

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 A company in that sector needed to replace outdated analog controllers at a series of six batch digesters.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 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)(1).
- b. By adding paragraphs (a)(1)(xliv) 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 (i) 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)(xlvi) of this section, respectively.

* * * * *

(xliii) *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)(xliii)(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.

(xiv)(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.

* * * * *

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.

* * * * *

[FR Doc. 02-31900 Filed 12-30-02; 8:45 am]

BILLING CODE 6560-50-P

APTI Course 461 - Intermediate Permitting

Final Examination Questions

(Mark the Correct Response, One per Question, on the Answer Sheet)

New Source Review -- EPA Rule (40 CFR Parts 51 & 52)

- Which one of the following is considered a physical or operational change at an existing major source:
 - Routine maintenance of existing emissions units
 - Change in the ownership of a stationary source
 - A fuel switch due to an order or rule under section 125 of the Clean Air Act
 - Installation of a new boiler which replaces an old identical boiler
 - An increase in hours of operation (where no restrictions on such increase exists)
- Which one of the following information is **not** needed to determine whether a group of emissions units belong to the same stationary source:
 - Each unit's SIC code (industrial grouping)
 - Whether the units are located on contiguous or adjacent properties
 - Whether one or more of the units is a support facility for the primary activity at the site
 - The date construction is expected to commence on a proposed emissions unit
 - Whether the activities are under common control
- Which one of the following types of condition is **not** commonly used to limit a source's potential to emit:
 - A requirement to install and operate pollution control equipment
 - A limit on the number of employees working at a facility
 - A restriction on hours of operation
 - Limitations on the type or amount of material processed
 - Limitations on the type or amount of fuel used
- Secondary emissions are _____ the potential emissions estimates used for applicability determinations; they _____ considered in PSD analyses if PSD review is required for that pollutant.
 - included in, are
 - included in, are not
 - excluded from, are
 - excluded from, are not
- The PSD regulations define a significant emissions increase not only in tons per year but also in terms of an ambient air concentration increase for sources located within what distance of a Class I area?
 - 100 miles
 - 100 km
 - 10 miles
 - 10 km
 - 1 mile
- EPA's PSD rule considers an increase or decrease in actual emissions *contemporaneous* with a proposed change if the increase or decrease occurs between the date _____ years before construction on the change and the date that _____ the change occurs.
 - two, the increase from
 - five, construction on
 - two, construction on
 - five, the increase from
 - seven, the increase from

7. PSD increments **have never been established** by EPA for which one of the following pollutants?
 - a) PM-10
 - b) Particulate matter (TSP)
 - c) Sulfur dioxide
 - d) Nitrogen dioxide
 - e) Volatile organic compounds (VOC)

8. The maximum allowable increase in the ambient concentration that is allowed to occur over a baseline concentration for a pollutant is called:
 - a) The primary national ambient air quality standard (NAAQS)
 - b) The secondary NAAQS
 - c) The significant net emissions increase
 - d) The *de minimis* increase
 - e) The PSD increment

9. An applicant would not normally be required to place model receptors at which one of the following locations:
 - a) The fence line of the proposed facility
 - b) The boundary of a nearby Class I area
 - c) The location of an ambient monitoring site
 - d) Where potentially high ambient air concentrations are expected to occur
 - e) Inside the fence line of the applicant's proposed facility

10. The PSD regulations generally require that an applicant collect _____ of on-site ambient data if no representative data are available from existing monitors. However, the permitting agency has the discretion to accept data over a shorter period of time (but in no case less than _____) if a complete and adequate analysis can be accomplished with the resulting data.
 - a) 1 year, 3 months
 - b) 1 year, 4 months
 - c) 1 year, 6 months
 - d) 2 years, 6 months
 - e) 5 years, 6 months

11. The BACT analysis, because it is allowed to consider certain factors, can result in a less stringent limitation than any of the following except:
 - a) A specific regulatory limit for that type of emissions unit in the State where the source is located
 - b) A specific emissions limitation for that unit in a permit issued to the source
 - c) A RACT limit for that type of source in the State where the source is located
 - d) An applicable New Source Performance Standard (NSPS)
 - e) A Lowest Achievable Emission Rate (LAER) limit for a similar unit

12. Which of the following should not be considered in the BACT environmental impact analysis?
 - a) Impacts on ambient concentrations of the pollutant under review
 - b) Visibility impacts
 - c) Solid or hazardous waste generated by a control device
 - d) Emissions of toxic pollutants
 - e) Cross-media transfer of pollutants, such as from air to scrubber water

13. In a BACT analysis, a control technology is considered "available" once it has reached the following level of development:
 - a) Laboratory testing
 - b) Pilot-scale testing
 - c) Patent applied for
 - d) Publication in a technical journal
 - e) Licensing and/or commercial sales

14. The BACT energy impact analysis should not:
- Consider energy costs per ton of pollutant removed
 - Consider the energy benefits (if any) of a control alternative
 - Evaluate the general energy implications of the overall project relative to other hypothetical project alternatives
 - Address concerns over using locally scarce fuels
 - Estimate the direct energy impact to the source of each control alternative
15. The BACT economic impact analysis should:
- Determine if the applicant can afford a given control alternative
 - Consider only the capital cost of each of the various control alternatives
 - Look at only the average cost effectiveness of the various control alternatives
 - Look at only the incremental cost effectiveness of the various control alternatives
 - Look at both the average and incremental cost effectiveness of the various control alternatives
16. The Clean Air Act definition of BACT does not require:
- A case-by-case analysis
 - That BACT be no less stringent than an applicable NSPS or NESHAP
 - Consideration of energy, environmental, and economic impacts
 - That BACT be at least as stringent as the level of control achieved by the top 12% of sources in that industrial category
 - Consideration of the use of fuel cleaning or treatment for control of a pollutant
17. Each of the following statements is true about LAER except:
- It is defined as the most stringent emission limitation achieved in practice by, or contained in the implementation plan of any State for (if achievable) that class or category of source
 - It is required only for nonattainment area pollutants for which a new source is major
 - It is generally more stringent than BACT
 - Cost, in \$ per ton of pollutant removed, can be considered in determining LAER
 - Technology transfer from similar gas streams can be considered
18. A new source required to obtain offsets for its VOC emissions in a serious nonattainment area has to obtain _____ tons of actual emissions reductions for each ton of potential emissions increase at the source.
- 1
 - 1.1
 - 1.2
 - 1.3
 - 1.5
19. Fugitive emissions are always considered in calculating "potential to emit" for NSR applicability if the source:
- Emits a hazardous air pollutant (HAP)
 - Is a "listed" source category in the definition of a major source
 - Is not a "listed" source category in the definition of a major source
 - Is located in an attainment area
 - Includes a storage pile
20. To be creditable for PSD netting purposes, an emissions reduction does not have to be:
- Enforceable
 - Deposited in a recognized emissions bank
 - Quantifiable
 - Surplus
 - Permanent

21. The PSD air quality modeling analysis includes as input data:
 - a) Secondary emissions from growth associated with the proposed project
 - b) Estimated actual emissions from the proposed source
 - c) Estimated actual emissions from nearby sources not yet operating
 - d) Actual emissions from sources whose emissions are included in the background concentration
 - e) Actual stack height, even if greater than Good Engineering Practice (GEP) guidelines

22. All of the following are considered to be nonattainment area pollutants in an ozone nonattainment area which does not have a Section 182(f) exclusion except:
 - a) VOC
 - b) NO₂
 - c) VOC that are also Organic HAP
 - d) SO₂
 - e) NO

23. A minor source baseline date established in a baseline area by the submittal of a PSD permit application remains in effect unless:
 - a) The application is subsequently determined to be incomplete
 - b) The permit is ultimately denied
 - c) The permit is issued, but expires without being used
 - d) The source that is permitted is never constructed
 - e) The permitted source is permanently shut down

24. On-site continuous ambient monitoring data collection is required as part of the PSD air quality analysis
 - a) Always
 - b) About 70% of the time
 - c) About 50% of the time
 - d) About 15% of the time
 - e) Never

25. A modification at a 200 ton per year (tpy) VOC source in a serious ozone nonattainment area is considered a major modification subject to NSR if the proposed change would result in cumulative emissions over a 5 year period exceeding the ____ tpy *de minimis* threshold.
 - a) 5
 - b) 15
 - c) 25
 - d) 40
 - e) 100

26. New source review does not include the following preconstruction review program:
 - a) Prevention of significant deterioration (PSD)
 - b) Nonattainment area major modifications
 - c) Minor modifications
 - d) Minor new sources
 - e) Section 112(g) source modifications

27. EPA's PSD rules are found in
 - a) 40 CFR 51, Appendix A
 - b) 40 CFR 52
 - c) 40 CFR 81
 - d) 40 CFR 70
 - e) 40 CFR 50

28. Determination of contiguous or adjacent property considers all the following except:
- Ownership
 - Physical distance between properties
 - Size of each property
 - Interdependence of facilities on nearby properties
 - Whether the properties touch (have a common boundary)
29. For an existing listed minor source in an ozone attainment area, a physical change is a major modification only if it results in a net emissions increase of VOC of ___ tpy or more.
- 1
 - 5
 - 25, over a 5 year period
 - 40
 - 100
30. The following action is excluded from being a physical or operational change by definition:
- Replacing an old emissions unit with an identical new emissions unit
 - Restoring lost capacity by renovating an old unit
 - Increasing the capacity of an existing unit as long as the actual emissions increase is below the significant emissions increase threshold
 - Increasing the operating hours (unless restricted by enforceable conditions) of an existing unit
 - Projects which increase the efficiency of a process unit
31. In a Class I impact analysis, the applicant must demonstrate that there will be no adverse impact on
- The number of visitors to the area
 - Black bears
 - Air quality related values
 - Commercially-valuable vegetation
 - Water quality

Title V (Operating Permits) -- EPA Rule (40 CFR 70)

32. The Title V application for new sources that have undergone NSR is due:
- Prior to commencing construction
 - Prior to commencing operation
 - Within 12 months after the NSR application was deemed complete
 - Within 12 months after commencing operation
 - At the same time as the NSR application
33. A NSR permit can be administratively revised under the Title V Operating Permit program
- True
 - False
34. Emissions trading includes all the following except:
- Purchasing emission reductions from a bank for use as offsets
 - Netting an increase and decrease in emissions at the same source to avoid major modification NSR
 - Bubbling emissions across two or more emissions units to establish one total limit for all the units instead of separate limits on each unit
 - Using a growth allowance to allow new sources to construct
 - Obtaining emission reductions directly from another source to use as offsets

35. The following type of source is **not** subject to 40 CFR 70:
- Asbestos removal
 - A minor source of HAP regulated under 40 CFR 61
 - A major source of fugitive HAP emissions
 - Any source that is required to obtain a PSD permit
 - Any type of stationary source that EPA so designates by regulation
36. The regulations in 40 CFR 70 govern the development of State and local operating permit programs.
- True
 - False
37. A Part 70 major source is any source subject to the serious nonattainment area provisions of Title I, Part D, with the potential to emit _____ tpy or more of PM-10.
- 15
 - 25
 - 40
 - 70
 - 100
38. Sources required to submit operating permit applications can ignore emissions of any pollutant which the source does not have the potential to emit in major quantities.
- True
 - False
39. In determining a source's potential to emit under 40 CFR 70, fugitive emissions of a pollutant
- Are never counted
 - Are counted **only** if the source is in a nonattainment area for that pollutant
 - Are counted **only** if the pollutant is a HAP
 - Are counted if the pollutant is a HAP, if the source is in an attainment area for that pollutant and falls within one of the listed source categories, or if the source is in a nonattainment area for that pollutant.
 - Are counted **only** if the fugitive emissions are significant
40. If a source is subject to 40 CFR 70, fugitive emissions _____ in the application
- Can be ignored
 - Can be ignored unless they are significant
 - Can be ignored unless they are HAP
 - Can be ignored unless the source is major for that pollutant
 - Must be addressed
41. General permits **cannot** be used
- To permit one or more specific units at a source
 - As a compliance plan for units out of compliance
 - To permit an entire source
 - To permit a new unit at a source which already has a Title V permit
 - By more than one source
42. The time period for submittal of permit renewal applications is at least _____ months, but no longer than _____ months, prior to the permit expiration date.
- 2, 12
 - 3, 12
 - 6, 18
 - 6, 24
 - 12, 24

43. Which of the following is **not** required in the Title V application?
- Identifying information about the company
 - An explanation of any proposed exemptions from applicable requirements
 - Emissions information
 - An organization chart for that facility, including the environmental staff
 - A compliance certification (unless the source is out of compliance)
44. An operating permit application compliance certification must include a statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements.
- True
 - False
45. "Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance" is known as the _____ shield.
- Application
 - Compliance
 - Permit
 - Enforcement
 - Statutory
46. The maximum life of an operating permit (except for solid waste incinerators) is _____ year(s).
- 1
 - 2
 - 3
 - 5
 - 10
47. Public petitions asking EPA to object to a proposed permit
- Must be filed prior to the close of EPA's 45 day review period
 - Can be based on objections not raised during the public comment period if the grounds for the objection arose after that period
 - Can be filed **only** by a private citizen
 - Can be filed **only** by an attorney
 - Must be based on new objections not raised during the public comment period
48. Which agency activity may not be financed with Title V fee revenue?
- Reviewing a permit application
 - Public hearing on a proposed permit
 - Emissions testing
 - Operating permit enforcement-associated court costs
 - Ambient monitoring
49. An authorized change at a Title V source that results in a different set of requirements applying to the affected unit(s) is called
- A minor permit modification
 - A significant change
 - Operational flexibility
 - An alternate operating scenario
 - An administrative amendment
50. EPA can "veto" an operating permit, but not a NSR permit.
- True
 - False