval after affording the person who obtained the approval an opportunity to submit information and arguments opposing such action.

(d) *Use of methods with non-conforming ranges in certain geographical areas.* (1) The Administrator may approve use in a particular geographical area of an analyzer having a broader range (i.e., one extending to higher concentrations),

than that permitted by paragraph (c) of this section for purposes of § 51.17(a), regardless of the date on which the analyzer was purchased, if:

(i) The analyzer has more than one selectable range, and one of the ranges either (A) is the range specified in Table B–1 in Subpart B of Part 53 of this chapter, or (B) is approved for use under paragraph (c) of this section (which applies only to analyzers purchased before February 18, 1975);

(ii) The Administrator determines that the analyzer (or the method of which the analyzer is representative) meets all the requirements of Part 53 of this chapter that would apply if an application for a reference or equivalent method determination were submitted for the method of which the analyzer is representative, except that paragraph (d)(1)(i) of this section shall apply in lieu of the range requirement specified in Table B–1;

(iii) The pollutant intended to be measured with the analyzer occurs on some occasions in concentrations more than two times the upper range limit specified in Table B–1 in the geographical area in which use of the analyzer is proposed; and

(iv) The Administrator determines that the resolution of each range that is broader than that permitted by paragraph (c) of this section and is proposed to be used for purposes of § 51.17(a) is adequate for its intended use. For purposes of this paragraph (d), "resolution" means the ability of the analyzer to detect small changes in concentration.

(2) Requests for approval under this paragraph (d) shall be submitted to:

Director, Quality Assurance and Environmental Monitoring Laboratory, Department E, U.S. Environmental Protective Agency, National Environmental Research Center, Research Triangle Park, N.C. 27711.

(3) Except as provided in paragraph (d)(4) of this section, each request submitted under this paragraph (d) shall contain:

(i) A statement identifying the analyzer (e.g., by serial number) and the method of which the analyzer is representative (e.g., by manufacturer and model number) and specifying the range or ranges proposed to be used for purposes of § 51.17(a);

(ii) Test data, records, calculations, and test results for the analyzer (or for the method of which the analyzer is representative) as specified in Subpart B, Subpart C, or both (as applicable) of Part 53 of this chapter for each range proposed to be used for purposes of § 51.17(a);

(iii) An identification and description of the geographical area in which use of the analyzer is proposed;

(iv) Data or other information demonstrating that the pollutant intended to be measured with the analyzer occurs in concentrations more than two times the upper range limit specified in Table B–1 in Subpart B of Part 53 in the geographical area in which use of the analyzer is proposed; and

(v) Test data or other information demonstrating the resolution of each range that is broader than that permitted by paragraph (c) of this section and is proposed to be used for purposes of § 51.17(a).

(4)(i) A request submitted under this paragraph (d) may concern more than one analyzer or geographical area and may incorporate by reference any data or other information known to EPA from one or more of the following:

(A) An application for a reference or equivalent method determination submitted by any person for the method of which the analyzer is representative or testing conducted in connection with the application;

(B) Testing of the method of which the analyzer is representative at the initiative of the Administrator under § 53.7 of this chapter; or

(C) A previous or concurrent request for approval submitted by any person under this paragraph (d) or under paragraph (b) or (c) of this section.

(ii) To the extent that such incorporation by reference provides data or information required by paragraph (d)(3) of this section, independent data or duplicative information need not be submitted.

(5) After receiving a request under this paragraph (d), the Administrator may request such additional testing or information or conduct such tests as may be necessary in his judgment for a decision on the request.

(6) Any person who has obtained approval of a request under this paragraph (d) shall assure that the analyzer for which approval was obtained is used for purposes of § 51.17(a) only in the geographical area identified in the request and only while operated in the range or ranges specified in the request.

(7) If the Administrator determines, on the basis of any information available to him, that any of the determinations or statements on which approval of a request under this paragraph (d) was based are invalid or no longer valid, or that the requirements of paragraph (d)(6) of this section have not been met, he may withdraw the approval after affording the person who obtained the approval an opportunity to submit information and arguments opposing such action.

(e) *Modifications of methods by users.* (1) Except as otherwise provided in this paragraph (e), no reference method, equivalent method or alternative method that is used for purposes of § 51.17(a) shall be modified in a manner that will or might significantly alter the performance characteristics of the method without prior approval by the Administrator. For purposes of this paragraph (e), "alternative method" means an analyzer, the use of which has been approved under paragraph (b), (c), or (d) of this section, or some combination thereof.

(2) Requests for approval under this paragraph (e) shall be submitted to:

Director, Quality Assurance and Environmental Monitoring Laboratory,
Department E,
U.S. Environmental Protection Agency,
National Environmental Research Center,
Research Triangle Park, N.C. 27711.

(3) Each request submitted under this paragraph (e) shall include:

(i) A description, in such detail as may be appropriate, of the desired modification;

(ii) A brief statement of the purpose(s) of the modification, including any reasons for considering it necessary or advantageous;

(iii) A brief statement of belief concerning the extent to which the modification will or may affect the performance characteristics of the method; and

(iv) Such further information as may be necessary to explain and support the statements required by paragraphs (e)(3)(ii) and (iii) of this section.

(4) Within 75 days after receiving a request for approval under this paragraph (e) and such further information as he may request for purposes of his decision, the Administrator will approve or disapprove the modification in question by letter to the person or agency requesting such approval.

(5) A temporary modification that will or might alter the performance characteristics of a reference, equivalent, or alternative method may be made without prior approval under this paragraph (e) if the method is not functioning or is malfunctioning, provided that parts necessary for repair in accordance with the applicable operation manual cannot be obtained within 45 days. Within 10 days after such a temporary modification is made, a report containing the information specified in paragraph (e)(3) of this section shall be submitted to the office specified in paragraph (e)(2) of this section. The report may include a request that the Administrator approve the temporary modification as if a request for prior approval had been submitted. Unless such approval is given, the method shall be repaired in accordance with the applicable operation manual as quickly as practicable but in no event later than 4 months after the temporary modification was made, unless an extension of time is granted by the Administrator. Unless and until the temporary modification is approved, air quality data obtained with the method as temporarily modified shall be clearly identified as such when submitted in accordance with § 51.7.

PART 53—AMBIENT AIR MONITORING REFERENCE AND EQUIVALENT METHODS

3. By adding "§ 53.16 *Supersession of reference methods.*" at the end of the table of sections for Subpart A of Part 53.

4. By revising paragraphs (e), (f) and (k) of § 53.1 to read as follows:

§ 53.1 **Definitions.**

* * * * *

(e) "Reference method" means a method of sampling and analyzing the ambient air for an air pollutant that is specified as a reference method in an appendix to Part 50 of this chapter, or a method that has been designated as a reference method in accordance with this part; it does not include a method for

which a reference method designation has been cancelled in accordance with § 53.11 or § 53.16.

(f) "Equivalent method" means a method of sampling and analyzing the ambient air for an air pollutant that has been designated as an equivalent method in accordance with this part; it does not include a method for which an equivalent method designation has been cancelled in accordance with § 53.11 or § 53.16.

* * * * *

(k) "Applicant" means a person who submits an application for a reference or equivalent method determination under § 53.4, or a person who assumes the rights and obligations of an applicant under § 53.7.

5. By revising § 53.2 to read as follows:

§ 53.2 General requirements for a reference method determinaation.

(a) *Manual methods.* Except as provided in § 53.16, manual methods will not be considered for reference method determinations under this part.

NOTE.—As defined in § 53.1(e), "reference method" includes a manual method specified in an appendix to Part 50 of this chapter. Except as provided in § 53.16, the provisions of this part are inapplicable to such a method.

(b) *Automated methods.* A candidate automated method must utilize the measurement principle and calibration procedures specified in the appropriate appendix to Part 50 of this chapter and meet the requirements specified in Subpart B of this part.

NOTE.—Except as provided in § 53.16 an automated method will not be considered for a reference method determination if a reference method is specified in the appropriate appendix to Part 50.

6. By adding paragraphs (b) and (c) to § 53.7, reading as follows:

§ 53.7 Testing of methods at the initiative of the Administrator.

* * * * *

(b) In the absence of an application requesting the Administrator to consider revising an appendix to Part 50 of this chapter in accordance with § 53.16, the Administrator may conduct such tests and compile such information as may be necessary in his judgment to make a determination under § 53.16(d) and on the basis of the tests and information make such a determination.

(c) If a method tested in accordance with this section is designated as a reference or equivalent method in accordance with § 53.8 or is specified or designated as a reference method in accordance with § 53.16, any person who offers the method for sale as a reference or equivalent method thereafter shall assume the rights and obligations of an applicant for purposes of this part with the exception of those pertaining to submission and processing of applications.

7. By adding paragraphs (d), (e), (f), and (g) to § 53.9, reading as follows:

§ 53.9 Conditions of designation.

* * * * *

(d) Any analyzer offered for sale as a reference or equivalent method shall bear a prominent, permanently affixed label or sticker indicating that the analyzer has been designated by EPA as a reference method or as an equivalent method (as applicable) in accordance with this part.

(e) If an analyzer is offered for sale as a reference or equivalent method but has one or more selectable ranges, the label or sticker required by paragraph (d) of this section shall be placed in close proximity to the range selector and shall indicate clearly which range or ranges have been designated as parts of the reference or equivalent method.

(f) An applicant who offers analyzers for sale as reference or equivalent methods shall maintain an accurate and current list of the names and mailing addresses of all ultimate purchasers of such analyzers. For a period of seven years after publication of the reference or equivalent method designation applicable to such an analyzer, the applicant shall notify all ultimate purchasers of the analyzer within 30 days if the designation has been canceled in accordance with § 53.11 or § 53.16 or if adjustment of the analyzer is necessary under § 53.11(b).

(g) If an applicant modifies an analyzer that has been designated as a reference or equivalent method, the applicant shall not sell the analyzer as modified as a reference or equivalent method nor attach a label or sticker to the analyzer as modified under paragraph (d) or (e) of this section until he has received notice under § 53.14(c)(1) that the designation will continue to apply to the analyzer as modified or has applied for and received notice under § 53.8(b) of a reference or equivalent method determination for the analyzer as modified.

§ 53.14 [Amended]

8. By adding "(see § 53.9(g))" at the end of the first sentence of § 53.14(a).

9. By adding a new § 53.16, reading as follows:

§ 53.16 Supersession of reference methods.

(a) This section prescribes procedures and criteria applicable to requests that the Administrator specify a new reference method, or a new measurement principle and calibration procedure on which reference methods shall be based, by revision of the appropriate appendix to Part 50 of this chapter. Such action will ordinarily be taken only if the Administrator determines that a candidate method or a variation thereof is substantially superior to the existing reference method(s).

(b) In exercising his discretion under this section, the Administrator will consider: (1) the benefits, in terms of the requirements and purposes of the Act, that would result from specifying a new reference method or a new measurement principle and calibration procedure; (2) the potential economic consequences of such action for State and local control agencies; and (3) any disruption of State and local air quality monitoring programs that might result from such action.

(c) An applicant who wishes the Administrator to consider revising an appendix to Part 50 of this chapter on the ground that the applicant's candidate method is substantially superior to the existing reference method(s) shall submit an application for a reference or equivalent method determination in accordance with § 53.4 and shall indicate therein that he desires such consideration. The application shall include, in addition to the information required by § 53.4, data and any other information supporting the applicant's claim that the candidate method is substantially superior to the existing reference method(s).

(d) After receiving an application under paragraph (c) of this section, the Administrator will publish notice of its receipt in the FEDERAL REGISTER and, within 75 calendar days after receipt of the application, take one of the following actions:

(1) Determine that it is appropriate to propose a revision of the appendix in question and send notice of the determination to the applicant;

(2) Determine that it is inappropriate to propose a revision of the appendix in question, determine whether the candidate method is a reference or equivalent method, and send notice of the determinations, including a statement of reasons for the determination not to propose a revision, to the applicant;

(3) Send notice to the applicant that additional information must be submitted before a determination can be made and specify the additional information that is needed (in such cases, the 75-day period shall commence upon receipt of the additional information);

(4) Send notice to the applicant that additional tests are necessary and specify what tests are necessary and how they shall be interpreted (in such cases, the 75-day period shall commence upon receipt of the additional test data); or

(5) Send notice to the applicant that additional tests will be conducted by the Administrator, specifying the nature of and reasons for the additional tests and the estimated time required (in such cases, the 75-day period shall commence one calendar day after the additional tests have been completed).

(e)(1) After making a determination under paragraph (d)(1) of this section, the Administrator will publish a notice of proposed rulemaking in the FEDERAL REGISTER. The notice will indicate that the Administrator proposes (i) to revise the appendix in question; (ii) where the appendix specifies a measurement principle and calibration procedure, to cancel reference method designations based on the appendix; and (iii) to cancel equivalent method designations based on the existing reference method(s). The notice will include the terms or substance of the proposed revision, will indicate what period(s) of time the Administrator proposes to allow for replacement of existing methods under § 51.17a(a)(4) of this chapter, and will solicit public comments on the proposal

with particular reference to the considerations set forth in paragraphs (a) and (b) of this section.

(2) If, after consideration of comments received, the Administrator determines that the appendix in question should be revised, he will by publication in the FEDERAL REGISTER (i) promulgate the proposed revision, with such modifications as may be appropriate in view of comments received; (ii) where the appendix (prior to revision) specifies a measurement principle and calibration procedure, cancel reference method designations based on the appendix; (iii) cancel equivalent method designations based on the existing reference method(s); and (iv) specify the period(s) that will be allowed for replacement of existing methods under § 51.17a(a)(4) of this chapter, with such modifications from the proposed period(s) as may be appropriate in view of comments received. Cancelled designations will be deleted from the list maintained under § 53.8(c). The requirements and procedures for cancellation set forth in § 53.11 shall not apply to concellation of reference or equivalent method designations under this section.

(3) If the appendix in question is revised to specify a new measurement principle and calibration procedure on which the applicant's candidate method is based, the Administrator will take appropriate action under § 53.5 to determine whether the candidate method is a reference method.

(4) Upon taking action under paragraph (e)(2) of this section, the Administrator will send notice of the action to all applicants for whose methods reference and equivalent method designations are cancelled by such action.

(f) An applicant who has received notice of a determination under paragraph (d)(2) of this section may appeal the determination by taking one or more of the following actions:

(1) The applicant may submit new or additional information in support of the application.

(2) The applicant may request that the Administrator reconsider the data and information already submitted.

(3) The applicant may request that any test conducted by the Administrator that was a material factor in making the determination be repeated.

(Sec. 301(a) of the Clean Air Act (42 U.S.C. 1857(a)), as amended by sec. 15(c)(2) of Pub. L. 91-604, 84 Stat. 1713)

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