

**Rule 414 – Water Heaters, Boilers, and
Process Heaters Rated Less Than
1,000,000 Btu per Hour**

Public Hearing
March 25, 2010



Purpose

- Reduces NOx from NEW water heaters, boilers and process heaters rated less than 1 MBtu/hr
 - Does NOT require retrofit of existing units
 - Applies to residential, commercial, and small industrial customers
 - Expand applicability to previously unregulated equipment and lowers emissions standards for regulated equipment
- Achieves single largest reduction from local rules in 2009 federal ozone plan
- Helps attain the PM2.5 standard
- Satisfy state requirements for “all feasible measures”
 - Standards already adopted by SCAQMD, SJVUAPCD, BAAQMD, and YSAQMD

Applicability Changes

- Will apply to previously unregulated boilers & water heaters
 - $\geq 75,000$ Btu/hr and $< 1,000,000$ Btu/hr
 - All sizes of wood, coal, fuel oil, or other nongaseous fuels (emit higher levels of PM)
- Maintained exempt status for units fueled on liquefied petroleum gas (e.g. propane)
- Clarified that the rule applies to tank and tankless units

Emission Limit Changes

Size	NOx Limit Nanograms per Joule of Heat Output (ppmv @ 3% O ₂)		
	Existing Limits	Proposed Limits	
	Effective 3/1/1997	Effective 1/1/2011	Effective 1/1/2013
< 75,000 Btu/hr Mobile Homes All Others	50 40	40 (55) 10 (15)	
75,000 to < 400,000 Btu/hr Pool/Spa All Others	No Limit No Limit	40 (55) 40 (55)	14 (20)
400,000 to < 1,000,000 Btu/hr All Types	No Limit	14 (20) (400 ppmv for CO)	

Other Requirements

- Labeling Requirement
 - Display the year of manufacture on the rating plate (normal practice)
- Certification Requirements
 - Option 1: Submit SCAQMD certification for each model prior to sale within the District
 - Option 2: Submit test results to the District and pay fee for review

Emission Reduction

Year	Total NOx Reductions (tons per day)	NOx emission Inventory (tons per day)
2018	0.71	1.30
2029	1.08	1.39

- The reductions achieved by this rule will be the most NOx reductions of all rules in the 2009 ozone SIP and recently approved state plan
- Overall cost effectiveness: \$9.04 per pound of NOx reduced
 - Cost effectiveness of adopted rules have historically ranged from \$1 to \$17 per pound of emissions reduced

Public Participation

- Public workshop held on 12/17/2009
- Received comment letters from the EPA, AHRI, PHCC, and Raypak Inc.
- Changes requested in public comments and made in proposed rule
 - Extend the first effective date by 3 months to 1/1/2011
 - Allow 6 additional months for retailers and distributors to sell stocked equipment
 - Clarify that instantaneous/tankless units are also subject to the rule

Recommendation

- Conduct a public hearing
- Determine that the amendments to Rule 414 are exempt from the California Environmental Quality Act (CEQA)
- Adopt the resolution approving the amendments to Rule 414