
PROPOSED AMENDED RULES 1146, 1146.1, 1146.2 & PROPOSED RULE 1100 WORKING GROUP MEETING #1

NOVEMBER 30, 2017
SCAQMD
DIAMOND BAR, CA

Agenda

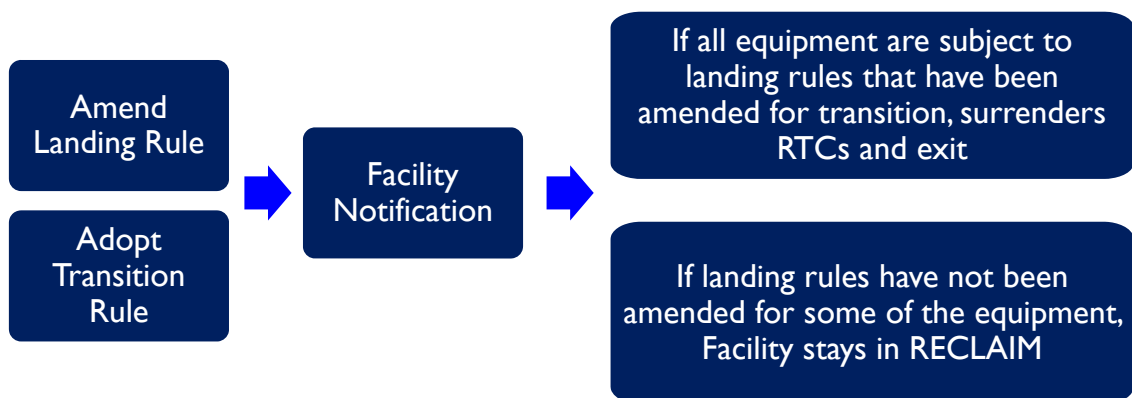
- ❑ RECLAIM Transition to Command & Control Structure
- ❑ Overview - Rule 1146 Series Rules
- ❑ RECLAIM Transition Rule 1100

Background

- ❑ 2016 AQMP Control Measure CMB-05 to:
 - Achieve five tons per day NOx emission reduction in RECLAIM by 2025
 - Transition the RECLAIM program to a command and control regulatory structure requiring BARCT level controls as soon as practicable
- ❑ AB 617 BARCT for Market-Based Compliance System
 - Rule amendments – January 1, 2019
 - Implementation of BARCT – December 31, 2023

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RECLAIM Transition



Rule 1146 Series Rules

□ Rule 1146 series rules – the first set of landing rules

- Remove RECLAIM exemptions
- Add provisions for RECLAIM facilities
- Will address facilities that will be transitioned under an industry specific rule separately
 - Electricity Generating Facilities (EGFs) and Refineries
 - Possibly other industries (to be determined)

Rule	Applicability	Size
Rule 1146	Boilers, steam generators, and process heaters	≥ 5 million Btu per hour
Rule 1146.1	Boilers, steam generators, and process heaters	>2 and <5 million Btu per hour
Rule 1146.2	Natural gas-fired water heaters, boilers, and process heaters	≤ 2 million Btu per hour

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Rule 1146 Series Rules Emission Limits

Rule	NO _x Emission Limit
Rule 1146	<ul style="list-style-type: none"> • 5-12 ppm for natural gas; • 15 ppm for digester gas; • 25 ppm for landfill gas
Rule 1146.1	<ul style="list-style-type: none"> • 9-12 ppm for natural gas; • 15 ppm for digester gas; • 25 ppm for landfill gas
Rule 1146.2	<ul style="list-style-type: none"> • Manufacturer limit of 20 ppm; • End-user limit of 30 ppm

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Rules 1146 and 1146.1 BARCT Assessment

- ❑ Rules 1146 and 1146.1 emission limits already at BARCT
- ❑ No changes to emission limits
- ❑ Technologies to meet emission limits
 - Selective Catalytic Reduction (SCR)
 - Ultra low-NOx burners
- ❑ Comparative analysis
 - San Joaquin Valley units under Rule 4320 have more stringent limits for a few sub-categories with an option to comply with mitigation fee
 - EPA concluded in 2014 that Rule 1146 and Rule 1146.1 are as stringent as other California District rules for this category

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Initial Concepts for PARs 1146 and 1146.1

- ❑ Remove the exemption of RECLAIM facilities in the applicability
- ❑ Maintain existing NOx concentration limits
- ❑ Add a provision that exempts facilities that are transitioning out of RECLAIM from current Rule 1146 and 1146.1 compliance dates
- ❑ PAR 1146 and 1146.1 will reference Proposed Rule 1100 which will include the implementation schedule for compliance with all provisions in Rules 1146 and 1146.1

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Rule 1146.2 BARCT Assessment

- ❑ NOx concentration limit
 - Manufacturer limit of 20 ppm;
 - End-user limit of 30 ppm
- ❑ NOx concentration emission limit might need to be lowered
- ❑ Amending NOx concentration limit will affect non-RECLAIM sources and requires a more extensive rulemaking process
- ❑ No changes to NOx concentration limit at this time

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Initial Concepts for PAR 1146.2

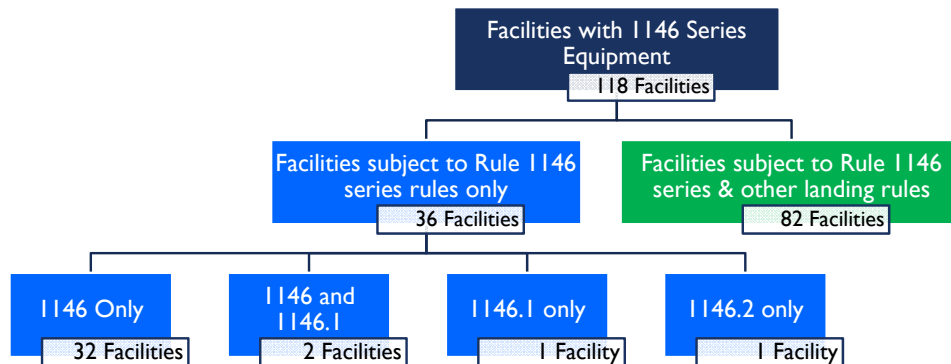
- ❑ RECLAIM facilities with Rule 1146.2 equipment can exit RECLAIM, but will not be subject to end-user limit of 30 ppm
 - Avoids need to install an intermediate technology that would be obsolete upon future amendment to Rule 1146.2
 - Add a provision that exempts facilities that are transitioning out of RECLAIM from current Rule 1146.2 compliance dates
- ❑ Additional information on Rule 1146.2 equipment is needed
 - Inventory of Rule 1146.2 equipment is not complete
 - Non-RECLAIM facilities currently register Rule 1146.2 equipment between 1 and 2 MM BTU/hr under Rule 222 (RECLAIM facilities exempt from this provision)
 - Add a provision in Rule 1146.2 to require RECLAIM facilities to submit a one-time inventory of Rule 1146.2 equipment

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Past Compliance Schedule

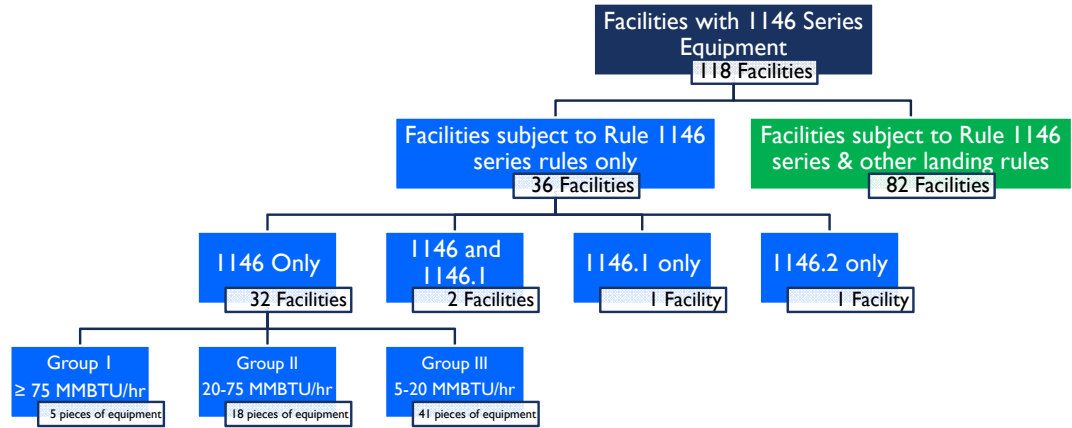
Rule	Type	Implementation Timeframe from Amendment Date
Rule 1146 (2008 Amendment)	natural gas units \geq 75 million Btu/hr	4 years
	natural gas units \geq 20 and $<$ 75 million Btu/hr	3 years: 75% of units by heat input; 5 years remaining units
	natural gas units \geq 5 and $<$ 20 million Btu/hr	4 years: 75% of units by heat input; 6 years remaining units
	digester & landfill gas units	6 years
Rule 1146.1 (2008 Amendment)	natural gas units between 2 and 5 million Btu/hr	3 years: All units (except see below) 5 years: Units at schools & universities
	digester & landfill gas units	6 years
Rule 1146.2 (2006 Amendment)	units \leq 0.4 million Btu / hr	5 years
	units $>$ 0.4 and \leq 2 million Btu / hr	3 years

Rule 1146 Series RECLAIM Universe (Permitted)*



* Excludes EGFs and refineries. Some equipment may be at BARCT.

Rule 1146 Series RECLAIM Universe (Permitted)*

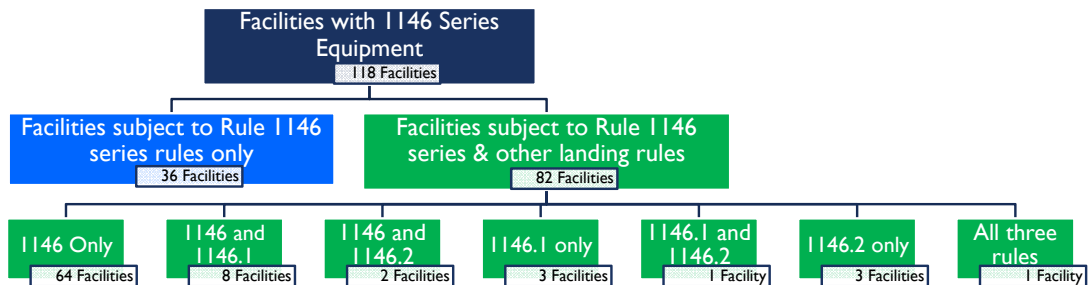


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Rule 1146 Series RECLAIM Universe (Permitted)*

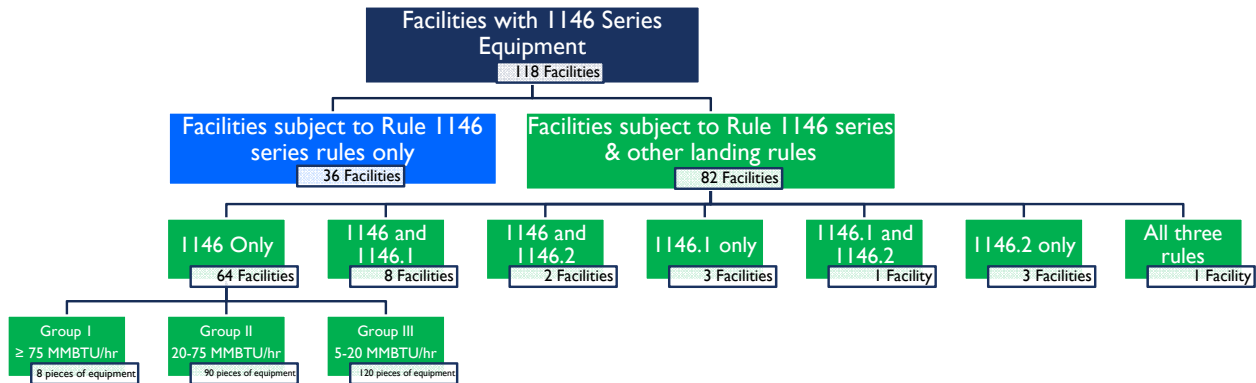


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Rule 1146 Series RECLAIM Universe (Permitted)*



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Proposed Rule 1100 – BARCT Implementation Schedule for NOx Facilities

- ❑ Proposed Rule 1100 will:
 - Specify the implementation schedule for facilities
 - Ensure that facilities affected by multiple rules will achieve the greatest emission reductions early
 - Coordinate implementation schedules for multiple rules
 - Reference emission limits in applicable BARCT rules
- ❑ Compliance schedule under consideration
 - Schedule staggered based on applicable landing rules, number of equipment, mass emissions or other applicable criteria

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Initial Concepts for Implementation Timeframes

- ❑ Staggering implementation schedule by heat input or other criteria
 - Considering 50% of units by heat input by specific date (2 years?)
 - Focus on larger emission sources having a final implementation sooner (similar to Rule 1146)
- ❑ Final implementation dates will be sooner than timeframes allowed in Rule 1146 (Rule 1146 allows 6 years for units between 5 and 20 mm BTU/hr)
- ❑ Considering coordination of implementation across various landing rules to ensure greatest emission reductions achieved earlier
- ❑ Seek comments from Working Group

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Rule Schedule

- Nov 2017 – Feb 2018 Working Group Meetings
- Feb 2018 Public Workshop
- Mar 2, 2018 Set Hearing
- Apr 6, 2018 Public Hearing

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