



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

**EMISSION OFFSET PROGRAM
FEDERAL EQUIVALENCE DEMONSTRATION**

Regulation 2-2-412

2022 Report for Calendar Year 2021

**Prepared by:
Kevin Oei, Supervising Air Quality Engineer**

**Reviewed by:
Gregory Solomon, Manager**

Summary

This is the 2022 annual federal offset equivalence demonstration report required by Regulation 2, Rule 2, Section 412 (Reg. 2-2-412). This report covers calendar year 2021 and demonstrates the Bay Area Air Quality Management District (Air District) emissions offset program¹ is at least equivalent to federal offset requirements for major-NSR projects for the following non-attainment pollutants: precursor organic compounds (POC), oxides of nitrogen (NO_x), and PM_{2.5}.

In calendar year 2021, the Air District did not issue an Authority to Construct for a new major facility or a major modification of a major facility. In addition, there are no offset baseline shortfalls for which equivalence must be demonstrated. Therefore, the Air District offset program is at least equivalent to federal offset requirements.

Background

Federal offsets are required for all non-attainment pollutants from major-NSR projects, including new major facilities² and major modifications at major facilities³. As part of the Air District's New Source Review (NSR) program, emission offsets are required from both major and non-major facilities and modifications. Because federal requirements are somewhat different than District offset requirements in Reg. 2-2, the Air District is required to conduct this annual equivalence demonstration. Pursuant to Reg. 2-2-412⁴, the Air District is required to make an annual demonstration that the quantity of offsets provided for all new or modified sources, less adjustments to those offsets for federal purposes, exceed the quantity of offsets required under federal law for new major facilities and major modifications at major facilities.

Surplus at Time-of-Use Shortfall

Historically, the Air District has reviewed major-NSR offsets for equivalence by adjusting those ERCs at time of use, as necessary, based on prevailing RACT, NSPS and NESHAP rules at the time the ERCs are provided. Federal guidelines require Emission Reduction Credits (ERCs) to be real, permanent, quantifiable, enforceable, and surplus. To be surplus, ERCs are adjusted according to the following:

- A District rule that is required for federal attainment demonstration purposes;
- A District rule that has been approved into the State Implementation Plan (SIP);
- New Source Performance Standard (NSPS); and

¹ Regulation 2-2 as adopted on December 19, 2012 and approved by U.S. EPA as part of the State Implementation Program (SIP) on August 31, 2016 (81 FR 50339); and Regulation 2-4 as adopted on June 15, 1994 and approved by U.S. EPA as part of the State Implementation Program (SIP) on January 26, 1999 (64 FR 3850). Further amendments to Reg. 2-2 and Reg. 2-4 were adopted on Dec. 6, 2017 and were approved by U.S. EPA on May 21, 2018 (83 FR 23372).

² For the purposes of this demonstration, a major facility is a facility that has the potential to emit 100 tons per year or more of POC, NO_x or PM_{2.5}, excluding fugitive emissions unless one of the 28 listed source categories in 40 CFR 51.165(a)(1)(iv)(A)(1) & 51.165(a)(1)(iv)(C).

³ For the purposes of this demonstration, a major modification of a major facility is a modification at an existing major facility that will have a net emission increase of 40 tons per year of POC or NO_x, or 10 TPY of PM_{2.5}. (Regulation 2-2-218).

⁴ See Appendix A

- Maximum Achievable Control Technology (MACT) Standard⁵

The U.S. EPA recognizes that under the Air District program, ERCs generated at time of banking meet these federal guidelines. Since the Air District program does not adjust ERCs again at the time of use, EPA guidelines allow an alternative demonstration of offset equivalence for this type of *federal surplus-at-time-of-use shortfall*, as defined in Reg. 2-2-230.

Offset Baseline Shortfall

On December 6, 2017, the Air District revised Reg. 2-2 to include another category of equivalence adjustment for *federal offset baseline shortfalls*, as defined in Reg. 2-2-229. This adjustment concerns the calculation procedures for determining the pre-modification baseline emissions of a source that is being modified. The amount of offsets required for a modification is determined by the increase in emissions that will result from the modification over the source's pre-modification baseline emissions. The baseline calculation procedure is therefore important in determining the amount of offsets required for the modification. The potential for a shortfall arises to the extent that there is any difference between the federal procedures for calculating the baseline under 40 C.F.R. § 51.165 and the Air District's procedures under Reg. 2-2-606.

The Air District adopted Reg. 2-2-229 and the requirement to evaluate any potential federal offset baseline shortfalls in 2017 in response to a Federal Register notice in 2016 in which EPA took the position that Reg. 2-2-606 was inconsistent with the federal baseline calculation procedures under 40 C.F.R. § 51.165. See *Revisions to California State Implementation Plan; Bay Area Air Quality Management District; Stationary Source Permits*, Final Rule, 81 Fed. Reg. 50,339 (Aug. 1, 2016). The Air District strongly disagreed with EPA's position, and it challenged EPA's determination in the Ninth Circuit Court of Appeals. The Air District revised its regulations to add Reg. 2-2-229 while the litigation was pending, however, in order to avoid sanctions that EPA threatened to impose if the Air District did not modify its regulations to address EPA's new interpretation on this issue. In doing so, the Air District made clear that it did not agree with EPA's interpretation and that it was adopting the revision solely to avoid sanctions while the litigation was pending.

In Dec. 2018, EPA informed the Air District and the court that it had abandoned the position it took in the 2016 Federal Register notice. EPA stated that the position it took there "has no legal effect," does not represent "a continuing practice" by the agency, and "has no ... ongoing impact on the Air District...." Since EPA is no longer standing by that Federal Register notice as having any continuing legal effect, the Air District has evaluated all other available indications of how the federal regulations in 40 C.F.R. § 51.165 should be interpreted with respect to the baseline calculation procedure. Considering (i) the plain language of 40 C.F.R. section 51.165, (ii) the Clean Air Act statutory language governing offsets in CAA § 173, (iii) the purpose and intent of the federal offsets baseline provision in 40 C.F.R. § 51.165(a)(3)(ii)(J), (iv) EPA's treatment of the offsets provisions in the NSR programs of other California air districts, and (v) the basic rationales underlying the offset requirement, it is clear that the federal calculation methodology and the Air District's calculation methodology are the same. There is no discrepancy between the amount of offsets required by the Air District's regulations and the amount of offsets required by the federal regulations with respect to the baseline calculation methodology. The Air District has therefore adopted a policy that in undertaking the Federal Offsets Baseline Shortfall analysis required under Regs. 2-2-412 and 2-2-229, the amount of the shortfall is (by definition)

⁵ National Emission Standards for Hazardous Air Pollutants (NESHAPS) require application of technology-based emissions standards referred to as Maximum Achievable Control Technology (MACT). Post-1990 NESHAPS are also referred to as MACT standards.

zero for every Federal Major NSR Source, and there will be no shortfall that needs to be addressed in the equivalence demonstration. See District Policy *How to Evaluate the “Federal Offsets Baseline Shortfall” When Making the Equivalence Demonstration Required by Regulation 2-2-412* (April 30, 2020), www.baaqmd.gov/~media/files/engineering/policy_and_procedures/banking-and-offsets/how-to-evaluate-the-federal-offsets-baseline-shortfall-for-regulation-2_2_412-pdf.pdf?la=en.

Minor-NSR Offsets used for Equivalence

The Air District requires offsets beyond those required under federal law. Under federal law, offsets are required at a 1.15 to 1.0 ratio only for a new major facility or a major modification at an existing major facility. In addition to these federal requirements, the Air District requires offsets for minor-NSR projects at a 1.15 to 1.0 ratio for all facilities with a potential to emit (PTE) of 35 tons per year or more of NO_x or POC. The Air District also requires offsets at a 1.0 to 1.0 ratio for all facilities with a PTE between 10 and 35 tons per year of NO_x or POC. For this latter category, the Air District provides the POC and NO_x credits from the Air District Small Facility Banking Account (SFBA). Regulation 2-2-303 requires PM_{2.5} offsets at a 1:1 ratio for *any* emission increase at a major facility with PM_{2.5} emissions greater than 100 tons per year, not just for the major modifications required under federal law.

Because the Air District requires offsets beyond those required under federal law, those minor-NSR offsets can be used to cover an offset shortfall. Before using minor-NSR offsets in an equivalence demonstration, the Air District adjusts the minor-NSR offsets at time of use, similarly to the way we adjust major-NSR offsets to determine the surplus-at-time-of-use shortfall. A summary of the equivalence procedure is outlined in Appendix B.

Identification of New Major Facilities and Major Modifications

As indicated above, the Air District did not issue an Authority to Construct for a major modification or a new major facility in 2021.

The Air District did issue a Permit to Operate for an application for which an Authority to Construct was issued in 2017, but this application was addressed in the 2018 federal offset equivalence demonstration and so it does not need to be evaluated again in 2022. This was for permit application 26437, Waste Management of Alameda County, Plant 2066, which was for a major modification to a major facility. For this application, in 2017 Waste Management provided 124.99 tons per year of POC offsets at a 1.15:1.0 ratio, for a total of 143.7 tons per year of Emission Reduction Credits (ERCs), and the District determined that there were no shortfalls with respect to the use of these ERCs. Since the potential for a shortfall with respect to the use of these ERCs has already been addressed at the time the credits were surrendered and the Authority to Construct was issued for the project, it does not need to be evaluated in this year's demonstration.

Therefore, there are no offset shortfalls to address in this report.

Offset Equivalence Demonstration

Because there are no offset shortfalls for calendar year 2021, an equivalence demonstration is not required for this reporting period.

Conclusion

As discussed above, there are no surplus-at-time-of-use for 2021. Therefore, it was not necessary to review any minor-NSR offsets to cover a shortfall. The Air District's offset program continues to be at least as stringent as federal requirements.

APPENDIX A

- 2-2-412 Demonstration of NO_x, POC and PM_{2.5} Offset Program Equivalence:** By March 1 of each year, or by a later date approved by EPA, the APCO shall prepare and submit to EPA, and publish prominently on the District's website, an analysis demonstrating that the District's New Source Review program has obtained at least as many NO_x, POC and PM_{2.5} offsets in total as would have been required under the federal offsets provisions set forth in 40 C.F.R. section 51.165 for the Federal Major NSR Sources (as defined in Section 2-2-228) permitted by the District during the previous calendar year. The demonstration shall be based on the following information:
- 412.1 Calculation of Offsets Shortfall for Each Federal Major NSR Source: The APCO shall calculate the offsets shortfall for each Federal Major NSR Source permitted during the previous calendar year, which shall be the sum of the Federal Offsets Baseline Shortfall as defined in Section 2-2-229 (if any) and the Federal Surplus-at-Time-of-Use Shortfall as defined in Section 2-2-230 (if any).
 - 412.2 Calculation of Total Offsets Shortfall for All Federal Major NSR Sources: The APCO shall sum the offsets shortfalls calculated pursuant to subsection 412.1 (if any) for all for all Federal Major NSR Sources permitted during the previous calendar year to obtain the total offsets shortfall for the year.
 - 412.3 Identification of Equivalence Credits Sufficient to Cover Total Offsets Shortfall: The APCO shall identify Equivalence Credits sufficient to equal or exceed the amount of the total offsets shortfall calculated pursuant to subsection 412.2 (if any), subject to the following requirements.
 - 3.1 The APCO shall not include any Equivalence Credits that were relied on in a prior equivalence demonstration for an earlier year.
 - 3.2 All Equivalence Credits used in the equivalence demonstration must be adjusted to reflect any (i) District regulation required for purposes of federal attainment demonstration requirements, (ii) District requirement, or a state requirement applicable to sources within the District, approved into the California State Implementation Plan, or (iii) federal New Source Performance Standard or Maximum Achievable Control Technology Standard, that is adopted or promulgated between the date the Equivalence Credit was generated and the date it is used for purposes of the equivalence demonstration. The APCO shall make such adjustments in accordance with an EPA-approved surplus-at-time-of-use adjustment methodology.
- 2-2-229 Federal Offsets Baseline Shortfall:** For purposes of the offsets equivalence demonstration provisions in Sections 2-2-412 and 2-2-415, the difference between:
- 229.1 The amount of offsets required for the Authority to Construct and/or Permit to Operate using the District's baseline calculation procedures under District Regulation 2, Rule 2; and
 - 229.2 The amount of offsets that would be required under the federal baseline calculation procedures applicable under 40 C.F.R. section 51.165, including (but not limited to) the actual emissions baseline provision in 40 C.F.R. section 51.165(a)(3)(ii)(J).
- A Federal Offsets Baseline Shortfall shall apply only in cases where (i) the amount of offsets required for the Authority to Construct and/or Permit to Operate is calculated using the baseline provision in Section 2-2-606.2 for modified sources for which offsets have previously been provided, and (ii) all of the previously-provided offsets were provided more than five years before the completeness date of the application for the Authority to Construct and/or Permit to Operate.

- 2-2-230 Federal Surplus-at-Time-of-Use Shortfall:** For purposes of the offsets equivalence demonstration provisions in Sections 2-2-412 and 2-2-415, the difference between:
- 230.1 The amount of emission reduction credit provided in banking certificates surrendered in connection with an Authority to Construct and/or Permit to Operate in order to satisfy offsets requirements under Sections 2-2-302 and/or 2-2-303; and
 - 230.2 The amount of emission reduction credit that would be associated with the emission reductions for which the banking certificates were issued if the emission reduction credit calculation for each emission reduction under Sections 2-2-605 and 2-2-603 is performed using an adjusted baseline emissions rate pursuant to subsection 2-2-603.6 that is based on the most stringent of any of the following regulations that is in effect at the time the banking certificate is surrendered for use as an offset: (i) any District regulation required for purposes of federal attainment demonstration requirements, (ii) any District regulation, or state regulation applicable to sources within the District, approved into the California State Implementation Plan, or (iii) any federal New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants.

APPENDIX B

Summary of Equivalence Procedure

District staff will use the following procedure to determine offset equivalence. In the ensuing discussion, the term *major-NSR project* is used to collectively refer to a new major facility and a major modification of an existing major facility. This review is conducted for permits issued within calendar year for which the equivalence demonstration report is being prepared. If a major-NSR project was addressed in a previous report, that project does not need to be re-evaluated in the current report.

Determine Surplus-at-Time-of-Use Shortfall (2-2-230)

1. Identify any major-NSR project for NO_x, POC or PM_{2.5} that received an Authority to Construct or Permit to Operate (P/O) in the calendar year reporting period.
2. If there is no major-NSR project for the year, then there is no need to determine the Surplus at Time of Use Shortfall. Skip to Step 7.
3. For each major NSR project identified in the Step 1, review the permit application to determine banking certificate(s) that were used to provide any emission reduction credits in excess of the major facility or significant increase thresholds for NO_x, POC and PM_{2.5}.
4. For each banking certificate identified in Step 3, review the original banking application(s) for ERCs that were used to offset the major-NSR project. Determine the basis for the original ERCs, and any federally enforceable rules in effect at the *time of deposit*. Adjust the original ERCs for the following types of federally enforceable rules that were in effect at the *time of use* (when the A/C or P/O was issued for the major NSR project):
 - a. District rule that is required for federal attainment demonstration purposes;
 - b. New or modified District rule that has been adopted into the SIP;
 - c. New Source Performance Standard (NSPS) rule;
 - d. Maximum Achievable Control Technology (MACT) rule.
5. For each major NSR project, subtract the adjusted ERCs from the total offsets needed, to determine the surplus-at-time-of-use offset shortfall for that project.
6. Sum the surplus-at-time-of-use offset shortfalls for all major-NSR projects identified in Step 1 to determine the total surplus-at-time-of-use shortfall for the year.

Determine Offset Baseline Shortfall (2-2-229)

7. The federal baseline calculation procedures applicable under 40 C.F.R. section 51.165 use the same approach to calculate the amount of offsets required for a major modification as the Air District's baseline calculation procedures applicable

under Regulation 2, Rule 2. The plain language of 40 C.F.R. section 51.165, the Clean Air Act statutory language governing offsets in CAA § 173, the purpose and intent of the federal offsets baseline provision in 40 C.F.R.

§ 51.165(a)(3)(ii)(J), EPA's treatment of the offsets provisions in the NSR programs of other California air districts, and the basic rationales underlying the offset requirement all support the conclusion that the federal calculation methodology and the Air District's calculation methodology are the same. See District policy *How to Evaluate the "Federal Offsets Baseline Shortfall" When Making the Equivalence Demonstration Required by Regulation 2-2-412* (April 30, 2019) for further discussion. Because the two are equivalent, the Federal Offsets Baseline Shortfall under District Regulation 2-2-229 is (by definition) zero for any and all major-NSR projects. Accordingly, there is no shortfall that that needs to be addressed in the equivalence demonstration with respect to this issue.

Review non-Major NSR Offsets to cover Shortfall

8. Identify ERCs and contemporaneous on-site emission reductions⁶ that have been used to provide offsets for non-major NSR projects.
9. Adjust non-major NSR offsets following the same procedure in Steps 3 and 4 above to determine available *time-of-use adjusted* non-major offsets.
10. Equivalence is achieved when the amount of time-of-use adjusted offsets from non-major projects equals or exceeds the shortfall.

⁶ A contemporaneous on-site emission reduction is a verified reduction that has not been banked but would have qualified for banking.