

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51 and 52

[FRL-7414-6; Docket A-2002-4]

RIN 2060-AK28

Prevention of Significant Deterioration (PSD) and Non-attainment New Source Review (NSR): Routine Maintenance, Repair and Replacement

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The EPA is proposing revisions to the regulations governing the NSR programs mandated by parts C and D of title I of the Clean Air Act (CAA). These proposed changes reflect the EPA's consideration of the President's National Energy Policy (NEP), EPA's Report to the President on the impact of NSR pursuant to the NEP, and EPA's recommended changes to NSR based on the Report findings and discussions with various stakeholders including representatives from industry,

State and local governments, and environmental groups. The proposed changes provide a future category of activities that would be considered to be routine maintenance, repair and replacement (RMRR) under the NSR program. The changes are intended to provide greater regulatory certainty without sacrificing the current level of environmental protection and benefit derived from the program. We believe that these changes will facilitate the safe, efficient, and reliable operation of affected facilities.

DATES: *Comments.* Comments must be received on or before March 3, 2003.

Public Hearing. If anyone contacts us requesting to speak at a public hearing by January 21, 2003, we will hold a public hearing approximately 30 days after publication in the **Federal Register**.

ADDRESSES: *Comments.* Comments may be submitted electronically, by mail, by facsimile, or through hand delivery/ courier. Follow the detailed instructions as provided in section I.C. of the **SUPPLEMENTARY INFORMATION** section.

Public Hearing. The public hearing, if requested, will be held at the EPA's facilities at 109 TW Alexander Drive, Research Triangle Park, NC 27709 or at an alternate facility nearby. The EPA will not hold a hearing if one is not requested. Please check EPA's web page at <http://www.epa.gov/ttn/nsr/whatsnew.html> on January 21, 2003 for the announcement of whether the hearing will be held.

FOR FURTHER INFORMATION CONTACT: Mr. Dave Svendsgaard, Information Transfer and Program Integration Division (C339-03), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone (919) 541-2380, or electronic mail at svendsgaard.dave@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. What Are the Regulated Entities?

Entities potentially affected by this proposed action include sources in all industry groups. The majority of sources potentially affected are expected to be in the following groups.

Industry group	SEC ^a	NAICS ^b
Electric Services	491	221111, 221112, 221113, 221119, 221121, 221122
Petroleum Refining	291	32411
Chemical Processes	281	325181, 32512, 325131, 325182, 211112, 325998, 331311, 325188
Natural Gas Transport	492	48621, 22121
Pulp and Paper Mills	261	32211, 322121, 322122, 32213
Paper Mills	262	322121, 322122
Automobile Manufacturing	371	336111, 336112, 336712, 336211, 336992, 336322, 336312, 33633, 33634, 33635, 336399, 336212, 336213
Pharmaceuticals	283	325411, 325412, 325413, 325414

^a Standard Industrial Classification

^b North American Industry Classification System. Entities potentially affected by this proposed action also would include State, local, and tribal governments that are delegated authority to implement these regulations.

B. How Can I Get Copies of This Document and Other Related Information?

1. *Docket.* EPA has established an official public docket for this action under Docket ID No. A-2002-04. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the EPA Docket Center, (Air Docket), U.S. Environmental Protection Agency, 1301 Constitution Ave., NW., Room: B108, Mail Code: 6102T, Washington, DC, 20004. The EPA Docket Center Public

Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1742. A reasonable fee may be charged for copying.

2. *Electronic Access.* You may access this **Federal Register** document electronically through the EPA Internet under the "Federal Register" listings at <http://www.epa.gov/fedrgstr/>.

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at <http://www.epa.gov/edocket/> to submit or view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Once in the system, select "search,"

then key in the appropriate docket identification number.

Certain types of information will not be placed in the EPA Dockets. Information claimed as CBI and other information whose disclosure is restricted by statute, which is not included in the official public docket, will not be available for public viewing in EPA's electronic public docket. EPA's policy is that copyrighted material will not be placed in EPA's electronic public docket but will be available only in printed, paper form in the official public docket. To the extent feasible, publicly available docket materials will be made available in EPA's electronic public docket. When a document is selected from the index list in EPA Dockets, the system will identify whether the document is available for viewing in EPA's electronic public docket. Although not all docket materials may

be available electronically, you may still access any of the publicly available docket materials through the docket facility identified in section I.B.1. EPA intends to work towards providing electronic access to all of the publicly available docket materials through EPA's electronic public docket.

For public commenters, it is important to note that EPA's policy is that public comments, whether submitted electronically or in paper, will be made available for public viewing in EPA's electronic public docket as EPA receives them and without change, unless the comment contains copyrighted material, CBI, or other information whose disclosure is restricted by statute. When EPA identifies a comment containing copyrighted material, EPA will provide a reference to that material in the version of the comment that is placed in EPA's electronic public docket. The entire printed comment, including the copyrighted material, will be available in the public docket.

Public comments submitted on computer disks that are mailed or delivered to the docket will be transferred to EPA's electronic public docket. Public comments that are mailed or delivered to the Docket will be scanned and placed in EPA's electronic public docket. Where practical, physical objects will be photographed, and the photograph will be placed in EPA's electronic public docket along with a brief description written by the docket staff.

For additional information about EPA's electronic public docket visit EPA Dockets online or see 67 FR 38102, May 31, 2002.

C. How and to Whom Do I Submit Comments?

You may submit comments electronically, by mail, by facsimile, or through hand delivery/courier. To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your comment. Please ensure that your comments are submitted within the specified comment period. Comments received after the close of the comment period will be marked "late." EPA is not required to consider these late comments. If you wish to submit CBI or information that is otherwise protected by statute, please follow the instructions in section I.D. Do not use EPA Dockets or e-mail to submit CBI or information protected by statute.

1. *Electronically.* If you submit an electronic comment as prescribed below, EPA recommends that you include your name, mailing address,

and an e-mail address or other contact information in the body of your comment. Also include this contact information on the outside of any disk or CD ROM you submit, and in any cover letter accompanying the disk or CD ROM. This ensures that you can be identified as the submitter of the comment and allows EPA to contact you in case EPA cannot read your comment due to technical difficulties or needs further information on the substance of your comment. EPA's policy is that EPA will not edit your comment, and any identifying or contact information provided in the body of a comment will be included as part of the comment that is placed in the official public docket, and made available in EPA's electronic public docket. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment.

a. *EPA Dockets.* Your use of EPA's electronic public docket to submit comments to EPA electronically is EPA's preferred method for receiving comments. Go directly to EPA Dockets at <http://www.epa.gov/edocket>, and follow the online instructions for submitting comments. To access EPA's electronic public docket from the EPA Internet Home Page, select "Information Sources," "Dockets," and "EPA Dockets." Once in the system, select "search," and then key in Docket ID No. A-2002-04. The system is an "anonymous access" system, which means EPA will not know your identity, e-mail address, or other contact information unless you provide it in the body of your comment.

b. *E-mail.* Comments may be sent by electronic mail (e-mail) to *a-and-r-docket@epamail.epa.gov*, Attention Docket ID No. A-2002-04. In contrast to EPA's electronic public docket, EPA's e-mail system is not an "anonymous access" system. If you send an e-mail comment directly to the Docket without going through EPA's electronic public docket, EPA's e-mail system automatically captures your e-mail address. E-mail addresses that are automatically captured by EPA's e-mail system are included as part of the comment that is placed in the official public docket, and made available in EPA's electronic public docket.

c. *Disk or CD ROM.* You may submit comments on a disk or CD ROM that you mail to the mailing address identified in section I.C.2. These electronic submissions will be accepted in WordPerfect or ASCII file format. Avoid the use of special characters and any form of encryption.

2. *By Mail.* Send two copies of your comments to: U.S. Environmental Protection Agency, EPA West (Air Docket), 1200 Pennsylvania Ave., NW, Room: B108, Mail code: 6102T, Washington, DC, 20460, Attention Docket ID No. A-2002-04.

3. *By Hand Delivery or Courier.* Deliver your comments to: EPA Docket Center, (Air Docket), U.S. Environmental Protection Agency, 1301 Constitution Ave., NW., Room: B108, Mail Code: 6102T, Washington, DC, 20004., Attention Docket ID No. A-2002-04. Such deliveries are only accepted during the Docket's normal hours of operation as identified in section I.B.1.

4. *By Facsimile.* Fax your comments to the EPA Docket Center at (202) 566-1741, Attention Docket ID. No. A-2002-04.

D. How Should I Submit CBI to the Agency?

Do not submit information that you consider to be CBI electronically through EPA's electronic public docket or by e-mail. Send or deliver information identified as CBI only to the following address: Mr. David Svendsgaard, c/o OAQPS Document Control Officer (C339-03), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, Attention Docket ID No. A-2002-04. You may claim information that you submit to EPA as CBI by marking any part or all of that information as CBI. (If you submit CBI on disk or CD ROM, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR Part 2.

In addition to one complete version of the comment that includes any information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket and EPA's electronic public docket. If you submit the copy that does not contain CBI on disk or CD ROM, mark the outside of the disk or CD ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and EPA's electronic public docket without prior notice. If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

E. What Should I Consider as I Prepare my Comments for EPA?

You may find the following suggestions helpful for preparing your comments.

- Explain your views as clearly as possible.
- Describe any assumptions that you used.
- Provide any technical information and/or data you used that support your views.
- If you estimate potential burden or costs, explain how you arrived at your estimate.
- Provide specific examples to illustrate your concerns.
- Offer alternatives.
- Make sure to submit your comments by the comment period deadline identified.
- To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your response. It would also be helpful if you provided the name, date, and **Federal Register** citation related to your comments.

F. How Can I Find Information About a Possible Public Hearing?

Persons interested in presenting oral testimony or inquiring as to whether a hearing is to be held should contact Ms. Pamela J. Smith, Integrated Implementation Group, Information Transfer and Program Integration Division (C339-03), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone number (919) 541-0641, at least 2 days in advance of the public hearing. Persons interested in attending the public hearing should also contact Ms. Smith to verify the time, date, and location of the hearing. The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning these proposed emission standards.

G. Where Can I Obtain Additional Information?

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

H. How is This Preamble Organized?

The information presented in this preamble is organized as follows:

- I. General Information
 - A. What are the regulated entities?
 - B. How can I get copies of this document and other related information?
 - C. How and to whom do I submit comments?
 - D. How should I submit CBI to the Agency?
 - E. What should I consider as I prepare my comments for EPA?
 - F. How can I find information about a possible public hearing?
 - G. Where can I obtain additional information?
 - H. How is this preamble organized?
- II. Purpose
- III. Background
 - A. How does the process of using the RMRR exclusion currently work?
 - B. Why is the specification of categories of RMRR activities appropriate?
 - C. Process Used to Develop This Rule
- IV. Overview of Recommended Approaches for RMRR
 - A. Annual Maintenance, Repair and Replacement Allowance
 - B. Equipment Replacement Provision
- V. Legal Basis for Recommended Approaches
- VI. Discussion of Issues Under Annual Maintenance, Repair and Replacement Allowance Approach
 - A. Appropriate Time Period for a Maintenance, Repair and Replacement Allowance
 - B. Cost Basis
 - C. Basis for Annual Allowance—Stationary Source vs Process Unit
 - D. Basis for Annual Maintenance, Repair and Replacement Allowance Percentage
 - E. How to Calculate Costs
 - F. Applicability Safeguards
 - G. Timing of Determination
- VII. Discussion of Issues under the Equipment Replacement Approach
 - A. Replacement of Existing Equipment with Identical or Functionally Equivalent Equipment
 - B. Defining "Process Unit" for Evaluating Equipment Replacement Cost Percentage
 - C. Miscellaneous Issues
 - D. Quantitative Analysis
- VIII. Other Options Considered
 - A. Capacity-Based Option
 - B. Age-Based Option
- IX. Administrative Requirements for this Proposed Rulemaking
 - A. Executive Order 12866—Regulatory Planning and Review
 - B. Executive Order 13132—Federalism
 - C. Executive Order 13175—Consultation and Coordination with Indian Tribal Governments
 - D. Executive Order 13045—Protection of Children from Environmental Health Risks and Safety Risks
 - E. Paperwork Reduction Act
 - F. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 *et seq.*
 - G. Unfunded Mandates Reform Act of 1995
 - H. National Technology Transfer and Advancement Act of 1995

- I. Executive Order 13211—Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use
- X. Statutory Authority

II. Purpose

We are proposing a change to the NSR program to provide specific categories of activities that EPA will consider RMRR in the future. We are seeking comment on all aspects of our proposed approaches to specifying categories of RMRR activities under the NSR program, and on other options considered. These approaches would be voluntary, in that owners or operators could opt to continue using the current procedures for determining what activities constitute RMRR at their facilities. This proposal seeks public comments in accordance with section 307(d) of the CAA and should not be used or cited in any litigation as the final position of the Agency.

III. Background

A. How Does the Process of Using the RMRR Exclusion Currently Work?

Under the changes promulgated today to 40 CFR parts 51 and 52, "major modification" is defined as any physical change in or change in the method of operation of a major stationary source that would result in: (1) A significant emissions increase of a regulated NSR pollutant; and (2) a significant net emissions increase of that pollutant from the major stationary source. Owners/operators of major stationary sources are required to obtain a major NSR permit prior to beginning actual construction of a modification that meets this definition. The regulations exclude certain activities from the definition of "major modification." One such exclusion is for RMRR activities. The regulations do not define this term. (See 40 CFR 51.165(a)(1)(v)(C)(1), 51.166(b)(2)(iii)(a), 52.21(b)(2)(iii)(a) and 52.24(f)(5)(iii)(a).)

Under our current approach, the RMRR exclusion is applied on a case-by-case basis. In interpreting this exclusion, we have followed certain criteria. The preamble to the 1992 "WEPCO Rule" (57 FR 32314) and applicability determinations made to date describe our current approach to assessing what activities constitute RMRR. These applicability determinations are available electronically from the Region 7 NSR Policy and Guidance Database (<http://www.epa.gov/Region7/programs/artd/air/nsr/nsrpg.htm>).

To summarize these documents, to determine whether proposed work at a facility is routine, EPA makes a case-by-

case determination by weighing the nature, extent, purpose, frequency, and the cost of the work as well as other relevant factors to arrive at a common sense finding. WEPCO at 910. None of these factors, in and of itself, is conclusive. Instead, a reviewing authority should take account of how each of these factors might apply in a particular circumstance to arrive at a conclusion considering the project as a whole. If an owner or operator is uncertain whether he or she is applying the NSR regulations correctly, we encourage the owner or operator to consult the appropriate reviewing authority for assistance.

B. Why Is Specification of Categories of RMRR Activities Appropriate?

There has been some debate over the years as to the case-by-case approach and the types of activities that qualify as RMRR under our current case-by-case approach. The case-specific approach works well in many respects. For example, it is a flexible tool that accommodates the broad range of industries and the diversity of activities that are potentially subject to the NSR program.

However, the case-by-case approach has certain drawbacks. Unless an owner or operator seeks an applicability determination from his or her reviewing authority or from EPA, it can be difficult for the owner or operator to know with certainty whether a particular activity constitutes RMRR. Applicability determinations can be costly and time consuming for reviewing authorities and industry alike. If a source proceeds without a determination and is later proven to have made an incorrect determination, that source faces potentially serious enforcement consequences. Moreover, under the current case-by-case approach, State and local reviewing authorities must devote scarce resources to making complex determinations and consult with other agencies to ensure that any determinations are consistent with determinations made for similar circumstances in other jurisdictions and/or that EPA or other reviewing authorities would concur with the conclusion.

On the other hand, if a source foregoes or defers activities that are important to maintaining its plant when the activities in question are in fact within scope of the exclusion, that can have adverse consequences for the source's reliability, efficiency, and safety. Finally, the source may install less efficient or less modern equipment in order to be more certain that it is within the regulatory bounds, or it may

agree to limit its hours of operation or capacity. Any of these approaches will make the source less productive than it would be otherwise. In fact, we concluded in our recent report to the President on the impacts of NSR on the energy sector that there have been cases in which uncertainty about the exclusion for RMRR resulted in delay or cancellation of activities that would have maintained and improved the reliability, efficiency, and safety of existing energy capacity. Such discouragement results in lost capacity and lost opportunities to improve energy efficiency and reduce air pollution.

We believe that these problems would be significantly reduced by adding to our current RMRR provision specific categories of activities that will be considered to be RMRR in the future. Such categories would remove disincentives to undertaking RMRR activities and provide more certainty both to source owners and operators who could better plan activities at their facilities, and to reviewing authorities who could better focus resources on activities outside these RMRR categories. Accordingly, the establishment of categories of activities as RMRR is consistent with the central purpose of the CAA, "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." CAA section 101.

It should be noted that there may be some activities which, while fitting within the ambit of the RMRR exclusion could, if implemented, violate other applicable CAA requirements. As has always been the case, compliance with NSR requirements is not a license to violate any of the other applicable CAA requirements such as title V permitting requirements.

C. Process Used To Develop This Rule

In the 1992 "WEPCO Rule" preamble, we indicated that we planned to issue guidance on the subject of RMRR. In 1994, as part of our meetings with the Clean Air Act Advisory Committee, we developed, for discussion purposes only, a document on how RMRR could be defined. We received a substantial volume of comments on this document. We subsequently decided not to include a definition of RMRR in our 1996 NSR proposed rulemaking.

In 2001, the President's NEP Report¹ directed EPA in consultation with the

¹ Reliable, Affordable, and Environmentally Sound Energy for America's Future, Report of the National Energy Policy Development Group, May 17, 2001.

Department of Energy (DOE) and other federal agencies to review the impact of NSR on investment in new utility and refinery generation capacity, energy efficiency and environmental protection. The release of the report in May 2001 triggered a review of the impacts of NSR rules. EPA's Report to the President underscored the desirability of specifying certain categories of activities that qualify as RMRR. In parallel with this review, we renewed our exploration of recommendations for improving the NSR program. Recommended improvements suggested during this time represented a continuation of discussions on NSR issues that had taken place during the 1990's, as well as new ideas.

The process of discussing possible improvements to the NSR program included significant interagency consultation, including meetings with representatives from the DOE, the Department of the Interior, and the Office of Management and Budget. Building on what we heard, we held conference calls with various stakeholders during October 2001 (including representatives from industry, State and local governments, and environmental groups) to discuss new ideas that were raised. During many of these meetings, we discussed ideas for how to define RMRR in order to create more certainty for the industry and reviewing authorities. Today's proposed rule is an outgrowth of ideas discussed in those meetings.

IV. Overview of Recommended Approaches for RMRR

Ever since EPA's promulgation of its original Prevention of Significant Deterioration (PSD) regulations in 1980, EPA has defined "modification" in its NSR regulations to include common-sense exclusions from the "physical or operational change" component of the definition, including an exclusion for RMRR. Today, we are proposing two categories of activities that will in the future be considered RMRR activities: activities within an annual maintenance, repair and replacement allowance and replacements that meet our equipment replacement provision criteria.

Under the proposal, when an activity falls within either of these categories, it would be considered RMRR and a source's owners or operators would know that the activity was excluded from NSR without regard to other considerations. When an activity did not fall within one of these categories, then it still could qualify as routine

maintenance, repair, and replacement under the case-by-case test.

A. Annual Maintenance, Repair and Replacement Allowance

First, we are proposing to add new language to the RMRR exclusion at 40 CFR 51.165 (a)(1)(v)(C)(1), 40 CFR 51.166 (b)(2)(iii)(a), 40 CFR part 51, Appendix S (A)(5)(iii)(a), 40 CFR 52.21(b)(2)(iii)(a), and 40 CFR 52.24 (f)(5)(iii)(a). This proposal would allow certain activities engaged in to promote the safe, reliable and efficient operation of a facility—that is, those that involve relatively small capital expenditures compared with the replacement cost of the facility—to be excluded from NSR provided that total costs did not exceed the annual maintenance, repair and replacement allowance. The annual maintenance, repair and replacement allowance and the rules for calculation and summation of activities under the allowance would be defined in new provisions at 40 CFR 51.165(a)(1)(xxxiii), 40 CFR 51.166(b)(53), 40 CFR 52.21(b)(55), and 40 CFR 52.24(f)(25).

Under our proposed approach, a calendar year maintenance, repair and replacement allowance would be established for each stationary source. The owner or operator may elect to use a fiscal year period instead of a calendar year if financial records are typically kept for a period other than calendar year at a facility.² Although the proposal contemplates a one-year allowance, in recognition of the fact that maintenance cycles in many industries extend for more than 1 year, we also seek comment on whether a stationary source should have the option of a multi-year allowance, such as over 5 years.

Under our 1-year allowance proposal, an owner or operator would sum the costs of the relevant activities performed at the stationary source during the fiscal or calendar year (from the least expensive to the most expensive) to get a yearly cost. For activities taking more than 1 year to complete, costs associated with those activities would be included in the cost calculations for the year that the costs were incurred (using an accounting method consistent with that used for other purposes by the stationary source). If the total costs for all activities undertaken for these purposes came within the annual maintenance, repair and replacement allowance, these activities would all be considered RMRR activities. Other than documentation of the results of this assessment, the owner or operator

would not have to do anything further with respect to those activities for purposes of major NSR.

Where total yearly costs for all activities undertaken for these purposes at a source exceed the annual maintenance, repair and replacement allowance, the activities would be reviewed as follows.

- The owner or operator would subtract activities from the total yearly cost, starting with the most expensive activity, until the remainder is less than or equal to the annual maintenance, repair and replacement allowance.
- The owner or operator would evaluate on a case-by-case basis in accordance with EPA's case-by-case test any activities that did not come within the allowance and that are not otherwise excluded, in order to determine whether they are RMRR. If uncertain about a particular activity the owner or operator could seek an applicability determination.
- If an owner or operator concluded that any such activity was not RMRR, he or she would then have to determine whether it constitutes a "major modification" that requires an NSR permit.

The annual maintenance, repair and replacement allowance would be equal to the product of the replacement cost of the source and a specified maintenance, repair and replacement percentage. (See §§ 51.165(a)(1)(xxxiii), 51.166(b)(53), 52.21(b)(55) and 52.24(f)(25) of proposed rules.) EPA intends to set this percentage on an industry-specific basis. There are several ways in which the percentage could be established. One way is to set the threshold so as to cover the RMRR capital and non-capital costs that an owner or operator incurs to maintain, facilitate, restore, or improve the safety, reliability, availability, or efficiency of the source. We are also requesting comment on other approaches. For example, we could apply a discount factor to the typical costs in order to account for variability within an industry. We also ask for comment on how to determine typical costs for particular industries. We are considering using the Internal Revenue Service "Annual Asset Guideline Repair Allowance Percentages" (AAGRAP), which we use for an exclusion under the New Source Performance Standard (NSPS) program for increases in production. We also could rely on industry specific data for choosing an appropriate threshold, such as the North American Electric Reliability Council Generating Availability Data System (NERC/GADS) database or standard industry reference manuals.

The replacement cost used in the calculation described above would be an estimate of the total capital investment necessary to replace the stationary source. The accounting procedures used to document eligibility under this rule should conform to the accounting procedures used for other purposes at a facility. Where several accounting procedures are used at a facility (e.g., methods for tax accounting and for setting rates often are different), the most appropriate procedures should be used for the purpose of determining costs pursuant to this regulation.

EPA also seeks to standardize practices for estimating this investment, along the lines described in the *EPA Air Pollution Control Cost Manual*, excluding the costs for installing and maintaining pollution control equipment. See section V.E. of this document for further information on our recommended approach to calculating costs. The control cost manual is available electronically via the internet at http://www.epa.gov/ttn/catc/dir1/c_allchs.pdf. We acknowledge that this manual is geared toward cost calculations for add-on control equipment but believe the basic concepts can be applied to process equipment as well. These concepts are taken from work done by the American Association of Cost Engineers to define the components of cost calculations for all types of processes, not just emission control equipment. We seek comment on whether this manual or other reference documents or tools provide the best approach for standardizing estimation of these costs, whether different methods should be provided, and whether provision should be made in the form of a requirement or an assurance that if a method is used, we will accept it.

Our recommended approach will contain safeguards to help ensure that activities that should be considered a physical change or change in the method of operation under the regulations are ineligible for exclusion from NSR under the annual maintenance, repair and replacement allowance. We are proposing to exclude the following from use of the annual allowance.

- The construction of a new "process unit," which is a collection of structures and/or equipment that uses material inputs to produce or store a completed product. See discussion below at section VII for further information regarding process units.
- The replacement of an entire process unit
- Any change that would result in an increase in the source's maximum

² A fiscal year period would have to be 12 consecutive months.

achievable hourly emissions rate of any regulated NSR pollutant, or in the emission of any regulated NSR pollutant not previously emitted by the stationary source.

If an owner or operator uses the annual maintenance, repair and replacement allowance to determine that certain activities at a stationary source are RMRR, all relevant activities performed at that source must be included in the annual cost calculations unless the owner or operator elects to obtain a major NSR permit for the activity. In other words, an owner or operator may not select which activities to review case-by-case and which to include in the cost calculations when using the annual maintenance, repair and replacement allowance to determine RMRR activities. This is because, assuming the threshold is set to approximate the total amount that an owner or operator would typically be expected to spend on RMRR activities (or a discounted portion of this value selected to account for variability within an industry), the fact that a given activity's cost comes within the allowance can only reasonably assure that it is RMRR if all other relevant activities also are included. If the owner

or operator could pick and choose among activities that he or she wished to include in the allowance, such an approach might allow the owner or operator to include large, atypical activities that do not constitute RMRR within the allowance, while applying the case-by-case test to smaller activities that quite clearly constitute RMRR under that test. The rule that all relevant activities must be included in the calculation and that lowest cost activities would be counted first should provide sufficient protection against this risk.

Owners or operators electing to use the annual maintenance, repair and replacement allowance to determine RMRR activities will be required to submit an annual report to the appropriate reviewing authority within 60 days after the end of the year over which activity costs have been summed. The report will provide a summary of the estimated replacement value of the stationary source, the annual maintenance, repair and replacement allowance for the stationary source, a brief description of all maintenance, repair and replacement activities undertaken at the stationary source, and the costs associated with those

activities. If the costs of activities in question exceed the annual maintenance, repair and replacement allowance for a stationary source, the report must identify the activities included within the allowance and the activities that fell outside the allowance. The procedures set out in 40 CFR part 2 are available for confidential and business-sensitive information submitted as part of this report.

The following provides an example of how the process would work. Assume the source's annual maintenance, repair and replacement allowance equals \$2,000,000. During a given year, the owner or operator spends \$1,000,000 on running maintenance activities, and implements five other discrete maintenance activities at the source with costs as follows in Table 1 (none of these activities involves the construction of a new process unit, replacement of an existing process unit, or an increase in the maximum achievable hourly emissions rate of a regulated NSR pollutant or in the emission of any regulated NSR pollutant not previously emitted by the stationary source).

TABLE 1.—EXAMPLE SUMMARY OF ACTIVITIES COMMENCED DURING YEAR

Change	Month	Cost
Activity 1	January	\$200,000
Activity 2	March	600,000
Activity 3	April	360,000
Activity 4	July	150,000
Activity 5	November	250,000

The sum of costs incurred during the year is \$2,560,000, \$560,000 above the annual maintenance, repair and replacement allowance. The most expensive activity commencing during the year was the \$600,000 activity commencing in March. The source must evaluate on a case-by-case basis whether this activity is RMRR. When the cost of Activity 2 is subtracted from the total annual cost, the remainder is \$1,960,000, less than the annual maintenance, repair and replacement allowance. The remaining activities (Activities 1, 3, 4, and 5) are considered to be RMRR.

We note that this example is framed as if the owner or operator would make these calculations for the first time at the end of the year. In reality, however, an owner or operator who is considering relying on the maintenance, repair and replacement allowance as the basis for his or her conclusion that a particular activity is RMRR is likely to make these

calculations before beginning construction on any activity. This is because the owner or operator would know that he or she will only be able to rely on the allowance if the costs of the activity in question, when added with the costs of other activities to assure the safe, efficient, and reliable operation of the plant that the owner or operator is planning for the year, will in fact be within the allowance.

B. Equipment Replacement Provision

In addition to our proposed annual maintenance, repair and replacement allowance, today we are also soliciting comment on an additional approach to be used in the future for those replacement activities that should qualify without regard to other considerations as RMRR. Specifically, we are soliciting comment on whether replacing existing equipment with equipment that serves the same function and that does not alter the basic design

parameters of a unit should also qualify without regard for other considerations for RMRR treatment provided the cost of the replacement equipment does not exceed a certain percentage of the cost of the process unit to which the equipment belongs. While we believe the annual maintenance, repair and replacement provisions described above will significantly improve implementation of the RMRR exclusion, we recognize that the allowance may apply only to a subset of the activities that appropriately fall within the exclusion and that are susceptible of being identified as categorically constituting RMRR.³

³Of course, as noted earlier, the traditional case-by-case approach to administering the RMRR exclusion will continue to apply to activities that do not qualify under the annual maintenance, repair and replacement allowance approach described above, but for the reasons noted earlier, we believe that approach would be improved on by the identification of activities that may be found to

Accordingly, today we are soliciting comment on an additional approach to be used in the future for determining that certain replacement activities whose costs fall below a specified threshold qualify as RMRR without regard for other considerations. Under this approach, EPA would establish a percentage of the replacement value of a process unit as a threshold for applying the equipment replacement provision. If the replacement component is functionally equivalent to the replaced component, does not change the basic design parameters of the process unit, and does not exceed the cost threshold, it would constitute RMRR. This approach should enable the owner or operator to streamline the RMRR analysis and make this determination more readily and should further alleviate some of the problems noted above. We are soliciting comment on whether this approach would serve to streamline the RMRR determination process for activities that involve the replacement of existing equipment with identical new equipment and the replacement of existing equipment with functionally equivalent equipment. We are also soliciting comment on whether this approach should be adopted along with the annual maintenance, repair and replacement allowance described above, or whether this approach is preferred over the other such that we should only offer the equipment replacement provision in the final rule.

We also solicit comment on what provisions might be needed to clarify and facilitate implementation of a combined approach. For example, should the costs of activities that qualify as an excluded equipment replacement count toward the annual maintenance, repair and replacement allowance? And, if so, how should they be counted? We are also soliciting comment on whether any other category of activity undertaken for these purposes should be excludable by the owner or operator from the annual maintenance, repair and replacement allowance. For example, activities undertaken to address unanticipated forced outages or catastrophic events such as fires or explosions may be the kind of unforeseeable expenditure that an owner or operator should not have to include because it is not possible to plan for it. Also, the absence of an exclusion for such activities might be a disincentive for maintaining and ensuring safe operation. If excluded from the maintenance, repair and replacement allowance, these activities

constitute RMRR without requiring case-by-case consideration of this type.

could still qualify for RMRR status under the equipment replacement provision of this rule if they meet the criteria for that allowance or under the case-by-case analysis.

Finally, we are soliciting comment on other approaches that might be effective in streamlining the RMRR determination process.

V. Legal Basis for Recommended Approaches

The modification provisions of the NSR program in parts C and D of title I of the CAA are based on the broad definition of modification in section 111(a)(4) of the CAA. The term "modification" means "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." That definition contemplates that you will first determine whether a physical or operational change will occur. If so, then you proceed to determine whether the physical or operational change will result in an emissions increase over baseline levels.

The expression "any physical change * * * or change in the method of operation" in section 111(a)(4) of the CAA is not defined. We have recognized that Congress did not intend to make every activity at a source subject to the major NSR program. As a result, we have previously adopted nine exclusions from what may constitute a "physical or operational change." One of these is an exclusion for routine maintenance, repair, and replacement. Today's rulemaking proposes two provisions that will improve and help carry out the purposes of this exclusion.

VI. Discussion of Issues Under Annual Maintenance, Repair and Replacement Allowance Approach

The following provides a discussion of the key issues we considered in developing our preferred approaches to addressing RMRR under the NSR program. We are requesting comment on all alternatives considered and any other viable alternatives. We are also interested in the impact the use of a cost-based approach such as the annual maintenance, repair and replacement allowance will have on reviewing authorities, such as the need for staff knowledgeable in cost estimation, and are requesting comment on this issue.

A. Appropriate Time Period for a Maintenance, Repair and Replacement Allowance

In developing a maintenance, repair and replacement allowance, we considered setting an allowance based on either a calendar or fiscal year or a multi-year limit. We believe that a limit applied over a specified period of time is more appropriate than an activity-based limit. We are proposing an annual limit, but we also believe that a multi-year limit is worthy of serious consideration as a possible option that could be chosen by owners or operators with multi-year maintenance cycles.

Under NSR, to determine applicability, the owner or operator of a major source must determine whether an activity performed at a source is a physical change or change in the method of operation that results in a significant emissions increase and a significant net emissions increase. NSR may apply to a single physical change or operational change at a single process unit, to several physical or operational changes at a single process unit, or to multiple changes across multiple process units, each of which changes can vary widely in scope and cost. Developing a maintenance, repair and replacement allowance on an activity basis would be consistent with this framework. However, the variability in the scope of such activities makes it difficult to establish an appropriate cost allowance for individual activities based on data currently available to us. On the other hand, the majority of information that is currently available to us does provide a reasonable basis for developing facility-wide, annual maintenance, repair and replacement cost estimates. In addition to the difficulty in establishing an activity cost limit, maintenance budgets are typically set on an annual basis rather than an activity basis, making an annual allowance more consistent with industry financial practices.

In choosing between an annual versus a multi-year limit, there are considerations pointing in both directions. The most important argument in favor of a multi-year option is that in a number of industries, maintenance cycles extend over multiple years. For example, petroleum refineries conduct regularly scheduled maintenance, referred to as a "turnaround," in cycles that can be as long as 8 years depending on the type of units and equipment involved and the particulars of the unit's operations. During a turnaround, all or part of the refinery is shut down, and the owner or operator undertakes numerous

maintenance, repair and/or replacement activities during the shutdown.

Similarly, the power generation sector performs regularly scheduled maintenance, inspections, and repair on varying cycles, which, depending on the equipment involved, can range from 12 months to a number of years. Like refineries, power generation facilities must conduct much of the inspection, maintenance, repair and replacement work when the units are shut down, and to minimize the frequency of scheduled outages, the owner or operator will undertake numerous activities during a given shutdown to minimize maintenance costs, minimize the need for replacement power, and maximize the availability of the units. As a result, for industries of this type, the cost of maintenance will vary significantly from year to year and may be distributed across several years.

An annual allowance for industries of this type may be unworkable if the allowance is set at the average of their maintenance costs during their maintenance cycle. But setting the level higher than the average runs the risk of sweeping in non-routine activity. In addition, an annual allowance might lead owners or operators in such industries to engage in more outages than is efficient in order to make sure that they were not losing a portion of their allowance. This could increase energy costs and reduce energy availability to consumers.

If a multi-year allowance were used, the same principles of summing the costs of activities from least to most costly and excluding the most costly activities from the allowance and instead subjecting them to case-by-case scrutiny would continue to apply.

This approach also may have its difficulties. For example, as the cycle gets longer, it is harder for owners or operators to project their costs for safeguarding the safety, reliability and efficiency of their plants farther into the future. This, in turn, may contribute to a rule that is more difficult to implement and enforce. If, through the after the fact case-by-case review, it is determined that certain activities should have been subject to the NSR program, all parties may be placed in the difficult situation of implementing a preconstruction review program for an activity that was begun or completed significantly prior to the applicability determination. This difficulty may arise to some extent even with a 1-year allowance period. But extending the period beyond 1 year increases both the possibility for this occurrence and the potential difficulties of an after-the-fact applicability determination for older

activities. Thus, while using a single year as the time period will reduce the flexibility for some owners or operators, we believe it will help to reduce the likelihood that an after-the-fact NSR review will be required. For these reasons, we are proposing the annual maintenance, repair and replacement allowance approach, but will also be giving serious consideration to the multi-year approach of up to 5 years. We are requesting comments on the approaches discussed above.

We are also proposing that the time period for the annual maintenance, repair and replacement allowance should be a calendar or fiscal year. If the owner or operator of a major stationary source uses a fiscal year that differs from a calendar year for accounting purposes, the proposed rule would allow the stationary source to elect to use that fiscal year for purposes of applying the annual maintenance, repair and replacement allowance. As proposed, once the choice is made, the choice is permanent. (See § 51.165(a)(1)(xxxii)(A)(1), § 51.166(b)(53)(i)(a), § 52.21(b)(55)(i)(a), and § 52.24(f)(25)(i)(a) of proposed rules.) We specifically ask for comment on this aspect of the proposal.

B. Cost Basis

Under our proposal, the replacement cost of a source would be multiplied by the maintenance percentage established by rule to determine the annual maintenance, repair and replacement allowance. (See § 51.165(a)(1)(xxxii), § 51.166(b)(53), § 52.21(b)(55), and § 52.24(f)(25) of proposed rules.) In developing the proposal, we also considered using an invested cost basis adjusted for inflation.

There can be advantages to using invested cost. The most obvious advantage is that knowledge of cost estimation is not necessary, because actual cost data would be used. However, complete invested cost information may no longer exist for older stationary sources, or it may not have been provided to the buyer when a source was purchased. As a result, we would still need to provide for an alternative for situations where invested cost data were not available.

In addition, even when adjusted for inflation, there could be inequities between facilities if an invested cost basis was used. Adjustment for inflation between sources will not likely take into account variations in site-specific costs such as land, labor, and materials, among others. Use of replacement cost, which takes into account site-specific factors to a greater degree, will put all regulated entities on a more equitable

footing. Moreover, most decisions regarding maintenance, repair and replacement are more likely to take into consideration the cost of replacement rather than the original invested cost.

We are proposing to use source replacement cost; however, we are requesting comment on other potentially appropriate bases for source cost, including invested cost, invested cost adjusted for inflation or any other viable methodology.

C. Basis for Annual Allowance—Stationary Source vs Process Unit

We are considering two approaches for administering the annual maintenance, repair and replacement allowance—the allowance could be established at either an entire stationary source (source) or at the process unit level. A comprehensive discussion of the term “process unit,” along with a proposed definition, is set forth in section VII, below. If we opt for the “process unit” approach, we would use the definition and concepts proposed in section VII. We are proposing the stationary source approach but seeking comment on both.

If the annual maintenance, repair and replacement allowance is established for the entire stationary source, the owner or operator would only have to track compliance with a single annual maintenance, repair and replacement allowance and would have greater flexibility in decision making with respect to maintenance, repair and replacement activities. It is our understanding that accounting of maintenance activities is most often performed at the facility level and, consequently, managing the RMRR annual maintenance, repair and replacement allowance from a facility-wide standpoint is more consistent with current industry practices. In large, complex manufacturing facilities such as refineries, several major processes are constantly being maintained but larger maintenance activities may be rotated throughout the plant during different years to accommodate fiscal and operating cycles. Requiring these facilities to divide their plants into separate process units for maintenance accounting would create disincentives to the source in administering the allowance. A source-wide approach also may be more sensible to account for situations in which shared services (e.g., electrical distribution, wastewater treatment) cannot be attributed to a single process at a facility.

On the other hand, setting the annual maintenance, repair and replacement allowance at the source-wide level presents the possibility that an owner or

operator could forego maintenance at some process units and engage in activities at others that are not truly RMRR and seek to use the maintenance, repair and replacement allowance as a shield for these activities. Setting the annual maintenance, repair and replacement allowance at the process unit level would help to alleviate this concern.

On balance, however, we are not persuaded that this concern is well-founded. If the allowance level is set correctly, the only way an owner or operator could attempt the kind of misuse of the allowance described above would be to forego maintenance, repair and replacement activities at other process units—activities that are important to keep those other process units in good working order. It seems unlikely that an owner or operator would think that a prudent or sensible course.

Finally, we note that it likely is more difficult to develop reliable estimates of what it typically costs an owner or operator to maintain a process unit. That being the case, the most likely way a process-unit-based allowance would be developed would be by taking the numbers that would underlie a source-wide allowance and allocating them to process units. This approach could present its own opportunities for gaming the system.

We are proposing to set the annual maintenance, repair and replacement allowance at the source-wide level. (See § 51.165(a)(1)(v)(C)(1), § 51.166(b)(2)(iii)(a), § 52.21(b)(2)(iii)(a), and § 52.24(f)(5)(iii)(a) of proposed rules.) We believe that this approach is, on balance, easier to implement for both the reviewing authorities and the industry and is more consistent with current industry maintenance and financial practices. We specifically request comment on the use of a source-wide limit, a process unit limit, or any other means of applying a cost threshold. In addition, as noted in section VII, we request comment on our proposed definition of process unit.

D. Basis for Annual Maintenance, Repair and Replacement Allowance Percentage

The proposed annual maintenance, repair and replacement allowance for each source would be determined by multiplying the replacement cost of the source by an annual maintenance, repair and replacement allowance percentage specified by rule. (See § 51.165(a)(1)(xxxii), § 51.166(b)(53), § 52.21(b)(55), and § 52.24(f)(25) of proposed rules.) As stated previously, the goal of this portion of the rule is to

provide a clear exclusion for the activities whose total costs fall below specified thresholds. We intend to set these thresholds on an industry-specific basis, and believe the following sources of information should be useful in establishing these thresholds: the IRS AAGRAP, standard engineering reference manuals, and actual industry data available to the EPA.

The IRS AAGRAP is the value used in an exclusion under the NSPS for increases in production. The IRS AAGRAP values provide repair allowance percentages for specific industries in order to reflect differing maintenance needs. These percentages range from 0.5 percent to 20 percent of invested cost. For instance, the aerospace industry has an AAGRAP value of 7.5 percent, electric utility steam generation has a value of 5 percent, and cement plants have a value of 3 percent. There is good reason to think that the industry-specific basis and the specific percentages are appropriate in the RMRR context. For example, the AAGRAP values have been used for over 20 years in the NSPS program, so they are time-tested and appear to work well in that context. Moreover, because the values were developed in the first instance to differentiate between costs that should be capitalized for tax accounting purposes and costs that properly should be expensed, the values should be well suited to distinguishing maintenance, repair and replacement from non-routine activities in the NSR context.

However, the AAGRAP is based on the invested cost of the facility, not the replacement cost, which may or may not require us to make some adjustments. Also, there are some industries for which an AAGRAP is not available. The policy reasons behind the use of AAGRAP in the tax context also may not be the same as those we need to consider in the NSR context, notwithstanding the fact that the AAGRAP has been used in the NSPS context. Finally, the IRS has moved to other approaches. We solicit comment on the extent to which the AAGRAP, or some derivative of the AAGRAP, may appropriately be employed if we determine that a safe harbor based on replacement cost is preferable.

There are also standard reference manuals that provide cost estimation information that is considered to be up to date. *Plant Design and Economics for Chemical Engineers*, by Peters and Timmerhaus, and *Perry's Chemical Engineer's Handbook*, by Perry and Green, are two widely used resources. They provide a range of annual maintenance and repair costs from 2

percent to 10 percent of the fixed capital investment of the stationary source. These two resources, however, are limited to the chemical process industry and may not have broader applicability to other industry sectors (although there may be comparable resources for other industries). Based on information contained in the resources mentioned above, the appropriate annual maintenance percentages would be in the range of 0.5 percent to 20 percent, depending on the industry.

To the extent that we have data, we intend in the final rule to set different percentages for specific industry categories. In selecting appropriate industry-specific percentages, it would be helpful if further information is made available to us during the public comment period for this proposal; therefore, we are requesting that information relating to types of maintenance, repair and replacement activities undertaken and costs associated with those activities be provided during the public comment period on this proposed rule. For example, relevant information for the electric utility industry might be available from the NERC/GADS database, the Federal Energy Regulatory Commission, or the Integrated Environmental Control Model maintained by the Energy and Environmental Center at Carnegie-Mellon University. Commenters should provide actual source, company or industry information, as well as any other data underlying summaries. Substantiated claims and estimates will be given greater consideration than information not supported by actual data. If there is a lack of information with which to set industry specific percentages, we may elect to set a default value. We are seeking comment on the appropriate default percentage to be used, and/or methods available to determine that percentage.

E. How To Calculate Costs

In order for a cost-based approach to be equitable, all owners or operators must include the same categories of expenses in both the replacement cost and the cost sought to be covered by the allowance. Therefore, we believe it may be appropriate to require that costs be calculated using an approach along the lines set out as the elements of Total Capital Investment as defined in the *EPA Air Pollution Control Cost Manual* (http://www.epa.gov/ttn/catc/dir1/c_allchs.pdf). While the manual contains basic concepts that could be used to estimate total capital investment at a process unit, it is geared toward cost calculations for add-on control

equipment. On the other hand, the underlying concepts are taken from work done by the American Association of Cost Engineers to define the components of cost calculations for all types of processes, not just emission control equipment.

We invite comment on whether we should use the manual as the mechanism for standardizing these calculations, whether we should use other manuals, or whether it might make sense to give sources a range of manuals whose approach to this question we believe may be appropriate for their circumstances. We also invite comment on whether EPA should require use of the manuals identified or simply provide assurance that if methods in an identified manual are used, EPA will accept them.

Under the EPA Manual, Total Capital Investment includes the costs required to purchase equipment, the costs of labor and materials for installing the equipment (direct installation costs), costs for site preparation and buildings, and certain other indirect installation costs. However, any costs associated with the installation and maintenance of pollution control equipment would be excluded from the cost calculation. For the purposes of this maintenance, repair and replacement allowance, we believe that equipment that serves a dual purpose of process equipment and control equipment (that is, combustion equipment used to produce steam and to control Hazardous Air Pollutant emissions, exhaust conditioning in the semiconductor industry, etc.) should be considered process equipment. We ask for comment on this point.

Direct installation costs include costs for foundations and supports, erecting and handling the equipment, electrical work, piping, insulation, and painting. Indirect installation costs include such costs as engineering costs; construction and field expenses (that is, costs for construction supervisory personnel, office personnel, rental of temporary offices, etc.); contractor fees (for construction and engineering firms involved in the activity); startup and performance test costs; and contingencies.

We are also considering whether or not to exclude costs associated with the unanticipated shutdown of equipment, due to component failure or catastrophic failures such as explosions or fires, from the costs that must be included in the allowance. If costs associated with unanticipated outages are excluded, these activities would be subjected to a case-by-case review of NSR applicability. We request comment on whether or not repairs and

replacements resulting from the unanticipated shutdown of equipment, or of an entire source, should be included in the annual maintenance, repair and replacement allowance calculations.

F. Applicability Safeguards

We are proposing to include some safeguards in our rules. There are some relatively inexpensive activities that can be undertaken at a facility that we believe should not be included within the maintenance, repair and replacement allowance because, due to their very nature, they may significantly alter the design of the source or they may result in significantly greater emissions. Ineligibility for the allowance does not mean that the activities will necessarily be subject to NSR. These activities will still be eligible for treatment as RMRR under a case-by-case review, may qualify for other exclusions, may not require a major NSR permit because of emissions limitations in a synthetic minor limitation, or may be netted out of NSR applicability. We are proposing to include three such safeguards. (See § 51.165(a)(1)(xxxii)(B), § 51.166(b)(53)(ii), § 52.21(b)(55)(ii), and § 52.24(f)(25)(ii) of proposed rules.)

The first of the safeguards is that no new process unit may be added under the annual maintenance, repair and replacement allowance. The addition of a new process unit is not maintenance, repair or replacement of existing equipment at a stationary source in order to ensure continued safe and reliable operation and hence should not qualify for the allowance.

The second safeguard is that an owner or operator may not use the maintenance, repair and replacement allowance to replace an entire process unit. We do not believe that replacement of an entire process unit should qualify for the allowance. Because of their nature, wholesale exchanges of a process unit should be subject to greater scrutiny in determining NSR applicability than use of the maintenance, repair and replacement allowance would entail.

The third safeguard is not allowing any activity that results in an increase in maximum achievable hourly emissions rate of a regulated NSR pollutant at the stationary source or in the emission of any regulated NSR pollutant not previously emitted to be excluded under the annual maintenance, repair and replacement allowance. Such activities are more likely to result in possible significant emissions increases and, therefore, should not be excluded from NSR on

the basis that they fall within the maintenance, repair and replacement allowance. We request comment on the appropriateness and adequacy of these proposed safeguards or any additional safeguards that may be appropriate.

G. Timing of Determination

Under the annual maintenance, repair and replacement allowance as proposed, an owner or operator will sum the costs of maintenance, repair and replacement activities from least to most expensive to determine which activities are excluded pursuant to the allowance. Actual activity costs will not be known until activities are underway or completed. We have considered two options for the timing of the decision regarding qualification of activities under the annual maintenance, repair and replacement allowance when summing activities in this manner. The first is to require application of the allowance prior to construction based on planned activities and estimated costs. The second is to perform an end-of-year reconciliation after the activity costs are known.

If an end-of-year reconciliation is used, actual costs incurred would be known. However, if costs exceed the annual maintenance, repair and replacement allowance, some activities that have already been started or completed will have to be evaluated on a case-by-case basis unless already excluded from major NSR on some other basis. If it is determined that the activity is not RMRR and does not qualify for another exclusion, and it results in a significant emissions increase and a significant net emissions increase, and it is consequently subject to the requirements of NSR, the owner or operator would be in violation of the CAA for failure to obtain the necessary permit prior to commencing construction. In addition, if in a nonattainment area, the owner or operator could be required to obtain offsets, which may not be readily available in the area. The owner or operator may also be faced with penalties for constructing without a permit.

In practice, however, we do not believe this scenario is likely to occur. We expect that an owner or operator who intended to rely on the annual maintenance, repair and replacement allowance would have planned the year's activities accordingly and would be tracking activities throughout the year in order to avoid this situation.

We believe requiring an end-of-year reconciliation strikes a reasonable balance, since it will lead owners or operators to make preconstruction

estimates of activities and costs in order to determine qualification for the exclusion but will not require them to become involved in permitting-type actions with respect to excluded activities. Finally, it is not possible for an owner or operator to plan all maintenance, repair and replacement needs, so there will be inaccuracies in any estimation no matter how diligent an owner or operator may be in seeking to plan these activities.

We have considered two other possible ways to address this situation. The first is to allow any unplanned activity to undergo a case-by-case determination of RMRR. However, this method might create an incentive to omit smaller, less expensive activities from the preconstruction estimation in order to avoid a case-by-case review on larger activities. The second is to make ineligible for the use of the maintenance, repair and replacement allowance any activity that was not included in the preconstruction estimation. But that seems unreasonable, since as noted above actual activity costs may be unintentionally underestimated or omitted, resulting in actual activity costs exceeding the annual maintenance, repair and replacement estimates.

After considering the options, we believe that an evaluation based on actual data rather than estimates is preferable. Careful planning by an owner or operator should reduce the likelihood that the annual allowance is exceeded for activities that the owner believes will come within the allowance. Moreover, a prudent owner or operator who believes his RMRR activities will be close to exceeding the allowance will determine whether more costly activities are otherwise excluded, evaluate them under the case-by-case test, or seek an applicability determination or a permit to assure compliance with NSR requirements. Therefore, we are proposing to determine qualification for the exclusion through an end-of-year reconciliation. (See § 51.165(a)(1)(xxxxii)(A)(5), § 51.166(b)(53)(i)(e), § 52.21(b)(55)(i)(e), and § 52.24(f)(25)(i)(e) of proposed rules).

One other possible approach to this question would be to sum costs in the order they occur, rather than from least expensive to most expensive.

Under that approach, an owner or operator would maintain a running total of maintenance, repair and replacement costs and could determine before beginning construction on a subsequent activity if there was room under the

annual maintenance, repair and replacement allowance. However, this process might encourage an owner or operator to delay less costly activities in order to use the annual maintenance, repair and replacement allowance for activities that are both larger and more atypical and, therefore, might not qualify for RMRR treatment.

Maintaining the least expensive to most expensive methodology discussed above, we could address the issue through an expedited case-by-case review of larger activities. An owner or operator would be responsible for obtaining a case-by-case determination from the reviewing authority for larger activities to ensure that an activity would still be considered RMRR if it is later found that the activity could not be accommodated under the annual maintenance, repair and replacement allowance. This, however, is inconsistent with our intent that owners or operators be able to use these provisions without obtaining an advance determination from the reviewing authority.

Finally, rather than establishing an annual cost threshold to define what activities fit within the allowance, we could establish a threshold per activity. Activities whose costs fell below the threshold could proceed as RMRR. Activities with costs above the threshold would be ineligible to use the allowance, and thus could only constitute RMRR if they either fell within the portion of the RMRR exclusion for equipment replacements or constitute RMRR upon an application of the case-by-case test. We are proposing a similar approach for replacement of equipment with functional equivalents. But we believe that any broader activity-based approach would have the undesirable consequence of forcing industry and the reviewing authorities to address potentially complex questions about how to define whether activities are truly separate and hence below the threshold or whether they are part of some larger activity that exceeds the threshold.

To summarize, at this time we are proposing an annual maintenance, repair and replacement allowance; to sum activities from least expensive to most expensive to determine eligibility; and an end-of-year review and report. We request comment on each of these aspects of the proposal and any additional approaches that commenters wish to recommend.

VII. Discussion of Issues Under the Equipment Replacement Approach

We recognize that there are numerous occasions when, to maintain, facilitate, restore, or improve efficiency, reliability, availability, or safety within normal facility operations, facilities replace existing equipment with either identical equipment or equipment that serves the same function. Such replacements may be conducted immediately after component failure or they may be conducted preventively to assure a source's continued safe, reliable and efficient operation. We believe that many such replacements typically should be considered RMRR activities. But, allowing replacement of equipment with "functionally equivalent" or "identical" equipment to qualify as RMRR, if unbounded, could theoretically allow replacement of an entire production line or utility boiler. Thus, there must also be some reasonable bound to equipment replacements that qualify.

The following discussion addresses key considerations in determining the appropriate boundary for the types of replacement activities that should be excluded under the equipment replacement provision of the RMRR exclusion.

A. Replacement of Existing Equipment With Identical or Functionally Equivalent Equipment

One of today's proposals deals with replacing equipment with identical or functionally equivalent equipment. This proposal is based on our view that most replacements of existing equipment that are necessary for the safe, efficient, and reliable operation of practically all industrial operations are not of regulatory concern and should qualify for the RMRR exclusion. Industrial facilities are constructed with the understanding that equipment failures are common and ongoing maintenance programs are routine. Delaying or foregoing maintenance could lead to failure of the production unit and may create or add to safety concerns.

When such equipment replacement occurs and the replacement is identical, the replacement is inherent to both the original design and purposes of the facility, and ordinarily will not increase emissions. For example, if a pump associated with a distillation column fails and is replaced with an identical new pump, we believe that such a common activity is and should be considered an excluded replacement. We believe that activities like such pump replacements are routine and

should not trigger NSR permitting requirements.

We also recognize that this principle extends beyond the replacement of equipment with identical equipment. When equipment is wearing out or breaks down, it often is replaced with equipment that serves the same purpose or function but is different in some respect or improved in some way in comparison to the equipment that is removed. For example, when worn out pipes are replaced in a chemical process plant, the replacement pipes sometimes are constructed of new or different materials to help reduce corrosion, erosion, or chemical compatibility problems.

Moreover, the technology employed in certain types of equipment is constantly changing and evolving. When equipment of this sort needs to be replaced, it often is simply not possible to find the old-style technology. Owners or operators may have no choice but to purchase and install equipment reflecting current design innovations. Even if it is possible to find old-style equipment, owners or operators have obvious incentives for wanting to use the best equipment that suits the given need when replacements must be installed.

A good example was presented to us by the forest products industry during our review of the NSR program's impacts on the energy sector. A company in that sector needed to replace outdated analog controllers at a series of six batch digesters. The original controllers were no longer manufactured. The new digital controllers, costing approximately \$50,000, are capable of receiving inputs from the digester vessel temperature, pressure, and chemical/steam flow. The new controllers would have more precisely filled and pressurized digesters with chips, chemicals, and steam, thus bringing a batch digester on line faster. The source determined that this activity would not be considered routine under today's NSR rules and decided not to proceed with the project.

The limiting principle here is that the replacement equipment must be identical or functionally equivalent and must not change the basic design parameters of the affected process unit (for example, for electric utility steam generating units, this would mean maximum heat input and fuel consumption specifications). Efficiency, however, should not be considered a basic design parameter, as NSR should not impede industry in making energy and process efficiency improvements which, on balance, will be beneficial both economically and environmentally.

This should address the concern and perception that the NSR program serves as a barrier to activities undertaken to facilitate, restore, or improve efficiency, reliability, availability, or safety of a facility.

We also note, however, that taken to the extreme, even without a change in basic design parameters, an identical or functionally equivalent replacement activity can still go beyond the bounds of the RMRR exclusion. For example, instead of replacing a pump, what if a chemical manufacturing facility replaced an entire production unit? Even if the replacement was identical, we likely would not consider the activity to be an excluded replacement. Such an activity effectively constitutes construction of a new process unit in much the same way the construction of an entirely new process unit at an existing stationary source could not constitute RMRR. This is not the kind of activity that sources typically engage in to maintain their plants, and it is the kind of activity that would likely be a logical point for owners or operators to install state-of-the-art controls.

We recognize that it may sometimes be difficult to determine where to draw the line between an activity that should be treated as an excluded replacement activity and one that should be viewed as a physical change that might constitute a major modification when the replacement of equipment with identical or functionally equivalent equipment involves a large portion of an existing unit. At the same time, we believe it is important to provide some clear parameters for making this determination.

To that end, we are soliciting comment on an equipment replacement cost approach based on the NSPS program to determine whether identical or functionally equivalent replacement activities constitute RMRR without regard to other considerations. Under the NSPS program, a project at an existing affected source triggers any applicable NSPS when the cost of the project exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new unit—that is, the current capital replacement value of the existing affected source. 40 CFR 60.15(b). In essence, such a "reconstruction" is tantamount to new construction and, therefore, triggers any applicable NSPS even if the project would otherwise be excluded.

We recognize that, in some respects, an equipment replacement cost threshold such as the NSPS reconstruction test may be viewed as the proper tool to be used in the future for

distinguishing between routine and non-routine identical and functionally equivalent replacements under the NSR program. As noted above, we do not believe it is reasonable to exclude from NSR activities that involve the total replacement of an existing entire process unit. By extension, it is therefore logical and consistent to conclude that activities which, based on their cost, effectively constitute replacement of the process unit should not qualify as RMRR. Thus, we believe that the 50 percent capital replacement threshold used under the NSPS might constitute an appropriate limitation on when identical or functionally equivalent replacements should qualify as RMRR under the equipment replacement provision without regard to other considerations.

We also recognize, however, that there are other considerations pointing in favor of a threshold lower than the 50 percent reconstruction threshold that may be appropriate to bound the equipment replacement provision. For example, since under NSPS half of the capital replacement value of an existing affected facility effectively constitutes construction of a new unit, it could be argued that some percentage less than the 50 percent reconstruction threshold might be a suitable line of demarcation in determining whether identical replacements constitute a modification of an existing unit.

We are soliciting comment on whether the proposed approach is workable, whether the capital replacement percentage should be 50 percent or another lesser percentage, and whether different percentages should apply to different industrial groupings or different types of industrial processes. For example, it may be appropriate to set a higher percentage for process operations that involve heat and corrosive compounds. Such processes may require more expensive replacements, and a greater degree of maintenance activities than other types of processes. In addition, we solicit comment on whether this equipment replacement provision should be implemented on a component-by-component basis, or some other reasoned basis such as applying the percentage to components that are replaced collectively over a fixed period of time.

We recognize that there are widely divergent views as to how expansive the RMRR exclusion should be. From our perspective, the most important thing we can do to improve air quality in the United States with respect to stationary sources is to make substantial reductions in NO_x and SO₂ emissions

from facilities in the utility sector. Our current view, however, is that if the rules clearly establish a narrow RMRR exclusion and set out to require permits for replacement of larger components or the replacement of components with more efficient ones, owners or operators will comply with these rules but will find ways to make the replacements without having to obtain permits and install state-of-the-art controls. As a result, such rules will not achieve significant reductions in NO_x or SO₂ on a prospective basis. As discussed below, these owners or operators will likely avoid having to make such reductions through one of several ways plainly permissible under NSR.

For example, when a power plant operator plans to undertake an activity that the operator believes may not qualify as RMRR and is assessing compliance alternatives, that operator is faced with three options: (1) Proceed with the activity pursuant to an NSR permit, which could require more than \$100 million to be spent on air pollution controls; (2) forego the activity, which likely would result in a permanent reduction in capacity or utilization of the facility or might reduce efficiency and increase emissions per unit of product manufactured or energy produced; or (3) proceed with the activity, but take steps to limit future emissions such that the activity would not result in a significant net emissions increase.

We also believe that few owners or operators would choose the first option. This option would make economic sense only in circumstances where the current capacity and utilization of the facility are so low that the major investment in air pollution controls would provide an incrementally better payback than the option of investing the same money in other assets or in the development of a new power plant.

We also believe that few owners or operators would elect the second option. It makes no sense in most cases for the owners or operators of costly power plants to let these assets significantly deteriorate over time, because the value of the asset will eventually be lost.

We believe that most owners or operators would select the third option. We note that industry commenters during our review of the impact of NSR on the energy sector argued that this option would, over time, result in a substantial reduction in the capacity of their facilities. For example, the Tennessee Valley Authority reported that, over the last 20 years, it would have lost 32 percent of its coal system's energy capability if it had capped

emissions under a "narrow" routine maintenance exclusion. In similar analyses, Southern Company estimated that it would have experienced an energy shortfall of 57.5 million MW-hr, and First Energy estimated that it would have lost 39 percent of its coal-fired generating capacity between 1981 and 2000. West Associates, the Western System Coordinating Council, and the National Rural Electric Cooperative Association reported similar results.

Notwithstanding these assessments, we believe that most owners or operators would proceed with activities and take emissions limitations. To the extent that such limitations might curtail full utilization of the facility, incremental control measures of modest cost would likely be taken to recover the "lost" utilization. For example, use of a slightly lower sulfur coal could produce the marginally lower SO₂ emissions that would be needed to recapture some capacity. Likewise, various types of relatively low-cost combustion or process control modifications could be employed to reduce NO_x emissions.

Thus, it is not probable that owners or operators would respond to a narrow exclusion by installing state-of-the-art controls every time they need to replace a major component. At the same time, a narrow RMRR exclusion of this type would not allow in many cases the replacement of equipment with equipment that improves process efficiency. This would cause owners or operators to forego replacements that would improve air quality because they would allow greater efficiency.

For these reasons, a narrow RMRR exclusion that is clearly established is not expected to achieve significant reductions in historic emissions levels, and might even lead to area wide emissions increases. Most facilities would take lawful steps to avoid having to obtain an NSR permit that would impose strict limitations, even when replacements would be found under this narrow exclusion to be non-routine.

B. Defining "Process Unit" for Evaluating Equipment Replacement Cost Percentage

In this section, we discuss issues related to what collection of equipment should be considered in applying the equipment replacement approach. We are proposing the term "process unit" as the appropriate collection. A definition of process unit currently is included in 40 CFR 63.41. We have built upon that definition to accommodate the intended coverage of activities under the equipment replacement approach. The purpose of this term is, as best as possible, to align implementation of the

provision with generally accepted and practical understandings of what constitutes a discrete production process. The general definition would read as follows:

Process unit means any collection of structures and/or equipment that processes, assembles, applies, blends, or otherwise uses material inputs to produce or store a completed product. A single facility may contain more than one process unit.

Our primary goal in defining this term is to encompass integrated manufacturing operations that produce a completed product rather than smaller pieces of such operations.

To help illustrate these concepts, we developed and have included in the proposed rules some industry-specific examples of how this definition might be applied. The examples are drawn from a few selected industry categories—electric utilities, refineries, cement manufacturers, pulp and paper producers, and incinerators. Because of the centrality of the "process unit" concept to the usefulness of the equipment replacement provision, it is our desire to include a version of these examples in the final rule to make sure sources have a benchmark against which they can evaluate with greater confidence whether a particular replacement comes within the equipment replacement provision of the RMRR exclusion. We also request comment on whether associated pollution control equipment should typically not be considered part of the process unit. We are proposing to exclude such equipment from the definition.

- For a steam electric generating facility, the process unit would consist of those portions of the plant that contribute directly to the production of electricity. For example, at a pulverized coal-fired facility, the process unit would generally be the combination of those systems from the coal receiving equipment through the emission stack, including the coal handling equipment, pulverizers or coal crushers, feedwater heaters, boiler, burners, turbine-generator set, air preheaters, and operating control systems. Each separate generating unit would be considered a separate process unit. Components shared between two or more process units would be proportionately allocated based on capacity.

- For a petroleum refinery, there are several categories of process units: those that separate and distill petroleum feedstocks; those that change molecular structures; petroleum treating processes; auxiliary facilities, such as boilers and hydrogen production; and those that load, unload, blend or store products.

- For a cement plant, the process unit would generally consist of the kiln and equipment that supports it, including all components that process or store raw materials, preheaters, and components that process or store products from the kilns, and associated emission stacks.

- For a pulp and paper mill, there are several types of process units. One is the system that processes wood products, another is the digester and its associated heat exchanger, blow tank, pulp filter, accumulator, oxidation tower, and evaporators. A third is the chemical recovery system, which includes the recovery furnace, lime kiln, storage vessels, and associated oxidation processes feeding regenerated chemicals to the digester.

- For an incinerator, the process unit would consist of components from the feed pit or refuse pit to the stack, including conveyors, combustion devices, heat exchangers and steam generators, quench tanks, and fans.

We solicit comment on the proposed definition of "process unit" and whether another approach might be more effective. We also solicit comment on the particular process units identified in specific industries, whether there are better ways of identifying those process units in those industries, and whether other process units should be specifically identified as part of the rule.

Finally, today's proposed approaches for replacement of existing equipment with identical or functionally equivalent equipment rely on the concept of a process unit, but it is possible that it is not appropriate for replacement of non-emitting components because such replacements may not have emissions consequences in the first place and hence would not warrant scrutiny under NSR. Similarly, it is possible that maintenance, repair and replacement activities performed on non-emitting units should not be included in the activities that would have to be accounted for under the annual maintenance, repair and replacement allowance provision of the RMRR exclusion. We solicit comment on how these various activities should be handled in the context of today's proposal, bearing in mind that forthcoming proposed NSR rules for future activities involving debottlenecking will specifically address changes made at non-emitting units that affect emissions at other process units at a stationary source among other issues. However, we request comment on limiting today's proposed approaches to changes made at emitting units or modifying them so as to differentiate between changes

made at emitting versus non-emitting units.

C. Miscellaneous Issues

In addition to the issues noted above, we also request comment on the following matters. First, we solicit comments on the topic of basic design parameters. Our proposal states that maximum heat input and fuel consumption specifications (for electric utility steam generating units) and maximum material/fuel input specifications (for other types of units) are basic design parameters. We solicit comment on whether that provides sufficient definition of this term, whether further definition is appropriate, or whether there are industry-specific considerations that should be taken into account.

Second, in calculating costs, we propose that owners or operators should use the same principles and guidelines as discussed above with respect to calculating costs for the maintenance, repair and replacement allowance. We request comment on whether these same principles and requirements are applicable and workable for the equipment replacement provision.

Third, in addition to soliciting comment on the approaches described above, we are also soliciting comment on whether the maintenance, repair and replacement allowance and this equipment replacement provision should both be adopted or whether just the equipment replacement provision is sufficient? In addition, if we assume that both approaches are adopted, how should they work together? Should an RMRR activity that is excluded under the equipment replacement provision also count against your annual maintenance, repair and replacement allowance? We are soliciting comment on whether to adopt any or all of these approaches and how they might fit together.

Lastly, EPA strongly supports efforts to improve energy efficiency at existing power plants. These activities reduce the amount of criteria pollutants (SO₂ and NO_x) emitted per unit of electricity generated and also reduce greenhouse gas emissions. During our study of the impact of NSR on the energy sector, we received information concerning a number of instances where activities that would have improved energy efficiency were not implemented because they would have resulted in significant annual emission increases that would have triggered NSR. Some have commented that any activity that produces any improvement in energy efficiency should be exempt from NSR. However, given the continuing

improvement in materials and design, almost any component replacement can be expected to have some beneficial impact on the energy efficiency of the unit and, left unbounded, this approach could result in the replacement of an entire boiler with a new, more efficient boiler without state-of-the-art pollution controls. As mentioned above, however, we do not think replacement of an entire boiler is properly viewed as routine. We also do not believe that the need to install state-of-the-art controls on new boilers will deter sources from installing new boilers if they are otherwise prepared to do so.

These issues prompt EPA to solicit comment in several areas. To the extent that an activity is the replacement of existing equipment that serves the same function as the equipment replaced, does not alter the basic design parameters of the process unit, and otherwise meets the provisions of our proposed equipment replacement approach, described above, it would be excluded from NSR under the proposal. There may, however, be rare instances where activities do not involve replacing existing equipment, are not otherwise excluded from NSR, and nevertheless promote efficiency. Is there a need for a separate "stand-alone" exclusion for such activities? If so, should there be other limitations on the scope of such activities? Are there activities that result in a minor improvement in efficiency but a very large increase in annual emissions? If so, what are the characteristics of such activities and how should EPA treat them? Today, we solicit comment broadly on the impact of the NSR program on decisions to proceed with activities that produce net benefits to human health and the environment, including, but not limited, to energy efficiency activities. We also solicit comments on the extent to which our proposals can promote energy efficiency while preserving the benefits of the NSR program.

D. Quantitative Analysis

We have attempted to analyze quantitatively the possible emissions consequences of the range of different approaches to the RMRR exclusion described above to evaluate if our policy conclusions are correct. Our analysis was conducted using the Integrated Planning Model (IPM). This analysis was done for electric utilities because we have a powerful model to perform such an analysis that we do not have for other industries. We think the results for the electric utilities accurately reflects the trends we would see in other industries. This model and technical

information describing it can be found in the docket. The analysis included several relevant scenarios. In the first scenario, we assumed that efficiency and capacity of relevant units modestly decrease over time. This scenario was intended to reflect the consequences of a new rule with a relatively "narrow" RMRR exclusion, under which we would assume that there would be slow and steady deterioration of relevant generating assets. As explained above, we do not actually believe that such a trend would occur under such a new RMRR exclusion, because plants would take steps to limit emissions and perhaps implement incremental controls to recapture lost capacity. Nevertheless, we believe that this scenario offers a bounding analysis for seeing whether a narrow RMRR exclusion can have significant emissions benefits because our model assumes well controlled and highly efficient new generating assets rather than recaptured capacity from incrementally better controlled existing units.

In the other scenarios, we assumed that utilization, efficiency, or capacity of relevant units modestly increases over time. These scenarios were intended to reflect the consequences of a new rule with a "broader" RMRR exclusion, which would allow facility availability and/or output over time without triggering major NSR. These scenarios present various combinations of assumptions on possible incremental changes to relevant operational parameters and are intended to encompass the range of possible operational outcomes that might be associated with the proposed RMRR exclusion.

The IPM analyses of these scenarios proves the point made above, that the breadth of the RMRR exclusion would have no practical impact on, let alone being the controlling factor in determining, the emissions reductions that will be achieved in the future under the major NSR program. The analyses show that emissions of SO₂ are essentially the same under all scenarios. This stands to reason because nationwide emissions of SO₂ from the power sector are capped by the title IV Acid Rain Program. For NO_x, these analyses show modest relative decreases in some cases and modest relative increases in other cases. These predicted changes represent only a modest fraction of nationwide NO_x emissions from the power sector, which hover around 4.3 million tons per year (tpy). At this time, we do not have adequate information to predict with confidence which modeled scenario is

most likely to occur if the options under consideration are adopted. What these analyses indicate, however, is that regardless of which scenario is closest to what comes to pass, none of the proposed provisions related to the RMRR exclusion will have a significant impact on emissions from the power sector.

The DOE also attempted to analyze quantitatively the possible emissions consequences of the range of different approaches to the RMRR exclusion described above. Using the National Energy Modeling System (NEMS), a variety of changes in energy efficiency and availability were evaluated, as well as the effect on emissions resulting from these changes. This analysis concluded that efficiency improvements resulting from increased maintenance are expected to decrease emissions, whereas availability improvements are expected to increase emissions. In the cases represented in this analysis, the impacts of the assumed reductions in heat rates tend to dominate the corresponding effects of the assumed availability increases.

Data regarding the emissions reductions that are achieved under other CAA programs further illustrate the relative limits of the major NSR program as a tool for achieving significant emissions reductions. For example, the title IV Acid Rain Program has reduced SO₂ emissions from the electric utility industry by more than 7 million tpy and will ultimately result in reductions of approximately 10 million tpy. The Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements will ultimately achieve NO_x reductions of 2.8 million tpy. Standards for highway heavy-duty vehicles and engines will reduce NO_x emissions by 2.6 million tpy. Standards for non-road diesel engines are anticipated to reduce NO_x emissions by about 1.5 million tpy. The NO_x "SIP call" will reduce NO_x emissions by over 1 million tpy. Altogether, these and other similar programs achieve emissions reductions that far exceed those attributable to the major NSR program and dwarf any possible emissions consequences attributable to future promulgation of a rule based on today's proposal.

A copy of our IPM analysis and the DOE NEMS analysis are included in the docket for this rulemaking. We ask for comment on all aspects of these analyses and on the policy discussion provided above.

VIII. Other Options Considered

In addition to the cost-based approaches discussed above, we are considering two additional options for

addressing RMRR. These options are discussed below, and we are requesting comment on these options. We are also interested in other possible alternatives.

A. Capacity-Based Option

We are considering the alternative option of developing an RMRR provision based on the capacity of a process unit. Under such an approach, an owner or operator could undertake any activity that did not increase the capacity of the process unit. Such an approach would require safeguards similar to those in the proposed cost-based approaches in order to ensure that activities that should be subject to the NSR program are not inappropriately excluded. These safeguards would exclude the construction of a new process unit, the replacement of an entire process unit, and activities that result in an increase in maximum achievable hourly emissions rate of a regulated NSR pollutant from use of the exclusion or the emission of any regulated NSR pollutant not previously emitted by the stationary source.

Basing RMRR on capacity is appealing for several reasons. The primary objective of RMRR is to keep a unit operating at capacity and/or availability. In addition, the linkage between capacity and environmental impact is more apparent than cost and environmental impact. Finally, this type of approach might, in principle, be easier to use before beginning actual construction than the cost-based approaches.

The difficulty with using a capacity-based approach is defining the capacity of a process unit. Capacity may be defined based on input or output. Nameplate capacity of a process unit may vary greatly from the capacity at which the process unit may be able to operate. It may be more appropriate in some industries to measure capacity based on input while in others on output. As an example, in a review of promulgated and proposed Maximum Achievable Control Technology standards, six of eleven standards measured capacity based on unit output while five based capacity on input. In fact, the NSPS exclusion for increases in production rate at 40 CFR 60.14(e) originally was dependent upon the "operating design capacity" of an affected unit. In proposed revisions to the NSPS program published on October 15, 1974, we state (39 FR 36948):

The exemption of increases in production rate is no longer dependent upon the "operating design capacity." This term is not easily defined, and for certain industries the "design capacity" bears little relationship to the actual operating capacity of the facility.

We are requesting comment on this capacity-based option, as well as comments on possible methods to address any of the issues relating to implementation of such an option.

B. Age-Based Option

Under an age-based approach, any process unit under a specified age could undergo any activity that does not increase the capacity of a process unit on a maximum hourly basis without triggering the requirements of the major NSR program. However, the activities could not constitute reconstruction of the process unit; that is, their cost could not exceed 50 percent of the cost of a replacement process unit. The age of the process unit would likely be in the range of 25–50 years. An owner or operator would have to become a Clean Unit as defined at 40 CFR 51.165(c)(3), 51.166(t)(3), and 52.21(x)(3), once the age of a process unit exceeds the age threshold.

Such an approach would provide an owner or operator a clear understanding of RMRR for an extended period of time. It also may provide the owner or operator greater flexibility than under the current system for a limited period of time. Like the capacity-based approach, this approach would, in principle, allow for a fairly simple preconstruction determination of applicability.

We see several difficulties in developing this type of approach. The first is defining capacity. The second is establishing the age cut-off for the exclusion. The useful life of equipment is difficult to establish and may vary greatly. The third is that some of the activities that would be allowed at newer sources do not fit within any ordinary meaning of RMRR and some of the activities that would be forbidden at older facilities would come within that meaning. Fourth, some sources may consciously, and appropriately, engage in aggressive RMRR as a method of maximizing the life span of its process units, and an age-based approach would discriminate against them.

We are requesting comment on this age-based option, as well as comments on possible methods to address the issues raised above with respect to this option.

IX. Administrative Requirements for This Proposed Rulemaking

A. Executive Order 12866—Regulatory Planning and Review

Under Executive Order 12866 [58 FR 51,735 (October 4, 1993)], we must determine whether the regulatory action is “significant” and therefore subject to

review by the Office of Management and Budget (OMB) and the requirements of the Executive Order. The Executive Order defines “significant regulatory action” as one that is likely to result in a rule that may:

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

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

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

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

Pursuant to the terms of Executive Order 12866, OMB has notified us that it considers this an “economically significant regulatory action” within the meaning of the Executive Order. We have submitted this action to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record. All written comments from OMB to EPA and any written EPA response to any of those comments are included in the docket listed at the beginning of this notice under **ADDRESSES**. In addition, consistent with Executive Order 12866, EPA consulted extensively with the State, local and tribal agencies that will be affected by this rule. We have also sought involvement from industry and public interest groups.

B. Executive Order 13132—Federalism

Executive Order 13132, entitled “Federalism” (64 FR 43255, August 10, 1999), requires us to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” are defined in the Executive Order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.”

This proposed rule does not have federalism implications. Nevertheless, in developing this rule, we consulted with affected parties and interested stakeholders, including State and local authorities, to enable them to provide

timely input in the development of this rule. A summary of stakeholder involvement appears above in section III.C. of today’s proposed rule. It will not have substantial direct effects on the States, on the relationship between the national government and the State and local programs, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. While this proposed rule will result in some expenditures by the States, we expect those expenditures to be limited to \$580,160 for the estimated 112 affected reviewing authorities. This figure includes the small increase in burden imposed upon reviewing authorities in order for them to revise the State’s State Implementation Plan (SIP). However, this revision provides sources permitted by the States greater certainty in application of the program, which should in turn reduce the overall burden of the program on State and local authorities. Thus, the requirements of Executive Order 13132 do not apply to this rule.

C. Executive Order 13175—Consultation and Coordination With Indian Tribal Governments

Executive Order 13175, entitled “Consultation and Coordination with Indian Tribal Governments” (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure “meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.” EPA believes that this proposed rule does not have tribal implications as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this rule.

The purpose of today’s proposed rule is to add greater flexibility to the existing major NSR regulations. These changes will benefit reviewing authorities and the regulated community, including any major source owned by a tribal government or located in or near tribal land, by providing increased certainty as to when the requirements of the NSR program apply. Taken as a whole, today’s proposed rule should result in no added burden or compliance costs and should not substantially change the level of environmental performance achieved under the previous rules.

The EPA anticipates that initially these changes will result in a small increase in the burden imposed upon reviewing authorities in order for them to be included in the State’s SIP. Nevertheless, these options and revisions will ultimately provide greater operational flexibility to sources

permitted by the States, which will in turn reduce the overall burden on the program on State and local authorities by reducing the number of required permit modifications. In comparison, no tribal government currently has an approved Tribal Implementation Plan (TIP) under the CAA to implement the NSR program. The Federal government is currently the NSR reviewing authority in Indian country. Thus, tribal governments should not experience added burden, nor should their laws be affected with respect to implementation of this rule. Additionally, although major stationary sources affected by today's proposed rule could be located in or near Indian country and/or be owned or operated by tribal governments, such affected sources would not incur additional costs or compliance burdens as a result of this rule. Instead, the only effect on such sources should be the benefit of the added certainty and flexibility provided by the rule.

The EPA recognizes the importance of including tribal consultation as part of the rulemaking process. Nonetheless, to this point we have not specifically consulted with tribal officials on this proposed rule. We are committed to work with any tribal government to resolve any issues that we may have overlooked in today's proposed rules and that may have an adverse impact in Indian country. As a result, today we are announcing our intention to develop and implement a consultation process with tribal governments to ensure that the concerns of tribal officials are considered before finalizing this proposed rule. EPA specifically solicits additional comment on this proposed rule from tribal officials.

D. Executive Order 13045—Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks" (62 *FR* 19885, April 23, 1997) applies to any rule that (1) is determined to be "economically significant" as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, we must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonable alternatives that we considered.

This proposed rule is not subject to Executive Order 13045, because we do not have reason to believe the

environmental health or safety risks addressed by this action present a disproportionate risk to children. We believe that this package as a whole will result in equal or better environmental protection than currently provided by the existing regulations, and do so in a more streamlined and effective manner.

E. Paperwork Reduction Act

The EPA prepared an Information Collection Request (ICR) document (ICR No. 1713.04). You may obtain a copy from Sandy Farmer by mail at the U.S. Environmental Protection Agency, Office of Environmental Information, Collection Strategies Division (2822), 1200 Pennsylvania Avenue, NW., Washington, DC 20460-0001, by e-mail at farmer.sandy@epa.gov, or by calling (202) 260-2740. A copy may also be downloaded from the internet at <http://www.epa.gov/icr>.

The information that ICR No. 1713.04 covers is required for EPA to carry out its required oversight function of reviewing preconstruction permits and assuring adequate implementation of the program. In order to carry out its oversight function, EPA must have available to it information on proposed construction and modifications. This information collection is necessary for the proper performance of EPA's functions, has practical utility, and is not unnecessarily duplicative of information we otherwise can reasonably access. We have reduced, to the extent practicable and appropriate, the burden on persons providing the information to or for EPA. The collection of information is authorized under 42 U.S.C. 7401 *et seq.*

According to ICR No. 1713.04, the first 3 years of this proposed rulemaking will potentially incur a burden of 17,400 hours and 1,305,000 dollars to affected sources, and 2,906 hours and 107,522 dollars for the Federal government, and 15,680 hours and 580,160 hours for reviewing authorities. These costs are based upon an estimated number of 1,450 affected sources.

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

collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15. We will continue to present OMB control numbers in a consolidated table format to be codified in 40 CFR part 9 of the Agency's regulations, and in each CFR volume containing EPA regulations. The table lists the section numbers with reporting and record keeping requirements, and the current OMB control numbers. This listing of the OMB control numbers and their subsequent codification in the CFR satisfy the requirements of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*) and OMB's implementing regulations at 5 CFR part 1320.

F. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq.

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions. For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) Any small business employing fewer than 500 employees; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant *adverse* economic impact on small entities, since the primary purpose of the regulatory flexibility analyses is to identify and address regulatory alternatives "which minimize any significant economic impact of the

proposed rule on small entities.” 5 U.S.C. 603 and 604. Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect on all of the small entities subject to the rule. Today’s proposed rule will not have a significant economic impact on a substantial number of small entities because it will decrease the regulatory burden of the existing regulations and have a positive effect on all small entities subject to the rule. This rule improves operational flexibility for owners and operators of major stationary sources and clarifies applicable requirements for determining if a change qualifies as a major modification. We have therefore concluded that today’s proposed rule will relieve regulatory burden for all small entities. We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

G. Unfunded Mandates Reform Act of 1995

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

Before we establish any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, we must have developed under section 203 of the UMRA a small government agency plan.

The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of our regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

We believe the proposed rule changes will actually reduce the regulatory burden associated with the major NSR program by improving the operational flexibility of owners and operators and clarifying the requirements. Because the program changes provided in the proposed rule are not expected to result in any increases in the expenditure by State, local, and tribal governments, or the private sector, we have not prepared a budgetary impact statement or specifically addressed the selection of the least costly, most cost-effective, or least burdensome alternative. Because small governments will not be significantly or uniquely affected by this rule, we are not required to develop a plan with regard to small governments. Therefore, this proposed rule is not subject to the requirements of section 203 of the UMRA.

H. National Technology Transfer and Advancement Act of 1995

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law No. 104–113, section 12(d) (15 U.S.C. 272 note) directs us to use voluntary consensus standards (VCS) in our regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. VCS are technical standards (for example, materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs us to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable VCS.

Although this rule does involve the use of technical standards, it does not preclude the State, local, and tribal reviewing agencies from using VCS. Today’s proposed rulemaking is an improvement of the existing NSR permitting program. As such, it only ensures that promulgated technical standards are considered and appropriate controls are installed, prior to the construction of major sources of air emissions. Therefore, we are not considering the use of any VCS in today’s rulemaking.

I. Executive Order 13211—Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This proposed rule is not a “significant energy action” as defined in Executive Order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use” (66 FR 28355 (May 22, 2001)) because it is not likely to have a significant adverse effect on the supply, distribution or use of energy.

Today’s proposed rule improves the ability of sources to maintain the reliability of production facilities, and effectively utilize and improve existing capacity.

X. Statutory Authority

The statutory authority for this action is provided by sections 101, 111, 114, 116, and 301 of the CAA as amended (42 U.S.C. 7401, 7411, 7414, 7416, and 7601). This rulemaking is also subject to section 307(d) of the CAA (42 U.S.C. 7407(d)).

List of Subjects in 40 CFR Parts 51 and 52

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

Dated: November 22, 2002.

Christine Todd Whitman,
Administrator.

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

PART 51—[AMENDED]

1. The authority citation for part 51 continues to read as follows:

Authority: 23 U.S.C. 101; 42 U.S.C. 7401–7671q.

Subpart I—[Amended]

2. Section 51.165 is amended:

- a. By revising paragraph (a)(1)(v)(C)(i).
- b. By adding paragraphs (a)(1)(xliii) through (xlvii).

The revision and additions read as follows:

§ 51.165 Permit requirements.

- (a) * * *
- (1) * * *
- (v) * * *
- (C) * * *

(1) Routine maintenance, repair and replacement, which shall include but not be limited to the activities set out in paragraphs (a)(1)(v)(C)(1)(i) and (ii) of

this section. Without regard to other considerations, the activities specified in paragraphs (a)(1)(v)(C)(1)(i) and (ii) shall constitute routine maintenance, repair and replacement:

(i) Activities performed at a stationary source in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, whose total cost, when added together with the total costs of all previous activities performed at the same stationary source in the same year in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, does not exceed that stationary source's annual maintenance, repair and replacement allowance. "Annual maintenance, repair and replacement allowance" is defined in paragraph (a)(1)(xliv) of this section. Rules for calculation and summation of costs are provided in paragraph (a)(1)(xlv)(A) of this section. A stationary source may elect to calculate an annual maintenance, repair and replacement allowance for either all or none, but not some, of the maintenance, repair, and replacement activities performed at the stationary source.

(ii) The replacement of components of a process unit with identical or functionally equivalent components, provided that: The fixed capital cost of the components does not exceed [x]¹ percent of the fixed capital cost that would be required to construct an entirely new process unit; and the replacement does not change the basic design parameters of the process unit. The basic design parameters for electric utility steam generating units are maximum heat input and fuel consumption specifications. For non-utilities, basic design parameters are the maximum fuel or material input specifications to the process unit. An improvement in efficiency does not change a process unit's basic design parameters. "Functionally equivalent components" and "fixed capital cost" are defined in paragraphs (a)(1)(xlv) and (a)(1)(xlvii) of this section, respectively.

* * * * *

(xlviii) *Annual maintenance, repair and replacement allowance* means a dollar amount calculated according to the following equation: (Industry sector percentage) × (replacement cost of the stationary source) where "industry sector percentage" is drawn from Table 1 of this section.

TABLE 1 OF § 51.165(A)(1)(XLIII).—
INDUSTRY SECTOR PERCENTAGES

Industry sector	Industry sector percentage
Electric Services	
Petroleum Refining	
Chemical Processes	
Natural Gas Transport	
Pulp and Paper Mills	
Paper Mills	
Automobile Manufacturing	
Pharmaceuticals	
Other	

(A) A stationary source's annual maintenance costs shall be calculated and summed according to the following rules:

(1) The owner or operator may choose to sum costs over either a calendar year or initially specified fiscal year. The initially specified fiscal year must remain in use unless other accounting procedures at the stationary source subsequently change to a different fiscal year.

(2) Costs incurred for all activities performed at the stationary source in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source that are not excluded under paragraph (a)(1)(xlviii)(B) of this section, or that have not been issued a preconstruction permit, shall be tracked chronologically and summed at the end of the year.

(i) At the end of the year, these costs shall be listed and summed in order from least cost to highest cost.

(ii) All activities prior to the point on the cost-ordered list at which the sum of activity costs exceeds the annual maintenance, repair and replacement allowance shall automatically qualify as routine maintenance, repair, or replacement.

(3) Costs associated with maintaining or installing pollution control equipment shall not be included in the calculation and summation of costs for routine maintenance, repair, and replacement. Costs shall remain included if they are associated with maintaining or installing equipment that serves a dual function as both process and control equipment.

(4) The owner or operator shall provide an annual report to the reviewing authority containing complete information on all maintenance, repair and replacement costs and process unit replacement cost estimates at the stationary source. The report shall be provided within 60 days after the end of the year over which activity costs have been summed.

(B) An activity otherwise eligible for inclusion in the annual maintenance, repair and replacement allowance shall not be eligible to be included in the allowance if it:

(1) Results in an increase in the maximum achievable hourly emissions rate of the stationary source of a regulated NSR pollutant, or results in emissions of a regulated NSR pollutant not previously emitted;

(2) Constitutes construction of a new process unit; or

(3) Removes an entire existing process unit and installs a different process unit in its place.

(xlv)(A) In general, *process unit* means any collection of structures and/or equipment that processes, assembles, applies, blends, or otherwise uses material inputs to produce or store a completed product. A single stationary source may contain more than one process unit.

(B) The following list identifies the process units at specific kinds of stationary sources.

(1) For a steam electric generating facility, the process unit would consist of those portions of the plant which contribute directly to the production of electricity. For example, at a pulverized coal-fired facility, the process unit would generally be the combination of those systems from the coal receiving equipment through the emission stack, including the coal handling equipment, pulverizers or coal crushers, feedwater heaters, boiler, burners, turbine-generator set, air preheaters, and operating control systems. Each separate generating unit would be considered a separate process unit. Components shared between two or more process units would be proportionately allocated based on capacity.

(2) For a petroleum refinery, there are several categories of process units: those that separate and distill petroleum feedstocks; those that change molecular structures; petroleum treating processes; auxiliary facilities, such as boilers and hydrogen production; and those that load, unload, blend or store products.

(3) For a cement plant, the process unit would generally consist of the kiln and equipment that supports it, including all components that process or store raw materials, preheaters, and components that process or store products from the kilns, and associated emission stacks.

(4) For a pulp and paper mill, there are several types of process units. One is the system that processes wood products, another is the digester and its associated heat exchanger, blow tank, pulp filter, accumulator, oxidation tower, and evaporators. A third is the

¹ EPA has not determined this value.

chemical recovery system, which includes the recovery furnace, lime kiln, storage vessels, and associated oxidation processes feeding regenerated chemicals to the digester.

(5) For an incinerator, the process unit would consist of components from the feed pit or refuse pit to the stack, including conveyors, combustion devices, heat exchangers and steam generators, quench tanks, and fans.

(xlv) *Functionally equivalent component* means a component that serves the same purpose as the replaced component.

(xlvi) *Fixed capital cost* means the capital needed to provide all the depreciable components. "Depreciable components" refers to all components of fixed capital cost and is calculated by subtracting land and working capital from the total capital investment, as defined in paragraph (a)(1)(xlvii) of this section.

(xlvii) *Total capital investment* means the sum of the following: all costs required to purchase needed process equipment (purchased equipment costs); the costs of labor and materials for installing that equipment (direct installation costs); the costs of site preparation and buildings; other costs such as engineering, construction and field expenses, fees to contractors, startup and performance tests, and contingencies (indirect installation costs); land for the process equipment; and working capital for the process equipment.

* * * * *

3. Section 51.166 is amended:

a. By revising paragraph (b)(2)(iii)(a).

b. By adding paragraphs (b)(53)

through (57). The revision and additions read as follows:

§ 51.166 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(2) * * *

(iii) * * *

(a) Routine maintenance, repair and replacement, which shall include but not be limited to the activities set out in paragraphs (b)(2)(iii)(a)(1) and (2) of this section. Without regard to other considerations, the activities specified in paragraphs (b)(2)(iii)(a)(1) and (2) shall constitute routine maintenance, repair and replacement:

(1) Activities performed at a stationary source in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, whose total cost, when added together with the total costs of all previous activities performed at the same stationary source in the same year in order to maintain,

facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, does not exceed that stationary source's annual maintenance, repair and replacement allowance. "Annual maintenance, repair and replacement allowance" is defined in paragraph (b)(53) of this section. Rules for calculation and summation of costs are provided in paragraph (b)(53)(i) of this section. A stationary source may elect to calculate an annual maintenance, repair and replacement allowance for either all or none, but not some, of the maintenance, repair, and replacement activities performed at the stationary source.

(2) The replacement of components of a process unit with identical or functionally equivalent components, provided that:

(i) The fixed capital cost of the components does not exceed [x]¹ percent of the fixed capital cost that would be required to construct an entirely new process unit; and

(ii) The replacement does not change the basic design parameters of the process unit. The basic design parameters for electric utility steam generating units are maximum heat input and fuel consumption specifications. For non-utilities, basic design parameters are the maximum fuel or material input specifications to the process unit. An improvement in efficiency does not change a process unit's basic design parameters.

"Functionally equivalent components" and "fixed capital cost" are defined in paragraphs (b)(55) and (b)(56) of this section.

* * * * *

(53) *Annual maintenance, repair and replacement allowance* means a dollar amount calculated according to the following equation: (Industry sector percentage) × (replacement cost of the stationary source) where "industry sector percentage" is drawn from Table 1 of this section.

TABLE 1 OF § 51.166(B)(53).—
INDUSTRY SECTOR PERCENTAGES

Industry sector	Industry sector percentage
Electric Services	
Petroleum Refining	
Chemical Processes	
Natural Gas Transport	
Pulp and Paper Mills	
Paper Mills	
Automobile Manufacturing	
Pharmaceuticals	
Other	

¹ EPA has not determined this value.

(i) A stationary source's annual maintenance costs shall be calculated and summed according to the following rules:

(a) The owner or operator may choose to sum costs over either a calendar year or initially specified fiscal year. The initially specified fiscal year must remain in use unless other accounting procedures at the stationary source subsequently change to a different fiscal year.

(b) Costs incurred for all activities performed at the stationary source in order to maintain, facilitate, restore, or improve the efficiency, reliability, availability, or safety of that stationary source that are not excluded under paragraph (b)(53)(ii) of this section, or that have not been issued a preconstruction permit, shall be tracked chronologically and summed at the end of the year.

(1) At the end of the year, these costs shall be listed and summed in order from least cost to highest cost.

(2) All activities prior to the point on the cost-ordered list at which the sum of activity costs exceeds the annual maintenance, repair and replacement allowance shall automatically qualify as routine maintenance, repair, or replacement.

(c) Costs associated with maintaining or installing pollution control equipment shall not be included in the calculation and summation of costs for routine maintenance, repair, and replacement. Costs shall remain included if they are associated with maintaining or installing equipment that serves a dual function as both process and control equipment.

(d) The owner or operator shall provide an annual report to the reviewing authority containing complete information on all maintenance, repair and replacement costs and process unit replacement cost estimates at the stationary source. The report shall be provided within 60 days after the end of the year over which activity costs have been summed.

(ii) An activity otherwise eligible for inclusion in the annual maintenance, repair and replacement allowance shall not be eligible to be included in the allowance if it:

(a) Results in an increase in the maximum achievable hourly emissions

rate of the stationary source of a regulated NSR pollutant, or results in emissions of a regulated NSR pollutant not previously emitted;

(b) Constitutes construction of a new process unit; or

(c) Removes an entire existing process unit and installs a different process unit in its place.

(54)(i) In general, *process unit* means any collection of structures and/or equipment that processes, assembles, applies, blends, or otherwise uses material inputs to produce or store a completed product. A single stationary source may contain more than one process unit.

(ii) The following list identifies the process units at specific kinds of stationary sources.

(a) For a steam electric generating facility, the process unit would consist of those portions of the plant which contribute directly to the production of electricity. For example, at a pulverized coal-fired facility, the process unit would generally be the combination of those systems from the coal receiving equipment through the emission stack, including the coal handling equipment, pulverizers or coal crushers, feedwater heaters, boiler, burners, turbine-generator set, air preheaters, and operating control systems. Each separate generating unit would be considered a separate process unit. Components shared between two or more process units would be proportionately allocated based on capacity.

(b) For a petroleum refinery, there are several categories of process units: those that separate and distill petroleum feedstocks; those that change molecular structures; petroleum treating processes; auxiliary facilities, such as boilers and hydrogen production; and those that load, unload, blend or store products.

(c) For a cement plant, the process unit would generally consist of the kiln and equipment that supports it, including all components that process or store raw materials, preheaters, and components that process or store products from the kilns, and associated emission stacks.

(d) For a pulp and paper mill, there are several types of process units. One is the system that processes wood products, another is the digester and its associated heat exchanger, blow tank, pulp filter, accumulator, oxidation tower, and evaporators. A third is the chemical recovery system, which includes the recovery furnace, lime kiln, storage vessels, and associated oxidation processes feeding regenerated chemicals to the digester.

(e) For an incinerator, the process unit would consist of components from the

feed pit or refuse pit to the stack, including conveyors, combustion devices, heat exchangers and steam generators, quench tanks, and fans.

(55) *Functionally equivalent component* means a component that serves the same purpose as the replaced component.

(56) *Fixed capital cost* means the capital needed to provide all the depreciable components. "Depreciable components" refers to all components of fixed capital cost and is calculated by subtracting land and working capital from the total capital investment, as defined in paragraph (b)(57) of this section.

(57) *Total capital investment* means the sum of the following: all costs required to purchase needed process equipment (purchased equipment costs); the costs of labor and materials for installing that equipment (direct installation costs); the costs of site preparation and buildings; other costs such as engineering, construction and field expenses, fees to contractors, startup and performance tests, and contingencies (indirect installation costs); land for the process equipment; and working capital for the process equipment.

* * * * *

Appendix S—[Amended]

4. In Appendix S to Part 51 Section II is amended:

- a. By revising paragraph A.5(iii) (a).
- b. By adding paragraphs A.21 through 25.

The revision and additions read as follows:

Appendix S to part 51—Emission Offset Interpretative Ruling

* * * * *

II. Initial Screening Analyses and Determination of Applicable Requirements

- A. * * *
- 5. * * *
- (iii) * * *

(a) Routine maintenance, repair and replacement, which shall include but not be limited to the activities set out in paragraphs A.5 (iii)(a)(1) and (2) of this section. Without regard to other considerations, the activities specified in paragraphs A.5 (iii)(a)(1) and (2) shall constitute routine maintenance, repair and replacement:

(1) Activities performed at a stationary source in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, whose total cost, when added together with the total costs of all previous activities

performed at the same stationary source in the same year in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, does not exceed that stationary source's annual maintenance, repair and replacement allowance. "Annual maintenance, repair and replacement allowance" is defined in paragraph A.21 of this section. Rules for calculation and summation of costs are provided in paragraph A.21 (i) of this section. A stationary source may elect to calculate an annual maintenance, repair and replacement allowance for either all or none, but not some, of the maintenance, repair, and replacement activities performed at the stationary source.

(2) The replacement of components of a process unit with identical or functionally equivalent components, provided that:

(i) The fixed capital cost of the components does not exceed [x]¹ percent of the fixed capital cost that would be required to construct an entirely new process unit; and

(ii) The replacement does not change the basic design parameters of the process unit. The basic design parameters for electric utility steam generating units are maximum heat input and fuel consumption specifications. For non-utilities, basic design parameters are the maximum fuel or material input specifications to the process unit. An improvement in efficiency does not change a process unit's basic design parameters. "Functionally equivalent components" and "fixed capital cost" are defined in paragraphs A.23 and A.24 of this section, respectively.

* * * * *

21. *Annual maintenance, repair and replacement allowance* means a dollar amount calculated according to the following equation: (Industry sector percentage) × (replacement cost of the stationary source) where "industry sector percentage" is drawn from Table 1 of this section.

TABLE 1. OF SECTION II.A.21.—INDUSTRY SECTOR PERCENTAGES

Industry sector	Industry sector percentage
Electric Services	
Petroleum Refining	
Chemical Processes	
Natural Gas Transport	
Pulp and Paper Mills	
Paper Mills	
Automobile Manufacturing	
Pharmaceuticals	

¹ EPA has not determined this value.

TABLE 1. OF SECTION II.A.21.—INDUSTRY SECTOR PERCENTAGES—Continued

Industry sector	Industry sector percentage
Other	

(i) A stationary source's annual maintenance costs shall be calculated and summed according to the following rules:

(a) The owner or operator may choose to sum costs over either a calendar year or initially specified fiscal year. The initially specified fiscal year must remain in use unless other accounting procedures at the stationary source subsequently change to a different fiscal year.

(b) Costs incurred for all activities not performed at the stationary source in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source that are not excluded under A.21 (ii) of this section, or that have not been issued a preconstruction permit, shall be tracked chronologically and summed at the end of the year.

(1) At the end of the year, these costs shall be listed and summed in order from least cost to highest cost.

(2) All activities prior to the point on the cost-ordered list at which the sum of activity costs exceeds the annual maintenance, repair and replacement allowance shall automatically qualify as routine maintenance, repair, or replacement.

(c) Costs associated with maintaining or installing pollution control equipment shall not be included in the calculation and summation of costs for routine maintenance, repair, and replacement. Costs shall remain included if they are associated with maintaining or installing equipment that serves a dual function as both process and control equipment.

(d) The owner or operator shall provide an annual report to the reviewing authority containing complete information on all maintenance, repair and replacement costs and process unit replacement cost estimates at the stationary source. The report shall be provided within 60 days after the end of the year over which activity costs have been summed.

(ii) An activity otherwise eligible for inclusion in the annual maintenance, repair and replacement allowance shall not be eligible to be included in the allowance if it:

(a) Results in an increase in the maximum achievable hourly emissions rate of the stationary source of a regulated NSR pollutant, or results in emissions of a regulated NSR pollutant not previously emitted;

(b) Constitutes construction of a new process unit; or

(c) Removes an entire existing process unit and installs a different process unit in its place.

22. (i) In general, *process unit* means any collection of structures and/or equipment that processes, assembles, applies, blends, or otherwise uses material inputs to produce or store a completed product. A single stationary source may contain more than one process unit.

(ii) The following list identifies the process units at specific kinds of stationary sources.

(a) For a steam electric generating facility, the process unit would consist of those portions of the plant which contribute directly to the production of electricity. For example, at a pulverized coal-fired facility, the process unit would generally be the combination of those systems from the coal receiving equipment through the emission stack, including the coal handling equipment, pulverizers or coal crushers, feedwater heaters, boilers, burners, turbine-generator set, air preheaters, and operating control systems. Each separate generating unit would be considered a separate process unit. Components shared between two or more process units would be proportionately allocated based on capacity.

(b) For a petroleum refinery, there are several categories of process units: those that separate and distill petroleum feedstocks; those that change molecular structures; petroleum treating processes; auxiliary facilities, such as boilers and hydrogen production; and those that load, unload, blend or store products.

(c) For a cement plant, the process unit would generally consist of the kiln and equipment that supports it, including all components that process or store raw materials, preheaters, and components that process or store products from the kilns, and associated emission stacks.

(d) For a pulp and paper mill, there are several types of process units. One is the system that processes wood products, another is the digester and its associated heat exchanger, blow tank, pulp filter, accumulator, oxidation tower, and evaporators. A third is the chemical recovery system, which includes the recovery furnace, lime kiln, storage vessels, and associated oxidation processes feeding regenerated chemicals to the digester.

(e) For an incinerator, the process unit would consist of components from the feed pit or refuse pit to the stack, including conveyors, combustion devices, heat exchangers and steam generators, quench tanks, and fans.

23. *Functionally equivalent component* means a component that serves the same purpose as the replaced component.

24. *Fixed capital cost* means the capital needed to provide all the depreciable components. "Depreciable components" refers to all components of fixed capital cost and is calculated by subtracting land and working capital from the total capital investment, as defined in paragraph A.25 of this section.

25. *Total capital investment* means the sum of the following: all costs required to

purchase needed process equipment (purchased equipment costs); the costs of labor and materials for installing that equipment (direct installation costs); the costs of site preparation and buildings; other costs such as engineering, construction and field expenses, fees to contractors, startup and performance tests, and contingencies (indirect installation costs); land for the process equipment; and working capital for the process equipment.

* * * * *

PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

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

Subpart A—[Amended]

2. Section 52.21 is amended:

a. By revising paragraph (b)(2)(iii)(a).

b. By adding paragraphs (b)(55)

through (59).

The revision and additions are revised to read as follows:

§ 52.21 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(2) * * *

(iii) * * *

(a) Routine maintenance, repair and replacement, which shall include but not be limited to the activities set out in paragraphs (b)(2)(iii)(a)(1) and (2) of this section. Without regard to other considerations, the activities specified in paragraphs (b)(2)(iii)(a)(1) and (2) shall constitute routine maintenance, repair and replacement:

(1) Activities performed at a stationary source in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, whose total cost, when added together with the total costs of all previous activities performed at the same stationary source in the same year in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, does not exceed that stationary source's annual maintenance, repair and replacement allowance. "Annual maintenance, repair and replacement allowance" is defined in paragraph (b)(55) of this section. Rules for calculation and summation of costs are provided in paragraph (b)(55)(i) of this section. A stationary source may elect to calculate an annual maintenance, repair and replacement allowance for either all or none, but not some, of the maintenance, repair, and replacement activities performed at the stationary source.

(2) The replacement of components of a process unit with identical or

functionally equivalent components, provided that:

- (i) The fixed capital cost of the components does not exceed [x]¹ percent of the fixed capital cost that would be required to construct an entirely new process unit; and
- (ii) The replacement does not change the basic design parameters of the process unit. The basic design parameters for electric utility steam generating units are maximum heat input and fuel consumption specifications. For non-utilities, basic design parameters are the maximum fuel or material input specifications to the process unit. An improvement in efficiency does not change a process unit's basic design parameters. "Functionally equivalent components" and "fixed capital cost" are defined in paragraphs (b)(57) and (b)(58) of this section.

* * * * *

(55) *Annual maintenance, repair and replacement allowance* means a dollar amount calculated according to the following equation: (Industry sector percentage) x (replacement cost of the stationary source) where "industry sector percentage" is drawn from Table 1 of this section.

TABLE 1 OF § 52.21(B)(55).—
INDUSTRY SECTOR PERCENTAGES

Industry sector	Industry sector percentage
Electric Services	
Petroleum Refining	
Chemical Processes	
Natural Gas Transport	
Pulp and Paper Mills	
Paper Mills	
Automobile Manufacturing	
Pharmaceuticals	
Other	

(i) A stationary source's annual maintenance costs shall be calculated and summed according to the following rules:

(a) The owner or operator may choose to sum costs over either a calendar year or initially specified fiscal year. The initially specified fiscal year must remain in use unless other accounting procedures at the stationary source subsequently change to a different fiscal year.

(b) Costs incurred for all activities not performed at the stationary source in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source that are not excluded under paragraph (b)(55)(ii) of this section, or

that have not been issued a preconstruction permit, shall be tracked chronologically and summed at the end of the year.

(1) At the end of the year, these costs shall be listed and summed in order from least cost to highest cost.

(2) All activities prior to the point on the cost-ordered list at which the sum of activity costs exceeds the annual maintenance, repair and replacement allowance shall automatically qualify as routine maintenance, repair, or replacement.

(c) Costs associated with maintaining or installing pollution control equipment shall not be included in the calculation and summation of costs for routine maintenance, repair, and replacement. Costs shall remain included if they are associated with maintaining or installing equipment that serves a dual function as both process and control equipment.

(d) The owner or operator shall provide an annual report to the reviewing authority containing complete information on all maintenance, repair and replacement costs and process unit replacement cost estimates at the stationary source. The report shall be provided within 60 days after the end of the year over which activity costs have been summed.

(ii) An activity otherwise eligible for inclusion in the annual maintenance, repair and replacement allowance shall not be eligible to be included in the allowance if it:

(a) Results in an increase in the maximum achievable hourly emissions rate of the stationary source of a regulated NSR pollutant, or results in emissions of a regulated NSR pollutant not previously emitted;

(b) Constitutes construction of a new process unit; or

(c) Removes an entire existing process unit and installs a different process unit in its place.

(56) (i) In general, *process unit* means any collection of structures and/or equipment that processes, assembles, applies, blends, or otherwise uses material inputs to produce or store a completed product. A single stationary source may contain more than one process unit.

(ii) The following list identifies the process units at specific kinds of stationary sources.

(a) For a steam electric generating facility, the process unit would consist of those portions of the plant which contribute directly to the production of electricity. For example, at a pulverized coal-fired facility, the process unit would generally be the combination of those systems from the coal receiving

equipment through the emission stack, including the coal handling equipment, pulverizers or coal crushers, feedwater heaters, boiler, burners, turbine-generator set, air preheaters, and operating control systems. Each separate generating unit would be considered a separate process unit. Components shared between two or more process units would be proportionately allocated based on capacity.

(b) For a petroleum refinery, there are several categories of process units: those that separate and distill petroleum feedstocks; those that change molecular structures; petroleum treating processes; auxiliary facilities, such as boilers and hydrogen production; and those that load, unload, blend or store products.

(c) For a cement plant, the process unit would generally consist of the kiln and equipment that supports it, including all components that process or store raw materials, preheaters, and components that process or store products from the kilns, and associated emission stacks.

(d) For a pulp and paper mill, there are several types of process units. One is the system that processes wood products, another is the digester and its associated heat exchanger, blow tank, pulp filter, accumulator, oxidation tower, and evaporators. A third is the chemical recovery system, which includes the recovery furnace, lime kiln, storage vessels, and associated oxidation processes feeding regenerated chemicals to the digester.

(e) For an incinerator, the process unit would consist of components from the feed pit or refuse pit to the stack, including conveyors, combustion devices, heat exchangers and steam generators, quench tanks, and fans.

(57) *Functionally equivalent component* means a component that serves the same purpose as the replaced component.

(58) *Fixed capital cost* means the capital needed to provide all the depreciable components. "Depreciable components" refers to all components of fixed capital cost and is calculated by subtracting land and working capital from the total capital investment, as defined in paragraph (b)(59) of this section.

(59) *Total capital investment* means the sum of the following: all costs required to purchase needed process equipment (purchased equipment costs); the costs of labor and materials for installing that equipment (direct installation costs); the costs of site preparation and buildings; other costs such as engineering, construction and field expenses, fees to contractors, startup and performance tests, and

¹ EPA has not determined this value.

contingencies (indirect installation costs); land for the process equipment; and working capital for the process equipment.

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3. Section 52.24 is amended:

- a. By revising paragraph (f)(5)(iii)(a).
- b. By adding paragraphs (f)(25)

through (29).

The revision and additions read as follows:

§ 52.24 Statutory restriction on new sources.

* * * * *

- (f) * * *
- (5) * * *
- (iii) * * *

(a) Routine maintenance, repair and replacement, which shall include but not be limited to the activities set out in paragraphs (f)(5)(iii)(a)(1) and (2) of this section. Without regard to other considerations, the activities specified in paragraphs (f)(5)(iii)(a)(1) and (2) shall constitute routine maintenance, repair and replacement:

(1) Activities performed at a stationary source in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, whose total cost, when added together with the total costs of all previous activities performed at the same stationary source in the same year in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source, does not exceed that stationary source's annual maintenance, repair and replacement allowance. "Annual maintenance, repair and replacement allowance" is defined in paragraph (f)(25) of this section. Rules for calculation and summation of costs are provided in paragraph (f)(25)(i) of this section. A stationary source may elect to calculate an annual maintenance, repair and replacement allowance for either all or none, but not some, of the maintenance, repair, and replacement activities performed at the stationary source.

(2) The replacement of components of a process unit with identical or functionally equivalent components, provided that:

(i) The fixed capital cost of the components does not exceed [x]¹ percent of the fixed capital cost that would be required to construct an entirely new process unit; and

(ii) The replacement does not change the basic design parameters of the process unit. The basic design parameters for electric utility steam generating units are maximum heat

input and fuel consumption specifications. For non-utilities, basic design parameters are the maximum fuel or material input specifications to the process unit. An improvement in efficiency does not change a process unit's basic design parameters. "Functionally equivalent components" and "fixed capital cost" are defined in paragraphs (f)(27) and (f)(28) of this section, respectively.

* * * * *

(25) *Annual maintenance, repair and replacement allowance* means a dollar amount calculated according to the following equation: (Industry sector percentage) x (replacement cost of the stationary source) where "industry sector percentage" is drawn from Table 1 of this section.

TABLE 1 OF § 52.24(F)(25).—
INDUSTRY SECTOR PERCENTAGES

Industry sector	Industry sector percentage
Electric Services	
Petroleum Refining	
Chemical Processes	
Natural Gas Transport	
Pulp and Paper Mills	
Paper Mills	
Automobile Manufacturing	
Pharmaceuticals	
Other	

(i) A stationary source's annual maintenance costs shall be calculated and summed according to the following rules:

(a) The owner or operator may choose to sum costs over either a calendar year or initially specified fiscal year. The initially specified fiscal year must remain in use unless other accounting procedures at the stationary source subsequently change to a different fiscal year.

(b) Costs incurred for all activities not performed at the stationary source in order to maintain, facilitate, restore or improve the efficiency, reliability, availability or safety of that stationary source that are not excluded under paragraph (f)(25)(ii) of this section, or that have not been issued a preconstruction permit, shall be tracked chronologically and summed at the end of the year.

(1) At the end of the year, these costs shall be listed and summed in order from least cost to highest cost.

(2) All activities prior to the point on the cost-ordered list at which the sum of activity costs exceeds the annual maintenance, repair and replacement allowance shall automatically qualify as routine maintenance, repair, or replacement.

(c) Costs associated with maintaining or installing pollution control equipment shall not be included in the calculation and summation of costs for routine maintenance, repair, and replacement. Costs shall remain included if they are associated with maintaining or installing equipment that serves a dual function as both process and control equipment.

(d) The owner or operator shall provide an annual report to the reviewing authority containing complete information on all maintenance, repair and replacement costs and process unit replacement cost estimates at the stationary source. The report shall be provided within 60 days after the end of the year over which activity costs have been summed.

(ii) An activity otherwise eligible for inclusion in the annual maintenance, repair and replacement allowance shall not be eligible to be included in the allowance if it:

(a) Results in an increase in the maximum achievable hourly emissions rate of the stationary source of a regulated NSR pollutant, or results in emissions of a regulated NSR pollutant not previously emitted;

(b) Constitutes construction of a new process unit; or

(c) Removes an entire existing process unit and installs a different process unit in its place.

(26) (i) In general, *process unit* means any collection of structures and/or equipment that processes, assembles, applies, blends, or otherwise uses material inputs to produce or store a completed product. A single stationary source may contain more than one process unit.

(ii) The following list identifies the process units at specific kinds of stationary sources.

(a) For a steam electric generating facility, the process unit would consist of those portions of the plant which contribute directly to the production of electricity. For example, at a pulverized coal-fired facility, the process unit would generally be the combination of those systems from the coal receiving equipment through the emission stack, including the coal handling equipment, pulverizers or coal crushers, feedwater heaters, boiler, burners, turbine-generator set, air preheaters, and operating control systems. Each separate generating unit would be considered a separate process unit. Components shared between two or more process units would be proportionately allocated based on capacity.

(b) For a petroleum refinery, there are several categories of process units: those that separate and distill petroleum

¹ EPA has not determined this value.

feedstocks; those that change molecular structures; petroleum treating processes; auxiliary facilities, such as boilers and hydrogen production; and those that load, unload, blend or store products.

(c) For a cement plant, the process unit would generally consist of the kiln and equipment that supports it, including all components that process or store raw materials, preheaters, and components that process or store products from the kilns, and associated emission stacks.

(d) For a pulp and paper mill, there are several types of process units. One is the system that processes wood products, another is the digester and its associated heat exchanger, blow tank, pulp filter, accumulator, oxidation tower, and evaporators. A third is the chemical recovery system, which

includes the recovery furnace, lime kiln, storage vessels, and associated oxidation processes feeding regenerated chemicals to the digester.

(e) For an incinerator, the process unit would consist of components from the feed pit or refuse pit to the stack, including conveyors, combustion devices, heat exchangers and steam generators, quench tanks, and fans.

(27) *Functionally equivalent component* means a component that serves the same purpose as the replaced component.

(28) *Fixed capital cost* means the capital needed to provide all the depreciable components. "Depreciable components" refers to all components of fixed capital cost and is calculated by subtracting land and working capital from the total capital investment, as

defined in paragraph (f)(29) of this section.

(29) *Total capital investment* means the sum of the following: all costs required to purchase needed process equipment (purchased equipment costs); the costs of labor and materials for installing that equipment (direct installation costs); the costs of site preparation and buildings; other costs such as engineering, construction and field expenses, fees to contractors, startup and performance tests, and contingencies (indirect installation costs); land for the process equipment; and working capital for the process equipment.

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