

San Joaquin Valley Unified
Air Pollution Control District

APR 1150

Implementation of Rule 2201
for SB288 Major Modifications and Federal Major Modifications

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| Approved By:  | Date: March 17, 2016 |
| Arnaud Marjollet | Revised: September 16, 2020 |
| Director of Permit Services | Revised: October 01, 2020 |
| | Revised: December 02, 2020 |
| | Revised: January 05, 2021 |

I. Purpose

This policy is applicable to the requirements of Rule 2201.

The purpose of this policy is to provide guidance on the calculation procedures to determine if an application subject to Rule 2201 is a SB 288 Major Modification and/or a Federal Major Modification, as defined in sections 3.34 and 3.17, respectively. Additionally, for projects that are Federal Major Modifications, this policy provides guidance for determining the Federal offset quantity (used only in offset equivalency determinations).

Please note that nothing in this policy supersedes the requirements of Rule 2201, Federal New Source Review as codified on 40 CFR 51.165 and part D of Title I of the Federal Clean Air Act.

Resources:

- Federal Major Modification: 40 CFR 51.165: <https://www.law.cornell.edu/cfr/text/40/51.165>
- Federal Clean Air Act: <https://www.epa.gov/clean-air-act-overview/clean-air-act-text>
- Federal Clean Air Act under section 182 (e) (2):
<https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapl-partD-subpart2-sec7511a.htm>

II. Background

The SB 288 Major Modification calculation procedure is included in Rule 2201 to comply with the requirements of California SB288 which prohibited District's from relaxing requirements for Federal New Source Review (as they existed on 12/19/02) as a result of Federal NSR reform (see Appendix A).

On 12/31/02, EPA published revisions to the Federal NSR program (40 CFR 51.165), referred to as NSR Reform, which became effective on March 3, 2003. These amendments primarily changed the calculation methodology for determining if a modification at a stationary source was a major modification.

On 3/31/10, EPA published an 18-month stay of their final rulemaking regarding the treatment of fugitive emissions (that **fugitive emissions are only included in modification calculations if the stationary source is one of the specific source categories listed in 40 CFR 51.165**). Therefore, the regulations implementing Federal NSR are to be applied as they existed before this rulemaking, until EPA takes a final action or the stay expires on September 30, 2011.

Consistent with the District's longstanding interpretation and implementation of the previous version of 40 CFR 51.165 (which was silent on this issue), **fugitive emissions will be included to determine if a stationary source is major source or a modification is an SB 288 Major Modification or a Federal Major Modification, only if the stationary source is one of the specific source categories listed in 40 CFR 51.165.**

For oil and gas production activities, the traditional stationary source definition shall be used; the area-wide stationary source definition shall not be used.

The determination of whether various permitting actions involving new or modified emission units are part of the same project is to be performed on a case by case basis. **In general, new or modified emission units that are technically or economically dependent shall be considered one project for SB288 Major Modification and Federal Major Modification applicability (see 71 FR 54235).** Please note that in this context, the term project has no relation to the project number assigned by the District to individual groups of applications.

Non-road engines shall not be considered in determining whether a source is major source or if a modification is a SB288 or Federal Major Modification. The Federal CAA reserves the regulation of non-road engines to Title II (National Emission Standards) of the CAA. While Title 1 (Nonattainment Areas) does not include explicit provisions to exclude non-road engine from applicability determinations, Title III (Toxics) includes a provision in the definition of stationary source that excludes "... those emissions ... from a non-road engine or a non-road vehicle defined in section 216".

III. SB288 Major Modification, Federal Major Modification, and New Major Source

An SB 288 Modification or a Federal Major Modification for a given pollutant can only occur at a stationary source that is major for that specific pollutant. Emission increases at non-major sources cannot trigger an SB288 Major Modification or a Federal Major Modification.

SB288 Major Modification

40 CFR Part 51.165 defines a SB 288 Major Modification as any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.

Rule 2201
SB 288 Major Modification Thresholds

| POLLUTANT | THRESHOLD (POUNDS PER YEAR) |
|-----------|-----------------------------|
| VOC | 50,000 |
| NOx | 50,000 |
| PM10 | 30,000 |
| SOx | 80,000 |

Federal Major Modification

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201 (See table below).

Rule 2201 section 3.17 defines Federal Major Modification the same as “Major Modification” as defined in 40 CFR 51.165 and part D of Title I of the CAA. Section 3.17 also states that an SB 288 Major Modification is not a Federal Major Modification if the emission increase for the project or the net emission increase for the project (calculated pursuant to 40 CFR 51.165 (a)(2)(ii)(B) through (D) and (F)) does not result in a significant emission increase as defined in Rule 2201 or the modification does not cause facility wide emissions to exceed a previously established plant wide applicability limit (PAL).

Rule 2201
Federal Major Modification Significance Thresholds

| POLLUTANT | THRESHOLD (POUNDS PER YEAR) |
|-----------|---------------------------------------|
| VOC | 0 |
| NOx | 0 |
| PM2.5 | 20,000 of direct PM2.5 emissions or |
| | 80,000 of sulfur dioxide emissions or |
| | 80,000 of nitrogen oxide emissions |
| PM10 | 30,000 |
| SOx | 80,000 |

New Major Source

Pursuant to 40 CFR 51.165 a(1)(iv)(A)(3), emission increases at a non-major source (or at new sources) constitute a New Major Source if the emission increase for a given pollutant is as large as the major source threshold for that pollutant, i.e. the project by itself would result in a net emission increase exceeding the major source threshold.

Other than described above, there are no “Federal” requirements for projects at existing sources that result from a project that causes a source’s potential to emit to exceed the major source threshold.

IV. SB 288 Major Modification Calculation

40 CFR 51.165 that existed on 12/19/2002 (See Appendix A) , states that for a major source, a project is a SB 288 Major Modification if the project results in a net emission increase exceeding the SB 288 Major Modification Thresholds listed in Rule 2201.

Under this version of 40 CFR 51.165 (12/19/2002), **a Net Emission Increase is defined as the sum of the differences between the post-project potential to emit (PE2) and the actual emissions (AE) for all new and modified emission units.**

$$NEI = \sum(PE2 - AE)$$

The project’s Net Emissions Increase for each pollutant is equal to:

- **For existing emission units: the sum of the differences between the potential to emit (PE) and the actual emissions (AE)**

$$\text{Project Net Emissions Increase} = \sum(PE2 - AE)$$

or

- **For new emission units: the sum of the potentials to emit.**

$$\text{Project Net Emissions Increase} = \sum(PE2)$$

This calculation is done on a pollutant-by-pollutant basis and **only for those pollutants for which the source is major.**

In determining which emission units are new or modified, the definitions in the appropriate version of 40 CFR 51.165 shall be used, and not the definitions in Rule 2201.

For existing emissions unit, when determining whether a unit is included in the SB 288 Major Modification applicability calculation, only unit(s) undergoing a physical change or an actual change in the method of operation must be included. If an emission unit is not undergoing a physical change or an actual change in the method of operation, it must not be included in the SB 288 Major Modification applicability calculation.

For purposes of determining if a new or modified emission unit is part of an SB 288 Major Modification, if the annual emission increase for the emission unit when divided by 365 is less than or equal to 0.5 lb./day, such an increase shall be rounded to 0. New or modified emission units with emission increases that round to 0 shall not constitute an SB 288 Major Modification.

The process for determining if a project will result in a SB288 Major Modification consists of a two-step test:

- **The first step is to determine if the project results in a significant emission increase.** For this determination, only emission increases are counted. Emission decreases associated with the project are not counted.
- The second step is to determine if the project results in a **significant net emission increase.**

Calculations for existing emission units:

- PE: The potential to emit is the post-project potential to emit for the emission unit.
- AE: In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

Calculations for new emission units:

- The potential to emit is the post project potential to emit for the emission unit.
- The actual emissions are equal to 0.
- A replacement unit (a unit that replaces the function of an existing unit) shall be treated as an existing emission unit.

Fugitive Emissions

For project authorizing new or increased **fugitive emissions** occurring at a facility that **is not** included in the 28 specific source categories specified in 40 CFR 51.165 (i.e. oil and gas production facilities): **please talk to your manager and director: discussion with EPA on how to address fugitive emissions for SB288/Federal Major Modification purposes is in progress.**

Fugitive emissions occurring at a facility that **is** included in the 28 specific source categories specified in 40 CFR 51.165 (i.e. oil and gas production facilities) **are required to be included** in the SB288 Major Modification determinations.

Conclusion:

If the project's emission increases are less than the significance thresholds, the project is not an SB 288 Major Modification and no further analysis is required. However, if the project's emission increases are above the SB288 Major Modification significance thresholds, the project results in a significant emission increase and the second step of the test must be completed.

If the project results in a significant emission increase, then the second step is to determine if all creditable emission increases and decreases within the past five years (including those projects not related to the subject project) results in a significant net emission increase. In this calculation, all creditable emission decreases and increases must be counted.

If the net emission increase is less than the significance thresholds in Table 3-5, the project is not an SB 288 Major Modification and no further analysis is required.

Alternatively, the applicant may stipulate that the project results in both a significant emission increase and significant net emission increase. In such a case, the project constitutes an SB 288 Major Modification and is subject to all applicable requirements.

V. Federal Major Modification Applicability Calculation

The calculations below are strictly to determine if a modification at a stationary source is a Federal Major Modification. For projects that are a Federal Major Modification, the Federal Offset quantity (used in the Rule 2201 Offset Equivalency Demonstration) is discussed in Section VI below.

This calculation is done on a pollutant-by-pollutant basis and only for those pollutants for which the source is major.

In determining which emission units are new or modified, the definitions in the appropriate version of 40 CFR 51.165 shall be used, and not the definitions in Rule 2201.

For existing emissions unit, when determining whether a unit is included in the Federal Major Modification applicability calculation, only unit(s) undergoing a physical change or an actual change in the method of operation must be included. If an emission unit is not undergoing a physical change or an actual change in the method of operation, it must not be included in the Federal Major Modification applicability calculation.

The remaining discussion addresses procedures to determine if a project's emission increase or net emission increase is significant as specified in Rule 2201 section 3.17.1. This policy does not address the PAL exclusion as defined in Rule 2201 section 3.17.2.

For purposes of determining if a new or modified emission unit is part of an Federal Major Modification, if the annual emission increase (calculated using the procedures below) for the emission unit when divided by 365 is less than or equal to 0.5 lb./day, such an increase shall be rounded to 0. New or modified emission units with emission increases that round to 0 shall not constitute a Federal Major Modification.

The first step is to determine if the project itself results in a significant emission increase. In this determination, only emission increases are counted. Emission decreases associated with the project are not counted.

The second step is to determine if the project results in a significant net emission increase.

Please note that as required in the Federal Clean Air Act under section 182 (e) (2), Step 2 of the analysis shall not be performed for pollutant or their precursors for which a district is in extreme non-attainment status. For the District, this requirement applies to NOx and VOC. Therefore for NOx and VOC, only step 1 of the analysis is performed when determining Federal Major Modification applicability.

Notwithstanding the above, a facility with a project that has an emission increase in NOx or VOCs can elect to offset the emission increase at a ratio of 1.3:1 using emission reductions that occurred at the same stationary source. Such emission reductions must be surplus of all current Federally enforceable requirements, i.e. surplus at the time of use. Such projects shall not constitute a Federal Major Modification. Offsets provided pursuant to this provision may be used to satisfy offset requirements of Rule 2201.

Fugitive Emissions

For project authorizing new or increased **fugitive emissions** occurring at a facility that **is not** included in the 28 specific source categories specified in 40 CFR 51.165 (i.e. oil and gas production facilities): **please talk to your manager and director: discussion with EPA on how to address fugitive emissions for SB288/Federal Major Modification purposes is in progress.**

Fugitive emissions occurring at a facility that **is** included in the 28 specific source categories specified in 40 CFR 51.165 (i.e. oil and gas production facilities) **are required to be included** in the SB288 Major Modification determinations.

1. Step 1: Project Emissions Increase Calculation

1.1. Calculation for Modification to Existing Emission Units

Replacement Unit: A replacement unit (as defined in 51.165(a)(1)(xxi)) shall be treated as an existing emission unit in applicability calculations pursuant to 51.165(a)(1)(vii)(B).

- **Project Emissions Increase**

For existing emission units, according to 40 CFR 51.165(a)(2)(ii)(C), the project's emission increase for each pollutant is equal to the sum of the differences between the projected actual emissions (PAE) and the baseline actual emissions (BAE):

$$\text{Project emissions increase} = \sum(\text{PAE} - \text{BAE})$$

- **Baseline Actual Emissions**

BAE definition:

For emission units (other than electric utility steam generating units), according to 40 CFR 51.165(a)(1)(xxxv)(B), **the BAE are calculated as the average, in tons/year, at which the emissions unit actually emitted during any 24-month period selected by the operator within the previous 10-year period.** For electric utility steam generating units the BAE are calculated based on any 24-month period selected by the operator within the previous 5-year period.

Adjustments to BAE:

BAE must be adjusted to

- Include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions,
- Exclude any non-compliant operation emissions.

The evaluation shall document any such adjustments or that none adjustments were required.

There are no special provisions in determining baseline actual emissions for emission units for which offsets were previously provided.

BAE For Each Regulated Pollutant:

For a specific regulated NSR pollutant, when a project involves multiple emissions units, **only one consecutive 24-month period must be used** to determine the baseline actual emissions for all modified emissions units.

A different consecutive 24-month period can be used **for each regulated NSR pollutant.**

- **Projected Actual Emissions (PAE)**

PAE can be calculated in 2 ways, as discussed below.

- **PAE Determination**

Where there is no increase in design capacity or potential to emit, the projected actual emissions (PAE) are equal to the annual emission rate at which the unit is projected to emit in any one year selected by the operator within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit).

The source must estimate the projected actual emissions (PAE) based on all information relevant to the emission unit(s), (e.g. historical data, company's expected business activity, and highest projections of business), and provide a detailed justification of the estimate in their application. If a justified estimate is not provided, the potential to emit (PE) for the existing emission units shall be used for this calculation. For projects without an increase in design capacity or potential to emit, the PAE cannot exceed the pre-project potential to emit.

- **Unused Baseline Capacity (UBC)**

As described in 40 CFR 51.165(a)(1)(xxviii)(B), when using historical data and company's expected business activity and highest projections of business activity to determine PAE, the portion of the emissions after the project that the existing unit could have accommodated before the project (**during the same 24-month baseline period used to determine BAE**) and that are unrelated to the particular project (including emissions increases due to product demand growth) are to be excluded.

In other words, **the difference in emissions between what the unit could have actually accommodated (legally and physically) before the project and the BAE are to be subtracted from any calculated increase, if the ability to utilize the previously unused capacity is not related to the current project.** For the discussion below, this quantity is termed "Unused Baseline Capacity (UBC) emissions".

Please note that the UBC can not be used in the project emissions increase calculation when PE is used for PAE.

Project emissions increase = $\sum(\text{PAE} - \text{BAE} - \text{UBC})$

Please note that to determine the UBC emissions, the facility must provide a description of all legal and physical limitations on the emission

unit's utilization rate prior to the project. Such legal and physical limitations are not limited to requirements of the District permit.

The UBC emissions can not be directly assessed as the difference between the pre-project potential to emit and the baseline actual emissions.

The UBC determination must be made on a case-by-case basis. In determining the UBC emissions, District staff must rely on information submitted by the applicant and exercise independent judgement to assess if the claimed UBC emissions are reasonable. To determine the UBC, several factors must be considered such as the degradation of an emission unit's capacity, the ability of the unit to perform at specific capacity rate, the emission rate of the unit over time, etc.

If no information supporting the UBC emissions is provided by the applicant, UBC emissions is set to 0.

- **Otherwise, PAE = PE2**

According to 40 CFR 51.165(a)(1)(xxviii)(B)(4), when determining PAE, in lieu of using the method described in 40 CFR 51.165 (a)(1)(xxviii)(B)(1)-(3), *Projected Actual Emissions*, the owner/operator may elect to use emissions unit's Potential to Emit.

If appropriate projected actual emissions are not provided by the applicant, then the emissions unit's **Post-Project Potential to Emit (PE2)** is set to PAE:

$$\text{Project emissions increase} = \sum(\text{PE2} - \text{BAE})$$

1.2. Calculation for New Emission Units

For new emission units, according to 40 CFR 51.165(a)(2)(ii)(D), the project's emission increase for each pollutant is the sum of the potentials to emit:

The emission increase is the post-project potential to emit. Projected actual emissions cannot be used for new emission units.

BAE are equal to 0.

$$\text{Project emissions increase} = \sum (\text{PE2})$$

1.3. Calculation Involving Both Modified and New Emission Units

For projects involving both existing and new emission units, the emission increase for the project is calculated as the sum of the emission increases for both the existing and new emission units.

1.4. Project Emission Increases Less than Federal Major Modification Significance Thresholds

If the project's emission increases (Step 1) are less than the Federal Major Modification significance thresholds, the project is not a Federal Major Modification and no further analysis is required.

For such projects, specific requirements apply:

- Recordkeeping of actual emission is required.
- Actual emission are required to be reported to the District if actual emissions exceed the baseline actual emissions and if the actual emissions differ from the projection of actual emissions (if utilized).
- This recordkeeping and reporting requirement remains in effect for a period of 5 years (if there is no increase in capacity) or 10 years (if there is an increase in design capacity) after the modification pursuant to 51.165(a)(6).

Please note that the baseline actual emissions and projected actual emissions are not enforceable emission limits.

Permit Condition (Example)

When the owner/operator has estimated the projected actual emissions based on all information relevant to the emission unit(s), recordkeeping and reporting requirement is shown below:

- *If the emission unit's actual emissions exceed XX,XXX lb XXX per calendar year the permittee must report to the District the annual XXX emissions as calculated pursuant to paragraph 40 CFR 51.165(a)(6)(iii) and any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection. Such information must be submitted to the District for a period of 5 calendar years beginning the year of operation under ATC X-XX-XX-X and shall be submitted within 60 days of the end of each calendar year. [District Rule 2201] Y*

2. Step 2: Net Emission Increase Calculation

If the project's emission increases are above the significance Federal Major Modification thresholds in Table 3-1, the project results in a significant emission increase and further analysis is required, except as allowed below.

Please note that, as discussed above, under the Federal Clean Air Act, section 182 (e) (2), Step 2 of the analysis shall not be performed for pollutant or their precursors for which a district is in extreme non-attainment status. For the District this

requirement applies to NO_x and VOC and Step 2 of the analysis shall not be performed for these 2 criteria pollutants.

Pursuant to 40 CFR 51.165(a)(1)(vi)(A), if the project results in a significant emission increase, the creditable actual emission increases and decreases at the facility occurring during the period used to determine baseline actual emissions, within the past 5 years (including those projects not related to the subject project) must be calculated to determine if the project results in a significant net emission increase (Step 2). In this calculation, all creditable emission decreases and increases must be counted.

If the net emission increase is less than the significance thresholds, then the project is not a Federal Major Modification.

As an alternative to performing the calculation in step 2, the applicant may stipulate that the project results in both a significant emission increase and significant net emission increase. In such a case, the project constitutes a Federal major modification.

Please note that for projects that constitute a Federal Major Modification, the “emission increase” (calculated consistent with the requirements of 40 CFR 51.165) for such projects must be determined. Such emission increases are included in the District’s annual offset equivalency demonstration described in Rule 2201 section 7.0).

VI. Rule 2201 BACT Requirement for SB 288 and Federal Major Modifications

Rule 2201 section 4.1.3 requires BACT for any new or modified emission unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification. This determination is made on a pollutant-by-pollutant basis.

In determining which emission units are new or modified, the definitions in the appropriate version of 40 CFR 51.165 shall be used, and not the definitions in Rule 2201.

Please note that, for modified emission units, only those undergoing a physical change or an actual change in the method of operation are subject to BACT requirement. Emission units not undergoing a physical change or an actual change in the method of operation are not subject to BACT requirement.

If a project results in an SB 288 or Federal Major Modification, only emission units that result in an emission increase(calculated as calculated above: PE – AE or PAE - BAE), require BACT. If an emission unit, that is part of a project that is an SB288 or Federal Major Modification, does not result in an emission increase (calculated pursuant to the provisions in the appropriate version of CFR 51.165) BACT is not required for that emission unit.

VII. Federal Offset Quantities

The Federal offset quantity (FOQ) is only calculated for the pollutants for which a project is a Federal Major Modification as determined in Section V above or a New Major Source as determined in Section III above.

Pursuant to 40 CFR 51.165(a)(3)(ii)(J), the Federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) for each emission unit times the applicable federal offset ratio.

$$\text{FOQ} = (\text{PE2} - \text{AE}) \times \text{Federal offset ratio}$$

AE is defined in 40 CFR 51.165 (a)(1)(xii): In general, actual emissions as of a particular date shall equal the **average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation.** The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

Please note that AE and BAE may be different.

- AE is the average rate at which the unit actually emitted the pollutant during a **consecutive 24-month period before the project** and which is representative of **normal source operation**,
- While BAE is calculated as the average at which the emissions unit actually emitted during **any** 24-month period selected by the operator within the previous 10-year period (5-year period for electric utility steam generating units).

Please note that for units covered by an SLC, typically there are no special calculations performed. However, if all units covered by the SLC are being modified, the total PE2 of all modified emission units is set equal to the post project SLC.

The Federal offset ratio requirement is contained in the Federal Clean Air Act (CAA), Section 182.

According to the CAA 182(e), the federal offset ratio for VOC and NO_x is 1.5 to 1 (due to extreme ozone non-attainment). Otherwise the federal offset ratio for PM_{2.5}, PM₁₀, and SO_x is 1.0 to 1.

For project that triggers Federal Major Modification requirements or results in a New Major Source, the federal offset quantity shall be determined using the attached table. This table shall be included in the application review in the Federal Major Modification/Federal Offset Quantity Calculation section pursuant to APR1010. The federal offset quantity shall also be entered into the Major Modification tracking database under the "Federal Offset Quantity" heading.

Federal Offset Quantity Calculations

| NOx | Federal Offset Ratio | | 1.5 |
|---|-------------------------------|----------------------------------|-----------------------------|
| Permit No. | Actual Emissions (lb/year) | Potential Emissions (lb/year) | Emissions Change (lb/yr) |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| PE2 - AE (lb/year): | | | 0 |
| Federal Offset Quantity: (PE2 – AE) x 1.5 | | | 0 |

| VOC | Federal Offset Ratio | | 1.5 |
|---|-------------------------------|----------------------------------|-----------------------------|
| Permit No. | Actual Emissions (lb/year) | Potential Emissions (lb/year) | Emissions Change (lb/yr) |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| PE2 - AE (lb/year): | | | 0 |
| Federal Offset Quantity: (PE2 – AE) x 1.5 | | | 0 |

| PM10 | Federal Offset Ratio | | 1.0 |
|---|-------------------------------|----------------------------------|-----------------------------|
| Permit No. | Actual Emissions (lb/year) | Potential Emissions (lb/year) | Emissions Change (lb/yr) |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| PE2 - AE (lb/year): | | | 0 |
| Federal Offset Quantity: (PE2 – AE) x 1.0 | | | 0 |

PM2.5**Federal Offset Ratio****1.0**

| Permit No. | Actual Emissions (lb/year) | Potential Emissions (lb/year) | Emissions Change (lb/yr) |
|--|-----------------------------------|--------------------------------------|---------------------------------|
| | | | 0 |
| PE2 - AE (lb/year): | | | 0 |
| Federal Offset Quantity: (PE2 – AE) x 1.0 | | | 0 |

SOx**Federal Offset Ratio****1.0**

| Permit No. | Actual Emissions (lb/year) | Potential Emissions (lb/year) | Emissions Change (lb/yr) |
|--|-----------------------------------|--------------------------------------|---------------------------------|
| | | | 0 |
| PE2 - AE (lb/year): | | | 0 |
| Federal Offset Quantity: (PE2 – AE) x 1.0 | | | 0 |

Appendix A
40 CFR 51.165 in effect on 12/19/02

Appendix A

40 CFR 51.165 in effect on 12/19/02 Used to determine if a project is an SB288 Major Modification

TITLE 40--PROTECTION OF ENVIRONMENT

CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY

PART 51--REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS--Table of Contents

Subpart I--Review of New Sources and Modifications

Sec. 51.165 Permit requirements.

(a) State Implementation Plan provisions satisfying sections 172(b)(6) and 173 of the Act shall meet the following conditions:

(1) All such plans shall use the specific definitions. Deviations from the following wording will be approved only if the State specifically demonstrates that the submitted definition is more stringent, or at least as stringent, in all respects as the corresponding definition below:

(i) Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant subject to regulation under the Act.

(ii) Building, structure, facility, or installation means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same Major Group (i.e., which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0065 and 003-005-00176-0, respectively).

(iii) Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

(iv) (A) Major stationary source means:

(1) Any stationary source of air pollutants which emits, or has the potential to emit 100 tons per year or more of any pollutant subject to regulation under the Act, or

(2) Any physical change that would occur at a stationary source not qualifying under paragraph (a)(1)(iv)(A)(1) as a major stationary source, if the change would constitute a major stationary source by itself.

(B) A major stationary source that is major for volatile organic compounds shall be considered major for ozone

(C) The fugitive emissions of a stationary source shall not be included in determining for any of the purposes of this paragraph whether it is a major stationary source, unless the source belongs to one of the following categories of stationary sources:

- (1) Coal cleaning plants (with thermal dryers);
- (2) Kraft pulp mills;
- (3) Portland cement plants;
- (4) Primary zinc smelters;
- (5) Iron and steel mills;
- (6) Primary aluminum ore reduction plants;
- (7) Primary copper smelters;
- (8) Municipal incinerators capable of charging more than 250 tons of refuse per day;
- (9) Hydrofluoric, sulfuric, or nitric acid plants;
- (10) Petroleum refineries;
- (11) Lime plants;
- (12) Phosphate rock processing plants;
- (13) Coke oven batteries;
- (14) Sulfur recovery plants;
- (15) Carbon black plants (furnace process);
- (16) Primary lead smelters;
- (17) Fuel conversion plants;
- (18) Sintering plants;
- (19) Secondary metal production plants;
- (20) Chemical process plants;
- (21) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
- (22) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- (23) Taconite ore processing plants;
- (24) Glass fiber processing plants;
- (25) Charcoal production plants;
- (26) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; and
- (27) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

(v) (A) Major modification means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.

(B) Any net emissions increase that is considered significant for volatile organic compounds shall be considered significant for ozone.

(C) A physical change or change in the method of operation shall not include:

- (1) Routine maintenance, repair and replacement;
- (2) Use of an alternative fuel or raw material by reason of an order under sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;
- (3) Use of an alternative fuel by reason of an order or rule section 125 of the Act;
- (4) Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;
- (5) Use of an alternative fuel or raw material by a stationary source which;

(i) The source was capable of accommodating before December 21, 1976, unless such change would be prohibited under any federally enforceable permit condition which was established after December 12, 1976 pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR subpart I or Sec. 51.166, or

(ii) The source is approved to use under any permit issued under regulations approved pursuant to this section;

(6) An increase in the hours of operation or in the production rate, unless such change is prohibited under any federally enforceable permit condition which was established after December 21, 1976 pursuant to 40 CFR 52.21 or regulations approved pursuant to 40 CFR part 51 subpart I or 40 CFR 51.166.

(7) Any change in ownership at a stationary source.

(8) The addition, replacement or use of a pollution control project at an existing electric utility steam generating unit, unless the reviewing authority determines that such addition, replacement, or use renders the unit less environmentally beneficial, or except:

(i) When the reviewing authority has reason to believe that the pollution control project would result in a significant net increase in representative actual annual emissions of any criteria pollutant over levels used for that source in the most recent air quality impact analysis in the area conducted for the purpose of title I, if any, and

(ii) The reviewing authority determines that the increase will cause or contribute to a violation of any national ambient air quality standard or PSD increment, or visibility limitation.

(9) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:

(i) The State Implementation Plan for the State in which the project is located, and

(ii) Other requirements necessary to attain and maintain the national ambient air quality standard during the project and after it is terminated.

(vi) (A) Net emissions increase means the amount by which the sum of the following exceeds zero:

(1) Any increase in actual emissions from a particular physical change or change in the method of operation at a stationary source; and

(2) Any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.

(B) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs before the date that the increase from the particular change occurs;

(C) An increase or decrease in actual emissions is creditable only if:

(1) It occurs within a reasonable period to be specified by the reviewing authority; and

(2) The reviewing authority has not relied on it in issuing a permit for the source under regulations approved pursuant to this section which permit is in effect when the increase in actual emissions from the particular change occurs.

(D) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.

(E) A decrease in actual emissions is creditable only to the extent that:

(1) The old level of actual emission or the old level of allowable emissions whichever is lower, exceeds the new level of actual emissions;

(2) It is federally enforceable at and after the time that actual construction on the particular change begins; and

(3) The reviewing authority has not relied on it in issuing any permit under regulations approved pursuant to 40 CFR part 51 subpart I or the State has not relied on it in demonstrating attainment or reasonable further progress;

(4) It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

(F) An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.

(vii) Emissions unit means any part of a stationary source which emits or would have the potential to emit any pollutant subject to regulation under the Act.

(viii) Secondary emissions means emissions which would occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purpose of this section, secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include any emissions which come directly from a mobile source such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.

(ix) Fugitive emissions means those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

(x) Significant means, in reference to a net emissions increase the potential of a source to emit any of the following pollutants, as rate of emissions that would equal or exceed any of the following rates:

Pollutant Emission Rate

Carbon monoxide: 100 tons per year (tpy)

Nitrogen oxides: 40 tpy

Sulfur dioxide: 40 tpy

Ozone: 40 tpy of volatile organic compounds

Lead: 0.6 tpy

(xi) Allowable emissions means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:

(A) The applicable standards set forth in 40 CFR part 60 or 61;

(B) Any applicable State Implementation Plan emissions limitation including those with a future compliance date; or

(C) The emissions rate specified as a federally enforceable permit condition, including those with a future compliance date.

(xii) (A) Actual emissions means the actual rate of emissions of a pollutant from an emissions unit as determined in accordance with

paragraphs (a) (1) (xii) (B) through (D) of this section.

(B) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal source operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

(C) The reviewing authority may presume that the source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.

(D) For any emissions unit (other than an electric utility steam generating unit specified in paragraph (a) (1) (xii) (E) of this section) which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.

(E) For an electric utility steam generating unit (other than a new unit or the replacement of an existing unit) actual emissions of the unit following the physical or operational change shall equal the representative actual annual emissions of the unit, provided the source owner or operator maintains and submits to the reviewing authority, on an annual basis for a period of 5 years from the date the unit resumes regular operation, information demonstrating that the physical or operational change did not result in an emissions increase. A longer period, not to exceed 10 years, may be required by the reviewing authority if it determines such a period to be more representative of normal source post-change operations.

(xiii) Lowest achievable emission rate means, for any source, the more stringent rate of emissions based on the following:

(A) The most stringent emissions limitation which is contained in the implementation plan of any State for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or

(B) The most stringent emissions limitation which is achieved in practice by such class or category of stationary sources. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within or stationary source. In no event shall the application of the term permit a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.

(xiv) Federally enforceable means all limitations and conditions which are enforceable by the Administrator, including those requirements developed pursuant to 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR part 51, subpart I, including operating permits issued under an EPA-approved program that is incorporated into the State implementation plan and expressly requires adherence to any permit issued under such program.

(xv) Begin actual construction means in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect

to a change in method of operating this term refers to those on-site activities other than preparatory activities which mark the initiation of the change.

(xvi) Commence as applied to construction of a major stationary source or major modification means that the owner or operator has all necessary preconstruction approvals or permits and either has:

(A) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or

(B) Entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.

(xvii) Necessary preconstruction approvals or permits means those Federal air quality control laws and regulations and those air quality control laws and regulations which are part of the applicable State Implementation Plan.

(xviii) Construction means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) which would result in a change in actual emissions.

(xix) Volatile organic compounds (VOC) is as defined in Sec. 51.100(s) of this part.

(xx) Electric utility steam generating unit means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

(xxi) Representative actual annual emissions means the average rate, in tons per year, at which the source is projected to emit a pollutant for the two-year period after a physical change or change in the method of operation of a unit, (or a different consecutive two-year period within 10 years after that change, where the reviewing authority determines that such period is more representative of source operations), considering the effect any such change will have on increasing or decreasing the hourly emissions rate and on projected capacity utilization. In projecting future emissions the reviewing authority shall:

(A) Consider all relevant information, including but not limited to, historical operational data, the company's own representations, filings with the State or Federal regulatory authorities, and compliance plans under title IV of the Clean Air Act; and

(B) Exclude, in calculating any increase in emissions that results from the particular physical change or change in the method of operation at an electric utility steam generating unit, that portion of the unit's emissions following the change that could have been accommodated during the representative baseline period and is attributable to an increase in projected capacity utilization at the unit that is unrelated to the particular change, including any increased utilization due to the rate of electricity demand growth for the utility system as a whole.

(xxii) Temporary clean coal technology demonstration project means a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State Implementation Plan for the State in which the project is located and

other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(xxiii) Clean coal technology means any technology, including technologies applied at the precombustion, combustion, or post combustion stage, at a new or existing facility which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, or process steam which was not in widespread use as of November 15, 1990.

(xxiv) Clean coal technology demonstration project means a project using funds appropriated under the heading ``Department of Energy-Clean Coal Technology,' ' up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency. The Federal contribution for a qualifying project shall be at least 20 percent of the total cost of the demonstration project.

(xxv) Pollution control project means any activity or project at an existing electric utility steam generating unit for purposes of reducing emissions from such unit. Such activities or projects are limited to:

(A) The installation of conventional or innovative pollution control technology, including but not limited to advanced flue gas desulfurization, sorbent injection for sulfur dioxide and nitrogen oxides controls and electrostatic precipitators;

(B) An activity or project to accommodate switching to a fuel which is less polluting than the fuel used prior to the activity or project, including, but not limited to natural gas or coal reburning, or the cofiring of natural gas and other fuels for the purpose of controlling emissions;

(C) A permanent clean coal technology demonstration project conducted under title II, sec. 101(d) of the Further Continuing Appropriations Act of 1985 (sec. 5903(d) of title 42 of the United States Code), or subsequent appropriations, up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency; or

(D) A permanent clean coal technology demonstration project that constitutes a repowering project.

(2) Each plan shall adopt a preconstruction review program to satisfy the requirements of sections 172(b)(6) and 173 of the Act for any area designated nonattainment for any national ambient air quality standard under 40 CFR 81.300 et seq. Such a program shall apply to any new major stationary source or major modification that is major for the pollutant for which the area is designated nonattainment, if the stationary source or modification would locate anywhere in the designated nonattainment area.

(3) (i) Each plan shall provide that for sources and modifications subject to any preconstruction review program adopted pursuant to this subsection the baseline for determining credit for emissions reductions is the emissions limit under the applicable State Implementation Plan in effect at the time the application to construct is filed, except that the offset baseline shall be the actual emissions of the source from which offset credit is obtained where;

(A) The demonstration of reasonable further progress and attainment of ambient air quality standards is based upon the actual emissions of sources located within a designated nonattainment area for which the preconstruction review program was adopted; or

(B) The applicable State Implementation Plan does not contain an

emissions limitation for that source or source category.

(ii) The plan shall further provide that:

(A) Where the emissions limit under the applicable State Implementation Plan allows greater emissions than the potential to emit of the source, emissions offset credit will be allowed only for control below this potential;

(B) For an existing fuel combustion source, credit shall be based on the allowable emissions under the applicable State Implementation Plan for the type of fuel being burned at the time the application to construct is filed. If the existing source commits to switch to a cleaner fuel at some future date, emissions offset credit based on the allowable (or actual) emissions for the fuels involved is not acceptable, unless the permit is conditioned to require the use of a specified alternative control measure which would achieve the same degree of emissions reduction should the source switch back to a dirtier fuel at some later date. The reviewing authority should ensure that adequate long-term supplies of the new fuel are available before granting emissions offset credit for fuel switches,

(C) (1) Emissions reductions achieved by shutting down an existing source or curtailing production or operating hours below baseline levels may be generally credited if such reductions are permanent, quantifiable, and federally enforceable, and if the area has an EPA-approved attainment plan. In addition, the shutdown or curtailment is creditable only if it occurred on or after the date specified for this purpose in the plan, and if such date is on or after the date of the most recent emissions inventory used in the plan's demonstration of attainment. Where the plan does not specify a cutoff date for shutdown credits, the date of the most recent emissions inventory or attainment demonstration, as the case may be, shall apply. However, in no event may credit be given for shutdowns which occurred prior to August 7, 1977. For purposes of this paragraph, a permitting authority may choose to consider a prior shutdown or curtailment to have occurred after the date of its most recent emissions inventory, if the inventory explicitly includes as current existing emissions the emissions from such previously shutdown or curtailed sources.

(2) Such reductions may be credited in the absence of an approved attainment demonstration only if the shutdown or curtailment occurred on or after the date the new source permit application is filed, or, if the applicant can establish that the proposed new source is a replacement for the shutdown or curtailed source, and the cutoff date provisions of Sec. 51.165(a) (3) (ii) (C) (1) are observed.

(D) No emissions credit may be allowed for replacing one hydrocarbon compound with another of lesser reactivity, except for those compounds listed in Table 1 of EPA's ``Recommended Policy on Control of Volatile Organic Compounds'' (42 FR 35314, July 8, 1977; (This document is also available from Mr. Ted Creekmore, Office of Air Quality Planning and Standards, (MD-15) Research Triangle Park, NC 27711.))

(E) All emission reductions claimed as offset credit shall be federally enforceable;

(F) Procedures relating to the permissible location of offsetting emissions shall be followed which are at least as stringent as those set out in 40 CFR part 51 appendix S section IV.D.

(G) Credit for an emissions reduction can be claimed to the extent that the reviewing authority has not relied on it in issuing any permit under regulations approved pursuant to 40 CFR part 51 subpart I or the State has not relied on it in demonstration attainment or reasonable further progress.

(4) Each plan may provide that the provisions of this paragraph do not apply to a source or modification that would be a major stationary source or major modification only if fugitive emission to the extent quantifiable are considered in calculating the potential to emit of the stationary source or modification and the source does not belong to any of the following categories:

- (i) Coal cleaning plants (with thermal dryers);
- (ii) Kraft pulp mills;
- (iii) Portland cement plants;
- (iv) Primary zinc smelters;
- (v) Iron and steel mills;
- (vi) Primary aluminum ore reduction plants;
- (vii) Primary copper smelters;
- (viii) Municipal incinerators capable of charging more than 250 tons of refuse per day;
- (ix) Hydrofluoric, sulfuric, or citric acid plants;
- (x) Petroleum refineries;
- (xi) Lime plants;
- (xii) Phosphate rock processing plants;
- (xiii) Coke oven batteries;
- (xiv) Sulfur recovery plants;
- (xv) Carbon black plants (furnace process);
- (xvi) Primary lead smelters;
- (xvii) Fuel conversion plants;
- (xviii) Sintering plants;
- (xix) Secondary metal production plants;
- (xx) Chemical process plants;
- (xxi) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
- (xxii) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- (xxiii) Taconite ore processing plants;
- (xxiv) Glass fiber processing plants;
- (xxv) Charcoal production plants;
- (xxvi) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input;
- (xxvii) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

(5) Each plan shall include enforceable procedures to provide that:

(i) Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provision of the plan and any other requirements under local, State or Federal law.

(ii) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforcement limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of regulations approved pursuant to this section shall apply to the source or modification as though construction had not yet commenced on the source or modification;

(b) (1) Each plan shall include a preconstruction review permit program or its equivalent to satisfy the requirements of section 110(a) (2) (D) (i) of the Act for any new major stationary source or major modification as defined in paragraphs (a) (1) (iv) and (v) of this section. Such a program shall apply to any such source or modification that would locate in any area designated as attainment or unclassifiable for any national ambient air quality standard pursuant to section 107 of

the Act, when it would cause or contribute to a violation of any national ambient air quality standard.

(2) A major source or major modification will be considered to cause or contribute to a violation of a national ambient air quality standard when such source or modification would, at a minimum, exceed the following significance levels at any locality that does not or would not meet the applicable national standard:

| Averaging time (hours) | | Annual | |
|------------------------|-----------------------|----------------------|---------------------|
| Pollutant | | | |
| 8 | 3 | 1 | 24 |
| SO ₂ | | 1.0 g/m ³ | eq>g/m ³ |
| PM ₁₀ | | 1.0 g/m ³ | eq>g/m ³ |
| NO ₂ | | 1.0 g/m ³ | |
| CO | 0.5 mg/m ³ | | 2 mg/m ³ |

(3) Such a program may include a provision which allows a proposed major source or major modification subject to paragraph (b) of this section to reduce the impact of its emissions upon air quality by obtaining sufficient emission reductions to, at a minimum, compensate for its adverse ambient impact where the major source or major modification would otherwise cause or contribute to a violation of any national ambient air quality standard. The plan shall require that, in the absence of such emission reductions, the State or local agency shall deny the proposed construction.

(4) The requirements of paragraph (b) of this section shall not apply to a major stationary source or major modification with respect to a particular pollutant if the owner or operator demonstrates that, as to that pollutant, the source or modification is located in an area designated as nonattainment pursuant to section 107 of the Act.

[51 FR 40669, Nov. 7, 1986, as amended at 52 FR 24713, July 1, 1987; 52 FR 29386, Aug 7, 1987; 54 FR 27285, 27299 June 28, 1989; 57 FR 3946, Feb. 3, 1992; 57 FR 32334, July 21, 1992]