

Bay Area Air Quality Management District

**939 Ellis Street
San Francisco, CA 94109**

Workshop Report

**Proposed Amendments to
BAAQMD Regulation 2, Rule 1: General Requirements
BAAQMD Regulation 2, Rule 2: New Source Review
BAAQMD Regulation 2, Rule 4: Emissions Banking
BAAQMD Regulation 2, Rule 6: Major Facility Review**

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I. INTRODUCTION

The proposed revisions to the Bay Area Air Quality Management District (BAAQMD) permitting regulations began originally to address recent U.S. Environmental Protection Agency (EPA) mandated requirements for nitrogen dioxide (NO₂), particulate matter less than 2.5 micrometers (PM_{2.5}), and Greenhouse Gases (GHG) Prevention of Significant Deterioration (PSD) and Title V permitting. The objective of these rule amendments is for the BAAQMD to obtain an approved State Implementation Plan (SIP) for its PSD and nonattainment New Source Review (NSR) programs, which protect public health and welfare from criteria pollutant and GHG emissions.

The current BAAQMD permitting rules were last amended on the following dates:

Regulation	Last Amended
2-1	03/04/2009
2-2	06/15/2005
2-4	12/21/2004
2-6	04/16/2003

The project includes all associated rule development activities, including outreach to stakeholders and consideration of comments, preparation of a staff report, and any required socioeconomic and environmental analyses.

The major amendments include:

- Revise the New Source Review Rule (Regulation 2-2) to incorporate new federal PSD requirements, including the National Ambient Air Standard (NAAQS) for NO₂ (1-hour) and PM_{2.5} (24-hour and annual) and GHG PSD review requirements.
- Incorporate EPA PM_{2.5} requirements for NSR and emission banking.
- Incorporate EPA Title V permitting requirements for Major Sources of GHGs (Tailoring Rule).
- Clarifying language has been added to permit exemptions that may have been previously misinterpreted or where clarification is needed.
- Removed permit exemption for space heaters.
- Reorganize Regulation 2 and Rules 1, 2, 4 and 6 so that it is easier to read; applicable definitions are now located in Rule 1 and standards are now located in the most appropriate rules.
- Clarifying language has been added to further detail the procedure of determining a modified source and the calculation of emission increases.
- Add public noticing requirements for new facilities and modifications to existing facilities that may result in a significant increase of criteria pollutants.

II. BACKGROUND

PSD

In 1978 the EPA published final regulations at 40 CFR § 52.21, implementing the PSD program required under the Clean Air Act (CAA). The PSD regulations provide authority to EPA to delegate the responsibility for conducting PSD source review to a State or local air pollution control agency.

On April 23, 1986, the EPA delegated authority to implement federal PSD to the BAAQMD. This delegation was based on EPA's determination that the PSD portion of BAAQMD Regulation 2-2 met the requirements of 40 CFR § 52.21.

On December 31, 2002, the EPA finalized revisions to the regulations at 40 CFR § 52.21, which became effective on March 3, 2003 (67 FR 80186). However, the BAAQMD has not been able to implement 40 CFR § 52.21 as revised. California Health and Safety Code Section 42500 through 42507 (SB288) mandates that the BAAQMD's NSR rules cannot be made less stringent than the rules that existed on December 30, 2002. This legislation was crafted and signed into law specifically to prevent a District from implementing 40 CFR § 52.21 if it would result in a relaxation of the NSR requirements. Because the BAAQMD was unable to adopt these revisions due to SB288, EPA withdrew the delegation of federal PSD authority from the BAAQMD.

On June 24, 2005, the District of Columbia Court of Appeals vacated two provisions of the revised federal PSD regulations related to Clean Units and Pollution Control Projects. The provisions upheld by the Court provide new additional calculation methodologies and the application of a Plantwide Applicability Limit (PAL) for determining if a proposed project will result in a major modification.

On February 4, 2008, the EPA gave the BAAQMD partial delegation to issue PSD initial permits and to modify existing PSD permits. The provisions upheld by the court are not specifically addressed in Regulation 2-2. Therefore, this partial delegation of authority to issue and modify PSD permits does not delegate authority to the BAAQMD to modify PSD permits when the applicant seeks to use the additional calculation methodologies in 40 CFR § 52.21 but not set forth in Regulation 2-2, and does not delegate authority to issue new or modified PSD permits based on PALs. For all applications for new or modified PSD permits which do not require the use of the calculation methodologies or a PAL, the existing BAAQMD regulation continues to meet the requirements of Section 52.21 for issuing PSD permits.

To maintain delegation, the BAAQMD must have an EPA-approved PSD regulation. The programs and applicable federal regulations that a SIP must contain for EPA approval are the following:

- PSD permit program per 40 CFR § 51.166
- Nonattainment NSR program per 40 CFR § 51.165
- Minor NSR program per 40 CFR § 51 Subpart I

The PSD program is a construction permitting program for new major facilities and major modifications to existing major facilities located in areas classified as attainment or in areas that are unclassified for any criteria pollutant. The PSD application processing requirements and procedures are currently contained in BAAQMD Regulation 2-2.

Pursuant to SB288, amendments to Regulation 2-2 cannot as a whole be less stringent than the current rule. The proposed amendments will incorporate references to the federal PSD requirements into Regulation 2-2.

PM_{2.5}

On May 16, 2008, EPA promulgated a final rule called Implementation of the NSR Program for PM_{2.5} Microns (73 FR 28321). This implementation rule subjects PM_{2.5} emission sources to NSR requirements, and establishes the major source thresholds, significant emission rate, offset ratios, and offset applicability of PM_{2.5} precursors. BAAQMD has been designated nonattainment for the 24-hour PM_{2.5} NAAQS, and attainment for the annual PM_{2.5} NAAQS. The federal Clean Air Act and applicable regulations require PM_{2.5} nonattainment areas, such as the BAAQMD, to incorporate the federal requirements into their NSR rule for sources that emit PM_{2.5} and its precursors that contribute to PM_{2.5}. The proposed amendments will incorporate the federal PM_{2.5} PSD requirements by reference into the Regulation 2-2.

NO₂

On February 9, 2010, the EPA promulgated primary NAAQS for NO₂ (75 FR 6474) to include a 1-hour NAAQS for NO₂. That standard took effect in April 12, 2010. EPA is requiring States to install three levels of monitors in urban areas no later than January 1, 2013. EPA expects to initially designate the attainment status of areas by January 2012, based on the existing community-wide monitoring networks. Areas where monitors record violations of the new standard will be designated “nonattainment”. Areas where there is insufficient data available to determine compliance with the revised NAAQS will be designated “unclassified”. Once the expanded network of NO₂ monitors are fully deployed and three years of air quality data has been collected, EPA will re-designate areas in 2016 or 2017 based on the new monitoring data. The proposed amendments will incorporate the federal NO₂ PSD requirements by reference into Regulation 2-2.

GHG

On May 7, 2010, the EPA issued the Light-Duty Vehicle Rule (LDVR) establishing national GHG emissions standards for new passenger cars, light-duty trucks, and medium-duty passenger vehicles, starting with model year 2012, effective January 2, 2011. Due to adoption of this rule, GHG became a regulated air pollutant on that effective date in accordance with the CAA. As a regulated air pollutant, GHG is covered under the PSD and Title V permitting programs for all stationary sources emitting such pollutants in accordance with the CAA.

The EPA issued a final rule on June 3, 2010 that “tailors” the applicability provisions of the PSD and Title V programs to phase in permitting requirements for GHG sources. This rule is known as the “Tailoring Rule”. GHG sources became subject to PSD and Title V requirements starting January 2, 2011 with additional requirements beginning July 1, 2011. The proposed

amendments will incorporate the GHG PSD requirements by reference into the Regulation 2-2 and modify the definition of regulated pollutant in Regulation 2-6 to include GHG at the applicability levels cited in the Tailoring Rule.

Other Changes

Although these rule amendments began with the intent of incorporating the new federal requirements into our permitting rules, staff came to realize that just adding or amending sections were inadequate. The current procedures specified in Regulation 2-2 were sometimes confusing and did not fully codify emission calculation procedures. PSD requirements were interwoven throughout the regulation. As a result, staff decided to completely reorganize Regulation 2-2 to clarify our New Source Review requirements for non-attainment and attainment pollutants and to incorporate the new federal PSD requirements into the rule.

Additional public noticing requirements were added to Section 2-2-404 for any new and existing facilities which will have a significant increase of criteria pollutants. Details of the District's public noticing policies will be developed further in the upcoming Public Engagement Policy and Guidance Plan.

III. TECHNICAL REVIEW

A. PSD and Nonattainment NSR Applicability Criteria for Major Modifications to Existing Major Sources

Currently, the BAAQMD has not implemented 40 CFR § 52.21 as revised. SB288 mandates that district NSR rules cannot be made less stringent than the rules that existed on December 30, 2002. This legislation was crafted and signed into law specifically to prevent a district from implementing 40 CFR § 52.21 to relax California's more stringent NSR requirements. However, the BAAQMD must adopt the newest amendments to Sections 52.166 and 52.21 to incorporate the new PM_{2.5}, 1-hour NO₂, and GHG standards.

The California Air Pollution Control Officers Association (CAPCOA) and U.S. EPA Region IX have developed a *model rule* designed to incorporate-by-reference the new federal PSD requirements, without including provisions of the federal program that may be considered less stringent than existing NSR requirements. However, this model rule was designed as a stand-alone PSD rule, and does not include nonattainment NSR permitting. The BAAQMD only has a single rule (Regulation 2-2) that includes both nonattainment NSR requirements and the PSD requirements. Therefore, the BAAQMD will not be using CAPCOA's incorporation-by-reference Model Rule. Instead, the BAAQMD will reference the applicable subsection of 40 CFR § 52.21 for each requirement of the PSD permitting process (Best Available Control Technology (BACT), source impact analysis, visibility analysis, soils & vegetation analysis, etc.). This format outlines the PSD process within Regulation 2-2, although the reader will have to refer to 40 CFR § 52.21 for details.

In addition, SB288 may not allow the BAAQMD to use the CAPCOA Model Rule as a strict guideline. Staff has concerns about adopting the provisions of 40 CFR § 52.21 with respect to the emission calculation procedures for new and modified sources because in certain circumstances they may be less stringent than the emission calculation procedures specified in the current Section 2-2-605, and proposed amendments specified in Sections 2-2-603 through 2-2-610. As a result, the BAAQMD has not changed our emission calculation procedures to include the 40 CFR § 52.21 calculation procedures. Instead, we have just clarified our existing calculation procedures.

B. Nonattainment NSR and/or PSD requirements for PM_{2.5}

New major stationary sources and major modifications at existing major stationary sources are required by the CAA to obtain air pollution permits before commencing construction. This permitting process for major stationary sources is called NSR and is required whether the major source or major modification is planned for an area where the NAAQS are exceeded (nonattainment area) or an area where the NAAQS have not been exceeded (attainment and unclassified areas). In general, permits for sources in attainment areas and for other pollutants regulated under the major source program are referred to as PSD permits while permits for major sources emitting nonattainment pollutants and located in nonattainment areas are referred to as nonattainment NSR. The entire preconstruction permitting program, including both the PSD and

NSR permitting program is referred to as the NSR program.

In nonattainment areas, new or modified major sources will be required to meet BACT. Emission offsets will be required for direct PM_{2.5} and each applicable precursor if emission increases exceed the significant emission rates. As a result of the District's non-attainment designation for the 24-hour standard for PM_{2.5}, the proposed revisions require that new or modified minor and major sources meet BACT for PM_{2.5}. Emission offsets will be required for major facilities. BAAQMD currently does not have emission reduction credits (ERCs) for PM_{2.5}. The District proposes to revise Regulation 2, Rule 4 to include PM_{2.5} as a *bankable* pollutant.

The offset ratios established in EPA's PM_{2.5} NSR implementation rule are 1 to 1, so one pound of emission reduction is required for one pound of emission increase of PM_{2.5} or PM_{2.5} precursors. The implementation rule allows provisions for inter-pollutant trading of emission offsets, at offset ratios to be demonstrated on a case by case basis through modeling or technical demonstrations to be representative for specific geographic areas. EPA had originally provided inter-pollutant offset ratios for NO_x to primary PM_{2.5} at a 100 to 1 ratio (NO_x tons for PM_{2.5} tons) and for SO_x to primary PM_{2.5} at a 40 to 1 ratio (SO_x tons for PM_{2.5} tons). EPA had since rescinded these offset ratios. However, further EPA guidance has restricted use of these inter-pollutant offset ratios unless the District can demonstrate that these ratios are appropriate. Other pollutants were not specifically allowed but states have an option to add other precursors if established in attainment demonstration plan and approved into the SIP. The District is not proposing to include any inter-pollutant trading for PM_{2.5} at this time.

Staff has amended Regulation 2-2 to incorporate these new requirements.

C. PSD Requirements for 1-hr NO₂ NAAQS

Staff has incorporated NO₂ NAAQS requirements by reference in Regulation 2-2.

D. PSD and Title V Permit requirements for GHGs

For GHGs, the Tailoring Rule does not change the PSD applicability process for evaluating whether there is a new major source or modification. The rule includes the calculation methodology and applicability thresholds for the source based on CO₂ equivalent (CO₂e) emissions as well as GHG mass emissions.

The requirements of the Tailoring Rule address the emissions of six GHGs:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

These GHG emissions are normalized to CO₂e based on their global warming potential. PSD is

triggered at the following significant levels:

- Effective 1/2/11, facilities that are major facilities for non-GHG pollutants and have GHG emissions as follows:
 - For new major facilities, with Potential to Emit (PTE) CO₂e ≥ 75,000 tons per year
 - For existing major facilities that will have an increase of a regulated NSR pollutants, and will have an increase PTE CO₂e ≥ 75,000 tons per year
- Effective 7/1/11, facilities with GHG PTE CO₂e as follows:
 - New facilities with PTE CO₂e ≥ 100,000 tons per year
 - Modifications at existing facilities with PTE CO₂e ≥ 100,000 tons per year AND an increase in PTE CO₂e ≥ 75,000 tons per year.

Existing major sources making modifications that result in an increase of emissions above the significant level will be required to obtain a PSD permit. New or modified facilities with GHG emissions that trigger PSD permitting requirements will need to incorporate BACT and energy efficiency measures to minimize GHG emissions.

The Tailoring Rule requires facilities with the potential to emit greater than the above significant levels to obtain Title V permits. BAAQMD estimates that 21 facilities not previously subject to Title V will require Title V permits due solely to GHG emissions. At permit renewal, existing Title V facilities will be required to include estimates of their GHG emissions in their permit applications and to include GHG requirements in the renewed Title V renewal permits as applicable requirements.

Staff has amended Regulation 2-6 to reflect these new GHG requirements.

E. Other Changes

The emission calculation procedures currently in Section 2-2-605 have been rewritten and separated into several sections from 2-2-603 through 2-2-610. The new sections reflect the current procedures used by staff in reviewing permit applications. They are now included in the proposed amendments to codify the District's current practice.

In addition to the proposed amendments to the emission calculation procedures, staff also determined that the definition of altered and modified source was confusing. Internal staff discussion determined that the issue is really about how to define a "modified source" for the purpose of triggering New Source Review. Our conclusion was that if the source had an emission limit (or a surrogate limit that is effectively a limit on emissions), then a modification is a change that increases emissions above that limit. If not, then a modification is a change that increases emissions above the effective capacity of the source, based on either:

- the design capacity, actual physical capacity, some effective bottleneck that limits capacity, or
- any material representation that the applicant made in earlier permitting about the maximum capacity of the source.

The potential increase would be determined for both annual and daily emissions. Hence, if there will be an increase in either daily or annual emissions, the change constitutes a modification. For example, an applicant cannot use a “hard” annual emissions limit to avoid becoming a modification if they have an increase in daily emissions. Instead the first test for modification is based on whether there is an increase above a permit limit; even if the actual effective capacity of the source may be lower (i.e., because of a bottleneck).

Once the source has been determined modified per Section 2-1-234 for one or more District BACT pollutant(s) (defined in proposed Section 2-2-211), a BACT review is required for the pollutant(s) which triggered a modified source. For those District BACT pollutants for which there will be an increase within the language of proposed 2-1-234, BACT must be re-evaluated if (i) there is an increase from baseline to future Potential to Emit (as determined in procedures specified in proposed Sections 2-2-603 and 2-2-605) and (ii) emissions will be over 10 pounds per day. If there is a criteria pollutant for which there is not going to be an increase within the language of proposed 2-2-234, then BACT would not be re-evaluated for that pollutant. Staff has rewritten Regulation 2-2 to reflect these calculation procedures and to clarify the New Source Review requirements.

Additional public noticing requirements were added to Section 2-2-404 for any new and existing facilities which will have a significant increase of criteria pollutants. Details of the District’s public noticing policies will be developed further in the upcoming Public Engagement Policy and Guidance Plan. The Air District is currently developing a Public Engagement Policy and Guidance Plan to guide the Air District’s efforts in engaging with stakeholders. Details for such a plan can be found at <http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Community-Outreach/Public-Engagement-Policy-and-Guidance-Plan.aspx>. The Air District anticipates holding public workshops and open houses in early 2012 for this Plan.

IV. RULE AMENDMENTS UNDER CONSIDERATION

Detailed summaries of the proposed changes to Regulation 2, Rules 1, 2, 4, and 6 have been developed and are available as appendices to this Workshop Report.

V. RULE DEVELOPMENT PROCESS

The District has developed proposed rule amendments as discussed in this Workshop Report. Staff has consulted with the U.S. Environmental Protection Agency, Region IX and the California Air Resources Board during the preparation of this document.

The public workshop is the next step in the rule development process. The purpose of the workshop is to solicit comments from the public on the District's proposed amendments to Regulation 2, Rules 1, 2, 4 and 6. District staff will seek comments on issues discussed in this Workshop Report and will respond to questions about information set forth in this report. Staff will review and consider all comments received at the public workshop, and revise the proposed rules as appropriate.

APPENDICES

- Summary of Changes to Regulation 2-1
- Summary of Changes to Regulation 2-2
- Summary of Changes to Regulation 2-4
- Summary of Changes to Regulation 2-6