

## **Appendix E**

### **New Source Review**

## NEW SOURCE REVIEW

This appendix briefly discusses New Source Review (NSR) and is divided into the following sections:

- Introduction
- Overview of the NSR Program
- The Pollution Control Project Exclusion
- PSD Significance Level for NMOC
- References
- Memo: Pollution Control Projects and New Source Review Applicability
- Memo: Classification of Emissions from Landfills for NSR Applicability Purposes
- Memo: Emissions from Landfills

[NOTE: The memos included in this appendix are replicas of the originals. New electronic copies were generated for posting the memos on the EPA TTN.]

### **Introduction**

A landfill, like any other stationary source, may need to undergo new source review (NSR) preceding either its initial construction or its expansion (modification) of an existing site. Both the amount of air pollution that a landfill releases and the location of a landfill will help determine which type of NSR requirements will apply. This section describes the applicability of landfills to the various NSR requirements and explains how a landfill which takes steps to reduce the release of certain gases may qualify for an NSR exclusion as a pollution control project. It is important to note that a landfill should be evaluated for its applicability to NSR independently from its applicability to the relevant NSPS and Emission Guidelines.

Compliance with the MSW Landfills Emission Guidelines will require the collection and reduction of NMOC emissions from larger existing MSW landfills. The reduction of NMOC emissions generally will be accomplished through the destruction of NMOC using a combustion device. This device may or may not include some type of energy recovery. Concurrent with the control of NMOC, these combustion devices generate emissions of other pollutants, such as nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and carbon monoxide (CO). (Typically, emissions of SO<sub>2</sub> are minimal from controlled MSW landfills and would rarely trigger any action.) These concurrent emission increases may trigger NSR regulatory requirements under Parts C or D of Title I of the Act.

### **Overview of the NSR Program**

The NSR program requires a preconstruction review for any major new source or major modification. The type of preconstruction review required generally depends upon the attainment status of the area in which a source will construct or modify. In an area designated as attainment or unclassifiable for a particular criteria pollutant, the requirements under part C of title I of the Act, (prevention of significant deterioration (PSD) of air quality) will apply if the source is major for any regulated pollutant. In a nonattainment area, the requirements under part D of title I of the Act (nonattainment NSR) will apply if the source is major specifically for the nonattainment pollutant.

Regardless of the area designation, a source that does not emit major amounts of any pollutant must undergo review in accordance with a State's minor source permit program. If, however, an existing minor source expands in such a way that the expansion in itself would be considered major, then the expansion is regarded as a major source and will be required to undergo either PSD or nonattainment NSR according to the applicable area designation. Tables E-1 and E-2 will be helpful in understanding how the various NSR requirements apply to specific pollutants. It is not EPA's intent that this appendix provide a complete description of the applicable NSR programs. Instead, the reader should refer to the documents listed in the References section to gain a better understanding of these NSR programs and when one might apply to the source of interest.

A MSW landfill located in an attainment area is considered to be a major PSD source if it has the potential to emit 250 tpy or more of any regulated pollutant (e.g., VOC, NO<sub>x</sub> or CO). If an existing major MSW landfill is modified, a PSD review is required if the potential emission increase from the modification is greater than the significance level established for that pollutant (for example, 40 tpy of NO<sub>x</sub> in an attainment area). Once considered major, other pollutant emissions are also subject to review if the regulatory significance level for that pollutant will be exceeded. (See Table E-1.)

If PSD is triggered, the facility must complete a review for each pollutant for which emissions increase by more than its significance level. The review includes a control technology review and an analysis of the air quality impacts of the new or modified source. The required control level for sources in attainment areas is best available control technology (BACT). Refer to reference 1 for a discussion of this term. As part of the air quality analysis, the facility must also demonstrate that the proposed activity will not cause or contribute to a violation of any national ambient air quality standard (NAAQS) or PSD increment (in attainment areas), or adversely impact an air quality related value (AQRV) in a Class I area. To demonstrate that these values are not exceeded, the facility may have to conduct some emission modelling.

In a nonattainment area, major source status occurs when a MSW landfill would release at least 100 tpy of the pollutant for which the area is designated nonattainment. Table E-2 summarizes the emissions thresholds for relevant pollutants when determining whether an expansion to an existing landfill will be subject to nonattainment NSR. Any increase in emissions of a nonattainment pollutant for which the new source is major, or any significant increase of the nonattainment pollutant from an existing major source of the nonattainment pollutant must control to the lowest achievable emission rate (LAER) and must be offset by emission decreases from some other source.

Non-major (minor) landfills can also trigger either PSD or nonattainment NSR. That is, when an existing landfill would expand to such extent that the amount of any new pollutant released would equal or exceed the applicable major source threshold, then the expansion itself would be treated as a major source. (See Tables E-1 and E-2.) For example, in an attainment area, a modification to a minor source would need to increase potential emissions of any pollutant by at least 250 tpy before PSD is triggered. Tables E-1 and E-2 summarize the NO<sub>x</sub>,

CO, VOC, and NMOC increases that constitute a major modification in attainment and nonattainment areas. The tables present NO<sub>x</sub> and CO because these are the pollutants most likely to increase significantly when combustion devices are installed to reduce NMOC emissions from landfills. (However, it should be noted that emissions of VOC, NMOC, SO<sub>2</sub>, and particulate matter must also be assessed in determining whether a landfill or a modification to a landfill is major.) Refer to references 1 and 2 for a more complete discussion of how to determine whether NSR is triggered. Reference 2, an EPA memorandum on classification of landfill emissions for NSR purposes, is included in this appendix.

There is an exclusion under NSR that may be available to an existing landfill that would otherwise trigger NSR. This exclusion applies to existing sources undergoing a physical or operational change for the primary purpose of reducing one or more air pollutants subject to regulation under the Act (i.e., a pollution control project), even though some increase of another air pollutant may occur. A pollution control project (PCP) must be, on balance, "environmentally beneficial" to be eligible for the exclusion. While the source would still be required to go through a minor NSR process, an eligible source would not be required to conduct a BACT or LAER (control device) evaluation.

The following section discusses this potential exclusion from NSR; the exclusion is available only to eligible existing landfills installing gas collection and control systems. Several resources are available for assisting in emission estimation and the determination of the potential emission increases,<sup>2,3,4,5</sup> and are listed in the references section.

### **The Pollution Control Project (PCP) Exclusion**

The following information is taken largely from EPA's July 1, 1994 guidance memorandum (attached) entitled, "Pollution Control Projects and New Source Review (NSR) Applicability."<sup>6</sup> Nothing in this section is intended to override any statement made in that memorandum; the memorandum remains the definitive guidance for this exclusion.

For several years, EPA has had a policy of excluding certain types of PCPs from the NSR requirements on a case-by-case basis. The exclusion allows states to exempt a PCP from major NSR if, as stated above, the PCP is, on balance, "environmentally beneficial." The guidance

**Table E-1. Attainment Area (PSD) Major Modification Levels for NO<sub>x</sub>, CO, VOC, and Landfill NMOC Emissions**

Pollutant <sup>a</sup>	Modifications to an Existing Minor Source are Considered Major if Emission Increases Equal or Exceed (in tpy)	Modifications to an Existing Major Source are Considered Major if Emission Increases Exceed (in tpy)
NO <sub>x</sub>	250	40
CO	250	100
VOC	250	40
NMOC	250	50

<sup>a</sup>This table presents only NO<sub>x</sub>, CO, VOC, and NMOC. The NSR prevention of significant deteriorations (PSD) rules also contain levels for SO<sub>2</sub> and PM/PM10.

**Table E-2. Nonattainment Area Major Modification Levels for NO<sub>x</sub>, CO, and VOC Emissions**

Pollutant <sup>a</sup> and Nonattainment Area Status	Modifications to an Existing Minor Source are Considered Major if Emission Increases Equal or Exceed: (in tpy)	Modifications to an Existing Major Source are Considered Major if Emission Increases Exceed: (in tpy) <sup>b</sup>
NO <sub>x</sub> and VOC		
- Marginal	100	40
- Moderate	100	40
- Serious	50	25 <sup>c</sup>
- Severe	25	25 <sup>c</sup>
- Extreme	10	0
CO		
- Moderate	100	100
- Serious	50	50

<sup>a</sup>This table presents only NO<sub>x</sub>, VOC, and CO. The NSR rules also contain levels for SO<sub>2</sub> and PM/PM10. The NSR rules in nonattainment areas apply only to criteria pollutants, so do not include levels for landfill gas NMOC.

<sup>b</sup>The source must be a major source of the particular criteria pollutant which increases significantly.

<sup>c</sup>Applies to contemporaneous net emission increases over a 5-year period.

memorandum states that "unless information regarding a specific case indicates otherwise," projects such as the addition of combustion devices to comply with this rule, "can be assumed, by their nature, to be environmentally beneficial." It should be noted that this exemption is still a case-by-case determination; the deciding authority for such an exemption is the state. Nevertheless, even though a landfill may avoid NSR because it qualifies for the PCP exclusion, any resulting emission increase could change the source's status for future applicability to NSR when additional changes are proposed.

The guidance provides additional safeguards for facilities that pass the "environmentally beneficial" test. No PCP can "cause or contribute" to a violation of a NAAQS, or a PSD increment, or adversely impact an AQRV in a class I area. (See reference 1 for a discussion of these values.)

In addition to ensuring that the project will not cause any violations of a NAAQS, PSD increment, or AQRV, the applicant must demonstrate that the increase in collateral emissions is minimized. Minimization does not mean that the permitting agency should require a full "BACT-type" review for--or prescribe add-on controls for--collateral emission increases. It is also not intended to impact the selection of the control device used to meet the NSPS or Emission Guidelines. Rather, it is intended to ensure that whatever device is selected to comply with the NSPS or Emission Guidelines is operated in such a manner as to minimize any collateral emission increase.

A landfill owner or operator wishing to apply for the PCP exclusion must obtain a determination from the applicable state that the project qualifies for this exemption. This includes a requirement for a public review of the proposed exemption (minor NSR, state applicability determination, or similar process). As part of this approval, the state may, in some cases, require some modelling to be conducted to demonstrate that none of the values discussed in the previous paragraph are violated. Any project excluded from major NSR under this exemption must still comply with all other applicable requirements under the Act (including minor source permitting requirements) and under the state Implementation Plan (SIP). In the case of nonattainment areas, the state or the source must provide offsetting emission reductions for any significant increase in a nonattainment pollutant from the PCP. Under the PCP guidance,

a one-to-one offset ratio is considered sufficient for a PCP; however, states have discretion to require offset ratios greater than one-to-one.

### **PSD Significance Level for NMOC**

The MSW Landfills NSPS and Emission Guidelines established "MSW landfill emissions" as a new classification of pollutants subject to regulation under the Act. Concurrent with promulgating the NSPS and Emission Guidelines, EPA established a PSD significance level of 50 tpy, measured as NMOC. Therefore, PSD review requirements now apply to existing MSW landfill major sources in attainment areas that undergo a modification resulting in increases in landfill gas emissions greater than the 50 tpy NMOC significance level. This level roughly corresponds to a VOC emission rate of 40 tpy, the PSD significance level for VOC.

Modified landfills below the 2.5 million Mg or 2.5 million m<sup>3</sup> design capacity exemption, which are not required by the Emission Guidelines to install controls, may exceed the PSD significance level for NMOC. In this case, the state will need to determine if controls should be installed for purposes of PSD compliance. In addition, NSR will be required if a modification of an existing landfill, which is a major source of VOC and is located in an ozone nonattainment area, increases VOC emissions by more than the levels shown in Table E-2.

### **References**

1. Office of Air Quality Planning and Standards. New Source Review Workshop Manual, Prevention of Significant Deterioration and Nonattainment Area Permitting. Draft. U.S. Environmental Protection Agency. Research Triangle Park, North Carolina. October 1990 Draft.
2. Memorandum. Seitz, John S., EPA Office of Air Quality Planning and Standards to EPA Regions I through X Air Division Directors. Classification of Emissions from Landfills for NSR Applicability Purposes. October 21, 1994.
3. Air and Energy Engineering Research Laboratory. Methodology for Quantifying Pollution Prevention Benefits from Landfill Gas Control and Utilization. U.S. Environmental Protection Agency. Research Triangle Park, North Carolina. EPA-600/R-95-089. July 1995.

4. Air and Energy Engineering Research Laboratory. Landfill Gas Energy Utilization Experience: Discussion of Technical and Non-Technical Issues, Solutions, and Trends. U.S. Environmental Protection Agency. Research Triangle Park, North Carolina. EPA-600/R-95-035. March 1995.
5. Office of Air Quality Planning and Standards. Compilation of Air Pollutant Emission Factors. U.S. Environmental Protection Agency. Research Triangle Park, North Carolina. AP-42. January 1995 (fifth edition). Section 2.4.
6. Memorandum. Seitz, John S., EPA Office of Air Quality Planning and Standards, to EPA Regions I through X Air Division Directors. Pollution Control Projects and New Source Review (NSR) Applicability. July 1, 1994.

July 1, 1994

MEMORANDUM

SUBJECT: Pollution Control Projects and New Source  
Review (NSR) Applicability

FROM: John S. Seitz, Director  
Office of Air Quality Planning and Standards (MD-10)

TO: Director, Air, Pesticides and Toxics  
Management Division, Regions I and IV  
Director, Air and Waste Management Division,  
Region II  
Director, Air, Radiation and Toxics Division,  
Region III  
Director, Air and Radiation Division,  
Region V  
Director, Air, Pesticides and Toxics Division,  
Region VI  
Director, Air and Toxics Division,  
Regions VII, VIII, IX and X

This memorandum and attachment address issues involving the Environmental Protection Agency's (EPA's) NSR rules and guidance concerning the exclusion from major NSR of pollution control projects at existing sources. The attachment provides a full discussion of the issues and this policy, including illustrative examples.

For several years, EPA has had a policy of excluding certain pollution control projects from the NSR requirements of parts C and D of title I of the Clean Air Act (Act) on a case-by-case basis. In 1992, EPA adopted an explicit pollution control project exclusion for electric utility generating units [see 57 FR 32314 (the "WEPCO rule" or the "WEPCO rulemaking")]. At the time, EPA indicated that it would, in a subsequent rulemaking, consider adopting a formal pollution control project exclusion for other source categories [see 57 FR 32332]. In the interim, EPA stated that individual pollution control projects involving source categories other than utilities could continue to be excluded from NSR by permitting authorities on a case-by-case basis [see 57 FR at 32320]. At this time, EPA expects to complete a rulemaking on a pollution control project exclusion for other source categories in early 1996. This memorandum and attachment provide interim guidance for permitting authorities on the approvability of these projects pending EPA's final action on a formal regulatory exclusion. The attachment to this memorandum

outlines in greater detail the type of projects that may qualify for a conditional exclusion from NSR as a pollution control project, the safeguards that are to be met, and the procedural steps that permitting authorities should follow in issuing an exclusion. Projects that do not meet these safeguards and procedural steps do not qualify for an exclusion from NSR under this policy. Pollution control projects potentially eligible for an exclusion (provided all applicable safeguards are met) include the installation of conventional or innovative emissions control equipment and projects undertaken to accommodate switching to an inherently less-polluting fuel, such as natural gas. Under this guidance, States may also exclude as pollution control projects some material and process changes (e.g., the switch to a less polluting coating, solvent, or refrigerant) and some other types of pollution prevention projects undertaken to reduce emissions of air pollutants subject to regulation under the Act.

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 does not qualify as a pollution control project. Furthermore, this guidance only applies to physical or operational changes whose primary function is the reduction of air pollutants subject to regulation under the Act at existing major sources. This policy does not apply to air pollution controls and emissions associated with a proposed new source. Similarly, the fabrication, manufacture or production of pollution control/prevention equipment and inherently less-polluting fuels or raw materials are not pollution control projects under this policy (e.g., a physical or operational change for the purpose of producing reformulated gasoline at a refinery is not a pollution control project).

It is EPA's experience that many bona fide pollution control projects are not subject to major NSR requirements for the simple reason that they result in a reduction in annual emissions at the source. In this way, these pollution control projects are outside major NSR coverage in accordance with the general rules for determining applicability of NSR to modifications at existing sources. However, some pollution control projects could result in significant potential or actual increases of some pollutants. These latter projects comprise the subcategory of pollution control projects that can benefit from this guidance.

A pollution control project must be, on balance, "environmentally beneficial" to be eligible for an exclusion. Further, an environmentally-beneficial pollution control project may be excluded from otherwise applicable major NSR requirements only under conditions that ensure that the project will not cause or contribute to a violation of a national ambient air quality standard (NAAQS), prevention of significant deterioration (PSD) increment, or adversely affect visibility or other air quality related value (AQRV). In order to assure that air quality concerns with these projects are adequately addressed, there are

two substantive and two procedural safeguards which are to be followed by permitting authorities reviewing projects proposed for exclusion.

First, the permitting authority must determine that the proposed pollution control project, after consideration of the reduction in the targeted pollutant and any collateral effects, will be environmentally beneficial. Second, nothing in this guidance authorizes any pollution control project which would cause or contribute to a violation of a NAAQS, or PSD increment, or adversely impact an AQRV in a class I area. Consequently, in addition to this "environmentally-beneficial" standard, the permitting authority must ensure that adverse collateral environmental impacts from the project are identified, minimized, and, where appropriate, mitigated. For example, the source or the State must secure offsetting reductions in the case of a project which will result in a significant increase in a nonattainment pollutant. Where a significant collateral increase in actual emissions is expected to result from a pollution control project, the permitting authority must also assess whether the increase could adversely affect any national ambient air quality standard, PSD increment, or class I AQRV.

In addition to these substantive safeguards, EPA is specifying two procedural safeguards which are to be followed. First, since the exclusion under this interim guidance is only available on a case-by-case basis, sources seeking exclusion from major NSR requirements prior to the forthcoming EPA rulemaking on a pollution control project exclusion must, before beginning construction, obtain a determination by the permitting authority that a proposed project qualifies for an exclusion from major NSR requirements as a pollution control project. Second, in considering this request, the permitting authority must afford the public an opportunity to review and comment on the source's application for this exclusion. It is also important to note that any project excluded from major new source review as a pollution control project must still comply with all otherwise applicable requirements under the Act and the State implementation plan (SIP), including minor source permitting.

This guidance document does not supersede existing Federal or State regulations or approved SIP's. The policies set out in this memorandum and attachment are intended as guidance to be applied only prospectively (including those projects currently under evaluation for an exclusion) during the interim period until EPA takes action to revise its NSR rules, and do not represent final Agency action. This policy statement is not ripe for judicial review. Moreover, it is not intended, nor can it be relied upon, to create any rights enforceable by any party in litigation with the United States. Agency officials may decide to follow the guidance provided in this memorandum, or to act at variance with the guidance, based on an analysis of specific circumstances. The EPA also may change this guidance at any time

without public notice. The EPA presently intends to address the matters discussed in this document in a forthcoming NSR rulemaking regarding proposed changes to the program resulting from the NSR Reform process and will take comment on these matters as part of that rulemaking.

As noted above, a detailed discussion of the types of projects potentially eligible for an exclusion from major NSR as a pollution control project, as well as the safeguards such projects must meet to qualify for the exclusion, is contained in the attachment to this memorandum. The Regional Offices should send this memorandum with the attachment to States within their jurisdiction. Questions concerning specific issues and cases should be directed to the appropriate EPA Regional Office. Regional Office staff may contact David Solomon, Chief, New Source Review Section, at (919) 541-5375, if they have any questions.

Attachment

cc: Air Branch Chief, Regions I-X  
NSR Reform Subcommittee Members

## Attachment

### GUIDANCE ON EXCLUDING POLLUTION CONTROL PROJECTS FROM MAJOR NEW SOURCE REVIEW (NSR)

#### I. Purpose

The Environmental Protection Agency (EPA) presently expects to complete a rulemaking on an exclusion from major NSR for pollution control projects by early 1996. In the interim, certain types of projects (involving source categories other than utilities) may qualify on a case-by-case basis for an exclusion from major NSR as pollution control projects. Prior to EPA's final action on a regulatory exclusion, this attachment provides interim guidance for permitting authorities on the types of projects that may qualify on a case-by-case basis from major NSR as pollution control projects, including the substantive and procedural safeguards which apply.

#### II. Background

The NSR provisions of part C [prevention of significant deterioration (PSD)] and part D (nonattainment requirements) of title I of the Clean Air Act (Act) apply to both the construction of major new sources and the modification of existing major sources.<sup>1</sup> The modification provisions of the NSR programs in parts C and D are based on the broad definition of modification in section 111(a)(4) of the Act. That section contemplates a two-step test for determining whether activities at an existing major facility constitute a modification subject to new source requirements. In the first step, the reviewing authority determines whether a physical or operational change will occur. In the second step, the question is whether the physical or operational change will result in any increase in emissions of any regulated pollutant.

The definition of physical or operational change in section 111(a)(4) could, standing alone, encompass the most mundane activities at an industrial facility (even the repair or replacement of a single leaky pipe, or a insignificant change in the way that pipe is utilized). However, EPA has recognized that Congress did not intend to make every activity at a source subject to new source requirements under parts C and D. As a result, EPA has by regulation limited the reach of the modification provisions of parts C and D to only major modifications. Under NSR, a "major modification" is generally a physical change or change in the method of operation of a major stationary source which would result in a significant net

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<sup>1</sup>The EPA's NSR regulations for nonattainment areas are set forth at 40 CFR 51.165, 52.24 and part 51, Appendix S. The PSD program is set forth in 40 CFR 52.21 and 51.166.

emissions increase in the emissions of any regulated pollutant [see, e.g., 40 CFR 52.21(b)(2)(i)]. A "net emissions increase" is defined as the increase in "actual emissions" from the particular physical or operational change together with any other contemporaneous increases or decreases in actual emissions [see, e.g., 40 CFR 52.21(b)(3)(i)]. In order to trigger major new source review, the net emissions increase must exceed specified "significance" levels [see, e.g., 40 CFR 52.21(b)(2)(i) and 40 CFR 52.21(b)(23)]. The EPA has also adopted common-sense exclusions from the "physical or operational change" component of the definition of "major modification." For example, EPA's regulations contain exclusions for routine maintenance, repair, and replacement; for certain increases in the hours of operation or in the production rate; and for certain types of fuel switches [see, e.g., 40 CFR 52.21(b)(2)(iii)].

In the 1992 "WEPCO" rulemaking [57 FR 32314], EPA amended its PSD and nonattainment NSR regulations as they pertain to utilities by adding certain pollution control projects to the list of activities excluded from the definition of physical or operational changes. In taking that action, EPA stated it was largely formalizing an existing policy under which it had been excluding individual pollution control projects where it was found that the project "would be environmentally beneficial, taking into account ambient air quality" [57 FR at 32320; see also *id.*, n. 15].<sup>2</sup>

The EPA has provided exclusions for pollution control projects in the form of "no action assurances" prior to November 15, 1990 and nonapplicability determinations based on Act changes as of November 15, 1990 (1990 Amendments). Generally, these exclusions addressed clean coal technology projects and fuel switches at electric utilities.

Because the WEPCO rulemaking was directed at the utility industry which faced "massive industry-wide undertakings of pollution control projects" to comply with the acid rain provisions of the Act [57 FR 32314], EPA limited the types of projects eligible for the exclusion to add-on controls and fuel switches at utilities. Thus, pollution control projects under the WEPCO rule are defined as:

any activity or project undertaken at an existing electric utility steam generating unit for purposes of reducing emissions from such unit. Such activities or projects are limited to:

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<sup>2</sup>This guidance pertains only to source categories other than electric utilities, and EPA does not intend for this guidance to affect the WEPCO rulemaking in any way.

(A) The installation of conventional or innovative pollution control technology, including but not limited to advanced flue gas desulfurization, sorbent injection for sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) controls and electrostatic precipitators;

(B) An activity or project to accommodate switching to a fuel which is less polluting than the fuel in use prior to the activity or project . . .

[40 CFR 51.165(a)(1)(xxv) (emphasis added)].

The definition also includes certain clean coal technology demonstration projects. Id.

The EPA built two safeguards into the exclusion in the rulemaking. First, a project that meets the definition of pollution control project will not qualify for the exclusion where the "reviewing authority determines that (the proposed project) renders the unit less environmentally beneficial . . ." [see, e.g., 51.165(a)(1)(v)(C)(8)]. In the WEPCO rule, EPA did not provide any specific definition of the environmentally-beneficial standard, although it did indicate that the pollution control project provision "provides for a case-by-case assessment of the pollution control project's net emissions and overall impact on the environment" [57 FR 32321]. This provision is buttressed by a second safeguard that directs permitting authorities to evaluate the air quality impacts of pollution control projects that could--through collateral emissions increases or changes in utilization patterns--adversely impact local air quality [see 57 FR 32322]. This provision generally authorizes, as appropriate, a permitting authority to require modelling of emissions increases associated with a pollution control project. Id. More fundamentally, it explicitly states that no pollution control project under any circumstances may cause or contribute to violation of a national ambient air

quality standard (NAAQS), PSD increment, or air quality related value (AQRV) in a class I area. *Id.*<sup>3</sup>

As noted, the WEPCO rulemaking was expressly limited to existing electric utility steam generating units [see, e.g., 40 CFR 51.165(a)(1)(v)(C)(8) and 51.165(a)(1)(xx)]. The EPA limited the rulemaking to utilities because of the impending acid rain requirements under title IV of the Act, EPA's extensive experience with new source applicability issues for electric utilities, the general similarity of equipment, and the public availability of utility operating projections. The EPA indicated it would consider adopting a formal NSR pollution control project exclusion for other source categories as part of a separate NSR rulemaking. The rulemaking in question is now expected to be finalized by early 1996. On the other hand, the WEPCO rulemaking also noted that EPA's existing policy was, and would continue to be, to allow permitting authorities to exclude pollution control projects in other source categories on a case-by-case basis.

### III. Case-By-Case Pollution Control Project Determinations

The following sections describe the type of projects that may be considered by permitting authorities for exclusion from major NSR as pollution control projects and two safeguards that permitting authorities are to use in evaluating such projects--the environmentally-beneficial test and an air quality impact assessment. To a large extent, these requirements are drawn from the WEPCO rulemaking. However, because the WEPCO rule was designed for a single source category, electric utilities, it cannot and does not serve as a complete template for this guidance. Therefore, the following descriptions expand upon the WEPCO rule in the scope of qualifying projects and in the specific elements inherent in the safeguards. These changes reflect the far more complicated task of evaluating pollution

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<sup>3</sup>The WEPCO rule refers specifically to "visibility limitation" rather than "air quality related values." However, EPA clearly stated in the preamble to the final rule that permitting agencies have the authority to "solicit the views of others in taking any other appropriate remedial steps deemed necessary to protect class I areas. . . . The EPA emphasizes that all environmental impacts, including those on class I areas, can be considered. . . ." [57 FR 32322]. Further, the statutory protections in section 165(d) plainly are intended to protect against any "adverse impact on the AQRV of such [class I] lands (including visibility)." Based on this statutory provision, EPA believes that the proper focus of any air quality assessment for a pollution control project should be on visibility and any other relevant AQRV's for any class I areas that may be affected by the proposed project. Permitting authorities should notify Federal Land Managers where appropriate concerning pollution control projects which may adversely affect AQRV's in class I areas.

control projects at a wide variety of sources facing a myriad of Federal, State, and local clean air requirements.

Since the safeguards are an integral component of the exclusion, States must have the authority to impose the safeguards in approving an exclusion from major NSR under this policy. Thus, State or local permitting authorities in order to use this policy should provide statements to EPA describing and affirming the basis for its authority to impose these safeguards absent major NSR. Sources that obtain exclusions from permitting authorities that have not provided this affirmation of authority are at risk in seeking to rely on the exclusion issued by the permitting agency, because EPA may subsequently determine that the project does not qualify as a pollution control project under this policy.

#### A. Types of Projects Covered

##### 1. Add-On Controls and Fuel Switches

In the WEPCO rulemaking, EPA found that both add-on emissions control projects and fuel switches to less-polluting fuels could be considered to be pollution control projects. For the purposes of today's guidance, EPA affirms that these types of projects are appropriate candidates for a case-by-case exclusion as well. These types of projects include:

- the installation of conventional and advanced flue gas desulfurization and sorbent injection for SO<sub>2</sub>;
- electrostatic precipitators, baghouses, high efficiency multiclones, and scrubbers for particulate or other pollutants;
- flue gas recirculation, low-NO<sub>x</sub> burners, selective non-catalytic reduction and selective catalytic reduction for NO<sub>x</sub>; and
- regenerative thermal oxidizers (RTO), catalytic oxidizers, condensers, thermal incinerators, flares and carbon adsorbers for volatile organic compounds (VOC) and toxic air pollutants.

Projects undertaken to accommodate switching to an inherently less-polluting fuel such as natural gas can also qualify for the exclusion. Any activity that is necessary to accommodate switching to a inherently less-polluting fuel is considered to be part of the pollution control project. In some instances, where the emissions unit's capability would otherwise be impaired as a result of the fuel switch, this may involve certain necessary changes to the pollution generating equipment (e.g., boiler) in order to maintain the normal operating capability of the unit at the time of the project.

## 2. Pollution Prevention Projects

It is EPA's policy to promote pollution prevention approaches and to remove regulatory barriers to sources seeking to develop and implement pollution prevention solutions to the extent allowed under the Act. For this reason, permitting authorities may also apply this exclusion to switches to inherently less-polluting raw materials and processes and certain other types of "pollution prevention" projects.<sup>4</sup> For instance, many VOC users will be making switches to water-based or powder-paint application systems as a strategy for meeting reasonably available control technology (RACT) or switching to a non-toxic VOC to comply with maximum achievable control technology (MACT) requirements.

Accordingly, under today's guidance, permitting authorities may consider excluding raw material substitutions, process changes and other pollution prevention strategies where the pollution control aspects of the project are clearly evident and will result in substantial emissions reductions per unit of output for one or more pollutants. In judging whether a pollution prevention project can be considered for exclusion as a pollution control project, permitting authorities may also consider as a relevant factor whether a project is being undertaken to bring a source into compliance with a MACT, RACT, or other Act requirement.

Although EPA is supportive of pollution control and prevention projects and strategies, 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. Virtually every modernization or upgrade project at an existing industrial facility which reduces inputs and lowers unit costs has the concurrent effect of lowering an emissions rate per unit of fuel, raw material or output. Nevertheless, it is clear that these major capital investments in industrial equipment are the very types of projects that Congress intended to address in the new source modification provisions [see Wisconsin Electric Power Co. v. Reilly, 893 F.2d 901, 907-10 (7th Cir. 1990) (rejecting contention that utility life extension project was not a physical

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<sup>4</sup>For purposes of this guidance, pollution prevention means any activity that through process changes, product reformulation or redesign, or substitution of less polluting raw materials, eliminates or reduces the release of air pollutants and other pollutants to the environment (including fugitive emissions) prior to recycling, treatment, or disposal; it does not mean recycling (other than certain "in-process recycling" practices), energy recovery, treatment, or disposal [see Pollution Prevention Act of 1990 section 6602(b) and section 6603(5)(A) and (B); see also "EPA Definition of 'Pollution Prevention,'" memorandum from F. Henry Habicht II, May 28, 1992].

or operational change); Puerto Rican Cement Co., Inc. v. EPA, 889 F.2d 292, 296-98 (1st Cir. 1989) (NSR applies to modernization project that decreases emissions per unit of output, but increases economic efficiency such that utilization may increase and result in net increase in actual emissions)]. Likewise, 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. Adopting a policy that automatically excludes from NSR any project that, while lowering operating costs or improving performance, coincidentally lowers a unit's emissions rate, would improperly exclude almost all modifications to existing emissions units, including those that are likely to increase utilization and therefore result in overall higher levels of emissions.

In order to limit this exclusion to the subset of pollution prevention projects that will in fact lower annual emissions at a source, permitting authorities should not exclude as pollution control projects any pollution prevention project that can be reasonably expected to result in an increase in the utilization of the affected emissions unit(s). For example, projects which significantly increase capacity, decrease production costs, or improve product marketability can be expected to affect utilization patterns. With these changes, the environment may or may not see a reduction in overall source emissions; it depends on the source's operations after the change, which cannot be predicted with any certainty.<sup>5</sup> This is not to say that these types of projects are necessarily subject to major NSR requirements, only that they should not be excluded as pollution control projects under this guidance. The EPA may consider different approaches to excluding pollution prevention projects from major NSR requirements in the upcoming NSR rulemaking. Under this guidance, however, permitting authorities should carefully review proposed pollution prevention projects to evaluate whether utilization of the source will increase as a result of the project.

Furthermore, permitting authorities should have the authority to monitor utilization of an affected emissions unit or source for a reasonable period of time subsequent to the project to verify what effect, if any, the project has on utilization. In cases where the project has clearly caused an increase in utilization, the permitting authority may need to reevaluate the

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<sup>5</sup>This is in marked contrast to the addition of pollution control equipment which typically does not, in EPA's experience, result in any increase in the source's utilization of the emission unit in question. In the few instances where this presumption is not true, the safeguards discussed in the next section should provide adequate environmental protections for these additions of pollution control equipment.

basis for the original exclusion to verify that an exclusion is still appropriate and to ensure that all applicable safeguards are being met.

## B. Safeguards

The following safeguards are necessary to assure that projects being considered for an exclusion qualify as environmentally beneficial pollution control projects and do not have air quality impacts which would preclude the exclusion. Consequently, a project that does not meet these safeguards does not qualify for an exclusion under this policy.

### 1. Environmentally-Beneficial Test

Projects that meet the definition of a pollution control project outlined above may nonetheless cause collateral emissions increases or have other adverse impacts. For instance, a large VOC incinerator, while substantially eliminating VOC emissions, may generate sizeable NO<sub>x</sub> emissions well in excess of significance levels. To protect against these sorts of problems, EPA in the WEPCO rule provided for an assessment of the overall environmental impact of a project and the specific impact, if any, on air quality. The EPA believes that this safeguard is appropriate in this policy as well.

Unless information regarding a specific case indicates otherwise, the types of pollution control projects listed in III. A. 1. above can be presumed, by their nature, to be environmentally beneficial. This presumption arises from EPA's experience that historically these are the very types of pollution controls applied to new and modified emissions units. The presumption does not apply, however, where there is reason to believe that 1) the controls will not be designed, operated or maintained in a manner consistent with standard and reasonable practices; or 2) collateral emissions increases have not been adequately addressed as discussed below.

In making a determination as to whether a project is environmentally beneficial, the permitting authority must consider the types and quantity of air pollutants emitted before and after the project, as well as other relevant environmental factors. While because of the case-by-case nature of projects it is not possible to list all factors which should be considered in any particular case, several concerns can be noted.

First, pollution control projects which result in an increase in non-targeted pollutants should be reviewed to determine that the collateral increase has been minimized and will not result in environmental harm. Minimization here does not mean that the permitting agency should conduct a BACT-type review or necessarily prescribe add-on control equipment to

treat the collateral increase. Rather, minimization means that, within the physical configuration and operational standards usually associated with such a control device or strategy, the source has taken reasonable measures to keep any collateral increase to a minimum. For instance, the permitting authority could require that a low-NO<sub>x</sub> burner project be subject to temperature and other appropriate combustion standards so that carbon monoxide (CO) emissions are kept to a minimum, but would not review the project for a CO catalyst or other add-on type options. In addition, a State's RACT or MACT rule may have explicitly considered measures for minimizing a collateral increase for a class or category of pollution control projects and requires a standard of best practices to minimize such collateral increases. In such cases, the need to minimize collateral increase from the covered class or category of pollution control projects can be presumed to have been adequately addressed in the rule.

In addition, a project which would result in an unacceptable increased risk due to the release of air toxics should not be considered environmentally beneficial. It is EPA's experience, however, that most projects undertaken to reduce emissions, especially add-on controls and fuel switches, result in concurrent reductions in air toxics. The EPA expects that many pollution control projects seeking an exclusion under this guidance will be for the purpose of complying with MACT requirements for reductions in air toxics. Consequently, unless there is reason to believe otherwise, permitting agencies may presume that such projects by their nature will result in reduced risks from air toxics.

## 2. Additional Air Quality Impacts Assessments

### (a) General

Nothing in the Act or EPA's implementing regulations would allow a permitting authority to approve a pollution control project resulting in an emissions increase that would cause or contribute to a violation of a NAAQS or PSD increment, or adversely impact visibility or other AQRV in a class I area [see, e.g., Act sections 110(a)(2)(C), 165, 169A(b), 173]. Accordingly, this guidance is not intended to allow any project to violate any of these air quality standards.

As discussed above, it is possible that a pollution control project--either through an increase in an emissions rate of a collateral pollutant or through a change in utilization--will cause an increase in actual emissions, which in turn could cause or contribute to a violation of a NAAQS or increment or adversely impact AQRV's. For this reason, in the WEPCO rule the EPA required sources to address whenever 1) the proposed change would result in a significant net increase in actual emissions of any criteria pollutant over levels used for that source in the

most recent air quality impact analysis; and 2) the permitting authority has reason to believe that such an increase would cause or contribute to a violation of a NAAQS, increment or visibility limitation. If an air quality impact analysis indicates that the increase in emissions will cause or contribute to a violation of any ambient standard, PSD increment, or AQRV, the pollution control exclusion does not apply.

The EPA believes that this safeguard needs to be applied here as well. Thus, where a pollution control project will result in a significant increase in emissions and that increased level has not been previously analyzed for its air quality impact and raises the possibility of a NAAQS, increment, or AQRV violation, the permitting authority is to require the source to provide an air quality analysis sufficient to demonstrate the impact of the project. The EPA will not necessarily require that the increase be modeled, but the source must provide sufficient data to satisfy the permitting authority that the new levels of emissions will not cause a NAAQS or increment violation and will not adversely impact the AQRV's of nearby potentially affected class I areas.

In the case of nonattainment areas, the State or the source must provide offsetting emissions reductions for any significant increase in a nonattainment pollutant from the pollution control project. In other words, if a significant collateral increase of a nonattainment pollutant resulting from a pollution control project is not offset on at least a one-to-one ratio then the pollution control project would not qualify as environmentally beneficial.<sup>6</sup> However, rather than having to apply offsets on a case-by-case basis, States may consider adopting (as part of their attainment plans) specific control measures or strategies for the purpose of generating offsets to mitigate the projected collateral emissions increases from a class or category of pollution control projects.

(b) Determination of Increase in Emissions

The question of whether a proposed project will result in an emissions increase over pre-modification levels of actual emissions is both complicated and contentious. It is a question that has been debated by the New Source Review Reform Subcommittee of the Clean Air Act Advisory Committee and is expected to be revisited by EPA in the same upcoming rulemaking that will consider adopting a pollution control project exclusion. In the interim, EPA is adopting a simplified approach

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<sup>6</sup>Regardless of the severity of the classification of the nonattainment area, a one-to-one offset ratio will be considered sufficient under this policy to mitigate a collateral increase from a pollution control project. States may, however, require offset ratios that are greater than one-to-one.

to determining whether a pollution control project will result in increased emissions.

The approach in this policy is premised on the fact that EPA does not expect the vast majority of these pollution control projects to change established utilization patterns at the source. As discussed in the previous section, it is EPA's experience that add-on controls do not impact utilization, and pollution prevention projects that could increase utilization may not be excluded under this guidance. Therefore, in most cases it will be very easy to calculate the emissions after the change: the product of the new emissions rate times the existing utilization rate. In the case of a pollution control project that collaterally increases a non-targeted pollutant, the actual increase (calculated using the new emissions rate and current utilization pattern) would need to be analyzed to determine its air quality impact.

The permitting authority may presume that projects meeting the definition outlined in section III(A)(1) will not change utilization patterns. However, the permitting authority is to reject this presumption where there is reason to believe that the project will result in debottlenecking, loadshifting to take advantage of the control equipment, or other meaningful increase in the use of the unit above current levels. Where the project will increase utilization and emissions, the associated emissions increases are calculated based on the post-modification potential to emit of the unit considering the application of the proposed controls. In such cases the permitting agency should consider the projected increase in emissions as collateral to the project and determine whether, notwithstanding the emissions increases, the project is still environmentally beneficial and meets all applicable safeguards.

In certain limited circumstances, a permitting agency may take action to impose federally-enforceable limits on the magnitude of a projected collateral emissions increase to ensure that all safeguards are met. For example, where the data used to assess a projected collateral emissions increase is questionable and there is reason to believe that emissions in excess of the projected increase would violate an applicable air quality standard or significantly exceed the quantity of offsets provided, restrictions on the magnitude of the collateral increase may be necessary to ensure compliance with the applicable safeguards.

#### IV. Procedural Safeguards

Because EPA has not yet promulgated regulations governing a generally applicable pollution control project exclusion from major NSR (other than for electric utilities), permitting authorities must consider and approve requests for an exclusion on a case-by-case basis, and the exclusion is not self-executing.

Instead, sources must receive case-by-case approval from the permitting authority pursuant to a minor NSR permitting process, State nonapplicability determination or similar process. [Nothing in this guidance voids or creates an exclusion from any applicable minor source preconstruction review requirement in any SIP that has been approved pursuant to section 110(a)(2)(C) and 40 CFR 51.160-164.] This process should also provide that the application for the exclusion and the permitting agency's proposed decision thereon be subject to public notice and the opportunity for public and EPA written comment. In those limited cases where the applicable SIP already exempts a class or category of pollution controls project from the minor source permitting public notice and comment requirements, and where no collateral increases are expected (e.g., the installation of a baghouse) and all otherwise applicable environmental safeguards are complied with, public notice and comment need not be provided for such projects. However, even in such circumstances, the permitting agency should provide advance notice to EPA when it applies this policy to provide an exclusion. For standard-wide applications to groups of sources (e.g., RACT or MACT), the notice may be provided to EPA at the time the permitting authority intends to issue a pollution control exclusion for the class or category of sources and thereafter notice need not be given to EPA on an individual basis for sources within the noticed group.

#### V. Emission Reduction Credits

In general, certain pollution control projects which have been approved for an exclusion from major NSR may result in emission reductions which can serve as NSR offsets or netting credits. All or part of the emission reductions equal to the difference between the pre-modification actual and post-modification potential emissions for the decreased pollutant may serve as credits provided that 1) the project will not result in a significant collateral increase in actual emissions of any criteria pollutant, 2) the project is still considered environmentally beneficial, and 3) all otherwise applicable criteria for the crediting of such reductions are met (e.g., quantifiable, surplus, permanent, and enforceable). Where an excluded pollution control project results in a significant collateral increase of a criteria pollutant, emissions reduction credits from the pollution control project for the controlled pollutant may still be granted provided, in addition to 2) and 3) above, the actual collateral increase is reduced below the applicable significance level, either through contemporaneous reductions at the source or external offsets. However, neither the exclusion from major NSR nor any credit (full or partial) for emission reductions should be granted by the permitting authority where the type or amount of the emissions increase which would result from the use of such credits would lessen the environmental benefit associated with the pollution control

project to the point where the project would not have initially qualified for an exclusion.

#### IV. Illustrative Examples

The following examples illustrate some of the guiding principles and safeguards discussed above in reviewing proposed pollution control projects for an exclusion from major NSR.

##### Example 1

PROJECT DESCRIPTION: A chemical manufacturing facility in an attainment area for all pollutants is proposing to install a RTO to reduce VOC emissions (including emissions of some hazardous pollutants) at the plant by about 3000 tons per year (tpy). The emissions reductions from the RTO are currently voluntary, but may be necessary in the future for title III MACT compliance. Although the RTO has been designed to minimize NO<sub>x</sub> emissions, it will produce 200 tpy of new NO<sub>x</sub> emissions due to the unique composition of the emissions stream. There is no information about the project to rebut a presumption that the project will not change utilization of the source. Aside from the NO<sub>x</sub> increase there are no other environmental impacts known to be associated with the project.

EVALUATION: As a qualifying add-on control device, the project may be considered a pollution control project and may be considered for an exclusion. The permitting agency should: 1) verify that the NO<sub>x</sub> increase has been minimized to the extent practicable, 2) confirm (through modeling or other appropriate means) that the actual significant increase in NO<sub>x</sub> emissions does not violate the applicable NAAQS,<sup>7</sup> PSD increment, or adversely impact any Class I area AQRV, and 3) apply all otherwise applicable SIP and minor source permitting requirements, including opportunity for public notice and comment.

##### Example 2

PROJECT DESCRIPTION: A source proposes to replace an existing coal-fired boiler with a gas-fired turbine as part of a cogeneration project. The new turbine is an exact replacement for the energy needs supplied by the existing boiler and will emit less of each pollutant on an hourly basis than the boiler did.

EVALUATION: The replacement of an existing emissions unit with a new unit (albeit more efficient and less polluting) does

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<sup>7</sup>If the source were located in an area in which nonattainment NSR applied to NO<sub>x</sub> emissions increases, 200 tons of NO<sub>x</sub> offset credits would be required for the project to be eligible for an exclusion.

not qualify for an exclusion as a pollution control project. The company can, however, use any otherwise applicable netting credits from the removal of the existing boiler to seek to net the new unit out of major NSR.

#### Example 3

PROJECT DESCRIPTION: A source plans to physically renovate and upgrade an existing process line by making certain changes to the existing process, including extensive modifications to emissions units. Following the changes, the source will expand production and manufacture and market a new product line. The project will cause an increase in the economic efficiency of the line. The renovated line will also be less polluting on a per-product basis than the original configuration.

EVALUATION: The change is not eligible for an exclusion as a pollution control project. On balance, the project does not have clearly evident pollution control aspects, and the resultant decrease in the per-product emissions rate (or factor) is incidental to the project. The project is a physical change or change in the method of operation that will increase efficiency and productivity.

#### Example 4

PROJECT DESCRIPTION: In response to the phaseout of chlorofluorocarbons (CFC) under title VI of the Act, a major source is proposing to substitute a less ozone-depleting substance (e.g., HCFC-141b) for one it currently uses that has a greater ozone depleting potential (e.g., CFC-11). A larger amount of the less-ozone depleting substance will have to be used. No other changes are proposed.

EVALUATION: The project may be considered a pollution control project and may be considered for an exclusion. The permitting agency should verify that 1) actual annual emissions of HCFC-141b after the proposed switch will cause less stratospheric ozone depletion than current annual emissions of CFC-11; 2) the proposed switch will not change utilization patterns or increase emissions of any other pollutant which would impact a NAAQS, PSD increment, or AQRV and will not cause any cross-media harm, including any unacceptable increased risk associated with toxic air pollutants; and 3) apply all otherwise applicable SIP and minor source permitting requirements, including opportunity for public notice and comment.

#### Example 5

PROJECT DESCRIPTION: An existing landfill proposes to install either flares or energy recovery equipment [i.e., turbines or internal combustion (IC) engines]. The reductions from the project are estimated at over 1000 tpy of VOC and are

currently not necessary to meet Act requirements, but may be necessary some time in the future. In case A the project is the replacement of an existing flare or energy system and no increase in NO<sub>x</sub> emissions will occur. In case B, the equipment is a first time installation and will result in a 100 tpy increase in NO<sub>x</sub>. In case C, the equipment is an addition to existing equipment which will accommodate additional landfill gas (resulting from increased gas generation and/or capture consistent with the current permitted limits for growth at the landfill) and will result in a 50 tpy increase in NO<sub>x</sub>.

EVALUATION: Projects A, B, and C may be considered pollution control projects and may be considered for an exclusion; however, in cases B and C, if the landfill is located in an area required to satisfy nonattainment NSR for NO<sub>x</sub> emissions, the source would be required to obtain NO<sub>x</sub> offsets at a ratio of at least 1:1 for the project to be considered for an exclusion. [NOTE: VOC-NO<sub>x</sub> netting and trading for NSR purposes may be discussed in the upcoming NSR rulemaking, but it is beyond the scope of this guidance.] Although neither turbines or IC engines are listed in section III.A.1 as add-on control devices and would normally not be considered pollution control projects, in this specific application they serve the same function as a flare, namely to reduce VOC emissions at the landfill with the added incidental benefit of producing useful energy in the process.<sup>8</sup>

The permitting agency should: 1) verify that the NO<sub>x</sub> increase has been minimized to the extent practicable; 2) confirm (through modeling or other appropriate means) that the actual significant increase in NO<sub>x</sub> emissions will not violate the applicable NAAQS, PSD increment, or adversely impact any AQRV; and 3) apply all otherwise applicable SIP and minor source and, as noted above, in cases B and C ensures that NO<sub>x</sub> offsets are provided in an area in which nonattainment review applies to NO<sub>x</sub> emissions increases. permitting requirements, including opportunity for public notice and comment.

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<sup>8</sup>The production of energy here is incidental to the project and is not a factor in qualifying the project for an exclusion as a pollution control project. In addition, any supplemental or co-firing of non-landfill gas fuels (e.g., natural gas, oil) would disqualify the project from being considered a pollution control project. The fuels would be used to maximize any economic benefit from the project and not for the purpose of pollution control at the landfill. However, the use of an alternative fuel solely as a backup fuel to be used only during brief and infrequent start-up or emergency situations would not necessarily disqualify an energy recovery project from being considered a pollution control project.

October 21, 1994

MEMORANDUM

SUBJECT: Classification of Emissions from Landfills for  
NSR Applicability Purposes

FROM: John S. Seitz, Director  
Office of Air Quality Planning and Standards (MD-10)

TO: Director, Air, Pesticides and Toxics  
Management Division, Regions I and IV  
Director, Air and Waste Management Division,  
Region II  
Director, Air, Radiation and Toxics Division,  
Region III  
Director, Air and Radiation Division,  
Region V  
Director, Air, Pesticides and Toxics Division,  
Region VI  
Director, Air and Toxics Division,  
Regions VII, VIII, IX and S

The EPA has recently received several inquiries regarding the treatment of emissions from landfills for purposes of major NSR applicability. The specific issue raised is whether the Agency still considers landfills gas emissions which are not collected to be fugitive for NSR applicability purposes.

The EPA's NSR regulations define "fugitive emissions" to mean "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening" (40 CFR 51.165(a)(1)(x)). In general, where a facility is not subject to national standards requiring collection, the technical question of whether the emissions at a particular site could "reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening" is a factual determination to be made by the permitting authority, on a case-by-case basis. In determining whether emissions could reasonably be collected (or if any emissions source could reasonably pass through a stack, etc.) "reasonableness" should be construed broadly. The existence of collection technology in use by other sources in the

source category creates a presumption that collection is reasonable. Furthermore, in certain circumstances, the collection of emissions from a specific pollutant emitting activity can create a presumption that collection is reasonable for a similar pollutant-emitting activity, even if that activity is located within a different source category.

In 1987, EPA addressed whether landfill gas emissions should be considered as fugitive.<sup>1</sup> The Agency explained that for landfills constructed or proposed to be constructed with gas collection systems, the collected landfill gas would not qualify as fugitive. Also, the Agency understood at the time that, with some exceptions, landfills, were not constructed with such gas collection systems. The EPA explained that "[t]he preamble to the 1980 NSR regulations characterizes nonfugitive emissions as '. . . emissions which would ordinarily be collected and discharged through stacks or other functionally equivalent openings'" (see 45 FR 52693, Aug. 7, 1980).<sup>2</sup> Based on the "understanding that landfills are not ordinarily constructed with gas collection systems." the Agency concluded that emissions from existing or proposed landfills without gas collection systems are to be considered fugitive emissions." The Agency also made clear, however, that the applicant's decision on whether to collect emissions is not the deciding factor. Rather, it is the reviewing authority that makes the decision regarding

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<sup>1</sup>See memorandum entitled "Emissions from Landfills," from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, to David P. Howekamp, Director, Air Management Division, Region IX, dated October 6, 1987 (attached). It is important to note that the interpretation contained in this memorandum was only applicable to landfills.

<sup>2</sup>In fact, the 1980 preamble language recognized the concern that sources could avoid NSR by calling emissions fugitives, even if the source could capture those emissions. The EPA's originally-proposed definition of fugitive emissions was changed in the final 1980 regulations to "ensure that sources will not discharge as fugitive emissions those emissions which would ordinarily be collected and discharged through stacks or other functionally equivalent openings, and will eliminate disincentives for the construction of ductwork and stacks for the collection of emission." Id.

which emissions can reasonably be collected and therefore not considered fugitive.

The EPA believes its 1987 interpretation of the 1980 preamble may have been misunderstood, and in any case that its factual conclusions at that time are now outdated. Continued misunderstanding or application of this outdated view could discourage those constructing new landfills from utilizing otherwise environmentally- or economically-desirable gas collection and mitigation measures in order to avoid major NSR applicability.

Specifically with regard to landfill gas emissions, gas collection and mitigation technologies have evolved significantly since 1987, and use of these systems has become much more common. Increasingly, landfills are constructed or retrofitted with gas collection systems for purposes of energy recovery and in order to comply with State and Federal regulatory requirements designed to address public health and welfare concerns. In addition, EPA has proposed performance standards for new landfills under section 111(b) of the Clean Air Act and has proposed guidelines for existing landfills under section 111(d) that, when promulgated, will require gas collection systems for existing and new landfills that are above a certain size and gas production level (see 56 FR 24468, May 30, 1991). Under these requirements, EPA estimates that between 500 and 700 medium and large landfills will have to collect and control landfill gas. The EPA believes this proposal created a presumption at that time that the proposed gas collection systems, at a minimum, are reasonable for landfills that would be subject to such control under the proposal.

Thus, EPA believes it is no longer appropriate to conclude generally that landfill gas could not reasonably be collected at a proposed landfill project that does not include a gas collection system. The fact that a proposed landfill project does not include a collection system in its proposed design is not determinative of whether emissions from a landfill are fugitive. To quantify the amount of landfill gas which could otherwise be collected at a proposed landfill for NSR applicability purposes, the air pollution control authority should assume the use of a collection system which has been designed to maximize, to the greatest extent possible, the capture of air pollutants from the landfill.

In summary, the use of collection technology by other landfill sources, whether or not subject to EPA's proposed requirements or to State implementation plan or permit requirements, creates a presumption that collection of the emissions is reasonable at other similar sources. If such a system can reasonably be designed to collect the landfill's gas

emissions, then the emissions are not fugitive and should be considered in determining whether a major NSR permit is required.

Today's guidance is applicable to the construction of a new landfill or the expansion of an existing landfill beyond its currently-permitted capacity. To avoid any confusion regarding the applicability of major NSR to existing landfills, EPA does not plan to reconsider or recommend that States reconsider the major NSR status of any existing landfill based on the issues discussed in this memorandum. Also, nothing in this guidance voids or creates an exclusion from any otherwise applicable requirement under the Clean Air Act and the State implementation plan, including minor source review.

The Regional Offices should send this memorandum, including the attachment, to States within their jurisdiction. Questions concerning specific issues and cases should be directed to the appropriate Regional Office. Regional Office staff may contact Mr. David Solomon, Chief, New Source Review Section, at (919) 541-5375, if they have any questions.

Attachment

cc: Air Branch Chief, Regions I-X  
NSR Contacts, Regions I-X and Headquarters

October 6, 1987  
MEMORANDUM

SUBJECT: Emissions from Landfills

FROM: Gerald A. Emison, Director Office of  
Air Quality Planning and Standard (MD-10)

TO: David P. Howekamp, Director  
Air Management Division, Region IX

This is in response to your September 1, 1987, memorandum requesting clarification regarding how landfill emissions should be considered for the purpose of determining nonattainment new source review (NSR) applicability under 40 CFR 51.18.

As you are aware, a landfill is subject to NSR if its potential to emit, excluding fugitive emissions, exceeds the 100 tons per year applicable major source cutoff for the pollutant for which the area is nonattainment. Fugitive emissions are defined in 40 CFR (j)(1)(ix) as ". . . those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening." Landfill emissions that could reasonably be collected and vented are therefore not considered fugitive emissions and must be included in calculating a source's potential to emit.

For various reasons, (e.g., odor and public health concerns, local regulatory requirements, economic incentives), many landfills are constructed with gas collection systems. Collected landfill gas may be flared, vented to the atmosphere, or processed into useful energy end products such as high-Btu gas, steam, or electricity. In these cases, for either an existing or proposed landfill, it is clear that the collected landfill gas does not qualify as fugitive emissions and must be included in the source's potential to emit when calculating NSR applicability.

The preamble to the 1980 NSR regulations characterizes nonfugitive emissions as ". . . those emissions which would ordinarily be collected and discharged through stacks or other functionally equivalent openings." Although there are some exceptions, it is our understanding that landfills are not ordinarily constructed with gas collection systems. Therefore, emissions from existing or proposed landfills without gas collection systems are to be considered fugitive emissions and are not included in the NSR applicability determination. This does not mean that the applicant's decision on whether to collect emissions is the deciding factor; in fact, the reviewing authority makes the decision on which emissions would ordinarily be collected and which therefore are not considered fugitive emissions.

It should be noted that NSR applicability is pollutant specific. Therefore, where the landfill gas is flared or otherwise combusted or processed before release to the atmosphere, it is the pollutant released which counts toward NSR applicability. As an example, landfill gas is composed mostly of volatile organic compounds, but when this gas is burned in a flare, it is the type and quantity of pollutants in the exhaust gas (e.g., nitrogen oxides and carbon monoxide) that are used in the NSR applicability determination.

If you have any questions regarding this matter, please contact Gary McCutchen, Chief, New Source Review Section, at FTS 629-5592.

cc: Chief, Air Branch  
Regions I-X