

(Adopted December 7, 2018)(Amended November 1, 2019)(Proposed Amended Rule January 10, 2020)

**PROPOSED AMENDED RULE 1100. IMPLEMENTATION SCHEDULE FOR NO<sub>x</sub> FACILITIES**

- (a) Purpose
- The purpose of this rule is to establish the implementation schedule for RECLAIM and former RECLAIM facilities that are transitioning to a command-and-control regulatory structure.
- (b) Applicability
- This rule applies to any owner or operator of a RECLAIM or former RECLAIM facility that owns or operates equipment that meets the applicability provisions specified in:
- (1) Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines;
  - (2) Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters; or
  - (3) Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters.
- (c) Definitions
- (1) ANNUAL HEAT INPUT means the total heat input to a unit during a calendar year.
  - (2) COMPRESSOR GAS LEAN-BURN ENGINE means a Rule 1110.2 unit as defined in Rule 1110.2.(3) ENGINE means a Rule 1110.2 unit as defined in Rule 1110.2.
  - (4) FORMER RECLAIM FACILITY means a facility, or any of its successors, that was in the NO<sub>x</sub> Regional Clean Air Incentives Market (RECLAIM) as of January 5, 2018, as established in Regulation XX, that has received a final determination notification, and is no longer in the NO<sub>x</sub> RECLAIM program.
  - (5) HEAT INPUT means the chemical heat released due to assumed complete combustion of fuel in a unit, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.
  - (6) INDUSTRY-SPECIFIC CATEGORY means RECLAIM or former RECLAIM facilities that are, or will be, subject to NO<sub>x</sub> emission limits in a

rule adopted on or after November 2, 2018 for refineries or electricity generating facilities.

- (7) LEAN-BURN ENGINE means a Rule 1110.2 unit as defined in Rule 1110.2.
- (8) LOCATION means any single site at a building, structure, facility, or installation. For the purpose of this definition, a site is a space occupied or to be occupied by a Rule 1110.2 unit. For Rule 1110.2 units which are brought to a facility to perform maintenance on equipment at its permanent or ordinary location, each maintenance site shall be a separate location.
- (9) NO<sub>x</sub> EMISSIONS means the sum of nitric oxides and nitrogen dioxides emitted, calculated as nitrogen dioxide.
- (10) PORTABLE ENGINE means a Rule 1110.2 unit as defined in Rule 1110.2.
- (11) RATED HEAT INPUT CAPACITY means the heat input capacity as specified by the permit issued by the Executive Officer, or if not specified on the permit, as specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the heat input capacity specified on the nameplate, the new maximum heat input shall be considered as the rated heat input capacity.
- (12) RECLAIM FACILITY means a facility, or any of its successors, that was in the Regional Clean Air Incentives Market as of January 5, 2018, as established in Regulation XX.
- (13) RULE 1110.2 UNIT means any stationary and portable engine over 50 rated brake horsepower (bhp) subject to Rule 1110.2.
- (14) RULE 1146 UNIT means any boiler, steam generator, water heater, or process heater subject to Rule 1146 with a rated heat input capacity that is equal to or greater than 5 million Btu per hour, excluding units specified in Rule 1146 exemptions.
- (15) RULE 1146.1 UNIT means any boiler, steam generator, or process heater subject to Rule 1146.1 with a rated heat input capacity that is greater than 2 million Btu per hour and less than 5 million Btu per hour, excluding units specified in Rule 1146.1 exemptions.
- (16) STATIONARY ENGINE means a Rule 1110.2 unit as defined in Rule 1110.2.
- (17) TITLE V FACILITY means any facility that meets the criteria set forth in Rule 3001 - Applicability.

(d) Rule 1110.2 Implementation Schedule

- (1) An owner or operator of a RECLAIM or former RECLAIM facility subject to Rule 1110.2 with a stationary engine that before November 1, 2019 does not meet the NOx concentration limit specified in Rule 1110.2 paragraph (d)(1) shall:
  - (A) On or before July 1, 2021, submit a permit application for each stationary engine that does not meet the NOx concentration limit specified in Rule 1110.2 paragraph (d)(1); and
  - (B) On or before December 31, 2023, meet the emission limits specified in Rule 1110.2 paragraph (d)(1).
- (2) An owner or operator of a RECLAIM or former RECLAIM facility with a portable engine subject to Rule 1110.2 shall meet the requirements specified in Rule 1110.2 paragraph (d)(2).
- (3) An owner or operator of a RECLAIM or former RECLAIM facility subject to Rule 1110.2 with a compressor gas lean-burn engine that before November 1, 2019 does not meet the NOx concentration limit specified in Rule 1110.2 paragraph (d)(1) shall:
  - (A) On or before July 1, 2021, submit a permit application for each compressor gas lean-burn engine to meet the applicable NOx concentration limit specified in Rule 1110.2 paragraph (d)(1);
  - (B) No later than 24 months after a permit to construct is issued by the Executive Officer, meet the emission limits specified in Rule 1110.2 paragraph (d)(1); and
  - (C) Provide quarterly reports to the Executive Officer that include NOx continuous emissions monitoring system (CEMS) minute data, source test data, and identification of applicable engine and control equipment parameters necessary to maintain pollutant concentrations within the permit limits. Detailed increments of progress or measures that have been taken to meet the NOx emission limit specified in Rule 1110.2 paragraph (d)(1), why the NOx emission limit cannot be met, the number of occurrences that the NOx emission limit was exceeded, and the duration and NOx concentrations that exceeded the limit in Rule 1110.2 paragraph (d)(1) are also required. Other applicable parameters, as well as any corrective actions shall include, but not be limited to, those specified in Attachment 1 of Rule 1110.2.

- (4) Retirement Plan for Compressor Gas Lean-Burn Engine Replacement with Compressor Gas Turbines
  - (A) An owner or operator of compressor gas lean-burn engines not being retrofitted pursuant to the requirements of paragraph (d)(3) and subject to replacement with equipment subject to Rule 1134 shall submit a detailed retirement plan no later than July 1, 2021, with a filing fee payment pursuant to Rule 306 – Plan Fees, for the permanent shutdown of the engines. The owner or operator shall permanently remove the engines from service either by December 31, 2023 or pursuant to the implementation schedule in Rule 1134 paragraph (d)(4), whichever is later. Installation of CEMS is not required for engines that are subject to replacement.
- (5) Time Extension for Meeting Rule 1110.2 Emission Limits for Compressor Gas Lean-Burn Engines
  - (A) An owner or operator of a RECLAIM or former RECLAIM facility subject to Rule 1110.2 with a compressor gas lean-burn engine that elects to request an extension of up to 24 months to meet the emission limits specified in Rule 1110.2 paragraph (d)(1), shall:
    - (i) Submit an application for a compliance plan, with a filing fee payment pursuant to Rule 306 – Plan Fees, no later than 22 months after the permit to construct is issued by the Executive Officer, as specified in subparagraph (d)(3)(B);
    - (ii) Provide reason(s) for the time extension; and
    - (iii) Provide all quarterly report data since the startup of the retrofitted equipment, pursuant to subparagraph (d)(3)(C).
  - (B) A compliance plan shall be approved for a time extension of up to 24 months if:
    - (i) The information provided in subparagraph (d)(5)(A) is complete and accurate;
    - (ii) The air pollution controls specified in the permit to construct issued by the Executive Officer, pursuant to subparagraph (d)(3)(B), are installed and operational; and
    - (iii) The owner or operator provides in detail, the steps that will be taken to demonstrate to the satisfaction of the Executive Officer that additional and appropriate steps have been taken

to meet the emission limits specified in Rule 1110.2 paragraph (d)(1).

- (C) If the compliance plan is approved, an owner or operator of a RECLAIM or former RECLAIM facility shall meet the emission limits specified in Rule 1110.2 paragraph (d)(1) no later than the time specified by the Executive Officer in the compliance plan and until that date, shall continue with efforts to achieve the emission limits specified in Rule 1110.2 paragraph (d)(1), but shall not exceed the following interim emission limits:
    - (i) NO<sub>x</sub> concentration of 45 ppm, corrected to 15% oxygen on a dry basis, averaged over fixed-interval averaging time of three hours; and
    - (ii) Volatile organic compounds concentration specified in Rule 1110.2 paragraph (d)(1), including any previously approved alternate emission limits.
  - (D) If the compliance plan is not approved, the owner or operator of a RECLAIM or former RECLAIM facility with a Rule 1110.2 compressor gas lean-burn engine shall meet the emission limits specified in Rule 1110.2 paragraph (d)(1) no later than 60 days after the owner or operator is notified by the Executive Officer that the compliance plan is not approved.
- (6) Revised Compliance Plan for Alternative Emission Limits for Compressor Gas Lean-Burn Engines
- (A) An owner or operator of a RECLAIM or former RECLAIM facility subject to Rule 1110.2 with a compressor gas lean-burn engine that demonstrates the emission limits specified in Rule 1110.2 paragraph (d)(1) are not achievable shall:
    - (i) Submit an application for a revised compliance plan, with a filing fee payment pursuant to Rule 306 – Plan Fees, no later than four months prior to the compliance date specified in subparagraph (d)(5)(C) to notify the Executive Officer of a proposed alternative NO<sub>x</sub> emission limit with supporting information as required by clause (d)(6)(A)(ii); and

- (ii) Provide all quarterly report data since the startup of any retrofitted equipment, pursuant to subparagraph (d)(3)(C), including, but not limited to:
  - (I) At least two years of NO<sub>x</sub> CEMS data for each compressor gas lean-burn engine including exhaust gas concentrations, both uncorrected and corrected to 15 percent oxygen on a dry basis;
  - (II) All source test data and/or portable analyzer data for the previous two years for volatile organic compounds, carbon monoxide, and ammonia;
  - (III) All operating logs maintained pursuant to Rule 1110.2 paragraph (f)(3); and
  - (IV) Detailed increments of progress or measures that have been taken to meet the NO<sub>x</sub> emission limit specified in Rule 1110.2 paragraph (d)(1), why the NO<sub>x</sub> emission limit cannot be met, the number of occurrences that the NO<sub>x</sub> emission limit specified in Rule 1110.2 paragraph (d)(1) was exceeded, an averaging period in which the NO<sub>x</sub> concentration limit specified in Rule 1110.2 paragraph (d)(1) can be achieved 95% of the time the engine is operated, and the duration and NO<sub>x</sub> concentrations that exceeded the limit in Rule 1110.2 paragraph (d)(1).
- (B) The Executive Officer shall review the information provided pursuant to subparagraph (d)(6)(A) and either approve or disapprove the application and require that the NO<sub>x</sub> emission limits specified in Rule 1110.2 paragraph (d)(1) be met, or establish as part of the revised compliance plan, technologically achievable case-by-case emission limits with a corresponding averaging period.
- (C) An owner or operator of a RECLAIM or former RECLAIM facility shall meet the emission limits specified in clause (d)(5)(C)(i) until one of the following is achieved:
  - (i) Meet the emission limits specified by the Executive Officer pursuant to subparagraph (d)(6)(B) under the compliance plan

no later than 30 days after notification of the emission limits;  
or

- (ii) No later than 12 months after receiving notification of the emission limits pursuant to subparagraph (d)(6)(B), submit an application for a new engine to meet the applicable NOx emission limits specified in Rule 1110.2 paragraph (d)(1) and remove from service any compressor gas lean-burn engines that do not meet the emission limits of Rule 1110.2 paragraph (d)(1). A mitigation fee of \$100,000 shall be paid per facility per year or prorated portion thereof.

(7) Facility-Wide Engine Modernization Compliance Plan

(A) The owner or operator of a RECLAIM or former RECLAIM facility subject to Rule 1110.2 with a compressor gas lean-burn engine that elects to reduce NOx emissions to meet the emission limits specified in Rule 1110.2 paragraph (d)(1) through the replacement or removal of all existing compressor gas lean-burn engines subject to Rule 1110.2 located at a single RECLAIM or former RECLAIM facility, shall:

- (i) On or before January 1, 2021, submit a Facility-Wide Engine Modernization Compliance Plan to the Executive Officer, pursuant to Rule 306 – Plan Fees, for approval that:
  - (I) Lists each existing engine subject to Rule 1110.2 and provides a description of the control approach that will be used for each engine; and
  - (II) Provides a replacement or removal schedule for each engine that includes submittal of permit applications, other agency approvals, estimated delivery, and installation of equipment.
- (ii) On or before July 1, 2022, submit a permit application for any equipment in the approved Facility-Wide Engine Modernization Compliance Plan.
- (iii) On or before 36 months after the permit to construct is issued by the Executive Officer, replace or remove engines identified in the approved Facility-Wide Engine Modernization

- Compliance Plan, but no later than six months from commencement of operation of the replacement equipment.
- (B) The Executive Officer will review a Facility-Wide Engine Modernization Compliance Plan and approve it if:
- (i) Information provided in clause (d)(7)(A)(i) is complete and accurate;
  - (ii) All compressor gas lean-burn engines that do not meet the emission limits specified in Rule 1110.2 paragraph (d)(1) will be replaced or removed; and
  - (iii) 20% of the total horsepower, represented by all Rule 1110.2 engines replaced or removed, use a zero-emission technology such as an electric motor or fuel cell technology.
- (C) Time Extension for Implementation of a Facility-Wide Engine Modernization Compliance Plan
- (i) An owner or operator of a RECLAIM or former RECLAIM facility with an approved Facility-Wide Engine Modernization Compliance Plan that elects to request an extension of up to 36 months to replace or remove engines, shall:
    - (I) Notify the Executive Officer on or before 32 months after the permit to construct is issued by the Executive Officer; and
    - (II) Provide an explanation for the reason(s) there is a delay in the replacement or removal of equipment.
  - (ii) The Executive Officer will approve a time extension to the Facility-Wide Engine Modernization Compliance Plan if:
    - (I) Information provided in clause (d)(7)(C)(i) is complete and accurate;
    - (II) All permit applications for engines in the approved Facility-Wide Engine Modernization Compliance Plan were submitted by July 1, 2022; and
    - (II) Documentation demonstrates that the equipment has been ordered and submittals, applications, and requests for other agency approvals have been initiated.



- (iii) An owner or operator of a RECLAIM or former RECLAIM facility shall implement the approved Facility-Wide Engine Modernization Compliance Plan:
  - (I) No later than 36 months after the permit to construct is issued by the Executive Officer if the request for a time extension is not approved; or
  - (II) No later than the time specified by the Executive Officer in the approval for the time extension, not to exceed 72 months after the permit to construct is issued by the Executive Officer, if the request for a time extension is approved. Any engines that are subject to the Facility-Wide Engine Modernization Compliance Plan pursuant to paragraph (d)(7) shall be replaced or removed from service no later than six months from commencement of operation of the replacement equipment.
- (D) For engines that will be replaced with units that will be subject to the provisions of a different Regulation XI rule, an owner or operator of a RECLAIM or former RECLAIM facility shall permanently shut down the engines and shall require the surrendering of the permits no later than six months from commencement of operation of the replacement units.
- (8) An owner or operator of a RECLAIM or former RECLAIM facility subject to Rule 1110.2 with a compressor gas lean-burn engine that has an approved time extension pursuant to paragraph (d)(5) or subparagraph (d)(7)(C) shall pay a mitigation fee within 30 days of the date of approval of the time extension. The mitigation fee shall be \$100,000 per facility per year or prorated portion thereof.
- (9) Alternative Compliance Approach for Diesel-Fired Electrical Generators at Ski Resorts
  - (A) Low-Use

An owner or operator of a ski resort that operates Rule 1110.2 units that are diesel-fired electrical generators that were installed prior to November 1, 2019 shall not be subject to the NOx emission limits specified in Rule 1110.2 paragraph (d)(1) provided that:

- (i) Each unit operates no more than 500 hours per year or uses less than  $1 \times 10^9$  Btu per year (higher heating value) of fuel;
- (ii) Each unit retains the NO<sub>x</sub> and ammonia limits, as well as the monitoring and source testing requirements specified on the South Coast AQMD permit to operate;
- (iii) Permit applications for each unit requesting the change of South Coast AQMD permit conditions to incorporate the low-use exemption are submitted by July 1, 2021; and
- (iv) The South Coast AQMD permit to operate limits use of each unit consistent with the low-use requirements of this subparagraph.

**(B) Exceedance of Low-Use**

If a Rule 1110.2 unit with a low-use exemption pursuant to subparagraph (d)(9)(A) exceeds the annual hours or fuel usage requirements, the owner or operator shall submit complete South Coast AQMD applications to repower, retrofit, or retire that unit within six months from the date of the reported exceedance of subparagraph (d)(9)(A). The Rule 1110.2 unit must be removed from service or meet the applicable emission limits in Rule 1110.2 paragraph (d)(1) within two years of the exceedance.

**(e) Rule 1146 and Rule 1146.1 Implementation Schedule**

- (1) An owner or operator of a RECLAIM or former RECLAIM facility with any Rule 1146 or Rule 1146.1 unit shall:
  - (A) On or before December 7, 2019, submit complete South Coast AQMD permit applications for any Rule 1146 and Rule 1146.1 units that currently do not meet the applicable NO<sub>x</sub> concentration limit specified in paragraph (e)(3);
  - (B) On or before January 1, 2021 meet the applicable NO<sub>x</sub> concentration limit for a minimum of 75% of the cumulative total rated heat input capacity of all Rule 1146 and Rule 1146.1 units at the facility; and
  - (C) On or before January 1, 2022 meet the applicable NO<sub>x</sub> concentration limit of 100% of Rule 1146 and Rule 1146.1 units at the facility.
- (2) An owner or operator that elects to replace an existing Rule 1146 or Rule 1146.1 unit at a RECLAIM or former RECLAIM facility with a new unit may use the rated heat input capacity of the unit being replaced to meet the

required percentage of the cumulative total rated heat input capacity for all Rule 1146 and Rule 1146.1 units at the facility specified under subparagraphs (e)(1)(B) and (e)(1)(C) provided the owner or operator:

- (A) On or before December 7, 2019, submits complete South Coast AQMD permit applications for any applicable new Rule 1146 and Rule 1146.1 units, as well as accepts a permit condition that identifies which unit(s) will be replaced and no longer operated when the new units are installed or after January 1, 2023, whichever is earlier; and
  - (B) Replaces the existing unit on or before January 1, 2023.
- (3) The applicable NOx concentration limits specified in subparagraphs (e)(1)(B) and (e)(1)(C) are as follows:
- (A) Rule 1146 units shall meet the NOx concentration limit for the category of equipment specified in Rule 1146, Table 1146-1 – NOx Emission Limits and Compliance Schedule;
  - (B) Rule 1146 units that meet the applicability provisions specified in Rule 1146 paragraph (c)(2) shall meet the ammonia emission limit specified in Rule 1146 paragraph (c)(2); and
  - (C) Rule 1146.1 units shall meet the NOx concentration limit for the category of equipment specified in Rule 1146.1, Table 1146.1-1 – NOx Emission Limits and Compliance Schedule
- (4) In lieu of complying with the applicable emission limits specified in paragraph (e)(3), the owner or operator of the following unit(s) in operation prior to December 7, 2019 with an annual heat input less than or equal to as specified below, shall retain and comply with the unit’s NOx emission limit and source testing requirements specified in the South Coast AQMD Permit to Operate as of December 7, 2018.
- (A) 90,000 therms per year and complying with the requirements specified in Rule 1146 paragraph (c)(5); or
  - (B) 18,000 therms per year and complying with the requirements specified in Rule 1146.1 paragraph (c)(4).
- (5) Notwithstanding paragraph (e)(1), an owner or operator of a RECLAIM or former RECLAIM facility that has installed, modified, or has been issued a South Coast AQMD Permit to Construct or Permit to Operate for the following Rule 1146 or Rule 1146.1 units prior to December 7, 2018 shall meet the NOx emission limit specified in paragraph (e)(3) by December 7,

2033 or when 50 percent or more of the unit's burners are replaced, whichever is earlier:

- (A) Fire-tube boilers, as defined in Rule 1146 paragraph (b)(7), subject to Rule 1146 subparagraph (c)(1)(G) or (c)(1)(J) complying with a previous NOx emission limit that is less than or equal to 9 ppm and greater than 5 ppm;
  - (B) Units subject to Rule 1146 subparagraph (c)(1)(H) or (c)(1)(K) complying with a previous NOx emission limit that is less than or equal to 12 ppm and greater than 5 ppm;
  - (C) Units subject to Rule 1146.1 subparagraph (c)(1)(E) complying with a previous NOx emission limit that is less than or equal to 12 ppm and greater than 9 ppm;
  - (D) Fire-tube boilers, as defined in Rule 1146.1 paragraph (b)(7), fired on natural gas subject to Rule 1146.1 subparagraph (c)(1)(F) complying with a previous NOx emission limit that is less than or equal to 9 ppm;
  - (E) Thermal fluid heaters, as defined in Rule 1146 paragraph (b)(26), subject to Rule 1146 subparagraph (c)(1)(L) complying with a previous NOx emission limit that is less than or equal to 20 ppm; or
  - (F) Thermal fluid heaters, as defined in Rule 1146.1 paragraph (b)(22), subject to Rule 1146.1 subparagraph (c)(1)(G) complying with a previous NOx emission limit that is less than or equal to 20 ppm.
- (6) Notwithstanding paragraph (e)(1), by December 7, 2033 or when 50 percent or more of the unit's burners are replaced, whichever is earlier, the owner or operator that has installed, modified, or has been issued a South Coast AQMD Permit to Construct or Permit to Operate prior to December 7, 2018 for the following units shall not operate in a manner that discharges NOx emissions (reference at 3 percent volume stack gas oxygen on a dry basis averaged over a period of 15 consecutive minutes) in excess of:
- (A) 7 ppm for Rule 1146 Group I units operating without air pollution control equipment for the after treatment of the emissions in the exhaust complying with a previous NOx emission limit of 7 ppm or less and greater than 5 ppm; or

- (B) 9 ppm for Rule 1146 Group III or Rule 1146.1 natural gas fired units complying with a previous NOx emission limit of 12 ppm or less and greater than 9 ppm.
- (7) The owner or operator of any Rule 1146 Group I unit complying with the requirements specified in subparagraph (e)(6)(A) that exceeds 300,000 therms of annual heat input from all fuels used shall:
  - (A) within four months after exceeding 300,000 therms of annual heat input, submit complete South Coast AQMD permit applications for the unit that does not meet the applicable NOx concentration limit specified in paragraph (e)(3); and
  - (B) within 18 months after exceeding 300,000 therms of annual heat input, demonstrate and maintain compliance with the applicable NOx concentration limit specified in paragraph (e)(3) for the life of the unit.
- (8) Any unit at a RECLAIM or former RECLAIM facility that is subject to a NOx emission limit in a different rule for an industry-specific category is not subject to the requirements contained in this subdivision.
- (f) The applicable monitoring, reporting, and recordkeeping requirements are as follows:
  - (1) For Title V facilities, an owner or operator of a RECLAIM facility shall comply with the monitoring, reporting, and recordkeeping requirements specified in Rule 2012.
  - (2) Except for Title V facilities, an owner or operator of a RECLAIM facility that becomes a former RECLAIM facility shall comply with the monitoring, reporting, and recordkeeping requirements in the applicable rule(s) as specified in subdivision (b) upon the date the facility becomes a former RECLAIM facility.