EXECUTIVE SUMMARY

Over the past eighteen months, the U.S. Environmental Protection Agency (EPA) has taken action to substantially alter the Clean Air Act program for New Source Review (NSR), a preconstruction permitting program created by Congress to require modern pollution controls on new and modified equipment at industrial facilities. NSR requires major sources to install controls whenever they make a change that would significantly increase emissions. Since its inception in 1977, the NSR program has reduced or prevented literally millions of tons of air pollution. Throughout the country, state and local air pollution control agencies have relied on this important program as an essential tool to improve air quality and protect public health.

EPA's recent actions significantly narrow the applicability of these key clean air requirements, allowing facilities greater leeway to install or modify equipment without applying modern pollution controls, providing for emission reductions to offset emission increases from the project, or assessing air quality impacts to assure that emissions increases will not violate public health and welfare standards. Many state and local air pollution control agencies believe the new rules could diminish air quality protections and undermine the achievement and maintenance of our nation's clean air and public health goals.

EPA's NSR revisions include six major elements:

- **Baseline Emissions** -- changing the method for determining the source's emissions before a change is made (the baseline against which emissions increases are measured);
- **Applicability Test** -- changing the method for estimating the emissions after the change;
- **Clean Unit Exclusion** -- disregarding increases from emissions units that have installed controls within the last 10 years;
- **Pollution Control Project Exclusion** -- exempting certain projects that will cause a significant increase in emissions of one pollutant, but reduce emissions of another pollutant;
- **Plantwide Applicability Limits** -- allowing facilities to establish a cap on emissions and trade increases and decreases under the cap, without installing controls on new or modified emissions units; and,
- **Replacement Exclusion --** allowing facilities to install new emissions units that replace existing equipment without controlling emissions from the new equipment or reviewing air quality impacts.

Most states and localities currently implement the NSR program through state-adopted rules that EPA has approved as equivalent to the federal program as it existed prior to December 31, 2002. Because EPA has revised the federal NSR program, these state and local air agencies must resubmit their programs to EPA for approval,

demonstrating that they will meet the revised federal program requirements. As EPA has acknowledged, state and local agencies are not required to adopt the new rules published by EPA; rather, they may design their state or local programs to best meet the needs of their respective jurisdictions, provided these programs are at least as stringent as the federal program. Many state and local air agencies have expressed their intention to adopt rules that differ from the federal rule, or to retain all or part of their existing rules.

STAPPA and ALAPCO have developed this NSR Menu of Options as a resource for permitting authorities to utilize during state and local rule development in response to EPA's recent rule revisions. For each of the main elements of the federal rule, the Menu of Options offers alternative approaches in the form of regulatory language presented side-by-side with the corresponding federal provisions.

The NSR Menu includes multiple options for many of the revised program elements, presenting a range of solutions from which permitting agencies may design the most effective program to satisfy their particular concerns. An overview of the six key elements of the federal rule revisions and the options STAPPA and ALAPCO have identified for each is presented below.

1. Baseline for Measuring Emissions Increases

To select an emissions baseline against which emissions increases are measured, EPA's revised rules allow a source to look back over the last 10 years. State and local agencies are concerned that this extended look-back period will be used to inflate the baseline well above current actual emissions, thereby presenting the project as a minor increase (or even an emissions reduction) that would not be subject to NSR (i.e., modern pollution control requirements and air quality review). State and local agencies are also concerned that 10-year-old data are not of sufficient quality to support reliable permitting decisions.

The Menu of Options offers two alternatives to the federal baseline provisions, one based on actual emissions rates and one that considers utilization rates. Both options set the two years immediately prior to the proposed project as the presumptive baseline that is most representative of the current source operation and design, but would allow a source to select a different two-year period within the last five years if the permitting authority concurs. By making the baseline more contemporaneous with the project, both options eliminate concerns that the baseline will be set above representative levels and that old data of questionable quality will be relied upon in applicability determinations.

2. Applicability Test

In order to determine whether a source modification triggers NSR, the source must determine what the emissions increase will be. The revised federal rules allow

all existing emissions units to use the "actual-to-projected-actual" test, predicting what the unit's actual emissions will be for five years after the project, and subtracting emissions increases that the source predicts will be due to production increases that the facility could have accommodated without the change (i.e., “demand growth exclusion”). State and local air agencies have several significant concerns with this provision, including that it allows for a demand growth exclusion, provides the permitting authority no opportunity for reviewing the projections before the project is constructed, does not make the projected emissions levels enforceable limits on the source, and does not require adequate reporting after the project to assure the project did not result in significant emissions increases.

The Menu of Options includes three alternatives to address these concerns. The first alternative uses the actual-to-potential applicability test from the old federal rule for all emissions units, ensuring that the source takes enforceable limits for any projections of post-project emissions that are less than the maximum potential to emit, if those projections are relied upon to avoid NSR. The second option allows the actual-to-projected-actuals test for all existing emissions units, but provides enhanced oversight and enforcement tools, including elimination of the demand growth exclusion, preconstruction review of the applicability determination for projects that are most likely to cause significant increases, and post-project recordkeeping and reporting to review the accuracy of the applicability determination after the modified source is operating. The third option allows the actuals-to-projected-actuals test for electric utility steam generating units only, incorporating the enhanced recordkeeping and reporting provisions for those units.

3. Clean Unit Exclusion

EPA's revised rules provide automatic designation as a "Clean Unit" for any emissions unit that has installed the Best Available Control Technology (BACT) or has met the Lowest Achievable Emission Rate (LAER) within the last 10 years, and allows sources to demonstrate that other controls are "comparable" to BACT or LAER to receive Clean Unit status. For any emissions unit with Clean Unit status, the federal rules ignore any emissions increases that would result from a project at the facility. State and local air agencies are very concerned that this approach, which deems potentially outdated technology “clean,” will allow sources to undertake modifications that significantly increase emissions without appropriate controls or air quality review. This concern is further compounded by the fact that an NSR exemption would also potentially extend to other emissions units modified by the same project affecting the Clean Unit.

The Menu of Options eliminates the special applicability test for Clean Units and offers an alternative Clean Unit provision, establishing a five-year period for which BACT or LAER controls installed on an emissions unit would be recognized as meeting the control requirements for any additional modification to the unit. This approach provides certainty for the source and a guaranteed payback period to recoup

investments in environmental controls, while still assuring modern pollution controls and air quality review, where appropriate.

4. Pollution Control Projects Exclusion

A Pollution Control Project (PCP) is one that will result in a significant emissions increase of a regulated NSR pollutant, but is nonetheless exempt from NSR requirements due to emissions decreases of another pollutant. The revised federal rules offer an automatic exemption from NSR for a list of PCPs that are presumptively deemed "environmentally beneficial." In addition to the listed PCPs, the revised federal rules offer a PCP exemption from NSR for any project, regardless of its primary purpose, if the owner or operator can demonstrate it is environmentally beneficial. State and local agencies are concerned that these provisions create a loophole that would exempt from NSR the replacement or reconstruction of existing emissions units that result in significant emissions increases.

The Menu provides alternative language to require that the primary purpose of an excluded project is pollution control, to provide the state or local agency the authority to rebut the presumption that a project is environmentally beneficial, and to prohibit use of the exclusion for the replacement or reconstruction of existing emissions units. These options provide assurance that the exclusion is not misapplied to changes that are not properly classified as pollution control projects.

5. Plantwide Applicability Limits

EPA's rules create a new program element allowing a facility to take a source-wide emissions cap – a "Plantwide Applicability Limit," or PAL -- under which any changes could be made without triggering NSR requirements. The source can look back 10 years to select the highest level of emissions allowable for setting the PAL. The source could add new emissions units, modify existing units, or increase emissions at some units and decrease at others, as long as the PAL is not exceeded, all without adding any emissions control equipment or reviewing ambient air quality impacts from the changes and without committing to any decrease in emissions from the facility over the 10-year effective period of the PAL.

The Menu offers three alternative program designs for PALs. The first option presented is a "non-declining" PAL set at the actual emissions level, based on the last two years (or another two-year period within the last five years, with permitting authority approval). The second option sets the PAL in the same manner, and requires the source to achieve emissions levels equivalent to installing BACT for attainment areas or LAER for nonattainment areas on all significant emissions units within five years after the PAL is established, but allows flexibility to the source in deciding how to achieve those emissions levels. The third option sets the PAL using the last two years (or another two-year period within the last five years, with permitting authority approval), and requires the source to install BACT or LAER

controls, in attainment and nonattainment areas respectively, on all significant emissions units within five years after the PAL is established.

6. Replacement Unit Exclusions

EPA's revised NSR Equipment Replacement rule creates a broad exemption from modern pollution controls and air quality impacts review by allowing the replacement of existing equipment with new equipment costing up to 20 percent of the current replacement value of the process unit. State and local agencies are concerned that the rule allows these replacements to be considered “routine,” and therefore exempt from NSR, even if the replacement results in significant actual emissions increases. The DC Court of Appeals, in response to numerous petitions filed challenging the rule, has stayed this rule from taking effect.

The Menu of Options eliminates this broad exemption and offers two alternatives to address routine maintenance, repair and replacement activities. The first alternative adopts specific criteria that a source should consider to determine if a change is "routine,” and describes how to apply the criteria. Under the second alternative, the permitting authority would publish lists of activities that are "routine" or "not routine," and the same criteria and guidelines included in the first option would be applied to any unlisted activities.

Additionally, EPA has indicated that under the December 31, 2002 revised rules, replacement units would be treated as existing emissions units. Accordingly, for purposes of determining whether NSR control technology or air quality impact review is required, the increase in emissions from the change is measured as the difference between the actual emissions from the old equipment and the projected actual emissions from the new equipment. This could lead to the installation of new equipment that has the potential to emit significant amounts of NSR pollutants without the requirement to utilize control technology or review air quality impacts. EPA has adopted this interpretation of the revised rule through a Reconsideration Notice published November 7, 2003. The Menu of Options includes alternative language that would clearly define a replacement unit to be a new emissions unit. In this way, the full “potential to emit” of the new equipment is considered in determining whether the change is subject to NSR. However, any creditable emission reductions from the old equipment may be available for netting in determining the net emissions increase.

I. INTRODUCTION

On December 31, 2002, the Environmental Protection Agency (EPA) published significant revisions to the federal Prevention of Significant Deterioration (PSD) and nonattainment New Source Review (NSR) programs. These sweeping changes comprise the first substantive revisions to the federal NSR rules in more than two decades and triggered strong reactions from many quarters. In the days following EPA's adoption of the new rule, numerous petitions were filed opposing the program revisions. Several states and a coalition of environmental groups, including the Natural Resources Defense Council, Earthjustice, the Clean Air Task Force, and Environmental Defense, filed administrative petitions with the EPA Administrator seeking reconsideration or withdrawal of the rules. In addition, numerous petitions for judicial review were filed, including a joint petition by 10 States (CT, ME, MD, MA, NH, NJ, NY, PA, RI and VT) and a petition by the South Coast Air Quality Management District in Los Angeles, California, joined by six additional California local air quality management districts, the California Air Resources Board and the District of Columbia. These government petitioners were eventually joined by Illinois, Delaware and Wisconsin. Additionally, several states and regulated industries have entered into the judicial proceedings by filing petitions to intervene on behalf of EPA.

On July 30, 2003, EPA published a notice granting reconsideration of six specific issues raised by the administrative petitioners and providing an opportunity for public comment on those specific issues only. Subsequently, EPA published on November 7, 2003 a notice of the agency's decisions related to the six specific issues. EPA decided that the agency would not change any aspect of the rule in response to the reconsideration. In the reconsideration response, EPA "clarified" two aspects of the final rule.

On August 27, 2003, EPA made final another significant change to the federal NSR program, establishing a broad exclusion from program review and emissions control requirements for the replacement of existing equipment with new equipment. Fourteen states and numerous environmental groups filed lawsuits to challenge this final agency action as soon as it was published in the *Federal Register*. In response to the petitioners' request, on December 24, 2003 the DC Circuit Court of Appeals stayed the effectiveness of this rule pending a decision on the challenges. This stay is still in effect.

In addition to the two highly contested actions already taken, EPA has announced plans to issue further substantive revisions to the federal program in the near future, including revisions to address when multiple construction activities are part of a single project; address how to treat emissions increases from debottlenecking projects; establish provisions for an "allowables PAL"; and incorporate reform provisions into 40 CFR 51, Appendix S.

In other related developments, EPA has also updated the National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter, bringing additional impacts to the NSR programs implemented by state and local agencies. On April 30, 2004, EPA published in the Federal Register two rules related to implementation of the new 8-hour ozone standard. The first of these rules designates air quality regions as either attainment or nonattainment areas, and further establishes classifications under the Clean Air Act ozone nonattainment provisions for certain 8-hour ozone nonattainment areas. The second of these rules provides regulations for the transition from the old 1-hour ozone standard to the new 8-hour standard. Upon revocation of the 1-hour ozone standard, these rules would eliminate or relax certain aspects of the current ozone nonattainment NSR program for many areas that remain nonattainment for ozone under the 8-hour standard. In the near future, EPA will publish rules to establish NSR program requirements for transitioning from the PM_{10} to the $PM_{2.5}$ NAAQS.

Against this backdrop of rapid change and controversy, state and local permitting authorities are faced with the need to respond to EPA's adopted changes to the federal NSR rules. State and local agencies with EPA-delegated NSR programs were required to begin implementing the new rules as adopted by EPA on March 3, 2003, or have EPA take over the PSD permitting program, in whole or in part, in their state or local district. Meanwhile, state and local agencies with EPA-approved NSR programs executed through State Implementation Plans (SIPs) must decide how or whether to revise their SIPs and must make a new demonstration of adequacy to EPA by January 2, 2006. Because adopting revised state statutes and regulations typically takes two to three years, many agencies have already begun the process of reviewing their programs and developing revised rules, despite the uncertainties of outstanding court challenges and additional program changes expected in the future.

A. State and Local Discretion in SIP Development

EPA adopted the December 31, 2002 final rule revisions as minimum elements of the base federal NSR program, making the new provisions effective in all delegated state and local jurisdictions beginning March 3, 2003. In any delegated state or local jurisdiction where the permitting authority did not implement all or any part of the new program by that date, EPA became the primary permitting authority for related PSD permitting activities. Most states and localities, however, do not implement the NSR program through a delegation of the base federal program, but instead have designed state-customized SIPs that EPA has approved as equivalent to the federal program. Because EPA adopted the new provisions as base elements, each state and local agency implementing the NSR program through an approved SIP must revise its implementing statutes and regulations, if necessary, and make a demonstration by January 2, 2006 to EPA that the SIP is equivalent to the new federal program.

Although EPA has published its revisions as base NSR program elements, state and local agencies are not required to adopt these elements. Furthermore, where states and localities decide to include the new program elements in the SIP, they need not adopt the rule revisions exactly as EPA has promulgated them. A permitting authority may exercise discretion in designing a SIP that best meets the needs of its jurisdiction, provided the SIP is at least as stringent as the base federal program. EPA has recognized this discretionary authority and anticipates receiving variations of the federally promulgated rules in SIP submittals from state and local agencies. In adopting the revised federal rules, EPA affirmed, "State and local jurisdictions have significant freedom to customize their NSR programs." EPA further noted that in the past states have "implemented programs that work every bit as well as our own base programs, yet depart substantially from the basic framework established in our rules." Importantly, EPA stated, "we have not implemented our base programs with a one-size-fits-all mentality and certainly do not have the goal of 'preempting' State creativity or innovation," and has offered support to state and local permitting authorities seeking to adopt NSR programs that differ from the federal program, so long as the program is no less stringent than the revised base program. EPA also acknowledged that a given state may choose not to adopt any of the new provisions and may instead decide to retain its existing program as is. In such a case, EPA noted simply, "the State will need to show that its existing program is at least as stringent as our revised base program." (See 67 Fed. Reg. 80241, December 31, 2002.)

STAPPA and ALAPCO strongly support the right of state and local agencies to exercise discretion in establishing SIPs that best meet the needs of their jurisdictions, including either retaining the existing program without change or developing revised rules and adopting SIPs that are different in certain respects from the federal rules. Indeed, after reviewing the December 31, 2002 rule, many state and local air agencies expressed the desire to develop and implement rule provisions differing from the federal rule to address a variety of concerns. Many factors influence the concerns of a particular permitting authority, including the air quality of the region, the number and types of sources contributing to pollutants of concern, the environmental priorities of the area, the prevailing social and economic conditions, the size and funding of the air pollution control agency, and the combination of legislative authorities and mandates that the permitting authority must uphold. Depending on the circumstances of a particular state or local district, the permitting authority must balance sometimes conflicting priorities to design the NSR SIP that will be most effective for the jurisdiction. Accordingly, different permitting authorities may reach different conclusions as to what specific program framework or regulatory provisions will be adopted.

B. The STAPPA and ALAPCO NSR Menu of Options

After extensive review of EPA's final NSR rule, many state and local air pollution control agencies were concerned that the revisions might not fit their

specific needs and expressed their intention to consider deviating from the federal base program. STAPPA and ALAPCO facilitated the sharing of ideas and resources to assist state and local air agencies in developing effective NSR programs. Beginning in January 2003, the associations hosted weekly conference calls with EPA staff to provide state and local air officials nationwide the opportunity to review and seek clarification of the rule. In late winter, STAPPA and ALAPCO sought volunteers for a workgroup, in which representatives of approximately 20 state and local air agencies took part. The workgroup identified regulatory options for each of the main elements of EPA's NSR rules and assisted in outlining alternative rule provisions that state and local permitting authorities could use in developing SIP revisions. These options were presented, evaluated and further developed at a STAPPA/ALAPCO national workshop in May 2003, in which representatives of over 75 state and local agencies participated. Following the workshop, these options were drafted into regulatory language and compiled in a final review draft NSR Menu of Options in October 2003. The review draft was distributed to members of STAPPA and ALAPCO and made available on the associations' public web page.

Following publication of the draft document, STAPPA and ALAPCO held stakeholder meetings attended by representatives of EPA, state and local governmental organizations, industry, environmental and public policy groups. All comments received during the review process were considered in developing the final document.

STAPPA and ALAPCO present this final document primarily as a tool to assist state and local permitting authorities in developing SIP revisions to address the new elements of the federal base NSR program. Specifically, it is designed to offer a "menu" of model rule provisions addressing the aspects of the federal program revised by EPA in the December 31, 2002 and August 27, 2003 rulemakings. For each of the revised federal program elements, STAPPA and ALAPCO's Menu of Options provides regulatory language for alternative approaches for both the PSD and nonattainment NSR programs. Multiple options are included for many of the revised program elements. As noted above, the Menu of Options was developed through extensive deliberation and collaboration among STAPPA and ALAPCO members, and presents a range of solutions to address the varying air quality and administrative concerns and needs expressed by state and local air pollution control agencies.

It is important to note that this NSR Menu of Options is not intended to present STAPPA and ALAPCO's view of the ideal NSR program, nor are the options included necessarily endorsed by the associations as improvements over the NSR program that existed prior to EPA's recent revisions. In fact, STAPPA and ALAPCO believe that the federal NSR program as implemented by state and local agencies across the country for the last 25 years has successfully achieved significant progress in improving and protecting air quality. Furthermore, the associations believe that a strong and effective NSR program continues to be essential for the

protection of air quality and do not endorse changes that would weaken the program's effectiveness or restrict the ability of state and local governments to achieve and maintain the NAAQS. STAPPA and ALAPCO have recognized that certain aspects of the program could be improved and have actively engaged in stakeholder efforts to design program improvements; the associations remain open to thoughtful public dialogue on how our nation can best address air quality concerns in a manner that is both protective of the environment and appropriately cognizant of business needs. This document, however, does not offer a comprehensive review of the NSR program, nor does it provide broad recommendations for reform. Rather, the Menu of Options addresses only the revised EPA federal rules, and offers targeted changes in response to specific issues related to the recent program revisions that state and local permitting authorities must address in their upcoming SIP demonstrations.

STAPPA and ALAPCO's NSR Menu of Options is comprised of two parts: the first addressing the PSD NSR program, and the second addressing the nonattainment NSR program. The Menu of Options for PSD is based on EPA's PSD rule, 40 CFR 52.21, as revised on December 31, 2002. The Menu of Options for nonattainment is based on EPA's nonattainment rule at 40 CFR 51.165, as revised on December 31, 2002. Although the December 31, 2002 federal rules are used as a template, issues related to more recent rulemakings are also addressed within the Menu of Options, including routine replacements and transitioning from the 1-hour to the 8-hour ozone standard.

The Menu of Options has been formatted to appear side-by-side with EPA's rules, to allow the reader to readily view the regulatory language of the federal base program together with the regulatory language of the STAPPA and ALAPCO options. Two side-by-side rules are presented: the first for PSD, the second for nonattainment NSR.

II. NSR PROGRAM HISTORY AND RECENT DEVELOPMENTS

The NSR program is a preconstruction air quality permitting program for new and modified major stationary sources of air pollution. The program has two components. The PSD component applies in “attainment" areas, which are those that meet the NAAQS. The second component, known as the “nonattainment” NSR program, applies in areas that do not meet the NAAQS.

Congress created the NSR program when it amended the Clean Air Act in 1977. Part C of Title I of the Act governs PSD; Part D of Title I governs nonattainment NSR. Both programs require new and modified major sources of air pollution to use high-quality air pollution emission controls or techniques. PSD sources must install Best Available Control Technology (BACT). Nonattainment NSR sources must use controls or techniques such that they emit at the Lowest Achievable Emission Rate (LAER). These programs also require additional measures to protect air quality. PSD permit applicants must show, based on air quality modeling and monitoring data, that emissions will not cause adverse air quality impacts. An applicant for a nonattainment NSR permit must offset the proposed emissions increases from its facility by an equal or greater level of emissions reductions from its facility or another facility in the nonattainment area.

As implemented, the NSR program has sometimes been controversial. Many have lauded the program for its effectiveness in achieving significant emissions reductions across the country. At the same time, others have noted that the regulations are too complex and burdensome. Accordingly, beginning in August 1992, EPA initiated a serious review of the NSR program. EPA's consideration of NSR "reform" began by soliciting comment about the program from the public and the Clean Air Act Advisory Committee, which itself formed an NSR Reform Subcommittee.

In July 1996, EPA published a proposal seeking comment on a number of changes to the NSR program (61 Fed. Reg. 38249, July 23, 1996). The proposal set forth substantive revisions to the applicability of the NSR program requirements by creating new ways to determine which changes at an existing source constitute a major modification and by making special provisions for pollution control projects and emissions units that had already employed good pollution control technology. The proposal drew thousands of comments from numerous stakeholders with a wide range of views. On July 24, 1998, EPA published a supplemental notice presenting new information and requesting additional comment on some aspects of the 1996 proposal (63 Fed. Reg. 39857, July 24, 1998).

In May 2001, the Administration’s National Energy Policy Development Group recommended that EPA consult with other federal agencies in a comprehensive review of the NSR program and issue a report to the President on the impact of the program, particularly with regard to energy efficiency and

environmental protection. EPA issued a report in June 2002 offering recommendations and committing to certain changes to the program, including finalizing revisions to some of the program elements that were the subject of the 1996 proposal.

On December 31, 2002, EPA issued a final rulemaking adopting comprehensive revisions to five major aspects of the federal NSR rule (67 Fed. Reg. 80186, December 31, 2002), governing the applicability of emission control requirements and other substantive program requirements to changes at existing major sources: baseline actual emissions determinations, methodologies for determining emissions increases that will result from a project, applicability of program requirements for pollution control projects, applicability provisions for Clean Units, and Plantwide Applicability Limits (PALs).

As previously discussed, the final rule revisions adopted by EPA on December 31, 2002 are under challenge by numerous parties, and EPA announced a reconsideration of certain aspects of the final rules on July 30, 2003. On November 7, 2003, EPA published the agency's determination regarding those aspects of the rules, announcing that no changes would be made to the December 31, 2002 rules as a result of the agency's reconsideration.

While the challenges to the December 31, 2002 rule are still undecided, EPA adopted another major revision to the base federal program on August 27, 2003. The August 2003 revision adopted a new exclusion for "replacement" activities, excluding from consideration under the NSR program many changes at existing stationary sources that replace existing equipment with new equipment. After EPA published the Equipment Replacement rule in the Federal Register, 14 states, other governmental bodies, and numerous citizen environmental groups filed lawsuits to challenge the rule. In response to requests by some of the petitioners, the DC Circuit Court of Appeals issued a stay of the rule on December 24, 2003, just two days before it was scheduled to take effect. The stay remains in place, and the challenges to the Equipment Replacement rule also remain undecided.

In the meantime, Congress has commissioned several studies of the NSR program and EPA's reform rules. The first analysis of NSR was undertaken by the National Academy of Public Administration (NAPA), which published its findings in April 2003 in a report titled, "A Breath of Fresh Air: Reviving the New Source Review Program." Concluding that NSR was effective at controlling emissions from new facilities but performed poorly in reducing emissions resulting from plant modifications, the NAPA report urged Congress to retain NSR, but "strengthen its impact by ending grandfathering and vigorously enforcing NSR's permitting requirements for existing facilities."

Also, at the request of Senators Lieberman (D-CT) and Jeffords (I-VT), the General Accounting Office (GAO) has produced three reports on different aspects of

NSR. In the first report, released in August 2003, GAO found that EPA had relied on anecdotes from regulated industries to reach the conclusion that NSR had impeded energy efficiency products. The report stated, "[b]ecause of data limitations, it was not possible to verify EPA's conclusions about the rule's effect." The second of the GAO reports, released in October 2003, concluded that NSR revisions could affect enforcement litigation undertaken under the former NSR rules and could jeopardize emissions reductions expected to be achieved through settlements. Also responding to questions raised by the Senators about the public's access to emissions data under the new rules, GAO stated, "[c]ertain provisions in the December 2002 final rule could limit assurance of the public's access to data about – and input on – decisions to modify facilities in ways that affect emissions….Also under the rule, companies will now determine whether there is a "reasonable possibility" a facility change will increase emissions enough to trigger NSR – in effect policing themselves." The most recent report, published in February 2004, set forth the results of a GAO survey of state and local agencies concerning the December 2002 and August 2003 NSR rules. The GAO survey found that the majority of state officials believe the overall effect of the December 2002 rule would be to increase emissions. Of 44 state officials responding to the survey, 27 believed that the overall effect would be to increase emissions, 5 believed the rule would decrease emissions, 3 believed emissions would remain the same, and 9 were unable to judge.

In addition, the National Academy of Sciences (NAS) has been tasked by Congress to study the air quality, public health, and other impacts of both the December 2002 and August 2003 rules. An interim report is due to Congress on September 30, 2004; the final report is due a year later. The National Research Council of NAS selected the Committee responsible for this effort. Composed of academics specializing in areas such as environmental science, engineering, and public health, the Committee convened in May, hearing testimony on the NSR rules from EPA, STAPPA and ALAPCO, and industry and environmental stakeholders.

As court challenges and Congressional studies continue on EPA's NSR rules, EPA has announced its intention to issue further changes to the program in the near future, including new provisions governing how to determine whether changes at a source should be considered collectively for purposes of applying program requirements (i.e., project aggregation) and provisions governing how emissions increases from emissions units that are not physically modified should be treated under the rule (i.e., debottlenecking). EPA also has plans to adopt rules to provide for "allowables PALs" and to revise Appendix S of 40 CFR Part 51.

Meanwhile, other recent rulemakings related to the adoption of revised NAAQS for ozone also affect the NSR permitting programs for many areas. On April 30, 2004, EPA adopted rules to designate areas as attainment or nonattainment under the new 8-hour ozone standard and to classify certain ozone nonattainment areas as marginal, moderate, serious or severe. On the same date, EPA also adopted

rules to govern the transition of areas from the old 1-hour ozone standard to the new 8-hour ozone standard. These rules would eliminate or relax certain aspects of the nonattainment NSR programs currently in effect for the 1-hour ozone standard in areas that remain nonattainment under the 8-hour standard. EPA intends to adopt rules governing the NSR program requirements for transitioning from the old PM_{10} NAAQS to the new $PM_{2.5}$ NAAQS.

III. OVERVIEW OF THE OLD AND NEW FEDERAL RULES AND THE STAPPA AND ALAPCO OPTIONS

A. Applicability Determinations

1. Review of the Old Federal Rules

For existing major sources, the substantive requirements of the NSR program apply only to changes at the source that are "major modifications." Under the old rule, a change at an existing major source was considered a major modification if it was not excluded from consideration under one of the program's exceptions and if it would lead to a "significant net emissions increase." Generally, both the nonattainment NSR and the PSD NSR programs under the old rule were implemented through a two-step process to determine applicability. In the first step, the source would determine whether the project increases alone, without regard to any project decreases, would be above the significance threshold. If so, the owner or operator was generally allowed the option of either proceeding through NSR, treating the change as a major modification, or conducting the second step -- a netting analysis -- considering all creditable increases and decreases over the contemporaneous time period to calculate the net emissions increase and potentially "net out" of major source NSR.

To determine the emissions increases from the project, the owner or operator would generally establish its baseline emissions (i.e., the emissions before the change) by examining its average annual rate of actual emissions during the two years immediately preceding the change for all emissions units where the project would cause an emissions increase. The source had the option of using another time period to establish the baseline emissions, if it demonstrated, to the satisfaction of the permitting agency, that a different time period was more representative of normal source operation.

To estimate the emissions after the project, implementation of the old rule generally required that the source use the potential to emit after project completion for all affected emissions units as representing the post-project emissions. In certain limited cases, for emissions units at which no physical changes or change in the method of operation were occurring, but at which the project would result in emissions increases (e.g., due to increased demand for steam from an existing utility boiler), the source could consider the actual emissions increases projected to occur as a result of the project in lieu of the full potential to emit of the affected emissions unit.

The difference between the emissions after the project (generally potential to emit) and the baseline emissions before the project, considering all emissions increases from all affected emissions units, was compared to the significance thresholds for each regulated pollutant to determine whether a significant increase

would occur. If the emissions increases, without regard to any associated or contemporaneous decreases, were determined to be above the significance threshold, the source could conduct a "netting" analysis to consider any other creditable contemporaneous emissions decreases or increases at the source. If the net emissions increase (considering all contemporaneous changes) was greater than the significance threshold, the proposed change was a major modification.

In most cases under the old rules, the contemporaneous period for the PSD program was the period that included the five years prior to the date on which construction of the proposed project was projected to commence, up to the date that the emissions increase from the project was projected to occur. This contemporaneous time period was also generally used for the nonattainment NSR program, except that, in the 1990 Clean Air Act Amendments (CAA), Congress defined a slightly different contemporaneous period for ozone nonattainment areas classified as serious and above.

In addition, the CAA provided that for ozone nonattainment areas classified as serious or above, consideration of the net emissions increase was mandated and any significant net emissions increase would be treated as a major modification, regardless of whether the project by itself would result in a significant emissions increase. Further, the CAA provided that for extreme ozone nonattainment areas, “any increase” in emissions is generally considered significant. Although EPA has never updated the federal regulations to address these statutory provisions, many state and local agencies governing nonattainment areas have adopted these more recent Act provisions into their EPA-approved SIPs.

Also under the old rules, EPA provided electric utility steam generating units (EUSGUs) with a different applicability test. These sources had the option of using a test that would trigger NSR only if the source’s projected actual emissions, rather than its potential to emit, would exceed the significance level. This special applicability test, called the actual-to-projected-actual-test, required electric utility steam generating units to meet certain recordkeeping and reporting requirements tracking their actual emissions after the change, and could not be used if the change involved replacement of an existing unit with a new unit. Another feature of this test was the “demand growth exclusion.” This provision provided for the exclusion from the calculation of emissions increases of that portion of the unit’s emissions following the project that 1) could have been accommodated during the consecutive 24-month period used to establish the baseline and 2) were unrelated to the particular project, including any increased utilization due to product demand growth.

2. Review of the Revised Federal Rules

In its December 31, 2002 rulemaking, EPA significantly revised the rules for determining whether a change at an existing major source would be considered a major modification, and thus whether the substantive air quality protection

requirements of the NSR program would apply. Notably, EPA adopted identical provisions for both the PSD and nonattainment NSR programs, without regard to the specific provisions for nonattainment areas adopted in the CAA.

Definition of Major Modification

EPA has adopted by rule a version of the two-step process described above for determining whether a change is a major modification. Specifically, under the revised federal rules, EPA defines "major modification" to be a change that results in both a significant increase (from the project) and a significant net emissions increase, considering all contemporaneous increases and decreases.

Baseline Actual Emissions

In another significant revision to the old rule, EPA has adopted a new definition of "baseline actual emissions" and revised the procedures for the calculation of the source's emissions before the change. Under the new base federal program, a source may use any consecutive 24 months during the 10-year period immediately preceding the change to represent the annual average actual emissions preceding the change. Furthermore, the source may use a different consecutive 24-month period for each regulated NSR pollutant in evaluating the proposed project. EUSGUs are limited to using any consecutive 24-month period in the last five years, or a more representative period with permission. Also, the new rule provides for including fugitive emissions, as well as emissions associated with startups, shutdowns, and malfunctions in the baseline emissions. Sources must, however, adjust their baseline downward to exclude any noncompliant emissions that occurred during the selected baseline period. Also, the minimum federal program requires that existing emissions units other than EUSGUs adjust the baseline downward to reflect current applicable emissions limitations imposed after the baseline period.

Applicability Test

In addition to revising the baseline emissions determination, EPA provides for use of an actual-to-projected-actual test at existing emissions units where the actual-to-potential test was required under the old rules. As mentioned above, EPA has already made a similar test available to EUSGUs. EPA also similarly expanded use of the demand growth exclusion for existing emissions units.

Along with the use of the actual-to-projected-actual test, EPA imposes some monitoring and recordkeeping requirements for non-utility sources. The monitoring and recordkeeping requirements apply to changes where there is a "reasonable possibility" that a significant emissions increase would occur. However, the base federal program does not require these sources to submit any preconstruction analysis or to submit regular reports to the permitting authority documenting their actual, post-change emissions if those emissions fall below their pre-change projections. Instead, non-utility sources are only required to submit a report to the

permitting authority if post-change emissions increase by a significant amount and are in excess of the source's pre-change projection.

3. STAPPA and ALAPCO Options

Definition of Major Modification

With regard to the definition of "major modification," the Menu of Options offers four options, while noting the distinctions that may be necessary for ozone nonattainment areas. The first option retains the two-step approach, as adopted by EPA, requiring that both a significant increase from the project and a significant net emissions increase are required for a project to be considered a major modification. The Menu cautions, however, that this option may not be consistent with the Clean Air Act for ozone nonattainment areas classified serious or above. The second option requires only a significant emissions increase from the project for it to be considered a major modification, without regard to any other increases or decreases in the contemporaneous time period. The third option defines as a major modification any project that would result in a significant net emissions increase, without regard to whether the project increases are significant. The fourth option, appearing in the nonattainment Menu of Options only, tracks the CAA for extreme ozone nonattainment areas, requiring that any increase in emissions be considered significant.

Baseline Actual Emissions

With regard to the baseline for determining the emissions before the project, the Menu of Options offers two alternatives. The first baseline option is essentially the same as the old federal rule. This option presumptively sets the baseline as the average emissions during the two calendar years immediately before the project. With approval of the permitting authority, the source may select a different two-year period within the last five years that is more representative of normal operations. The second baseline option is similar to an approach considered during many stakeholder discussions and included in the EPA proposal. This option also presumptively sets the baseline as the average emissions during the two calendar years immediately prior to the project. Alternatively, the permitting authority may approve a baseline that is based on the source's utilization rate during the highest two years of production in the last five years, using current emission factors to estimate emissions.

For both of these options, the baseline emissions include authorized emissions from startups and shutdowns. Neither option allows the baseline to include excess emissions, emissions from upsets or malfunctions, or emissions that were in violation of any enforceable emissions limit. Also, both options require the baseline to be adjusted downward to exclude any emissions that would not be allowed by requirements that apply at the time of the project.

The STAPPA and ALAPCO options do not provide a special baseline definition for EUSGUs. Another important difference between the STAPPA and ALAPCO options and the revised federal rule with regard to baseline emissions is that both options presented in the Menu require the use of a single baseline period for each project when calculating the baseline emissions for all affected emissions units and all regulated NSR pollutants.

Applicability Test

The Menu of Options includes three options for regulatory provisions related to estimating the emissions after the project. The first option retains the actual-to-potential applicability test from the old federal rule, applying this test to all types of new and existing emissions units. Under the actual-to-potential test, the source may elect to take an enforceable limit on the potential to emit in order to avoid NSR, if the post-project emissions increases are expected to be less than the significance level. The Menu also includes an option that utilizes the actual-to-potential test for all new and existing emissions units except existing EUSGUs. Under this option, EUSGUs are provided the actual-to-projected actual test.

The third option for establishing rules to determine emissions after the project uses the same basic applicability tests as the revised federal rule. That is, new emissions units use the actual-to-potential test and any existing unit may use the actual-to-projected actual test. However, under the STAPPA and ALAPCO option, any source relying on the actual-to-projected actual test to avoid NSR must submit the applicability determination, including the projections for post-project emissions and the basis for those projections, to the permitting authority prior to construction of the project. Also, the source must determine actual emissions each year for 10 years following the project, and review the applicability determination using the actual emissions data to assess whether the project resulted in a significant emissions increase. Reports of the annual review must be submitted to the permitting authority.

For programs that adopt the actual-to-projected actual test, two options are also provided with regard to the demand growth exclusion. In the first option, the demand growth exclusion is eliminated. In the second, if the demand growth exclusion is used, the Menu provides pre-construction reporting and post-construction recordkeeping and reporting to verify that the emissions excluded are based on increased demand.

B. Clean Units

1. Review of the Old Federal Rules

Prior to the December 31, 2002 revisions, there were no provisions in the federal rules analogous to the Clean Unit exclusion. Under the old rules, any time an emissions unit was physically modified or underwent a change in the method of

operation, and an increase in emissions would result as part of a major modification, the emissions unit was subject to BACT or LAER. If a particular emissions unit was affected by a major modification and installed BACT or LAER, as required, and two years later was affected by another project that was a major modification, then the emissions unit was again subject to a BACT or LAER determination and potentially would have to upgrade emissions controls to meet the current control technology determination. It was possible that no additional controls would be required for the second project, either because the control technology that was determined to be BACT or LAER would be essentially the same as had been implemented for the initial project, or because, in consideration of costs for BACT, the permitting authority determined that no upgrades would be required.

2. Review of the Revised Federal Rules

Under the revised federal rule, special provisions have been adopted for any emissions unit designated as a Clean Unit. To qualify as a Clean Unit, the emissions unit must be subject to and complying with a BACT or LAER determination made through issuance of an NSR review permit any time within the past 10 years. The Clean Unit designations are retrospective and automatic -- that is, any emissions unit that installed BACT or LAER as long ago as 10 years before the revised rules come into effect is automatically considered a Clean Unit. Also, in nonattainment areas, the federal rule does not always require LAER for Clean Unit designation, but rather allows emissions units that were previously required to install BACT to be designated as Clean Units for up to 10 years.

The new federal rules also include provisions to establish Clean Unit status for emissions units that have not been subject to a BACT or LAER determination. In lieu of having obtained a major NSR permit, the source may demonstrate that the emissions unit is complying with emissions controls that are "comparable to" BACT or LAER or "substantially as effective as" BACT or LAER, and receive a permit designating the unit as a Clean Unit. In order to demonstrate that an emissions unit has controls that are "comparable to" BACT or LAER, the owner or operator must show that it achieves an emissions limitation equal to the average of the emissions limitations achieved by sources subject to a BACT or LAER determination within the last five years, based on a review of EPA's RACT/BACT/LAER Clearinghouse database. The new federal rule does not specify how a determination would be made that a unit has controls that are "substantially as effective as" BACT or LAER, but indicates this determination would be made on a case-by-case basis.

Clean Unit status has a 10-year term, and the source may have its Clean Unit status renewed if it again demonstrates that it meets BACT in attainment areas or LAER in nonattainment areas. To maintain Clean Unit status, the source must comply with the control requirements, emissions limitations and operational standards applicable to the Clean Unit and must maintain any operational

parameters, such as maximum capacity or throughput, upon which the BACT or LAER determination was based.

As long as an emissions unit maintains the Clean Unit status, any emissions increases that would occur from the emissions unit as a result of a project at the source are disregarded in determining whether the project is a major modification. In other words, the emissions increases are declared to be zero. The Clean Unit will not have to undergo a BACT or LAER control technology review for any project as long as the Clean Unit is in effect. Furthermore, because the emissions increase is declared to be zero, a project that otherwise would be considered a major modification may be determined to have emissions increases that are less than significant. Thus, the entire project may avoid NSR, and none of the affected emissions units would be subject to BACT or LAER.

3. STAPPA and ALAPCO Options

The Menu of Options includes special provisions for Clean Units that are substantially the same for both attainment and nonattainment areas. The Clean Unit provisions provided under the Menu of Options do not disregard any emissions increases that would result from a project affecting the Clean Unit. Under the Menu, Clean Unit status can be granted to any emissions unit that installs BACT in attainment areas or LAER in nonattainment areas. No provision is included that would allow emissions units with BACT controls to be designated as Clean Units in a nonattainment area. The Menu includes one option that recognizes BACT or LAER determinations made up to two years before the state or local rule is adopted, and one option that would require the Clean Unit status to be based on control technology determinations made after the rule is effective.

The Menu also includes an option to establish Clean Unit status for emissions units that have not been subject to BACT or LAER determinations as part of a major NSR permitting decision. For this case, the source can apply for a permit and submit a BACT or LAER analysis just as would occur for a major NSR permit. The permitting authority would review an application and issue a permit through the same public notice procedures as are required for major NSR, and would issue a permit designating the emissions unit as a Clean Unit.

Under the approach presented in the Menu, Clean Unit status is effective beginning on the date the permitting authority makes the Clean Unit designation, and remains in effect for five years, provided the owner or operator complies with all terms and conditions of the Clean Unit designation. The permit establishing Clean Unit designation would also indicate any operational characteristics that form the basis of the Clean Unit status, such as maximum capacity or input or output rate.

As long as an emissions unit has Clean Unit status, the BACT or LAER determination relied upon to establish the Clean Unit status would serve to meet the

control technology requirement for any subsequent major modification that affects the unit. Thus, the owner or operator is guaranteed that the investment made on controls will be all that is required for that emissions unit for at least five years. However, any emissions increases that would occur from the Clean Unit as a result of a project are still counted to determine if the project is a major modification. Thus, significant emissions increases are subject to review and, for a major modification, any other affected emissions unit at which an increase would occur is still required to meet BACT or LAER.

C. Pollution Control Projects

1. Review of the Old Federal Rules

Prior to adoption of the revised federal rules, a pollution control project (PCP) was considered to be a project undertaken at a stationary source for the purpose of reducing emissions. Because projects seeking to reduce emissions of one regulated pollutant may lead to an increase in another pollutant (e.g., increases in oxides of nitrogen and carbon monoxide resulting from the destruction of volatile organic compounds (VOCs) by combustion), EPA established a policy of excluding such projects from some NSR requirements if certain criteria were demonstrated. Specifically, for PCPs excluded under the policy, BACT or LAER did not apply with regard to the significant emissions increases resulting from the project. In 1992, EPA promulgated a formal policy excluding PCPs from NSR for EUSGUs. (See 57 Fed. Reg. 32314, July 21, 1992.) Then, in 1994, EPA issued guidance extending the PCP exclusion to other categories of sources. (See "Pollution Control Projects and New Source Review Applicability," EPA, July 1, 1994.)

EPA's PCP policy focused particularly on add-on controls, fuel switches, and pollution prevention projects. Furthermore, for a facility to qualify as a PCP, it had to be, on balance, "environmentally beneficial." EPA gave the permitting authority the responsibility to ensure the environmentally beneficial nature of the project, mandating that the reduction in the targeted pollutant be considered in relation to any collateral effects. Furthermore, the source could not cause or contribute to a violation of a NAAQS or PSD increment, or adversely affect visibility or any other air quality related value (AQRV). Thus, a source impact analysis, an air quality impact analysis, and review of air quality related values were required to ensure that adverse collateral environmental impacts from the project were identified, minimized, and, where appropriate, mitigated. Public participation was also required prior to approval of a project as a PCP.

2. Review of the Revised Federal Rules

In the December 31, 2002 rule, EPA codifies the expansion of the PCP exclusion to all source categories for both attainment and nonattainment areas. Significant changes have been made to the PCP exclusion in the revised base federal

program. First, EPA has eliminated the requirement that the primary purpose of a project must be to reduce emissions in order to qualify as a PCP. In addition, the revised rule includes a list of presumptively environmentally beneficial PCPs in the definition of PCP. Owners or operators may proceed with presumptively beneficial PCPs without conducting the source impact or air quality analyses and without prior approval from the permitting authority.

For those projects not listed in the definition, there is no presumption that the project is environmentally beneficial. Accordingly, prior to construction the permitting authority must make a determination that the project is environmentally beneficial and public notice must be provided.

The actual-to-projected-actual applicability test may be used to calculate emissions increases for the purpose of determining the environmental impact of the PCP. If a PCP results in a significant increase of a nonattainment pollutant, the increase must be offset. Furthermore, the PCP cannot be used to generate emission reduction credits, but it can be used to generate acid rain allowances. Emissions reduction credits are allowed for future decreases of regulated pollutants at the emissions unit(s) where the PCP generated the initial reductions relied upon to exclude the PCP from review.

3. STAPPA and ALAPCO Options

The Menu of Options presents several changes to the revised federal PCP provisions. One of the most important differences is that the Menu retains the primary purpose test, requiring that a project have as its primary goal the reduction of air emissions in order to be considered for the PCP exclusion. Also, the rule language in the Menu clarifies explicitly that the PCP exclusion cannot be applied to the replacement or reconstruction of an existing emissions unit (although the PCP exclusion can apply to replacements or upgrades of pollution control equipment with more effective pollution controls.) In the December 31, 2002 preamble, EPA indicates that replacement or reconstruction of an existing emissions unit also would not qualify under the federal rule, but this is not clear in the rule language. Similarly, for nonattainment areas, the Menu of Options clarifies that emission reduction offsets must be provided for any PCP that would result in a significant increase of a nonattainment pollutant. This was also indicated in the preamble of the December 31, 2002 rule, but not explicitly provided for in the regulatory language.

The Menu also includes alternative language regarding the environmentally beneficial presumption applied to the listed projects. Here, the Menu provides that the presumption is rebuttable, and specifies that the permitting authority may rebut the presumption for a particular project and require that the project undergo NSR. In order to provide a mechanism for the permitting authority to review the particular project, the Menu requires that the owner or operator submit a permit application

prior to construction. The owner or operator may proceed with construction before the permit is issued. If the permitting authority subsequently determines the project is not environmentally beneficial, then the project is considered a major modification, and the owner or operator may be subject to enforcement for beginning construction without the required NSR permit.

For projects that are not included on the list, the owner or operator must submit a permit application and receive a permit approving the project as a PCP prior to construction. The permitting authority's review must include an air quality analysis, and the permit must undergo public notice and review prior to issuance.

D. Plantwide Applicability Limits

1. Review of the Old Federal Rules

Prior to December 31, 2002, there were no provisions in the federal rules to accommodate the use of Plantwide Applicability Limits (PALs) as an NSR applicability threshold at a facility. The concept of PALs has been the topic of many hours of discussion at stakeholder meetings considering possibilities for NSR reform. Some strongly advocate the use of PALs to provide certainty and ultimately simplify the NSR program; others believe that the PAL itself is too complex to implement and enforce as a practical matter. Nonetheless, EPA initiated a pilot program to develop several PAL permits over the last decade. Generally, the pilot PAL permits were labor-intensive to develop, and utilized somewhat varying approaches in establishing the PAL baseline and permit terms and conditions. In addition to the pilot PAL permits, EPA has approved a PAL program design for at least one state, through the SIP process, that has been in place for many years.

2. Review of the Revised Federal Rules

As discussed previously, the December 31, 2002 rules create a new program element that allows a facility to take a source-wide emissions cap (i.e., a PAL) under which any changes could be made without triggering NSR requirements. The PAL adopted by EPA in the December 31, 2002 rulemaking is referred to as an "actuals PAL," because it is based on the actual emissions of the source at the time the PAL is established. Every emissions unit at the source must be included in the PAL. The provisions for PALs are the same for both PSD and nonattainment NSR, except that the EPA PAL is not allowed for ozone precursor pollutants in extreme ozone nonattainment areas.

Under EPA's rules for both attainment and nonattainment areas, the actual emissions for setting the PAL are determined by using the new definition of "baseline actual emissions." That is, the owner or operator can look back over the 10-year period preceding the time the PAL permit application is submitted to select the two-year period that will be used as the baseline. The baseline emissions are the

average actual emissions for each existing emissions unit and the potential-to-emit for each new emissions unit. The source must subtract emissions for any emissions unit that has been permanently shut down since the baseline period, and must make adjustments for emissions that were noncompliant during the baseline period or that would not be allowed under current applicable requirements. Once the baseline emissions are determined, an emission rate equal to the significance threshold of the PAL pollutant is added to the baseline emissions. The resultant source-wide emissions rate is the PAL.

While operating under the PAL, the source can add new emissions units, modify existing units, or increase emissions at some units and decrease at others, as long as the PAL is not exceeded, and NSR does not apply. If the source elects to increase emissions above the PAL, then NSR review applies to the change. The rule contains provisions for increasing the PAL in those circumstances to include the change. The term of a PAL is 10 years, and the PAL does not decline over time. PAL permits must incorporate sufficient monitoring, recordkeeping, and reporting requirements to assure compliance with the PAL, taking into account emissions for the regulated PAL pollutant from every emissions source at the facility. At the end of the term, the PAL may be renewed. If the source elects not to apply for a PAL renewal, then the allowable emissions must be distributed across all of the emissions units at the source.

3. STAPPA and ALAPCO Options

The Menu offers three alternative designs for PALs in both attainment and nonattainment areas: a declining allowables PAL; a declining actuals PAL; and a non-declining actuals PAL. As under the revised federal rules, the non-declining actual PAL is not allowed for ozone precursor pollutants in extreme ozone nonattainment areas. All three types of PALs are established using definitions of "PAL baseline period" and "PAL baseline emissions," also presented in the Menu.

Under the Menu, two options are presented for the term "PAL baseline period," tracking the concept of baseline used in the Menu for determining a project emissions increase. With respect to the PAL definition, in the first option the baseline period is either the two calendar years immediately preceding the year in which the PAL permit application is submitted, or another two-year period within the last five years that the permitting authority approves as more representative of normal operation. Under the second option, the PAL baseline period is either the two calendar years immediately preceding PAL permit application submittal, or the two-year period with the highest production rate for the source within the last five years.

With regard to PAL baseline emissions, the Menu sets forth how to determine the emissions that will be included in the PAL baseline for each type of emissions unit, depending on when the unit became operational or was shut down. For

emissions units that were existing emissions units (i.e., with at least two years of normal operations) during the selected baseline period and that are still in operation at the time the PAL is established, the baseline emissions are the average actual emissions during the baseline period, with appropriate adjustments. For emissions units that were in operation during the baseline period, but that have been permanently shut down, no emissions are included in the baseline. For units that were new emissions units during the baseline period (i.e., they had less than two years of operation), but that are existing units at the time the PAL is established, the baseline emissions are the average actual emissions from the last two years. Finally, for units that are new emissions units at the time the PAL is set, no emissions are added to the PAL. That is, the new emissions units must be brought in under the PAL by maintaining other emissions units below their baseline emissions levels or by taking up some of the allowance provided by the significance threshold. As with EPA's PAL, an emissions rate equal to the significance threshold for the PAL pollutant is added to the baseline emissions to establish the initial PAL.

The first option presented in the Menu is the non-declining actuals PAL, set at the actual emissions level as described above. Under the second option, the declining actuals PAL, the starting point is the same, however, within five years the source must achieve emissions levels equivalent to those that would be achieved if BACT (in attainment areas) or LAER (in nonattainment areas) were installed on all significant emissions units. The source is not required to install controls on any particular unit, but may decide how to achieve those emissions levels through any combination of emissions controls and operational changes.

The third option, the declining allowables PAL, sets the initial PAL in the same manner as described above. This option requires the source to install BACT or LAER controls, in attainment and nonattainment areas respectively, on all significant emissions units within five years after the PAL is established. The adjusted PAL at the five-year point is the emissions rates of the significant and major units at potential-to-emit (with BACT or LAER installed), plus the baseline emissions rate of the small emissions units, plus the significance threshold.

E. Routine Maintenance, Repair and Replacement

1. Review of the Old Federal Rules

Under the Clean Air Act, the substantive requirements of the NSR program apply to the construction of a new major stationary source or to a modification of an existing major stationary source. The Act defines a "modification" to be "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." In implementing the NSR provisions of the Act, EPA established rules that set *de minimis* thresholds of emissions increases that would subject a source to the substantive requirements of

NSR (i.e., the significance thresholds established for each regulated NSR pollutant). In addition, EPA established by rule certain exclusions from the term "physical change or change in the method of operation." Those exclusions are included in the old federal rules in the definition of "major modification." Among those exclusions is a category of changes called "routine maintenance, repair and replacement."

Although the old rules specifically exclude "routine maintenance, repair and replacement" from the meaning of the phrase "physical change or change in the method of operation," and thus from the definition of major modification, the rules did not define or clarify what types of changes were considered routine. Under the old rules, the determination of whether a change qualified for the routine maintenance, repair and replacement exclusion was a case-by-case decision. Through policy, applicability determinations and enforcement cases, EPA established certain criteria that should be considered in deciding whether a change is routine. An owner or operator could make the determination on his own, or could seek the concurrence of the permitting authority prior to excluding a change from consideration as a modification. The criteria EPA established for the review included the nature, extent, purpose, frequency, and cost of the activity, and relied on a common-sense evaluation.

2. Review of the Revised Federal Rules

On December 31, 2002, at the same time the revisions to the applicability provisions dealing with baseline emissions, the actual-to-projected-actuals test, Clean Units, PCPs, and PALs were finalized, EPA published a proposal addressing the routine maintenance, repair and replacement exclusion. In the proposal, EPA presented two categories of exclusions that would be deemed routine: those that fit within an annual maintenance budget and those that fit within criteria specified for equipment replacement. EPA has not taken final action on the first proposed categorical exclusion -- the annual maintenance budget.

On August 27, 2003, EPA adopted final rules to establish a broad categorical exclusion for changes that involve the replacement of existing equipment at a major stationary source with new equipment. The changes are classified as "routine maintenance, repair and replacement" and therefore excluded under the definition of "major modification." Under the revised federal rules, the replacement of any component of a process unit with a functionally equivalent component, and any associated maintenance and repair activities, qualify for the exclusion if the cost of the replacement activities does not exceed 20 percent of the replacement value of the process unit, provided that the replacement does not change the basic design parameters of the process unit and that the activity would not cause the process unit to exceed any applicable emission limits or operational limit.

Under the new federal rules, the case-by-case approach is also still available. Thus, if an activity does not qualify for the categorical exclusion described above, it still might qualify using the general criteria of the case-by-case test.

Although this new federal rule was finalized by the EPA Administrator on August 27, 2003, the DC Circuit Court of Appeals issued a stay on December 24, 2003 to prevent the rule from becoming effective. The stay is still in place, pending the Court's decision on numerous lawsuits challenging the rule.

3. STAPPA and ALAPCO Options

The Menu of Options presents two alternative approaches to the new federal rule excluding replacement activities. The options presented are based on the policies established by EPA over years of implementing the old federal rule, and codify the criteria EPA designated for reviewing activities to determine whether they are routine, and are offered for both attainment and nonattainment areas.

In the first option, the definition of "major modification" is revised to add rule language that codifies the criteria the owner or operator must consider in determining whether an activity is routine. The language also provides guidance on how the criteria would apply to determine whether a particular change fits within the exclusion. Specifically, the revised definition of the Menu provides, "the owner or operator shall consider the nature, extent, purpose, frequency, and cost of the work to be performed. Routine maintenance, repair and replacement activities are narrow in scope, do not result in increased capacity, occur with regular frequency, and involve limited expense."

The second option also includes the same language presented above for making case-by-case determinations regarding particular activities. In addition, this option contemplates that the permitting authority will publish lists identifying activities that are "routine" and "not routine."

IV. SECTION-BY-SECTION DISCUSSION OF THE STAPPA AND ALAPCO MENU OF OPTIONS

STAPPA and ALAPCO's Menu of Options presents suggested approaches to address a wide range of issues that arise in designing a state or local program to effectively implement the federal NSR requirements. Each of the five main revised program elements (i.e., baseline emissions, applicability tests, Clean Units, Pollution Control Projects, and PALs) is specifically addressed, in addition to other overarching concerns, such as rule clarity and practical enforceability of the program. Also, due to the complex interrelationships between the applicability factors of the rule, consideration of the new federal program elements inevitably leads to consideration of other related elements of the program. Thus, the Menu of Options addresses several issues closely linked to the five main elements of EPA's December 31, 2002 rule, including netting, the contemporaneous period, and the definitions of "major modification" and "project." In addition, the NSR Menu of Options directly addresses some of the issues taken under reconsideration by EPA after the December 2002 rulemaking, but which EPA decided not to change, including the reasonable possibility test and the treatment of replacement emissions units in the determination of emissions increases from a project. Optional rule language is also presented to address the exclusion of routine maintenance, repair, and replacement activities.

Specifically with regard to nonattainment NSR, the Menu of Option addresses several aspects of the CAA that EPA failed to address in the December 31, 2002 rulemaking and has thus far not adopted into the federal regulations for base program elements. These include the lowered major source thresholds, increased offset ratios, and other special provisions that apply to certain classifications of ozone nonattainment areas. In addition, the Menu of Options considers the recent Transition Rule for implementation of the 8-hour ozone standard, and acknowledges the discretion of the permitting authority with regard to retention of nonattainment NSR permitting requirements.

Federal Rule Templates for the Menu of Options

52.21: The Federal Prevention of Significant Deterioration Rule. Rather than create a new template, STAPPA and ALAPCO elected to utilize the federal base rule for PSD, as adopted on December 31, 2002 at 40 CFR 52.21, as the starting point for developing and presenting the Menu of Options for attainment areas. EPA implements this federal rule in jurisdictions where there is not an approved SIP through which the state or local permitting authority implements the PSD program. In other words, 52.21 is the PSD rule that applies directly to source owners and operators in any portion of any state where EPA is the primary permitting authority. Therefore, the structure and language of 52.21 are designed to apply directly to the regulated stationary source, unlike 40 CFR 51.165 or 51.166, which are designed to instruct the state or local authority on the minimum program elements that would

constitute an approvable SIP. Thus, 40 CFR 52.21 provides a basis for drafting the Menu of Options in rule language that state or local permitting authorities could adopt directly into the SIP.

51.165: The Federal Nonattainment NSR Rule. Similarly, STAPPA and ALAPCO relied on the federal rule for nonattainment NSR as a template in developing the Menu of Options rule language for nonattainment areas. In this case, however, the federal base rule selected is 40 CFR 51.165, the regulations that provide guidance to states on SIP requirements for the nonattainment NSR program. Conceptually, the revised NSR provisions in the two federal rules, 52.21 and 51.165, are the same. Each rule contains almost identical language regarding baseline emissions, applicability tests, Clean Units, Pollution Control Projects, PALs, and the Equipment Replacement rule.

Sections 52.21 and 51.165 differ in form, however, because 52.21 is written to be directly applied to regulated stationary sources, whereas 51.165 is written to set forth minimum plan requirements that state and local agencies must in turn translate into regulations to be applied to stationary sources in their particular jurisdiction. Therefore, in relying on 51.165 as the template for the nonattainment NSR Menu of Options, revisions were made from the federal rule language in order to provide regulatory language that could more readily be adopted directly by the permitting authorities in revising their SIP.

The following pages present a discussion of issues considered by STAPPA and ALAPCO in evaluating the revised federal rules for both the PSD and nonattainment NSR programs, and the program options selected and developed for inclusion in the Menu of Options. Issues and options are generally presented in the order in which they arise, proceeding through the rules from front to back. Where the order of provisions differs between 40 CFR 52.21 and 51.165, the issues are presented in the order of 52.21. Where an issue is specific to either the nonattainment or attainment area programs, it is presented in logical order relative to the discussion of other issues. Specific citations of the relevant rule sections are provided to facilitate referencing the rule language while considering the discussion narrative.

While a concerted effort has been made to discuss all significant points of change from the federal base rules, it should be noted that numerous minor revisions to the federal language were made simply to correct apparent errors, clarify phrases, or accommodate the STAPPA and ALAPCO options. Many of these changes and the reasons for them are self-evident. Thus, not every revision is addressed in the discussion.

Applicability Procedures: Organization and Clarity

52.21(a)(2): New PSD Section for Applicability Procedures. In the revised federal PSD rule, EPA establishes a new section 52.21(a)(2), comprised of paragraphs (i) through (vi), to set forth the procedures for determining whether the requirements of PSD are applicable to a proposed construction project. EPA consolidates the applicability procedures in one place at the front of the rule in order to make the rule more reader-friendly and to facilitate understanding of the applicability process. 52.21(a)(2) sets forth criteria for determining if a project is a major modification, and provides procedures for reviewing a project to determine whether it will result in a significant emissions increase. It is important to note, however, that to a large extent the crucial applicability factors are still contained within the definitions of key terms, at 52.21(b).

Permitting authorities recognize the importance of establishing clear and well-organized applicability procedures in the rule language, both to facilitate compliance by the regulated community and to ease implementation and enforcement by the permitting authority. Toward that end, permitting authorities endorse adopting a consolidated section to establish applicability procedures. In some respects, however, state and local authorities have concerns that the base federal rule at 52.21(a)(2) is unclear as drafted, and therefore could lead to difficulties in implementation and enforcement. The Menu of Options therefore provides an alternative structure and alternative language, in particular for 52.21(a)(2)(iv), that is intended to better communicate the specific steps an owner or operator must follow to determine PSD applicability with respect to a proposed project. The Menu of Options provides changes for organization and clarity in 52.21(a)(2)(iv), as discussed below.

51.165(a)(2): Nonattainment Section for Applicability Procedures. In the revised federal rule for nonattainment, applicability procedures are contained in 51.165(a)(2)(ii)(A) through (F). This section adopts language almost identical to the language in the PSD rule at 52.21(a)(2)(i) through (vi). As in the PSD rule, key applicability issues are still contained in the definitions, found in 51.165(a)(1). Similar issues of organization and clarity arise with respect to the nonattainment rule as with the PSD rule, and the Menu of Options provides similar alternatives to improve the organization and clarity of the rule.

Specifically, the Menu of Options provides a new 51.165(a)(2)(i), (ii) and (iii) to explicitly state that new major stationary sources and major modifications in a designated nonattainment area shall comply with LAER and provide offsets as required by the section. 51.165(iv) in the Menu of Options then sets out the same applicability framework and criteria as are provided in the Menu for PSD programs at 52.21(a)(iv).

The concerns related to organization and clarity of both the PSD and nonattainment NSR rules and the alternative approaches provided in the Menu of Options are discussed below.

Organization: 52.21(a)(2) and 51.165(a)(2)(ii). The base federal rules adopt the following framework for 52.21(a)(2)(iv) and 51.165(a)(2)(ii). First, the base federal rule lays out the criteria for determining if a project is a major modification (i.e., the two-part causation test, requiring that both a significant emissions increase and a significant net emissions increase would result from the project). Second, the base federal rule sets forth the applicability test for three types of projects: projects that only involve existing emissions units; projects that only involve construction of new emissions units; and projects that involve Clean Units. Finally, the base federal rule provides a "hybrid test" for projects that involve multiple types of emissions units. Within each of these applicability tests, the reader is instructed to compare the sum of the emissions increases from each emissions unit to the significant amount for the pollutant in order to determine if a significant emissions increase will occur.

The alternative framework provided in the Menu of Options for 52.21(a)(2)(iv) and 51.165(a)(2)(iv) is as follows. First, the rule specifies that the owner or operator must determine whether major modification NSR requirements apply before beginning actual construction of the project. Placed up-front in the applicability procedures, this provision clarifies the obligation of the owner or operator to determine applicability and to do so prior to construction. Second, the rule lays out the criteria for determining if a project is a major modification. (Note that there are three options provided for this key aspect of the program, discussed in detail below.) Third, the rule explains the general procedure for determining the emissions increase from the project (i.e., by taking the sum of the emissions increases from each affected emissions unit). Importantly, this paragraph also explicitly clarifies which emissions units are to be included in the applicability determination. It is essential to establish clear rules for the scope of the applicability review in order to provide unambiguous instructions to the regulated community and to ensure consistent implementation of the rule. This issue is discussed in more detail below. Fourth, the rule sets forth the applicability test for each type of emissions unit (e.g., existing units, new units, and EUSGUs, depending on the applicability tests to be adopted by the permitting authority). The Menu also includes options for the number and types of applicability tests provided, and establishes rule language to address each option accordingly.

Clarity: Applicability Tests Related to Types of Emissions Units Versus Types of Projects. One organizational element that diminishes clarity of the federal PSD and nonattainment rules is the presentation of the applicability test according to the type of project. The method for determining increases does not depend on the type of project; rather, it depends on the type of emissions unit. However, the base federal rule sets forth the tests for determining the emissions increase by describing

projects that would involve only one type of emissions unit, and then creating a "hybrid" test for projects that would involve multiple types of units. This construct is confusing, particularly because projects at existing major sources commonly affect both new and existing units. Further, the federal base rule does not clearly set out in a discrete provision for each type of emissions unit how to determine the emissions increase. Instead, the method for determining the emissions increase for a given type of emissions unit is embedded within a complex sentence that instructs the reader to sum all of the unit increases and compare the sum to the significance threshold within the context of a project that involves only that type of unit. Also, the language of the base federal rule is inconsistent from paragraph to paragraph, referring to projects that "only involve" existing or new units, but then referring to "projects that involve Clean Units." For clarity and ease of understanding, the Menu's alternative language establishes the method to be used for each distinct type of emissions unit.

Clarity: Affected Emissions Units. Another aspect that is unclear in the base federal rules is the question of which emissions units should be included in the applicability determination when calculating emissions increases. The base federal rules indicate that the applicability test "depends on the type of emissions units being modified," and then classifies projects based on the types of emissions units that the project "involves." (See, for example, 52.21(a)(2)(iv)(b) and 52.21(a)(2)(iv)(c) through (f).) No definitions or explanations are provided with regard to the meaning of the terms "being modified" or "involves."

The question of which emissions units should be included in the scope of the applicability determination is a critical and deciding factor under the NSR program. Historically, this aspect of the rule has been the subject of frequent controversy and confusion. It is therefore imperative that explicit provisions be established for this facet of program applicability. To address this issue, the Menu of Options alternative language clearly specifies those emissions units for which emissions increases must be determined. Specifically, the Menu's rule language provides that increases must be included in the applicability determination for each emissions unit where an emissions increase would occur *as a result of the project*, regardless of whether a physical change or change in the method of operation is made at the particular emissions unit. This approach is consistent with EPA guidance and implementation of the NSR program. STAPPA and ALAPCO are aware that further upcoming revisions to the base federal program may address this issue. For example, a rulemaking to establish provisions for "debottlenecking" projects could provide exemptions for the consideration of increases at certain emissions units. If future revisions are made to the federal base rule affecting this aspect of NSR applicability, STAPPA and ALAPCO will consider those revisions at the time they are made. Because it is important to provide clarity for applicability determinations in the rule language, and because the established approach has been effective in practice for the protection of air quality, the Menu of Options incorporates the established convention.

Major Modification Criteria and Netting

Issues for Both PSD and Nonattainment NSR for Major Modification Criteria and Netting. The December 31, 2002 revisions to the base federal program establish in the rules for the first time a two-part test for determining whether a project is a major modification. This new regulatory provision appears in the definition of "major modification" in both 52.21 and 51.165, as well as in the applicability provisions at 52.21(a)(2)(iv)(a) and 51.165(a)(2)(ii)(A). Both rules specify that the project must result in both a significant emissions increase and a significant net emissions increase in order to be classified as a major modification and thus subject to the substantive PSD or nonattainment NSR requirements. In the preamble to the final revised rules, EPA states that the definition of major modification was revised "to clarify what has always been our policy."

EPA's preamble statement is generally consistent with past EPA policy statements and guidance, particularly for PSD, including EPA's Draft 1990 *New Source Review Workshop Manual* (which was never published as a final document). That is, a determination of the net emissions increase was generally not required unless the increases from the proposed project, considered without regard to any project decreases, were significant. Despite the plainly worded definition stating that a major modification was any change "that would result in a significant net emissions increase," EPA policy did not require review of a project where the consideration of accumulated increases over the contemporaneous time period collectively would result in a significant net emissions increase.

In addition, even where the project increase itself was significant, EPA policy did not require a determination of the net emissions increase. Rather, netting was treated as optional for the source, such that it was only considered if emissions reductions were sufficient to net the project out of review.[1] Thus, in the implementation of the program, although the definition clearly stated that any change resulting in a significant net emissions increase constituted a major modification, determination of the net emissions increase was generally not conducted and was only undertaken as a means to exclude a project from review. Because it was utilized only to avoid NSR requirements, netting has long been a controversial aspect of the NSR program and was the subject of many stakeholder discussions over the last several years. Determination of past increases and decreases can be complex, and the validity of the past emissions reductions is often a matter of debate. In addition, the length of the contemporaneous period (generally about five years, as the

[1] It should be noted that EPA guidance is not consistent on this point. See, for example, the Draft 1990 *New Source Review Workshop Manual*, page A.34, which states, "if a significant increase in actual emissions of a regulated pollutant occurs at an existing major source as a result of a physical change or change in the method of operation of that source, the "net emissions increase" of that pollutant must be determined." Also, some state and local authorities do require a determination of the net emissions increase for any project that would result in a significant emissions increase, because the net emissions increase is considered in the air quality analysis.

program has been implemented) has raised concerns about the environmental impacts associated with allowing current emissions increases in exchange for past reductions. Also, the old program did not require any preconstruction review of the netting analysis, making it difficult for the permitting authority to assure compliance.

In the context of NSR reform, state and local permitting authorities anticipated improvements to the NSR program to address the concerns associated with netting. State and local air pollution control agencies strongly believe that the program should be revised to eliminate netting altogether or to constrain the time period for netting to one that more truly reflects contemporaneous changes at the source. If netting is retained, state and local permitting authorities see the need to better clarify the process in the rule, to provide for preconstruction oversight of netting analyses, and to enhance post change oversight for projects that rely on netting to avoid review. Unfortunately, the revisions to the federal base program failed to address these issues.[2] Instead, the revised definition of "major modification" codifies the past practice of utilizing netting only as a mechanism to avoid review of projects that clearly will result in a significant emissions increase, without providing any improvements to minimize air quality impacts or alleviate enforcement difficulties that EPA has noted in the past.

Nonattainment Specific Issues for Major Modification Criteria and Netting. There are certain aspects particular to the nonattainment NSR program that raise the level of concern related to the revised federal criteria for defining a major modification and for netting procedures. Certain provisions of the CAA for ozone nonattainment areas specifically address the determination of major modification and netting, and in some cases the revised federal rule appears inconsistent with those statutory provisions. For example, section 182(c)(6) of the Clean Air Act, governing ozone nonattainment areas classified as serious and above, provides that any project for which the net emissions increase is significant, when aggregated with all other net increases in the contemporaneous period, would be subject to NSR requirements as a major modification. Thus, the statute appears to require that the net emissions increase be considered in determining whether a project is a major modification, regardless of the emissions increase from the project itself. This provision, as EPA has previously interpreted and implemented it through SIP reviews and approvals for ozone areas serious and above, provides that projects can not only “net out” of review, but can also “net in” to review. It is thus inconsistent with the new federal rule, as revised at 51.165(a)(2)(ii).

Another example is provided at section 182(e)(2) of the Clean Air Act, in provisions governing extreme ozone nonattainment areas. Here, the statute

[2] The recordkeeping and reporting requirements at 52.21(r)(6) do presumably apply to projects that netted out of review and that used the actual-to-projected-actual test, because such projects were projected to result in a significant emissions increase and therefore meet the "reasonable possibility" test. However, these requirements do not call for preconstruction reporting and only provide for reporting after the change under certain circumstances.

provides that any project resulting in “any increase in emissions” of a regulated ozone pollutant shall be considered a major modification.

Menu of Options for Major Modification Criteria and Netting. The Menu of Options presents several approaches and alternatives to address netting and the criteria for determining whether a project constitutes a major modification. With regard to the applicability procedures (52.21(a)(2)(iv)(a) and 51.165(a)(2)(ii)) and the definition of "major modification" at 52.21(b)(2) and 51.165(a)(1), three options are included in the PSD Menu of Options, with a fourth additional option included in the nonattainment Menu of Options. The first option is the base federal language implementing the new definition of major modification (significant emissions increase and significant net emissions increase). The Menu of Options offers the permitting authority alternative ways to implement this federal major modification definition, which include an alternative to redefine the contemporaneous period and enhancements to recordkeeping and reporting requirements. The Menu for both PSD and nonattainment also presents two alternative options to the federal base program for defining "major modification." The first of these alternatives defines a major modification based only on increases from the project, without regard to any other increases or decreases. The second alternative to the federal base program defines a major modification based on the net emissions increase only, without regard to the level of increase from the particular project. These three options are described further below. The final alternative, also described below, is included only in the nonattainment Menu of Options. This final option is taken from section 182(e)(2) of the CAA, and tracks the modification criteria for extreme ozone nonattainment areas. Under this option, any increase in emissions resulting from a physical change or change in the method of operations is considered significant.

The concept of the contemporaneous time period is tightly interwoven with the concepts of major modification and netting. Accordingly, an alternative contemporaneous time period, incorporated within the definition of the "net emissions increase," may be viewed as another option to address these issues and may be coupled with the “project increase and net increase” option, or the “net increase only” option, to design a program that best meets the needs of a particular state or local area.

In considering what criteria should be adopted in the SIP for purposes of defining a major modification under the PSD and nonattainment programs, the permitting authority has discretion to evaluate the specific needs of a particular area and to adopt the major modification definition that will best address those needs. The definition selected by the permitting authority may be different from the newly adopted federal definition, and may be different from the definition previously adopted in the SIP. However, the permitting authority must assure that any definition adopted is at least as stringent as the federal base minimum definition and is not contrary to the Clean Air Act. In addition, the permitting authority may need

to consider whether a definition that differs from the one currently used in the SIP would constitute "backsliding" or a weakening of the state or local NSR program.

Major Modification: Project Increase and Net Increase Option. For permitting authorities that elect to adopt the major modification criteria established in the revised federal rule, this option requires both a significant emissions increase from the project and a significant net emissions increase within the contemporaneous time period to trigger review of the proposed project. Under this option, an owner or operator could "net out" of NSR for a project that would result in a significant emissions increase if sufficient creditable decreases were available. A project would never "net in" to review, regardless of other contemporaneous increases that may occur.

In conjunction with a system that provides for netting out, the permitting authority may elect to adopt a definition of contemporaneous that is different from the federal base minimum program to guard against the deterioration of air quality in a given area. The concept of contemporaneous is discussed further in the section related to the definition of "net emissions increase."

Also related to "netting out," many permitting authorities have expressed a need to establish clear and effective oversight provisions. These provisions are included in the Menu of Options PSD rule at 52.21(r)(6) and in the nonattainment rule at 51.165(a)(6), and are discussed in the section related to those paragraphs.

Major Modification: Project Increase Only Option. This option for defining the major modification criteria eliminates the use of the net emissions increase, and relies instead on the project increase to determine if a project is a major modification. Under this option, any project that would result in a significant emissions increase is a major modification, regardless of any other increases or decreases that occur at any time. Only increases resulting from the project would be considered. This option focuses the applicability review on the project at hand, and would result in the application of BACT or LAER for the affected emissions unit and provide for the review of ambient air impacts for any project with a significant emissions increase. Significant emissions increases could not avoid review and emissions units could not avoid the application of state-of-the-art controls by relying on emissions reductions that would occur at other emissions units or that had occurred in the past. In other words, "netting out" of review would not be allowed, and "netting in" to review would not be required.

Many state and local permitting authorities have expressed the desire to eliminate netting altogether from the NSR program. This approach would greatly simplify program implementation by including only the proposed project in the applicability review and applying program requirements in a straightforward manner to any significant project. This option would require the installation of BACT or LAER for new or modified units, for any project that would result in a significant

increase. In addition, the program would provide for a source impact analysis and an air quality analysis for any project that would cause a significant increase. Depending on the particular circumstances of a state or local program, including air quality program priorities and resources, a permitting authority may conclude that this is the most reasonable and effective program design to protect air quality.

Major Modification: Net Increase Only Option. Another alternative relies only on the net emissions increase to determine if a project is a major modification. Under this option, any project that would result in a significant net emissions increase over the contemporaneous period is a major modification, regardless of whether the project itself would cause a significant increase. This option is fundamentally the same as the criteria currently applied in ozone nonattainment areas classified as serious or above, and is consistent with the language of the old federal base rule, which defined a major modification as any change "that would result in a significant net emissions increase of any pollutant subject to regulation under the Act." This option maintains a continuing evaluation of cumulative increases and decreases at the source, and requires major modification NSR whenever the net increase over the contemporaneous time period is significant. Accordingly, a source or project could "net in" to review as well as "net out."

Under this option, the applicability procedures still require a determination of the project emissions increase for the project at hand, which is necessary to determine and track the net emissions increase over the contemporaneous time period. The project emissions increase is also used to determine whether preconstruction notice and post-project recordkeeping and reporting are required at 52.21(r)(6) or 51.165(a)(6).

Again, the contemporaneous time period is a critical aspect for a program that relies on the net emissions increase to determine whether a modification is major. Here, once the contemporaneous period is established, all creditable increases and decreases within that time period are treated equally and the collective impact of those changes on air quality is considered.

Another aspect that may be considered for this option is the question of where BACT or LAER is required when a significant net emissions increase occurs. Under a "net-only" program design, the greatest emissions increases or largest emitting units contributing to the net emissions increase may not be associated with the proposed project that triggers the NSR. Thus, the past policy that requires application of control technology only for units at which a change occurs for the particular project may not be effective in addressing the significant emissions increase. Therefore, the permitting authority may elect to establish different criteria for where the BACT or LAER review is determined -- for example, for any significant or major emissions unit that was modified by a project within the contemporaneous time period. This approach would provide an incentive for sources to ensure that good controls are installed on an ongoing basis when an

emissions unit is installed or modified, and would focus resources on significant and major emissions units.

Major Modification: Any Increase Option. Consistent with the statutory language of the CAA for extreme ozone nonattainment areas, the nonattainment Menu of Options includes an option for defining a major modification that includes any physical change or change in the method of operation that would result in any increase of a regulated NSR pollutant.

Determination of the Project Emissions Increase (Applicability Tests).

For the revised federal rule for applicability tests, the issues for the PSD and nonattainment programs are the same; the Menu of Options provisions for both programs are discussed collectively in this section. Paragraphs 52.21(a)(2)(iv)(c) through (f) and paragraphs 51.165(a)(2)(ii)(C) through (F) of the federal base rules describe the applicability tests allowed for the determination of emissions increases to satisfy the minimum federal program requirements. Under the revised federal rules, two applicability tests are provided for determining the emissions increase that will result from a project, based on the type of emissions unit. Existing emissions units are subject to the actual-to-projected-actual test. As defined under the federal rule, the actual-to-projected-actual test incorporates the actual-to-potential test as an option for the source. For new emissions units, only an actual-to-potential test is provided. For projects that involve Clean Units, no determination of increases is required. That is because, by rule, no emissions increase is deemed to occur.

The Menu provides three options for establishing the type of test to be used for determining emissions increases resulting from a project. One option provides for use of the actual-to-potential test for all affected emissions units. The second provides for use of the actual-to-projected-actual test for existing EUSGUs only, and requires the actual-to-potential test for all other types of emissions units. The third is the approach adopted in the revised federal rule, relying on the actual-to-projected-actual test for all existing emissions units and the actual-to-potential test for new units. Within each of these options, additional suboptions are provided to address other issues, including netting, as discussed above, and the demand growth exclusion, discussed below.

With respect to new emissions units, the Menu of Options retains the actual-to-potential test and provides alternative language to enhance the clarity of the rule. With respect to replacement units, the Menu of Options recognizes that a replacement unit is a new emissions unit and presents clarifying language. For Clean Units, the Menu does not provide a corollary to the federal rule language that deems all emissions increases to be zero. Each of these issues and options is discussed further below.

Applicability Test: Actual-to-Potential Test For All Sources. This alternative applicability test approach utilizes the potential emissions after the change for each affected emissions unit to estimate the post-change emissions. This test, referred to as the actual-to-potential test, takes the difference between the post-project potential emissions and the pre-project actual emissions to measure the emissions increase from each affected emissions unit.

In some respects, the actual-to-potential test is effectively the same as an actual-to-allowable test, because enforceable limits on a source's operation that have the effect of limiting emissions are considered in determining the potential to emit. Thus, a source that is subject to enforceable limitations below the significance threshold, or that elects to accept enforceable limits below the significance threshold, would not be subject to NSR under the actual-to-potential test. If consideration of the maximum physical capacity of the source would result in a projection of a significant increase, but the source does not anticipate that actual emissions would approach that threshold, then the source may take a limit on allowable emissions to avoid review. Therefore, unless the physical capacity of the source is well beyond the projected utilization and the source is unwilling to limit allowable emissions to better represent the expected use, the actual-to-potential test only results in application of the substantive NSR requirements for cases where there is a reasonable expectation that a significant emissions increase will occur after the project.

This option simplifies the applicability process by applying the same test to all emissions units. Using the same test for every affected emissions unit makes it easier to train permitting staff and the regulated community, allows less opportunity for error in implementation, and reduces the burden of oversight for managers. As compared to the actual-to-projected-actual test, this option is considerably less likely to lead to situations where a project is determined to be a major modification after the fact, because the post-change emissions considered in the applicability test represent either physical limits, enforceable limits, or both.

Because the actual-to-potential test minimizes the likelihood of excluding a major modification from preconstruction NSR review, the enhanced recordkeeping and reporting requirements at 52.21(r)(6) and 51.165(a)(6) are not needed (except to address net-outs, if netting out is allowed). Thus, this approach also reduces the post-project burden for both the permitting agency and the source.

Applicability Test: Actual-to-Projected-Actual Test for EUSGUs Only. This option most closely retains the approach of the PSD program as in effect before the December 31, 2002 revisions. Here, the actual-to-potential test is used for all new emissions units as well as for all existing units, with the exception of EUSGUs, for which the actual-to-projected-actual test is applied.

Issues discussed above regarding the actual-to-potential test also apply for this option for most emissions units. Many permitting authorities have adopted, through policy or rule, provisions that implement the WEPCO decision for electric utilities (see Introduction) and may wish to retain those provisions or to codify similar provisions in the SIP. This option presents rule language to achieve that goal. Many permitting authorities have expressed their intention to eliminate the demand growth exclusion, and would omit the rule language related to that exclusion. The demand growth exclusion is discussed as a separate issue below.

Additional issues and options associated with projected actual emissions are discussed below and in the section on definitions. Further, issues and options related to recordkeeping and reporting associated with projected actual emissions are presented in the discussion on 52.21(r)(6) and 51.165(a)(6).

Applicability Test: Actual-to-Projected-Actual Test for Existing Units. This option most closely tracks the revised federal rule, applying the actual-to-projected-actual test for all existing units and the actual-to-potential test for new emissions units. The Menu of Options presents changes to the federal base rule related to this option, including changes made for organization and clarity as well as more substantive changes.

With regard to organization, the Menu of Options moves the instructions for determining the projected actual emissions from the definition section to the applicability procedures section at 52.21(a)(2)(iv) and 51.165(a)(2)(iv). This change is intended to further consolidate applicability procedures at the front of the rule, rather than requiring the reader to consult the definition to find the method for projecting actual emissions.

The federal rule allows the owner or operator to use the actual-to-potential test for existing emissions units in lieu of the actual-to-projected-actual test. This provision is also incorporated in the federal rule under the definition of projected actual emissions, construing potential to emit as an alternate definition of actual emissions that the owner or operator might elect to use. In the Menu of Options, this provision has also been moved from the definition of "projected actual emissions" into 52.21(a)(2)(iv) and 51.165(a)(2)(iv). The construction provided in the Menu of Options is more logical, because it appropriately presents the actual-to-potential method as an optional applicability test for existing units, rather than an alternative definition of projected actual emissions.

There are several other important issues related to the actual-to-projected-actual test presented in the Menu. First, the Menu of Options provides for preconstruction notice of certain projects relying on the actual-to-projected-actual test to conclude that the project is not a major modification. (See the discussion on 52.21(r)(6) and 51.165(a)(6).) Second, the Menu presents rule language to facilitate enforceability of the actual-to-projected-actual test, by providing the permitting authority with annual reporting of actual emissions and a review of the NSR

applicability analysis after the project. (See discussion on 52.21(r)(6) and 51.165(a)(6).) The Menu also clarifies at 52.21(r)(6) and 51.165(a)(6) which projects are subject to the recordkeeping and reporting requirements, rather than relying on an unspecified "reasonable possibility" test. Finally, within the definition of projected actual emissions and at 52.21(r)(6) and 51.165(a)(6), the Menu of Options addresses issues related to the timeframe over which the source must predict actual emissions prior to the project and track and report emissions after the project. (See the discussion related to the definition of "projected actual emissions.")

Demand Growth Exclusion. Incorporated within the definition of projected actual emissions in the federal base rule is the controversial concept referred to as the "demand growth exclusion." As noted previously, the Menu of Options rearranges the federal rule provisions related to projected actual emissions, such that this provision appears at 52.21(a)(2)(iv) and 51.165(a)(2)(iv) in the Menu. The demand growth exclusion is a provision that is designed to limit consideration of emissions increases for purposes of NSR applicability to those increases that are caused by the proposed project. The provision explicitly directs the owner or operator to exclude from the projection of emissions increases resulting from the project "that portion of the unit's emissions following the project that an existing unit could have accommodated during" the baseline period and that "are also unrelated to the particular project, including any increased utilization due to project demand growth." The concept is that the source would not be required to undergo NSR due to emissions increases that the emissions unit could have accommodated without the project and that are not related to the project. As noted previously, EPA had already provided a similar demand growth exclusion for EUSGUs prior to the December 31, 2002 rule revisions. The revised rule extends the exclusion to all existing emissions units.

Many state and local permitting authorities are concerned about the demand growth exclusion, both as it previously existed for EUSGUs and as it has been adopted in the revised federal rule. Projections of increased utilization and future demand for a product are speculative and tentative, and are not readily examined or verified by permitting engineers. Further, many state and local permitting authorities believe that changes at a source are closely related to the projected utilization of the source and projected product demand. In the 1998 *Federal Register* notice discussing proposed NSR changes, EPA said that it favored eliminating the demand growth exclusion:

> "For consumer-driven industries, demand is inextricably intertwined with changes that improve a source's ability to utilize its capacity; thus, it cannot be said that demand growth is an "independent factor," separable from a given physical or operational change. Modifications which affect operational characteristics of a unit are not made without reason, and the most likely reason for an economically competitive source to undertake such changes is to enable it to create or respond to

> increased demand. In short, there is a direct causal link between most physical or operational changes that enable a source to use existing capacity and the use of such capacity." (63 Fed. Reg. 39860-61, July 24, 1998)

Following similar logic, EPA suggested that it would probably eliminate the demand growth exclusion for EUSGUs as well. The agency noted that because of the restructuring of the electricity industry to a market-based system, "the marketplace will drive electric generators to function as any other consumer-driven industry." Consequently, EPA stated,

> "Each physical or operational change that makes it possible for a source to efficiently increase its level of utilization, then, will likely be pursued and turned into electricity for sale. One can therefore predict that any physical or operational change will result in an emissions increase to the extent that there is market demand for additional power." (63 Fed. Reg. 39857, 39860-61, July 24, 1998)

Following the logic presented above, and in consideration of concerns related to air quality impacts, program complexity, and practical enforceability, many permitting authorities intend to adopt programs that do not provide a demand growth exclusion. The Menu of Options supports that intent by noting what language of the base federal rule should be omitted to achieve the goal of eliminating the demand growth exclusion. Recognizing that some permitting authorities will adopt the exclusion, the Menu of Options also provides alternative language to increase accountability when the source takes advantage of the exclusion, by providing enhanced reporting and recordkeeping provisions.

Applicability Test for New Units. As discussed above, the applicability test for new units under the base federal rule and under each of the options in the Menu is the actual-to-potential test. For a new emissions unit, the actual emissions before the project are zero. Therefore, the actual-to-potential test appropriately results in the consideration of the unit's potential to emit as the emissions increase due to the project. This is not a change from the program as it was implemented prior to the December 31, 2002 rulemaking. As a point of clarification, sections 52.21(a)(2)(iv)(d) and 51.165(a)(2)(ii)(D) eliminate taking the difference between the potential to emit and the baseline actual emissions for a new unit (which are zero by definition) and simply state that the emissions increase is equal to the potential to emit. (See Option (a)(2)(iv)-C.)

Applicability Test for Replacement Units. Another issue and option presented in the model rule related to the determination of emissions increases is the treatment of replacement units. The language of the base federal rule does not explicitly address this issue. The federal rule specifies that for purposes of 52.21 and 51.165, there are two types of emissions units: new and existing. The rule

specifies the applicability tests available for each type of emissions unit, and includes special provisions for EUSGUs and Clean Units. There is no special applicability test or exclusion provided for replacement units at 52.21(a)(2)(iv) or 51.165(a)(2). Usually, a replacement unit is a new emissions unit (i.e., one that is newly constructed and has existed for less than two years from the date it first operated). Thus, replacement units are subject to the applicability test for new units, and the emissions increase is the potential to emit of the unit. Creditable emissions reductions associated with the shut down of existing emissions units being replaced are considered in the context of netting.

In the Notice of Reconsideration of July 30, 2003, EPA raised questions as to whether replacement units would be treated as existing units for purposes of the applicability test and subject to the actual-to-projected-actual test. To achieve this result, the replacement unit would be considered effectively the same emissions unit as the one being replaced, and the old unit's past actual emissions would be considered as the baseline actual emissions and compared to a projection of actual emissions for the new replacement unit to calculate the emissions increase associated with the change.

In considering how or whether to revise the SIP in response to EPA's base federal rule revisions, state and local permitting authorities have expressed particular concerns with the treatment of replacement units. As noted in STAPPA and ALAPCO's comments on the Reconsideration Notice, it is important to recognize that the future operation of the new replacement emissions unit cannot be presumed to be the same as the past operation of the unit being replaced, and that the future actual emissions of the new unit cannot be presumed to be the same as the past actual emissions of the shut down unit; in many cases, the new unit is intended to surpass the operations of the older unit.

As an example, if an owner or operator proposes to shut down and dismantle an existing boiler and to install a new boiler in its place, the new boiler will not necessarily operate at the same capacity, follow the same operational schedule or have the same burner configuration or design as the old boiler. In many cases, the new unit is intended to affect changes in all of these parameters, although both the new and the old units may serve the same basic function (e.g., to supply steam to the manufacturing process).

To eliminate any confusion regarding the required applicability test for new emissions units, the Menu of Options provides regulatory language within the definition of "emissions unit" discussed below in the Definitions section.

Applicability Test for Clean Units. The federal base rule provides a new applicability test for Clean Units. That is, with respect to projects that will affect Clean Units without causing the unit to lose its Clean Unit designation, the base federal rule provides that no emissions increase is deemed to occur. A more detailed discussion of the Clean Unit provisions is provided in the section on

52.21(x) and 51.165(c). Here, issues related to the applicability test for Clean Units are discussed.

Several issues arise in evaluating the base federal rule applicability test for Clean Units. The language of the federal rule is:

"Emissions test for projects that involve Clean Units. For a project that will be constructed and operated at a Clean Unit without causing the emissions unit to lose its Clean Unit designation, no emissions increase is deemed to occur."

First, the rule language is drafted in such a way that it could be read to automatically exclude from review any project that involves a Clean Unit without causing the unit to lose Clean Unit designation. In particular, the language states that no emissions increase is deemed to occur "for a project," rather than "for a Clean Unit." This could be construed to extend the "no emissions increase" declaration beyond the Clean Unit to the project as a whole. Although other language in the rule, for example at 52.21(a)(2)(iv)(f), appears to preclude such a reading, the ambiguity of the provision raises concern.

More importantly, even assuming that only the increases from the Clean Unit itself are to be treated as zero, the special applicability test for Clean Units as adopted in the revised rule could result in adverse air quality impacts and loss of emissions reductions that would be required by NSR if no Clean Units were affected by the project. This is because treating the Clean Unit emissions increases as zero can inappropriately result in the project's emission increase being considered less than significant, even if the emissions increase is above the significance threshold when the Clean Unit increases are considered. Thus, the entire project, including all affected emissions units, would be excluded from review. This approach, therefore, has the effect of exempting emissions units that have not achieved Clean Unit status from BACT or LAER controls that would otherwise be required under the rule, and of exempting projects that will result in a significant emissions increase from other substantive NSR requirements, including PSD air quality analysis or offsets in nonattainment areas. The unfortunate result is that emissions reductions that would have been achieved for other uncontrolled or poorly controlled emissions units at the time they are physically modified will be foregone under the rule because of the provision that deems emission increases at Clean Units to be zero.

Many permitting authorities endorse the concept of Clean Units, as noted during the NSR reform stakeholder discussions and, to some extent, in EPA's preamble to the final rule. Specifically, many state and local permitting authorities concur that emissions units that have installed BACT or LAER controls in the near past should not be required to undergo another BACT or LAER review for a new project. Permitting authorities generally believe that a source should be allowed a reasonable time to recoup the investment on state of the art controls without having

to upgrade or replace the control system, and agree that little or no environmental benefit would be realized by another BACT or LAER analysis. Similarly, EPA states in the preamble to the December 31, 2002 rule:

> "… when you go through major NSR review and install BACT or LAER, you may make any changes to the Clean Unit without triggering an additional major NSR review, if the project at a Clean Unit does not cause the need for a change in the emission limitations or work practice requirements in the permit for the unit that were adopted in conjunction with BACT or LAER and the project would not alter any physical or operational characteristics that formed the basis for the BACT or LAER determination."

To the extent that the Clean Unit provisions eliminate redundant NSR control technology review for emissions units that have already been determined to meet BACT or LAER within a reasonable time period, permitting authorities generally support the Clean Unit provisions. Permitting authorities are concerned, however, with relying on a BACT or LAER determination that was conducted for one emissions unit to exempt other emissions units from control, or to exempt significant emissions increases from offset requirements or air quality analysis.

To address this concern, the Menu of Options eliminates the special applicability test for Clean Units. In its place, the Menu of Options provides rule language for PSD programs at 52.21(x)(2)(i) providing that the BACT analysis previously conducted for the Clean Unit shall serve to meet the BACT requirement under 52.21(j) for the term of the Clean Unit designation, with respect to any major modification that affects the Clean Unit. It is important to note that the unit is not exempt from BACT; rather, the emissions unit already meets BACT. Similar language is provided in the Menu of Options for nonattainment NSR, at 51.165(c)(2), with respect to LAER determinations for Clean Units.

Retention of the Actual-to-Potential Test for Applicability of Certain Program Elements (PSD Menu of Options, 52.21(a)(2)(vii) and (viii)):

In evaluating the revised federal rule, some permitting authorities expressed the desire to provide the actual-to-projected-actual test for existing units for some purposes under the PSD program, but to retain the actual-to-potential test for other purposes. Similarly, the federal base rule allows the use of the actual-to-projected-actual test to determine whether the substantive BACT and ambient air analysis requirements or LAER and offsets requirements apply, but then reverts to the use of actual emissions for purposes of conducting the air quality analysis or determining the level of offsets required. Note that this issue is different from the question of which applicability test would be available for which types of emissions units. Here, the question is which substantive provisions of the program (see 52.21(j)

through (r)) would be governed by which method for measuring emissions increases with respect to existing units.

Depending on the particular priorities and concerns of a given jurisdiction, permitting authorities differ in their evaluation of which provisions would be appropriately implemented using the actual-to-projected-actual test, and which provisions would best rely on the actual-to-potential test. For example, the local program might be structured such that applicability is determined based on the actual-to-projected-actual test with regard to BACT, but the source impact analysis is still required if the project would be major based on the actual-to-potential test. Alternatively, the program might apply both BACT and ambient review requirements based on the actual-to-projected-actual test, but impose public participation requirements for projects that would be major based on the actual-to-potential test.

Paragraphs 52.21(a)(2)(vii) and (viii) are presented as "placeholders" to address this approach. The Menu of Options has been drafted to provide one option at 52.21(a)(2)(vii); this option addresses BACT using the actual-to-projected-actual test and all other substantive requirements at 52.21(k) through (r) using the actual-to-potential test. The permitting authority could customize this provision to specify those requirements for which the actual-to-potential test would be used in the particular SIP.

Definitions - PSD Menu of Options 52.21(b) and Nonattainment Menu of Options 51.165(a)(1):

As previously noted, several critical aspects of the applicability provisions for the NSR program remain entwined in the definitions of key terms in the revised federal base rules. Some discussion of key definitions has already been provided in the section on 52.21(a) and 51.165(a)(2), particularly concerning the definition of the terms "major modification," "net emissions increase," "projected actual emissions," and "emissions unit." This section addresses definitions for which the Menu of Options provides alternative language, with an explanation of the issues considered and the options provided. Repetition of discussions already presented is minimized to the extent practical.

Definition of Stationary Source: 51.165(a)(1)(i)

The nonattainment rule definition for stationary source in the Menu of Options has been revised, consistent with the CAA, to clarify that nonroad engines and nonroad vehicles are not to be considered stationary sources. The definition also clarifies that stationary internal combustion engines are stationary sources, whereas internal combustion engines used for transportation are not stationary sources.

Definition of Major Stationary Source: 52.21(b)(1) and 51.165(a)(1)(iv)

52.21(b)(1), PSD Definition of Major Stationary Source. The definition of major stationary source was not revised in the federal base rule. The definition consists of three parts, with the first part describing three classifications under which a stationary source may be considered major. The first class is comprised of sources in the listed source categories with the potential to emit 100 tons per year of any regulated NSR pollutant. The second class is comprised of sources in any other source category with the potential to emit 250 tons per year of any regulated NSR pollutant. The third class is comprised of projects at existing minor sources that would result in emissions increases above the applicable major source threshold of 100 or 250 tons per year. In addition to the three classifications of major stationary sources, the definition includes a provision to specify the pollutants of concern with respect to ozone, and a provision that lists those source categories for which fugitive emissions are considered in determining whether a stationary source is major. The Menu of Options presents two clarifying changes to the definition of major stationary source, explained below.

250-Tons-Per-Year Major Source Classification. The Menu of Options provides clarifying revisions to paragraph 52.21(b)(1)(i)(b), which establishes the 250-ton-per-year class of major stationary sources. Here the language of the federal rule reads,

"Notwithstanding the stationary source size specified in paragraph (b)(1)(i) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or"

This language is confusing and appears inaccurate for two reasons. First, paragraph (b)(1)(i)(b), quoted above, is within paragraph (b)(1)(i), so the paragraph negates itself. Second, paragraph (b)(1)(i)(a), which was apparently the intended reference, does clearly have standing that is not obviated by paragraph (b)(1)(i)(b). The two classes of major stationary source stand independent of one another; neither negates the other. To clarify and correct the definition, the Menu provides the following replacement language,

"For stationary sources other than those listed in paragraph (b)(1)(i)(a) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or"

Ozone Pollutants. Also in the definition of "major stationary source" a conforming change is presented for paragraph 52.21(b)(1)(ii) to include oxides of nitrogen as a pollutant to be considered with respect to ozone.

51.165(a)(1)(iv), Nonattainment Definition of Major Stationary Source. As mentioned above, the CAA added an extensive classification scheme for nonattainment areas. *See, e.g.,* 42 U.S.C. § 7511. The amendments also created new and lower major source thresholds tied to the nonattainment classification scheme. The definition of "major stationary source" in the Menu has been modified from the revised federal rule to account for these changes. Although never adopted in the base federal rule, lower major stationary source thresholds are provided in the definition of the Menu of Options consistent with the Clean Air Act provisions.

Redesignations and Transition from the 1-hour to the 8-hour Ozone Standard. The requirement for lowered major stationary source thresholds for nonattainment areas with specified classifications gives rise to the question of which major source threshold will apply if the classification changes or when the area is redesignated to attainment. This question is compounded by the adoption of new NAAQS for particulates and ozone, which could result in a change in classification of a nonattainment area when the transition to the new standard occurs. For example, the major source threshold for a marginal ozone nonattainment area is 100 tpy, while the major source threshold for a serious ozone nonattainment area is 50 tpy. If a nonattainment area classified as serious under the 1-hour ozone standard then reverts to a marginal classification under the 8-hour standard, should stationary sources between 50 and 100 tons per year potential emissions no longer be subject to nonattainment NSR? Similarly, once the area attains the ozone standard and the PSD program applies for ozone precursors, should the major stationary source threshold for NSR be raised as high as 250 tpy?

The recently adopted EPA rule to govern transition of ozone nonattainment areas from the 1-hour to the 8-hour NAAQS addresses the question of what major stationary source threshold must apply in a nonattainment area if the classification is lowered from a higher category when the 1-hour standard is revoked. EPA's rule provides for the provisions of the 8-hour classification to apply in this case, such that the new major stationary source threshold would be increased to the threshold of the lower classification. In the example above, the major source threshold would revert from 50 tpy to 100 tpy, and stationary sources between these two thresholds would no longer be subject to NSR. Similarly, under the base federal rules, EPA would allow the stationary source threshold to be raised as high as 250 tpy under the PSD program when the area achieves attainment, such that BACT and air quality impacts analysis requirements would not apply to many sources that had previously been covered by the NSR program. While EPA has set forth this federal minimum approach in the 8-hour ozone Transition Rule adopted on April 30, 2004, the agency has not yet revised either 51.21 or 51.165 to provide any explicit regulatory language in the NSR permitting rules. In addition, EPA has not yet provided any rules for transition from the PM_{10} standard to the $PM_{2.5}$ standard, where similar questions must be addressed.

Many state and local permitting authorities have expressed concern with the recently published EPA approach, reasoning that regulating sources at the lower major source threshold has contributed to reasonable further progress and toward attainment of the ozone NAAQS, and that elimination of the smaller sources from the NSR program would constitute backsliding. Permitting authorities are concerned that diminishing the coverage of the NSR program could result in diminished air quality protection and would allow significant increases in emissions to occur without control or review at many of the very sources that had been regulated in order to achieve progress toward attainment.

STAPPA and ALAPCO recognize that permitting authorities have the discretion to elect a major stationary source threshold that is different from the federal base minimum requirement, provided the state or local rule is at least as stringent as the federal rule. The Menu of Options therefore provides specific regulatory language to address these concerns related to revocation of the 1-hour standard and redesignation of an area from nonattainment to attainment. In the PSD Menu of Options, at 52.21(b)(1)(i)(d), new language is included to retain the lower major stationary source thresholds that had previously applied under the nonattainment classification scheme when an area is redesignated attainment. In the nonattainment Menu of Options, at 51.165(a)(1)(iv)(C), new language is provided to require that, when the 1-hour ozone standard is revoked, the major stationary source thresholds that were in effect under the 1-hour standard shall remain in effect under the 8-hour ozone standard.

Definition of Major Modification: 52.21(b)(2) and 51.165(a)(1)(v)

Major Modification Criteria and Netting. As discussed in the section on applicability procedures, the Menu presents four options for the definition of major modification. One option is identical to the base federal rule, and requires both a significant emissions increase and a significant net emissions increase to result in order to classify the change as a major modification. The second option eliminates the netting concept and requires only that a significant emissions increase results from the change in order to classify the change as a major modification. The third option tracks the definition in place prior to the December 31, 2002 revisions and requires only that a significant net emissions increase results from the change in order to classify the change as a major modification. The fourth option, included only in the nonattainment Menu of Options, tracks the Clean Air Act provisions for extreme ozone nonattainment areas and defines any increase in emissions resulting from a change as a major modification.

Routine Maintenance, Repair and Replacement. Paragraph 52.21(b)(2)(iii) of the PSD definition of "major modification" and paragraph 51.165(a)(1)(v)(C) of the nonattainment definition of “major modification” provide exclusions to the meaning of the term "physical change or change in the method of operation" and thus to the meaning of major modification (because an activity must first be a physical

change or change in the method of operation before it is considered a major modification). The first exclusion is the much-debated exclusion for "routine maintenance, repair and replacement." The routine maintenance, repair and replacement exclusion was not revised by the December 31, 2002 rulemaking, but was revised by the August 27, 2003 rulemaking. These revisions to the federal rule are not presented in this document, which utilizes as its template EPA's version of 52.21 and 51.165, as adopted December 31, 2002.

Because the routine maintenance repair and replacement exclusions lack clarity and are an important element of the NSR program, the Menu of Options addresses this exclusion. Specifically, the Menu presents alternative rule language that is consistent with comments prepared and submitted by STAPPA and ALAPCO in response to EPA's proposed rulemaking on this topic. The following excerpt, from the May 1, 2003 comment letter to EPA, summarizes the associations' recommendations on the routine maintenance, repair and replacement exclusion:

> "Accordingly, STAPPA and ALAPCO recommend that this proposal be rescinded. However, we recognize that clarification of routine maintenance, repair and replacement is warranted. Toward that end, we recommend that in lieu of this proposal, EPA:
>
> 1) Codify criteria for characterizing whether a change is routine, based on those criteria relied upon in current case-by-case determinations and including criteria to safeguard against changes likely to result in an increase in emissions;
> 2) Develop two lists for each major industrial sector, identifying the activities that would and would not be considered routine;
> 3) Retain the case-by-case determination process for those activities that are not included on either list, and;
> 4) Preserve the ability of state and local air pollution control agencies to impose requirements more stringent than those of the federal government.
>
> We believe such an approach will achieve EPA's stated intent: to provide greater clarity and certainty without sacrificing the critically important environmental and health benefits of the NSR program."

In light of the revisions to the federal rule adopted in August 2003, the Menu presents two options within the definition of "major modification" consistent with STAPPA and ALAPCO's comments cited above.

<u>Routine Maintenance: Codifying Criteria for Case-by-Case Determinations.</u> The first option, at 52.21(b)(2)(iii) and 51.165(a)(1)(v)(C)(1), presents rule language that codifies the criteria the owner or operator must consider in determining whether an activity qualifies for the exclusion, based upon the criteria established by EPA in

policy and guidance. The language also provides general guidance on how to apply the criteria to determine whether a particular change fits within the exclusion.

Routine Maintenance: Establishing Lists of Routine Activities. The second option provides for the permitting authority to publish lists identifying activities that are "routine" and "not routine." Although the development and adoption of such lists at the national level may be preferred, such an effort might be achieved at the state or local level in a manner similar to the development of lists of insignificant activities under the Title V program. For any activity that is not listed, this option presents the same rule language and approach as the first option with regard to criteria to be considered in case-by-case determinations.

Clean Coal Exclusions. In the Menu of Options, the exclusions for temporary and permanent clean coal technology demonstration projects and for the reactivation of a very clean coal-fired EUSGU are omitted from the definition of major modification because they are outdated.

Definition of Net Emissions Increase: 52.21(b)(3) and 51.165(a)(1)(vi)

The Menu of Options identifies several issues related to the definition of "net emissions increase" at 52.21(b)(3) and 51.165(a)(1)(vi) for PSD and nonattainment, respectively. As previously discussed, among the approaches presented in the Menu of Options is an option to eliminate netting altogether from the state or local program. For programs that retain netting, the Menu offers several other options to assist in alleviating some of the complexity and vagueness of the base federal program.

For programs that must provide provisions for determining the net emissions increase, such provisions are contained in the definition of "net emissions increase." This definition embodies several issues and concerns. Discussed below are issues and options related to the concept of "net emissions increase," including the baseline for measuring contemporaneous emissions changes, the determination of emissions after the contemporaneous change, and the meaning of contemporaneous.

No-Netting Option. If the permitting authority does not adopt any provisions for netting, a definition of “net emissions increase” would not be included in the SIP. Because references to net emissions increases appear in numerous places in the rule, the Menu of Options includes instructions to make conforming changes as would be necessary to accommodate a "no-netting" program. These instructions are included in the bold notes throughout the rule, and the text that would need to be omitted from the state or local rule is italicized to identify it within the rule language of the Menu. In some instances, it was determined that the rule language could readily be revised to accommodate either a "no-netting" or a "netting" program design, so the Menu presents the language accordingly. These changes are readily identified and

understood throughout the rule, so no further discussion of these conforming changes is included in this document.

Issues Pertaining to Baseline. The revised federal rules, at 52.21(b)(3)(i)(b) of the PSD rule and 51.165(a)(1)(vi) of the nonattainment rule, include a reference to baseline actual emissions to be used for calculating increases and decreases in the netting window. The federal provisions are awkward and difficult to understand, although the preamble provides some explanation, as follows. For a project within the contemporaneous period, the source may select a different baseline period for each affected emissions unit for a given pollutant to determine the creditable increase or decrease. That is, the source may select any 24-month period within the 10 years preceding the contemporaneous change, and may select a different 24-month period for each emissions unit. (See 67 Fed. Reg. 80197. December 31, 2002.) As we understand the federal rule, for changes within the contemporaneous period, the baseline for measuring emissions increases and decreases may be any consecutive 24-month period within the 10 years before the particular change (that is a component of the project) with regard to an individual emissions unit, and multiple baseline periods may be selected for a particular project within the contemporaneous period. Thus, for a single regulated NSR pollutant, if the contemporaneous period includes three projects (in addition to the proposed project) and each of those projects affected four emissions units, the owner or operator could select 13 different baseline periods over a period of up to 15 years. For the determination of baseline actual emissions with respect to each of these baseline periods, adjustments must be made for any noncompliant or excess emissions and to account for any regulations that applied at the time of the change but did not apply during the baseline period. The federal rules would also allow a source to change to a different baseline for a given project over time. For example, the single baseline selected at the time the project is proposed could be replaced with multiple baselines, each for a different emissions unit, after the project is constructed for netting purposes, and any of those baselines might be replaced by a new selection later on.

State and local permitting authorities have expressed their intent to consider alternative approaches to defining the baseline period to address several issues and concerns, discussed in detail below in the section pertaining to the definition of baseline actual emissions. As evident from the preceding discussion, the complexities of the federal definition for baseline actual emissions, when layered upon the complexities inherent in a netting analysis, exacerbate the concerns of a state or local permitting authority attempting to administer a reasonable and effective NSR program.

The Menu of Options offers alternative definitions for "baseline actual emissions" that will also apply to the determination of creditable increases and decreases within the contemporaneous period. The two options are listed and discussed at 52.21(b)(48), below. With regard to baseline, the alternatives do not treat a project differently after construction (when it is in the netting window) than at

the time it is proposed. Under the Menu alternative language, for proposed projects as well as projects remaining within the contemporaneous period, when the project involves multiple emissions units or multiple pollutants, only one baseline period may be used to determine the baseline actual emissions with respect to all pollutants and all affected emissions units.

The Contemporaneous Time Period. As discussed previously, the contemporaneous time period is a crucial element of an NSR program that provides for netting. The base federal rule retained the nominal five-year time period to define the contemporaneous time period, although EPA has approved different contemporaneous time periods through the SIP process for state and local programs, and acknowledges in the preamble that state and local permitting authorities have discretion in setting the contemporaneous time frame in the SIP. (See 67 Fed. Reg. 80197, December 31, 2002.)

A permitting authority may reasonably decide that the nominal five-year time period provided as the federal minimum is not the most effective for its program given the particular set of circumstances and possible competing concerns that must be addressed. For example, the permitting authority may consider the level of remaining increment in an area as a factor affecting how closely emissions increases need to be tracked, which may lead to the conclusion that a shorter contemporaneous window is needed to provide a "real time" check on emissions trends. Or, the permitting authority may determine that the contemporaneous time period and the baseline look-back period should be the same, in order to simplify the program and maintain a common timeframe as the basis for reviewing emissions changes related to a project. Other factors the permitting authority may view as important are age and quality of available emissions and operational data. In many areas, the permitting authority is well informed as to the general quality of available data over time, and may conclude that the contemporaneous time period should be defined so as to optimize the likelihood of good quality data to support the determination of contemporaneous increases and decreases.

The contemporaneous time period also serves to achieve program policy goals. For instance, providing for netting within a contemporaneous window that is constrained to the timeframe of the project serves to maintain a "real time" focus, as would be achieved by eliminating netting, but still allows for the consideration of emissions reductions and emissions increases that would result from other projects undertaken within the same time period. On the other hand, providing for netting within a longer contemporaneous time period might provide an incentive for sources to proceed with emissions reductions projects in advance of anticipated emissions increase projects (i.e., the owner or operator may be less inclined to delay potential emission reduction projects in order to couple the emission reductions with projects that would increase emissions). Depending on the balance of circumstances in a particular state or local jurisdiction, the permitting authority must make a reasonable

determination regarding how to design the NSR program with respect to the contemporaneous period and netting.

Adjustment of the contemporaneous time period has long been recognized as a valid mechanism to manage issues associated with netting, and the NSR stakeholder discussions of the past have included deliberations on this point. State and local permitting authorities were hopeful that improvements to the base federal NSR program would address concerns related to netting, including the contemporaneous time period. No changes were made to the base federal program, although EPA did acknowledge that individual state or local permitting authorities may elect to address this issue through SIP development. In this regard, the Menu provides two options for the meaning of contemporaneous. The first option retains the base federal time frame. The second option sets the contemporaneous time period to be the same time period during which the proposed project would be constructed.

Contemporaneous Time Period: Five-Year Window. The Menu retains the base federal language that establishes the meaning of contemporaneous as one option. As discussed above, the permitting authority may determine that another time period is more effective and may substitute a different number of years or months in the rule language. Another clarifying change is provided for this option in relation to the date that ends the contemporaneous period, discussed below.

Contemporaneous Time Period: Project Window. As an alternative approach to establishing the contemporaneous time period by looking back a number of years or months prior to the date construction will commence, this option defines the contemporaneous time period to be the same time frame during which construction on the project will occur. This approach does not allow the source to "trade" emissions reductions made in the past against the emissions increases of the project, but does provide for the consideration of emissions reductions projects that will occur through other independent projects within the same time period.

Date that the Contemporaneous Time Period Ends. To establish the date on which the contemporaneous time period ends, the base federal rule uses the phrase, "the date that the increase from the particular change occurs." This phrase is somewhat ambiguous and has led to confusion in implementing the program in the past. In many instances, the increase from a project may not be realized until the modified equipment has been operated for some time. In addition, the project may be started up in phases, and increases from different affected emissions units may occur at different times over an extended timeframe. To eliminate this ambiguity, the Menu of Options presents alternative language that provides a more readily determined end date for the contemporaneous period; that is, the date that construction on the project is complete.

Use of the Term "Actual Emissions". The federal base rule continues to rely on the old definition of "actual emissions" with respect to the determination of increases and decreases in a netting analysis. The definition of "actual emissions" is also used in the revised nonattainment rule to determine the amount of offsets required. For instance, 52.21(b)(3)(v) and 51.165(a)(1)(vi)(D) provide, "an increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level." Similarly, 52.21(b)(3)(vi) and 51.165(a)(1)(vi)(E) state, "a decrease in actual emissions is creditable only to the extent that the old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions." With regard to offsets, 51.165(a)(3) states, "…the offset baseline shall be the actual emissions of the source from which offset credit is obtained…." Thus, the owner or operator must refer to the definition of "actual emissions" in order to calculate the creditable increases or decreases available for netting and may also need to rely on this definition in determining required offsets.

With regard to netting, however, the definition of "net emissions increase" further provides that certain paragraphs in the actual emissions definition shall not apply for determining creditable increases and decreases. As a result, "actual emissions" with respect to creditable increases and decreases means, by definition, the "allowable emissions" or, for emissions units that have not begun normal operations, the "potential to emit." Thus, for contemporaneous increases and decreases (i.e., in determining the emissions of the unit after the change), the term actual emissions generally means allowable emissions, and in some cases could refer to potential to emit.

The convoluted and confusing use of cross-referencing with exceptions renders the base federal rule difficult to follow and prone to misapplication. To alleviate this confusion, simplify the rule, and enhance consistency in interpretation and application, the Menu of Options provides alternative language for paragraphs 52.21(b)(3)(v) and (vi) and the corresponding nonattainment rule provisions, as shown below. The changes insert directly the phrases "baseline actual emissions" and "allowable emissions," where appropriate, to eliminate the ambiguous wording and confusing cross-referencing.

52.21(b)(3)(v) and 51.165(a)(1)(vi)(D): "An increase in emissions is creditable to the extent that the new level of allowable emissions exceeds the baseline actual emissions for the contemporaneous change."

52.21(b)(3)(vi) and 51.165(a)(1)(vi)(E): "A decrease in emissions is creditable to the extent that: The baseline actual emissions exceeds the new level of allowable emissions…"

Definition of Potential to Emit: 52.21(b)(4) and 51.165(a)(1)(iii)

Enforceability. In the Menu, the definition of potential to emit is presented almost unchanged with respect to the definition in the federal base program. One option is presented in relation to the enforceability of limitations on a source's potential to emit. As discussed in the preamble to the December 31, 2002 rulemaking, in 1995 the DC Circuit Court remanded the definition of potential to emit in the major NSR program to EPA and vacated the requirement that limits on potential to emit must be federally enforceable. The court found that EPA has not adequately justified why a limit must be federally enforceable in order to be enforceable as a practical matter, and thus remanded the issue to EPA for reconsideration and subsequent rulemaking. EPA has not yet undertaken any further rulemaking pursuant to the court's instruction.

As a result of this court action, the term "federally enforceable" is not in effect in the federal base rule. Some permitting authorities have thus far retained the requirement for federal enforceability in their state or local rules and SIPs, and some have made revisions to their state or local rules reflecting the court's decision. In the upcoming SIP review, some permitting authorities may elect to address this issue along with other changes to the NSR rules. The Menu of Options presents language that inserts the phrase "or enforceable as a practical matter" after the phrase "federally enforceable," resulting in the effect that limits on potential to emit must be either federally enforceable or enforceable as a practical matter.

Definition of Emissions Unit: 52.21(b)(7) and 51.165(a)(1)(vii)

The Menu of Options rule tracks the language of the base federal rule with regard to the definition of "emissions unit," but adds clarifying language with regard to the treatment of replacement units. As discussed above in relation to the applicability tests provided for new and existing emissions units, replacement units are discrete equipment, separate from, and clearly not the same unit as, the existing emissions unit being replaced. Until the replacement unit has been in operation for two years, it is a new emissions unit. The Menu of Options adds language to the definition of "emissions unit" to address this issue, which states,

> "Any emissions unit that is constructed or installed for the purpose of replacing an existing unit, or any emissions unit that is relocated from another stationary source for the purpose of replacing an existing unit, shall be considered a new emissions unit at the time of replacement and until two years from the date such new unit commenced operation."

Definition of Baseline Dates: 52.21(b)(14)

Savings Provision. The definition at 52.21(b)(14) establishes the major source baseline dates and trigger dates for attainment areas, and the method for

establishing the minor source baseline dates. The definition specifies that the Administrator shall rescind a minor source baseline date where it can be shown that the net emissions increase responsible for triggering the date did not result in a significant amount of PM_{10} emissions. In order to clarify that use of the new applicability provisions as adopted December 31, 2002 do not result in rescission of any baseline date, a savings provisions is presented in the Menu of Options as a new paragraph 52.21(b)(14)(v).

Definition of Allowable Emissions: 52.21(b)(16) and 51.165(a)(1)(xi)

Recognized Limits on Allowable Emissions. The base federal rules provide somewhat differing definitions of "allowable emissions" with regard to PALs and otherwise with respect to 52.21 and 51.165. One point of divergence hinges on the type of enforceability specified, where the PAL's definition recognizes limits that are enforceable as a practical matter and the general definitions at 52.21(b) and 51.165(a)(1) rely on federal enforceability. Furthermore, the federal definition of "allowable emissions" for PALs states that the term means the same as the 52.21(b) definition, "except" that the definition is "modified" to recognize any emissions limitations that are enforceable as a practical matter on the source's potential to emit.

This statement of divergence between the two federal definitions of "allowable emissions" is troubling, because it implies that some enforceable emissions limitations would not be recognized as limiting allowable emissions. Accordingly, the Menu of Options presents alternative language at 52.21(b)(16) and 51.165(a)(1)(xi) for the definition of "allowable emissions." The alternative language revises the federal definition to recognize "any requirement or permit condition that is federally enforceable or enforceable as a practical matter, including those with a future compliance date." The intent of this alternative language is to ensure that all enforceable limitations on emissions at a source are recognized as constraining the allowable emissions.

Definition of Actual Emissions: 52.21(b)(21) and 51.165(a)(1)(xii)

Under the base federal rules, the new definitions of "projected actual emissions" and "baseline actual emissions" are presented for purposes of determining the emissions increase that would result from a proposed project. If it is determined, using the new definitions, that a major modification will occur, then the old definition of "actual emissions" continues to be used for conducting the air quality impacts analysis under PSD and for determining offset requirements under nonattainment NSR. Under the federal rules, the definition of "actual emissions" is also used, with exceptions to one paragraph, to determine the emissions increases or decreases for contemporaneous changes in a netting analysis. The confusion surrounding use of this definition is presented in detail in the section discussing the definition of "net emissions increase."

To clarify the rule, the Menu of Options eliminates use of this definition for purposes of netting. In the alternative option presented, the language of the definition specifies exactly where in the rule the term "actual emissions" is used (i.e., in the definition of "baseline concentration") and for what purposes the source's actual emissions are used in PSD review (i.e., reviewing air quality impacts, including compliance with NAAQS, PSD increments, and air quality related values) and nonattainment review (i.e., in determining the amount of offsets required).

Definition of Significant: 52.21(b)(23) and 51.165(a)(1)(x)

The PSD Menu of Options presents a conforming change at paragraph 52.21(b)(23)(i) to include oxides of nitrogen as a regulated pollutant with respect to ozone. With respect to pollutants that are not listed in paragraph 52.21(b)(23)(i), the Menu of Options reserves the provision at 52.21(b)(23)(ii) stating that "any emissions rate" is significant. EPA intends to address the question of significance thresholds for unlisted pollutants, or regulation under the PSD program of unlisted pollutants, in a separate rulemaking.

With regard to significance thresholds in nonattainment areas, the nonattainment NSR Menu of Options presents conforming changes at 51.165(a)(1)(x)(B) through (F) to incorporate significant thresholds pursuant to the CAA.

Definition of Pollution Control Project: 52.21(b)(32) and 51.165(a)(1)(xxv)

Primary Purpose Test. One of the most significant differences between the EPA policies for PCPs and the revised rules is that the December 31, 2002 rules eliminate the "primary purpose test." That is, the primary purpose of the project may be something other than pollution control, and the project can still qualify as a PCP provided it is determined to be environmentally beneficial. As EPA stated in the preamble, the primary purpose test provided an initial screening mechanism for permitting authorities to eliminate inappropriate projects from consideration as PCPs, and helped to reduce resources that would otherwise be spent in reviewing projects that are not, on balance, environmentally beneficial. In formulating policy and designing the SIP with regard to PCPs, it is important to keep in mind that the projects under consideration are projects that result in a significant increase of a regulated NSR pollutant. Thus, as EPA's 1994 guidance states, "special care must be taken in classifying a project as a pollution control project and in evaluating a project under a pollution control project exclusion."

Many state and local permitting authorities believe the primary purpose test serves an important function in narrowing the scope of the exclusion to those projects that are truly designed and intended to benefit the environment. Therefore, the Menu of Options provides language to retain the primary purpose test.

Replacement or Reconstruction of Existing Units. One type of project that the primary purpose test will aid in screening from the PCP exclusion is that which will replace existing emissions units (i.e., process equipment) or reconstruct existing emissions units. EPA has noted, both in its 1994 policy and the preamble to its December 31, 2002 rule, that such projects do not qualify for the PCP exclusion. In the preamble, EPA clearly states, "In addition, the PCP Exclusion only applies to sources that are installing PCPs, and not to the installation of new emissions units or changes that increase the capacity of the unit, both of which would be potentially subject to BACT or LAER." In the 1994 policy, EPA stated, "the replacement of an existing emissions unit with a newer or different one (albeit more efficient and less polluting) or the reconstruction of an existing emissions unit would not qualify as a pollution control project." The Menu of Options includes similar language in the definition of PCP to make the rule clear in this regard.

Rebuttable Presumption. With regard to listed PCPs that are presumed to be environmentally beneficial, some permitting authorities expressed the concern that every application of the project may not meet the environmentally beneficial test. For example, depending on air quality conditions in a particular area, land use surrounding the facility, or the level of emissions increases and decreases associated with a particular project that is installing pollution control, the benefits may not outweigh the environmental impact. To address this concern, the Menu of Options provides alternative language to make the presumption of environmental benefit rebuttable, and to provide the permitting agency with the authority to determine that a listed project does not qualify as a PCP for a particular case.

Combustion of Sulfur-Bearing Compounds. The federal rule lists as PCPs projects that use combustion devices to control VOC or hazardous air pollutant streams containing no more than 230 mg/dscm hydrogen sulfide. The Menu includes language to expand on this sulfur restriction by providing that combustion controls for VOC that will create a significant increase in sulfur dioxide or sulfuric acid mist do not qualify as PCPs unless the combustion device is equipped with controls to remove at least 90 percent of the sulfur-bearing compounds.

Definition of Projected Actual Emissions: 52.21(b)(41) and 51.165(a)(1)(xxviii)

The base federal rule adopts a new definition for the term "projected actual emissions" to accommodate the new federal actual-to-projected-actual applicability test for existing emissions units. As discussed in the section on applicability procedures, most of this definition was moved to the applicability procedures sections of the Menu of Options, because the provisions set forth the methodology to be used in projecting actual emissions after a project and it was considered more appropriate to include those provisions within the body of the rule rather than in the definition. Only one paragraph remains in the definition of projected actual emissions, discussed below.

Timeframe for Projecting Emissions After the Project. Under the base federal rule the definition of projected actual emissions specifies the time over which the owner or operator must predict the future actual emissions of the source. Two different timeframes for the projection are provided: in certain cases where the project involves an increase in design capacity or potential to emit, the projection must be made 10 years out from the project; in all other cases the projection must be made for five years. Once the preconstruction applicability determination is made by the source, relying on the five- or 10-year projections as required, the source is not required to revisit applicability based on actual emissions achieved after the project.

Under the Menu, a timeframe for projecting the maximum anticipated emissions after the project is not included in the definition of "projected actual emissions" at 52.21(b)(41) or 51.165(a)(1)(xxviii). Rather, the owner or operator is obligated to utilize the maximum predicted emissions that can reasonably be projected, regardless of when the maximum emissions rate will occur. Within the recordkeeping and reporting provisions of 52.21(r)(6) and 51.165(a)(6), discussed below, 10 years is the required timeframe for reporting the emissions increase after the project and for reviewing the applicability determination with respect to those projects that were not determined to be major modifications based on preconstruction projections, but are considered most likely to result in a significant emissions increase after the fact.

Definition of Clean Unit: 52.21(b)(42) and 51.165(a)(1)(xxix)

For simplicity, and to eliminate the potential for conflict between the definition and the procedural and substantive provisions of 52.21(x) and 51.165(c) with respect to Clean Units, the Menu of Options presents a shortened definition stating simply that a Clean Unit is one that qualifies pursuant to paragraph (x) or (c), respectively.

Definition of Baseline Actual Emissions: 52.21(b)(48) and 51.165(a)(1)(xxv)

The 10-Year Look Back. The base federal program includes a look-back period of 10 years from which a source may select any consecutive 24-months to serve as the time period for estimating pre-change actual emissions from existing emissions units. Many state and local air agencies have raised concerns with this provision. First, state and local officials are concerned that the program cannot effectively identify changes that will result in significant emissions increases if the baseline period against which the change is measured is uncharacteristic of the source's current normal operation. State and local agencies believe that in many cases a full decade is too long a time period to extend the presumption that historic source operations are reasonably representative of current operating conditions.

Yet, EPA's rule does not specifically require that the selected baseline period be representative of normal or current facility operations.

State and local agencies have also expressed concerns regarding data quality when an older baseline period is selected. Although EPA's rule disallows the use of any time period for which there is inadequate information, the rule provides no mechanism for the permitting authority to review the selected baseline period and the data upon which the applicability determination is based. Concerns regarding adequate oversight of data quality are heightened where the existing minor NSR permitting program does not provide such a mechanism for preconstruction review of applicability determinations. This concern is also exacerbated in cases where a netting analysis is performed, because the 10-year look back for selecting the baseline period can be applied to each contemporaneous change, resulting in calculations of baseline actual emissions for source operations 15 years in the past. (See the discussion on baseline issues for the definition of "net emissions increase.")

EPA indicates that the agency selected the 10-year look-back period to allow a source to consider a full normal business cycle in determining whether there will be an emissions increase resulting from a proposed project. By providing a look-back period that encompasses a complete business cycle, EPA intended to allow the source to select a time period that reflected peaks in the market fluctuations that normally occur in many industries. In that sense, EPA was responding to industry comments that use of the two years immediately preceding the project may not be representative of normal operations for the current facility during times of peak market conditions. In considering the business cycle approach, EPA commissioned a study entitled "Business Cycles in Major Emitting Source Industries" to review the length of the normal business cycle for industries subject to major NSR (ERG, September 25, 1997). For the nine industries studied, the report identified business cycles that varied from three to eight years. The report concluded that the length of business cycles differs markedly by industry and even from cycle to cycle within the same industry. Based on this study, EPA selected the 10-year time period as "reasonable to capture an entire industry cycle."

In determining whether the 10-year look-back period is reasonable and appropriate for a particular state or local jurisdiction, the permitting authority should consider several factors, including normal business cycle fluctuations, and whether 10-year old data are of good quality and represent current conditions. The permitting authority may conclude that for the state or local program, potential adverse impacts on the program's effectiveness resulting from reliance on questionable data or from failure to account for changes at a source or within an industry over a 15-year period outweigh any advantages that may result from granting a presumption of representativeness and data quality over a 10- to 15-year timeframe. Factors affecting the decision of a permitting authority in selecting an appropriate time period may include the predominant industry types in the area, the quality of historical emissions and operational data known or believed to be available

for determining baseline emissions, or changes in emissions control levels and applicable requirements over time.

For example, if a state is predominantly influenced by a particular industry sector or mix of sectors with business cycles of four to five years, the permitting authority may decide that a five-year look-back period is reasonable to minimize the potential for reliance on older data that may be incomplete or of poorer quality, while still providing ample opportunity for the area to consider business cycle peaks. In addition, the permitting authority may find that the longest business cycle among area industries is eight years, but may also be aware that emissions data for regulated sources in the state is generally of poor quality prior to 1998, the emissions inventory baseline modeling year for which the latest attainment demonstration was performed. In that case, the air agency may choose to adopt a shorter presumptive look-back period to provide some assurance against use of poor data quality, but may allow selection of an older baseline period with agency review and approval of the data. Alternatively, the permitting authority may generally provide for a 10-year look-back period, but specify that years earlier than 1998 could not be selected for the baseline period for determining project emissions increases or in computing contemporaneous emissions changes. Or, the SIP may require that the permitting authority review and approve the data used in the baseline emissions calculations for any case in which pre-1998 data were selected.

Approaches other than the business cycle concept to provide for consideration of market fluctuations may also be appropriate. According to the 1997 ERG study, business cycles vary greatly in both duration and intensity and are highly irregular, making it difficult to establish a representative time period designed to reflect a normal business cycle either for the national economy or for individual industries. Furthermore, major shifts or events at the national level may have significant impacts on business cycles. Such events noted in the report include extended periods of peacetime, double-digit inflation during the 1970s, oil price shocks of 1973 and 1976, and the recession of the early 1980s. Events and influences on the national economy, such as these, can make it unreasonable to draw conclusions about the present or future market conditions simply based on a review of the prior business cycle or cycles. Thus, reliance on the business cycle concept carries certain recognized inherent uncertainties. In weighing these uncertainties, the permitting authority may conclude that another approach is equally or more effective. For example, selection of the time period that represents the highest utilization of the source within a reasonable allowable look-back period could serve more effectively than the business cycle approach.

To address concerns regarding the 10-year look back provisions, the Menu provides rule language for two specific options.

<u>Baseline Look-Back: Two Years Prior or More Representative Time Period.</u> The first option essentially retains the old rule, establishing the presumption that the

two years preceding the change will serve as the baseline period, but allowing for use of an alternative period with the permitting authority's review and approval. The option specifies that any approved alternative period will be a consecutive 24-month period. By focusing the baseline on or closer to the time at which the project will occur, this alternative provides better assurance that the baseline period will be representative of current source design and operations. In addition, keeping the baseline period closer to the current time minimizes concerns regarding reliance on older data of poor quality.

This option retains the base program requirement to adjust the baseline emissions for any new applicable emissions limitations that were not in effect during the baseline period. By shortening the look-back period, however, this approach will minimize the likelihood that such adjustments will be necessary. Accordingly, the program will be simplified by minimizing the need to make retrospective applicability determinations.

This option also alleviates concerns regarding adequate preconstruction oversight, by providing for permitting authority approval if an older baseline period is selected. Finally, this option imposes a limit of five years for bounding the look-back period from which the permitting authority may approve a more representative time period.

Baseline Look-Back: Two Years Prior or Highest Utilization. The second option for which rule language is provided presents an alternative to addressing market fluctuations. In this option, the owner or operator must examine either a source's actual emissions for the two years immediately preceding the change, adjusted for any new requirements that would restrict emissions, or the permitting authority may determine the baseline emissions by applying current emission factors to the highest two years of utilization within the past five years.

Startup, Shutdown, and Malfunction Emissions. The federal base rule provides that the baseline actual emissions shall include emissions associated with startups, shutdowns, and malfunctions. With regard to startups and shutdowns, permitting authorities recognize that these activities and their associated emissions are authorized to varying extents, depending on the particular activity, source, and state or local program. In particular, some startups and shutdowns are planned events during which emissions are controlled pursuant to specified operating procedures or work practice standards. Other shutdowns and startups are the result of unplanned or emergency conditions, and may constitute noncompliant events resulting in excess emissions. With respect to emissions from malfunctions, permitting authorities are concerned that these unplanned and unpreventable events may result in emissions in excess of applicable standards. In addition, permitting authorities believe that emissions from malfunctions should not be allowed to inflate the baseline such that NSR is avoided for projects that would result in a significant increase based on a comparison of normal operations before and after the project.

To address these concerns, the Menu of Option presents alternative language specifying that only "authorized" emissions from startups and shutdowns shall be included in the baseline, and providing that excess emissions and emissions associated with upsets or malfunctions shall not be included.

EUSGUs Special Provision. The federal rule provides a special definition for baseline actual emissions for EUSGUs. The first difference, as compared to the baseline for other existing emissions units, is that the look-back period is only five years, unless the EPA Administrator approves a different time period. Second, the EUSGU definition of baseline actual emissions does not require the source to adjust the baseline downward to exclude noncompliant emissions. In addition, under the base federal rule EUSGUs would be required to adjust the baseline downward to account for any Maximum Achievable Control Technology (MACT) standards that apply at the time the applicability determination is made, whereas other existing emissions units must do so only to the extent the state has taken credit for MACT reductions in the attainment demonstration or maintenance plan.

The Menu of Options treats EUSGUs the same as any other existing emissions unit with regard to baseline. Specifically, the same look-back period would apply and the same adjustments would be required.

Use of Multiple Baseline Periods. Many air agencies are concerned with the use of multiple baseline periods in reviewing a single project when determining baseline actual emissions. Under the revised federal rule, a source may select a different 24-month period for each regulated pollutant in determining baseline actual emissions from the proposed project. In addition, with regard to netting, the base federal rule provides that a separate baseline period may be selected for each emissions unit that was part of a project, such that multiple baseline periods are allowed for a single project for the same pollutant. (See the discussion regarding "net emissions increase.")

State and local air officials are concerned that the use of multiple baseline periods unduly complicates the program, potentially leading to the need to review data quality, estimate emissions, and make required adjustments for dozens of time periods for a single applicability determination. Furthermore, allowing a source to select a different baseline period for each pollutant affected by a project runs contrary to the notion of selecting the baseline period that represents the peak in a normal business cycle. Accordingly, the Menu of Options provides rule language to specify that a single baseline period must be used for all pollutants and for all emissions units affected by the project.

New Emissions Units. The federal rule specifies that the baseline actual emissions for a new emissions unit shall be set at zero for purposes of conducting the preconstruction applicability test, and "thereafter, for all other purposes, shall equal the unit's potential to emit." This provision is not clear, because the other purposes

for which the baseline actual shall equal potential to emit are not specified. In addition, because a unit is only a new unit until it has existed for two years since initial operation, it is unclear what is meant by "thereafter." With regard to a new emissions unit, the Menu of Options provides that the baseline actual emissions shall equal zero for determining the emissions increase resulting from initial construction and operation.

Under the base federal rule, one other instance in which baseline actual emissions might be needed for a new emissions unit is in establishing a PAL. For this purpose, the Menu of Options has created a separate definition of "PAL baseline emissions," and the definition of "baseline actual emissions" is not used.

Data Hierarchy. Permitting authorities expressed significant concern about the type and quality of data that would be used to determine baseline actual emissions. To provide a tool that could be adopted into the state or local rule for purposes of providing guidance on acceptable data and the hierarchy of preference or presumed quality, a list of methods for determining emissions was compiled in order of highest to lowest quality. That list is incorporated into the Menu of Options.

PAL Baseline. The Menu of Options presents new definitions for the PAL baseline period and PAL baseline emissions in the PAL section at 52.21(aa) and 51.165(f), therefore the paragraph pertaining to PAL baseline actual emissions is omitted in the Menu in the definition of baseline actual emissions.

Definition of Project: 52.21(b)(52) and 51.165(a)(1)(xxxix)

Because applicability reviews are performed with respect to a project, as opposed to an individual affected emissions unit or an individual physical activity, the definition of "project" is critical to the implementation of the rule. The new definition of "project" adopted in the December 31, 2002 rulemaking states that project means "a physical change, or change in the method of operation, of an existing major stationary source." This definition is problematic and ineffective, because it does not express the meaning of the term project as it is used and applied throughout the rule. To address this concern, the Menu of Options includes an alternative definition of project, which reads in part, "the set of related physical changes, or changes in the method of operation, that comprise a program of construction at a stationary source, to be completed within a reasonable time." This definition accomplishes the intent of considering collectively the effect of all changes that comprise a single project at a facility for purposes of determining whether the project is a major modification.

Monitoring, Recordkeeping, and Reporting: 52.21(r)(6) and 51.165(a)(6)

Among the most critical sections of the revised base federal program are the provisions of 52.21(r)(6) and 51.165(a)(6), related to monitoring, recordkeeping, and

reporting (MRR) requirements for projects that are determined not to be major modifications and that utilized the actual-to-projected-actual test in the applicability determination. Permitting authorities have raised several concerns related to these requirements and have developed an alternative set of (r)(6) and (a)(6) provisions to enhance the practical enforceability of the NSR program requirements.

In addition to concerns about adequate compliance assurance provisions for projects that utilize the actual-to-projected-actual test, permitting authorities have also expressed concerns regarding projects that net out of NSR review. Accordingly, the Menu of Options provides rule language to provide for reporting and recordkeeping for these projects.

Reasonable Possibility Test and Applicability of the MRR Requirements. In the base federal rule, EPA establishes that these compliance measures apply in circumstances where there is a "reasonable possibility" that the project may result in a significant emissions increase. It is implied that the requirements would apply to projects that netted out of review using the actual-to-projected-actual test, since those projects have been projected to result in a significant emissions increase. Beyond these net-outs, no indication is provided as to what projects would carry a "reasonable possibility" of causing a significant increase.

The reasonable possibility test is one of the narrow aspects of the rule for which EPA issued a Notice of Reconsideration in July 2003. STAPPA and ALAPCO commented on this aspect of the rule, requesting that the rule be amended to clearly establish the types of changes subject to the recordkeeping and reporting requirements, and recommending that the requirements apply to any project for which the emissions increase would be significant based on the actual-to-potential test.

MRR Under the Menu of Options. As mentioned above, the Menu addresses MRR requirements in two basic circumstances. The first is when a facility is subject to NSR under the actual-to-potential applicability test, but not under the actual-to-projected-actual test. The second is when a facility nets out of review. These circumstances can also work in combination with one another. Accordingly, the Menu provides a series of four options for MRR requirements to address the interplay of these two basic concepts.

First, for programs that adopt only the actual-to-potential test and prohibit netting, the Menu eliminates the (r)(6) and (a)(6) monitoring recordkeeping and reporting requirements. Second, for programs that require only the actual-to-potential test and allow netting, the Menu includes an option that requires “net-outs” (i.e., projects with a significant emissions increase but not a significant net emissions increase) to submit a preconstruction report of the applicability determination. In the options described in the applicability procedures section, the Menu provides that a facility can be subject to review if it has a significant net emissions increase even if

it does not have a significant emissions increase. If a program elects this option, however, the Menu would not require a report unless the source would have a significant emissions increase.

Third, for programs that provide an actual-to-projected-actual applicability test and allow netting, the Menu provisions require the following. Even though an actual-to-projected actual test is offered, some projects (e.g., projects adding new units to existing sources) still only use the actual-to-potential test. If these projects net out, the Menu requires a preconstruction applicability report. If the actual-to-projected-actual test is utilized, the Menu also requires a preconstruction report of the applicability determination for any project that would be a major modification based on application of the actual-to-potential test. In addition, the rule imposes post-project MRR requirements.

Fourth, for programs that provide the actual-to-projected-actual applicability test, but disallow netting, the Menu includes similar provisions to the previous option, except the netting provisions are eliminated.

Clarification of MRR Content Requirements. The Menu provides alternative language to set forth the specific information that must be tracked, recorded, and submitted in the annual report. In particular, the rule languages is written in a step-by-step manner to clearly require that the owner or operator conduct annually, and submit to the permitting authority, a reevaluation of the applicability test to determine if the project is a major modification based on the actual calendar year emissions.

MRR for Demand Growth Exclusion. In addition to the MRR requirements specified above for projects that would be a major modification but for netting or the actual-to-projected-actual test, the Menu of Options specifies recordkeeping and reporting pertaining to the use of the demand growth exclusion for any such projects. These provisions require the owner or operator to document and maintain a record of any emissions excluded and the justification for the exclusion, and to include this information in the annual reports.

PSD Permit Rescission: 52.21(w)

This paragraph addresses the conditions under which an owner or operator may request that the permitting authority rescind a permit issued under 52.21. Specifically, the base federal rule provides that the EPA Administrator shall rescind a permit if the owner or operator demonstrates that the PSD requirements would not apply to the source or modification. Many projects that were determined to be major modifications in the past would not be considered major modifications if reviewed under the revised federal rules. Thus, a concern was raised that 52.21(w) could lead to the rescission of many PSD permits currently in effect. The Menu of Options provides alternative language for this section, to assure that PSD permits

will remain in effect and will not be rescinded where such permits were issued under prior rules to projects that constitute major modifications based on the applicability provisions of the prior rules.

Clean Unit Status Designation, Maintenance, and Renewal: 52.21(x) and 51.165(c)

Clean Unit Test. As discussed in the section on Applicability Procedures, the federal rule establishes a special applicability test for emissions units with Clean Unit status, treating any emissions increase that would occur at the unit as zero. For reasons discussed above, the Menu of Options omits this special applicability test. Under the Menu of Options, emissions increases that would occur at a Clean Unit as a result of a project are determined in the same manner as for any other emissions unit. The special applicability test is replaced with a provision assuring that the unit would not have to undergo another BACT or LAER determination if it is affected by a major modification while Clean Unit status is effective. In other words, because the unit already meets BACT or LAER and will continue to meet BACT or LAER, further control technology review is not required.

Timing of the Clean Unit Designation. The base federal rules allow for Clean Unit designation where the BACT or LAER determination was issued anytime within the last 10 years. Many permitting authorities believe that this is too long a reach back to provide any reasonable assurance that the BACT or LAER determination would be the same or nearly the same today. In some cases, the level of control, the control technology design, or the work practice standards that constitute BACT or LAER have changed dramatically over the last decade and control technology continues to evolve. Due to strong concerns regarding this 10-year time frame in the base federal rule, the federal approach is not retained as an option in the Menu of Options. Rather, the Menu provides two alternatives for timing of the NSR control technology determination in relation to granting Clean Unit status.

Clean Unit Timing: Two Years Back. The first alternative to the base federal program allows for Clean Unit status to apply in cases where the PSD permit establishing BACT or nonattainment permit establishing LAER was issued up to two years prior to rule adoption.

Clean Unit Timing: Prospective Only. Under the second alternative, all designations of Clean Unit status would be prospective, beginning with the date of state or local rule adoption.

Mechanisms to Designate Clean Unit Status. Under the base federal rule, Clean Unit status may be achieved through issuance of a major NSR permit that requires BACT or LAER for the unit, or by a SIP process that determines that controls on the unit are comparable to BACT. The process for demonstrating BACT

or LAER equivalency is set forth in 52.21(y) and 51.165(c), and is complex. Furthermore, many permitting authorities are concerned that the process would be ineffective and not result in the application of BACT or LAER controls. The Menu presents two options for program design with respect to how Clean Unit status would be established.

Clean Unit Designation Mechanism: Major NSR Only. Under the first option, the only way an emissions unit can be granted Clean Unit status is to receive a major NSR permit establishing BACT or LAER.

Clean Unit Designation Mechanism: Major NSR or Clean Unit Permit. Under the second option, Clean Unit status can be achieved by applying BACT or LAER in conjunction with a major NSR permit, or the permitting authority may issue a permit, such as a Title V permit, to establish Clean Unit status based on a BACT or LAER determination for the unit. Here, the BACT or LAER determination is a control technology determination conducted outside of the PSD or nonattainment NSR process. The control technology determination is conducted in the same manner as for a PSD BACT or nonattainment LAER determination with regard to the standard for control, the review process, and the public participation process. This approach eliminates the need for the BACT-comparable provisions of 52.21(y), which are not included in the Menu of Options.

Automatic Designation. Under the base federal rule, emissions units that have installed BACT pursuant to a PSD permit received within the last 10 years automatically qualify as Clean Units in either an attainment or nonattainment area. Under the structure of the Clean Unit provisions of the Menu of Options, no emissions unit automatically qualifies as a Clean Unit. Generally, the permitting authority would grant Clean Unit designation when the permit establishing BACT for attainment areas or LAER for nonattainment areas is issued. If the program allows BACT or LAER determinations made within the last two years to serve as qualifying control technology, then the owner or operator of the potentially qualifying source must submit a Title V administrative amendment request and receive approval of the amendment from the permitting authority establishing Clean Unit designation. In those instances, the administrative amendment serves as the mechanism to document the emissions limitations, work practice requirements and operational characteristics that form the basis of the Clean Unit designation, and the date of issuance of the administrative amendment is the effective date of the Clean Unit status.

Effective Date of Clean Unit Status. The base federal rule provides that the effective date of the Clean Unit status is either the date that the controls are placed into service, or the date three years after the major NSR permit is issued, whichever is earlier (but no sooner than the rule effective date). This date is uncertain, making it difficult, if not impossible, to establish the effective date at the time the control technology determination is made. In addition, this approach has the effect of

extending the term of the Clean Unit to well beyond the date 10 years after the BACT or LAER determination was established, by up to three additional years, making it even less likely that the control technology would meet current BACT or LAER determinations in the latter part of the term.

To simplify the rule, the Menu of Options provides language to set the effective date of the Clean Unit status as the date the permitting authority designates the unit as a Clean Unit. This approach is simple and unambiguous. Under this approach, the effective date can be recorded at the time the designation is approved, and the expiration date of the Clean Unit status can also be established and recorded at the time of issuance of the permit.

Term of Clean Unit Status. Under the base federal rule, Clean Unit status may continue until the date 10 years after the qualifying controls are implemented. Many permitting authorities are concerned that this extended time frame undermines the presumption that the emissions unit is well controlled for the duration of the term and therefore invalidates the premise that the Clean Unit meets BACT or LAER with regard to any major modifications affecting the unit during the term. In addition, under the federal rule, the expiration of the Clean Unit status is the date 10 years after the effective date or 10 years after the equipment went into service, whichever is earlier. This conditional approach again adds uncertainty to the rule, and prohibits the documentation of the expiration date in the permit at the time the permit is issued.

Conceptually, under the alternative approach in the Menu of Options, the term of the Clean Unit status is the term of effectiveness for the BACT or LAER determination. That is, under the Clean Unit provisions, the BACT determination serves to meet the 52.21(j) BACT requirement at any time the emissions unit becomes newly subject to BACT during the term of the Clean Unit status. In the same manner, the LAER determination with which the unit is complying to maintain Clean Unit status would serve to meet the LAER requirement if the unit becomes newly subject to nonattainment NSR review during the term of the Clean Unit status. This is a reasonable approach to meeting the NSR requirements, provided that BACT or LAER would not be expected to change substantially over the term. The permitting authority should therefore consider what length of time is reasonable to extend the BACT or LAER determination in setting the term of the Clean Unit status. Several factors may be considered in this regard, including the predominant industry sectors in the area and the types of emissions units that are most likely to trigger BACT and LAER, or the pollutants of greatest concern and the types of controls that generally constitute BACT and LAER for those pollutants. Administrative factors may also be considered in designing an effective Clean Unit module of an NSR program, including the term of the permit in which the Clean Unit designation resides.

The Menu of Options provides a single alternative to the 10-year Clean Unit term adopted in the federal base rule. Specifically, the Menu sets the expiration of the Clean Unit status at five years after the effective date, or at an earlier time established by the permitting authority (on a case-by-case basis) at the time of Clean Unit designation. Permitting authorities generally concur that five years is a reasonable time period over which to extend a BACT or LAER determination. Furthermore, the five-year term aligns well with the term of the Title V permit, allowing for a coordination of Clean Unit designations and renewals with the Title V permit review.

Re-Qualifying Through Title V. Under the base federal rule, the Clean Unit can re-qualify at the end of the term by obtaining a new major NSR permit establishing current-day BACT or, for nonattainment areas, current-day LAER. In order to streamline the procedural and administrative aspects of the Clean Unit program, the Menu of Options ties re-qualification to the Title V permit renewal. In addition, the Menu incorporates a provision for an air quality impact analysis, if appropriate, as part of the re-qualification process.

Effect on Clean Unit Status of Redesignation of an Attainment Area to Nonattainment. Three options are presented in the Menu of Options to address how a Clean Unit is treated if an attainment area is redesignated as nonattainment during the term of the Clean Unit designation.

Redesignation Option: Automatic Revocation. Under this option, when an area is redesignated nonattainment, any Clean Unit designations based on BACT are automatically revoked and invalid. The emissions unit could again be designated as a Clean Unit if a LAER determination were made.

Redesignation Option: Continuation of Status. Under this option, when an area is redesignated nonattainment, a Clean Unit status based on BACT may continue until the expiration date. Thereafter, the unit must demonstrate LAER to renew the Clean Unit status.

Redesignation Option: Six-Month Term. Under this option, when an area is redesignated nonattainment, Clean Unit status based on BACT expires six months after the redesignation unless the owner or operator has demonstrated that the unit meets LAER.

Pollution Control Projects Procedural Requirements: 52.21(z) and 51.165(e)

Several substantive concerns with the PCP exclusion derive from the definition of the term at 52.21(b)(32) and 51.165(a)(1)(xxv), and a discussion of those issues has already been provided in the section on definitions above, together with a presentation of the alternatives offered in the Menu of Options rule language. Included in the prior discussion are issues related to the primary purpose test, the

presumptive environmentally beneficial designation for listed projects, and the replacement of existing process equipment. This section deals primarily with procedural requirements for the review and approval of PCPs under 52.21(z) for attainment areas and 51.165(e) for nonattainment areas.

Process for Listed Projects. Under the base federal rule, a preconstruction notice procedure is provided for projects that are listed as PCPs in the definition of the term. The owner or operator submits a notice containing the information specified, and then may immediately begin construction on the project (unless prohibited under the state or local minor NSR program or other preconstruction requirements). No approval by the permitting authority is required.

As discussed previously, the Menu of Options specifies that the environmentally beneficial presumption for listed projects is rebuttable, and that the permitting authority may disapprove a listed project with respect to a particular application of that technology, and require the project to undergo PSD review. Accordingly, the procedural aspects of the PCP program presented in the Menu of Options provide for the permitting authority to review listed projects, and if approved, to issue a permit documenting that approval.

The Menu of Options still allows for expedited construction of listed projects. Under the Menu, for listed projects the owner or operator must submit a permit application and then may immediately proceed with construction. The language of the Menu specifies, however, that the owner or operator begins construction at his own risk. If the permitting authority finds that the project is not environmentally beneficial and does not qualify as a PCP, the owner or operator may be subject to enforcement for beginning construction without the required NSR permit.

Process for Projects Not Listed. For projects that are not included on the list in the PCP definition, the owner or operator must submit a permit application and receive a permit approving the project as a PCP prior to construction. The permitting authority's review must include an air quality analysis, and the permit must undergo public notice and review prior to issuance.

Environmentally Beneficial Analysis. To obtain the PCP exclusion, the owner or operator must demonstrate that the proposed project is environmentally beneficial. The federal base rule requires that the environmental benefits of the reduction outweigh the environmental detriment of the emissions increases that are being excluded from review. However, the federal rule does not provide any criteria by which the determination is to be made. The Menu of Options provides alternative language with regard to the environmentally beneficial analysis to specify factors that are to be considered in the determination. To make the environmentally beneficial demonstration, the applicant and the permitting authority are to consider the relative emissions levels of the pollutants in question, the relative emissions increases and decreases, the predicted ambient levels, any relevant ambient air

quality standards and guidelines, such as state air toxics standards or guidelines, and the toxicity of the pollutants.

Air Quality Analysis. Under the base federal rule, the emissions increases resulting from a PCP cannot cause or contribute to a violation of any NAAQS or PSD increment, or adversely affect any air quality related value. The federal rule requires that the permit applicant demonstrate compliance with this requirement through a modeling exercise, allowing for use of screening models or reliance on models previously conducted at representative emissions levels. The Menu of Options provides alternative language to specify that the maximum allowable emissions from the project be evaluated with regard to air quality impacts. In addition, under the alternative rule language, the permitting authority may require that the demonstration meet any or all of the requirements of the ambient air quality review generally required for major modifications, as appropriate.

Offsets. Although the preamble to the final revised federal rule indicates that offsets would be required for any PCP that would result in a significant emissions increase of a nonattainment pollutant, corresponding rule language is not found in the rule. The Menu Of Options provides explicit language to clarify this requirement, at 51.165(e).

Plantwide Applicability Limits: 52.21(aa) and 51.165(f)

The central component of the PAL concept is the use of a plantwide emissions cap that sets a source-wide baseline of emissions relative to NSR, such that the source can increase or decrease emissions from individual emissions units under the cap without triggering NSR. There are many ways to design a PAL, and many issues and options have been discussed at length in the course of NSR reform stakeholder discussions. Some of the primary issues of concern include how the baseline PAL level is established, how long the PAL is effective, whether the PAL will decline over time or remain at the initial level, and whether new emissions units installed under the PAL must employ BACT- or LAER-level controls.

As with other elements of the revised base federal rule, many factors may affect the decision of the permitting authority in considering how to address PALs in the SIP. The permitting authority may primarily consider the relative air quality benefits of the types of PALs being considered as compared to the NSR program with no PAL provisions. In addition, the permitting authority may consider the level of interest of the local regulated community in obtaining PALs, and the types of industry in the area. Other factors include the frequency of changes made at a typical source and the typical response time to changing market demands the industry must achieve, as well as the staffing level of the agency and the ability of the staff to administer one or more types of PAL provisions (including review and compliance assurance of monitoring provisions and the relative demands on staff

time to review applications for PSD permits compared to the anticipated staff demands to develop PALs).

State and local permitting authorities have noted the high labor costs of developing a PAL, since every emissions unit at the source must be evaluated, a comprehensive monitoring system to track compliance must be designed, and the baseline emissions calculations (setting the PAL) can be laborious and contentious. Mindful of the up-front investment that the state or local agency must commit, as well as the potential for lost opportunities to advance the level of emissions controls at the facility during the term of the PAL, state and local agencies advocate PAL designs that offer an environmental benefit over those that are environmentally neutral. Environmental benefits can be integrated into the PAL structure by having the PAL decline over time (i.e., guaranteeing emission reductions from the source), by requiring that the source demonstrate that BACT is met for significant emissions units, or by requiring that controls be installed on certain emissions units over the term of the PAL.

The Menu of Options presents three types of PALs as options the permitting authority may elect to include in the SIP. These are the actuals PAL, the declining actuals PAL, and the declining allowables PAL. These three options for PALs provide varied flexibility and emissions reduction potential to assist state and local air agencies in considering what PAL provisions, if any, are best suited to the state or local program. In addition to offering these three PAL designs, the Menu provides alternative rule language and options to address issues that apply to all three types of PALs. Most importantly, the Menu includes a provision requiring any new significant or major emissions unit installed under the PAL to meet BACT or LAER, for attainment and nonattainment areas respectively. The three types of PALs are described and discussed briefly below, followed by a discussion of other elements of the PALs section that are common to all three options.

The Actuals PAL. As in the base federal rule, the actuals PAL is set at a level that approximates the actual emissions of the stationary source plus the significance level for the PAL pollutant, and does not decline over time. The actuals PAL is set from the PAL baseline emissions, which are derived from source operations over the two calendar years preceding the PAL permit application or another two-year period approved by the permitting authority within the last five years. (See discussion of PAL baseline period below.)

The Declining Actuals PAL. The declining actuals PAL is set initially in the same manner as the Actuals PAL. At a point five years into the term of the PAL, the PAL is the lower of either the initial PAL level or the allowable emissions levels for significant and major emissions units if BACT (attainment areas) or LAER (nonattainment areas) were installed, plus the baseline emissions from small units, plus the significance level for the PAL pollutant. The effect of the declining actuals PAL is that an emissions level equivalent to BACT or LAER is achieved for all

significant and major units. The source is granted maximum flexibility in reaching that emissions level, and may do so by installing controls on some or all units, making pollution prevention or efficiency improvement process changes, limiting operations, or shutting down existing emissions units. To guard against the possible situation where a source's prior actual emissions (i.e., the PAL baseline emissions) were already lower than the BACT/LAER equivalent allowable emissions level, this PAL option requires that the lower of either the initial PAL or the BACT/LAER allowables PAL be used.

The Declining Allowables PAL. The declining allowables PAL is set initially at the same level as for the other types of PALs. As a condition of the PAL, the owner or operator agrees to install BACT or LAER on all significant and major emissions units within five years of the effective date. After all controls have been installed, the PAL is the lower of either the initial PAL level or the potential to emit of each significant and major emissions unit at the source, plus baseline emissions from small units, plus the significance level for the PAL pollutant. This PAL guarantees that BACT or LAER controls will be in place for significant and major units within five years, and then allows the source flexibility to operate at the maximum capacity for those units. As with the declining actuals PAL, this PAL option includes a provision to ensure the final PAL is no higher than the initial PAL.

The Menu addresses several other issues related to the PAL provisions of the federal rule. These issues are common to each of the PAL types and are addressed by the same rule language for each of the three PAL options. These issues and options are discussed below.

Installation of BACT on New Sources Installed under the PAL. For each of the PALs described above, the owner or operator is still required to meet BACT or LAER requirements for any new emissions unit installed during the term of the PAL if the unit would have the potential to emit at or above the significance threshold for the PAL pollutant. The Menu provides a streamlined approach for the owner or operator, requiring that the owner or operator report any such emissions units installed and the control technology applied as BACT or LAER in the semi-annual report.

Retention of Voluntary Limits Taken to Avoid NSR. The base federal rule requires that, if by virtue of removing or relaxing any enforceable limit taken to avoid NSR, the modification that avoided review would become major, and the modification must then undergo NSR as though construction had not yet commenced. This provision was not revised in the December 31, 2002 rulemaking. However, the new PAL provisions of the base federal rule exempt a source that takes a PAL from complying with this requirement. In other words, the federal rule allows the source to eliminate emissions limits or operating restrictions taken in the past to avoid NSR, without requiring the source to undergo NSR for emissions units that were affected by the prior project. EPA views the PAL as a "substitute" for any

synthetic minor limits being eliminated, and allows for removal of the synthetic minor limits to grant increased operational flexibility at the source.

The federal rule revisions allowing for the removal of synthetic minor limits in conjunction with a PAL are one aspect of the revised rule included in the Reconsideration Notice issued by EPA in July 2003. In response to the Reconsideration Notice, STAPPA and ALAPCO commented extensively on this issue in a letter to Acting Administrator Horinko on August 28, 2003. In summary, STAPPA and ALAPCO commented that synthetic minor limits taken voluntarily to avoid NSR should not be removed when those emissions units are incorporated into the PAL, unless the level of control that would have been required by the change previously made at the source is met. Furthermore, STAPPA and ALAPCO stressed that the permitting authority must have the opportunity to review any air quality impacts that would result from removal of the limits.

In the Menu of Options, the language of the federal rule that allows for elimination of the synthetic minor limits is omitted, and a new paragraph is added to explicitly require that the major stationary source seeking or operating under a PAL shall continue to comply with all limits previously taken to avoid PSD or nonattainment NSR pursuant to 52.21(r)(4) or 51.165. The source retains the option of removing any limits that are unduly constraining operations, in accordance with 52.21(r)(4), provided the project that previously avoided review under PSD complies with the substantive requirements of the program.

The Menu incorporates two new and closely related definitions into the provisions of 52.21(aa): PAL baseline period and PAL baseline emissions. These new definitions have been placed in the PALs section (aa) to simplify the rule and provide better organization, to make the PAL section a more "stand alone" section of the NSR rule.

PAL Baseline Period. Under the federal rule, the definition for "baseline actual emissions" serves to define the baseline period for determining the emissions increases resulting from a project, for determining contemporaneous emissions increases and decreases in a netting analysis, and for setting a PAL. Generally, the source may select any consecutive 24-month period out of the prior 10 years to establish the baseline period and determine the baseline actual emissions. The definition of baseline actual emissions is difficult to read in the context of a PAL, because the definition was written to apply to projects, and hinges on time frames based on when the project would occur. Of course, for the PAL, the entire stationary source and all emissions units must be considered in the determination of baseline actual emissions, as opposed to just the set of affected emissions units for a project.

By constraining the baseline to a more contemporaneous period than the minimum federal rule would allow, the Menu of Options assures that the PAL is

based on more current data. The Menu of Options provides a definition of PAL baseline period that is a separate definition from the baseline definition used for other purposes. Two options are offered, in parallel to the options for baseline actual emissions included in the Menu. For the PAL baseline, a calendar-year basis is chosen for simplicity and for coordination with annual emission inventory reporting.

PAL Baseline Period: Two Years Prior or More Representative Period. The first option for defining the PAL baseline period is the two consecutive calendar years immediately prior to the submittal of the PAL permit application or a different 24-month period within the last five years that the permitting authority determines is more representative of normal operations.

PAL Baseline Period: Highest Production. The second option for defining the PAL baseline period is the two consecutive calendar years immediately prior to the PAL permit application submittal or the 24-month period when the production rate was highest.

PAL Baseline Emissions. Once the PAL baseline period has been selected, the PAL baseline emissions are determined based on the type of emissions unit. The Menu of Options provides step-by-step instructions for determining the PAL baseline emissions. In particular, two cases should be noted. First, for any emissions unit that was not an existing emissions unit during the baseline period (i.e., a unit that did not have two years of operating history at the time of the selected baseline, but that does have two years of operating history prior to submitting the PAL permit application), the baseline emissions are the actual emissions from the two years prior to application. Also, for any new emissions unit at the time of application (i.e., any emissions unit that is newly constructed and does not have two years of operating history at the time of operation), the baseline emissions are zero. Any such new unit would be brought in under the PAL just as a new unit constructed after the PAL is issued.

Special Provisions for Nonattainment Areas: 51.165(a)(10) through (14)

As previously discussed, the CAA incorporated substantial changes to the requirements for nonattainment areas. Many state and local permitting authorities have adopted these federal statutory requirements into their EPA-approved SIPs, and many will incorporate the changes in their rulemaking to revise SIPs in response to EPA's latest revisions. EPA, however, failed to incorporate these special provisions in the revised federal rules.

To assist permitting authorities in SIP development and to provide for a more complete Menu of Options, the Menu incorporates conforming revisions for several provisions in the nonattainment rule. First, the Menu includes language to apply the ozone nonattainment requirements for volatile organic compounds also to oxides of

nitrogen. In addition, the Menu provides for the revised and increased offset ratios pursuant to the Clean Air Act for areas classified as marginal or above for ozone nonattainment. Moreover, the Menu includes a provision that would require the permitting authority to make timely entry into the federal RACT/BACT/LAER Clearinghouse of projects for which LAER determinations have been made.

V. STAPPA AND ALAPCO'S REGULATORY OPTIONS: A COMPARISON TO EPA'S REVISED RULE

The following section presents the rule language of the revised federal rules compared, side-by-side, with the rule language of the STAPPA and ALAPCO Menu of Options. The federal rule language presented for PSD NSR is the federal rule as implemented by EPA in a state or local jurisdiction that does not have an approved PSD SIP, 40 CFR 52.21, as promulgated December 31, 2002. For nonattainment NSR, the federal rule language presented is 40 CFR 51.165, the rule that provides the minimum requirements for State Implementation Plans adopted to implement nonattainment NSR permitting programs. In both cases, the federal rule language is presented on the left-hand side of each page.

On the right-hand side of the page is the rule language developed to implement the STAPPA and ALAPCO options, using the same format and numbering system as the federal rules to facilitate review and comparison. Explanatory notes, printed in bold, are included on the right-hand side to assist the reader in following the multiple options that are included for many of the regulatory provisions. The Menu of Options for PSD is presented first, followed by the Menu of Options for nonattainment NSR. Each side-by-side rule, one for PSD and one for nonattainment, is fully self-contained and can be used as a separate guidance in SIP development.