

**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 Regulation XX NO<sub>x</sub> 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
- (23) 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 is a stationary gaseous-fueled engine used to compress natural gas or pipeline quality natural gas for delivery through a pipeline or into storage. This includes two-stroke and four-stroke lean-burn engines and four-stroke rich-burn engines two-stroke or four-stroke lean-burn engine used to compress natural gas or pipeline quality natural gas for delivery through a pipeline or into storage.
- (3) ENGINE is any spark- or compression- ignited internal combustion engine, including engines used for control of VOCs, but not including engines used for self-propulsion.
- (24) FORMER 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, that has received a final determination notification, and is no longer in the RECLAIM program.

- (c) (35) 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.
- (46) INDUSTRY-SPECIFIC CATEGORY means RECLAIM or former RECLAIM facilities 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 an engine that operates with high levels of excess air and an exhaust oxygen concentration of greater than 4 percent.
- (78) 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 an engine. For engines 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.
- (59) NO<sub>x</sub> EMISSIONS means the sum of nitric oxides and nitrogen dioxides emitted, calculated as nitrogen dioxide.
- (10) PORTABLE ENGINE is an engine that, by itself or in or on a piece of equipment, is designed to be and capable of being carried or moved from one location to another. Indications of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, platform or mounting. The operator must demonstrate the necessity of the engine being periodically moved from one location to another because of the nature of the operation.  
An engine is not portable if:
- (A) The engine or its replacement remains or will reside at the same location for more than 12 consecutive months. Any engine, such as a back-up or stand-by engine, that replaces an engine at a location and is intended to perform the same function as the engine being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of both engines, including the time between the removal of the original engine and installation of the replacement engine, will be counted toward the consecutive time period; or
- (B) The engine remains or will reside at a location for less than 12 consecutive months where such a period represents the full length of normal annual source operations such as a seasonal source; or

- (c) (C) The engine is removed from one location for a period and then it or its equivalent is returned to the same location thereby circumventing the portable engine residence time requirements.  
The period during which the engine is maintained at a designated storage facility shall be excluded from the residency time determination.
- (611) 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.
- (712) 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.
- (813) 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 five million Btu per hour, excluding units specified in Rule 1146 exemptions.
- (914) 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 two million Btu per hour and less than five million Btu per hour, excluding units specified in Rule 1146.1 exemptions.
- (15) SOUTH COAST AQMD means the South Coast Air Quality Management District.
- (16) STATIONARY ENGINE is an engine which is either attached to a foundation or if not so attached, does not meet the definition of a portable or non-road engine and is not a motor vehicle as defined in Section 415 of the California Vehicle Code.
- (4017) 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 currently does not meet the NO<sub>x</sub> concentration limit specified in Rule 1110.2 paragraph (d)(1) shall meet the emission limits listed in Rule 1110.2 paragraph (d)(1) on or before December

- ~~31, 2023; however, compressor gas two stroke and four stroke lean burn engines shall meet the emission limits listed in Rule 1110.2 paragraph (d)(1) 24 months after an applicable permit to construct is issued by the Executive Officer, or 36 months after an applicable permit to construct is issued by the Executive Officer if the application is submitted by July 1, 2021:~~
- (d)\_\_\_\_(1) (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; 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 conditions listed 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 currently 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 that does not meet the NOx concentration limit specified in Rule 1110.2, and
- (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).
- (4) 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) Notify the Executive Officer no later than 20 months after the permit to construct is issued by the Executive Officer;
- (ii) Provide reason(s) for the time extension; and
- (iii) Provide NOx CEMS minute data including but not limited to emissions concentrations, exhaust flow rate and temperature, NH<sub>3</sub> injection rates, engine load and provide VOC and NH<sub>3</sub> emissions based on source test results.

- (d)(4) (B) The Executive Officer will approve a time extension of up to 24 months if:
- (i) Information provided in subparagraph (d)(4)(A) is complete and accurate; and
  - (ii) The air pollution controls specified in the permit to construct issued by the Executive Officer are installed and operational.
  - (iii) The operator provides in detail the steps that will be taken to meet the limits specified in Rule 1110.2 paragraph (d)(1).
- (C) If the time extension 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 approval for the time extension and until that date shall meet the following interim emission limits:
- (i) NO<sub>x</sub> concentration limit of 45 ppm, corrected to 15% oxygen on a dry basis, averaged over 180 minutes;
  - (ii) Ammonia concentration limit of 20 ppm at 15 percent volume stack gas oxygen on a dry basis, averaged over a period of 60 consecutive minutes, for engines with selective catalytic reduction pollution control equipment; and
  - (iii) VOC concentration limit, not to exceed those specified in Rule 1110.2 paragraph (d)(1).
- (D) If the time extension 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 time extension is not approved.
- (5) 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) Notify the Executive Officer no later than two months prior to compliance date specified in subparagraph (d)(3)(B) or

- subparagraph (d)(4)(C) that alternative emission limits are requested;
- (d)(5)(A)
- (ii) Provide 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;
  - (iii) Provide all source test data or portable analyzer data for the previous two years for VOC, CO, and ammonia;
  - (iv) Provide all operating logs maintained pursuant to paragraph (f)(3); and
  - (v) Provide detailed information steps 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 was exceeded, and the duration and NO<sub>x</sub> concentrations that exceeded Rule 1110.2 paragraph (d)(1).
- (B) The Executive Officer will review the information provided pursuant to subparagraph (d)(5)(A) and either require that the NO<sub>x</sub> emission limits in Rule 1110.2 paragraph (d)(1) be met or establish technologically achievable case-by-case emission limits.
- (C) An owner or operator of a RECLAIM or former RECLAIM facility shall:
- (i) Meet the emission limits specified by the Executive Officer pursuant to subparagraph (d)(5)(B) 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, replace any compressor gas lean-burn engines that do not meet the emission limits of Rule 1110.2 paragraph (d)(1) and pay a mitigation fee of \$100,000 per year.
- (6) Facility-Wide Engine Modernization
- 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 NO<sub>x</sub> 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:

- (A) On or before January 1, 2021, submit a Facility-Wide Engine Modernization Compliance Plan to the Executive Officer 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, and estimated delivery and installation of equipment.
- (d)(6) (B) On or before July 1, 2022, submit a permit application for any equipment in the approved Facility-Wide Engine Modernization Compliance Plan;
- (C) On or before 36 months after the permit to construct is issued by the Executive Officer, replaces or removes engines identified in the approved Facility-Wide Engine Modernization Compliance Plan.
- (D) The Executive Officer will approve a Facility-Wide Engine Modernization Compliance Plan if:
- (i) Information provided in subparagraph (d)(6)(A) 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.
- (E) Time Extension for Implementation of a Facility-Wide Engine Modernization Plan
- (i) An owner or operator of a RECLAIM or former RECLAIM facility with an approved Facility-Wide Engine Modernization 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 there is a delay in the replacement or removal of equipment.
  - (ii) The Executive Officer will approve a time extension Facility-Wide Engine Modernization Plan if:
    - (I) Information provided in clause (d)(6)(E)(i) is complete and accurate;
    - (II) All permit applications for engines in the approved Facility-Wide Modernization Plan were submitted by July 1, 2022; and
    - (III) Documentation showing that equipment has been ordered, submittal and 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 Plan:
    - (I) No later than 36 months after the permits to construct are 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 permits to construct are issued by the Executive Officer, if the request for a time extension is approved.
- (7) 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)(4) or subparagraph (d)(6)(E) 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 year and any portion of a year.
- (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 SCAQMD permit applications for any Rule 1146 and Rule



- 1146.1 units that currently do not meet the applicable NOx concentration limit specified in paragraph ~~(d)~~(3);
- (B) On or before January 1, 2021 meet the applicable NOx 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 NOx 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 ~~(d)~~(1)(B) and ~~(d)~~(1)(C) provided the owner or operator:
- (e)(2) (A) On or before December 7, 2019, submits complete South Coast AQMD~~SCAQMD~~ 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 ~~(d)~~(1)(B) and ~~(d)~~(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; and
  - (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 ~~(d)~~(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~~SCAQMD~~ 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 ~~(d)~~(1), an owner or operator of a RECLAIM or former RECLAIM facility that has installed, modified, or has been issued a South Coast AQMD~~SCAQMD~~ 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 ~~(d)~~(3) by December 7, 2033 or when 50 percent or more of the unit's burners are replaced, whichever is earlier:
- (e)(5) (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; or
  - (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; or
  - (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; or
  - (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; or
  - (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 ~~(d)~~(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
  - (e)(6) (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~~SCAQMD~~ 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.
- (e) 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, the 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.