



# Final Rulemaking: *25 Pa. Code Chapters 121 and 129*

Additional RACT Requirements for  
Major Sources of NO<sub>x</sub> and VOCs

Environmental Quality Board Meeting  
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Tom Wolf, Governor

John Quigley, Secretary

# Purpose of the Final RACT Rulemaking

- The final rulemaking establishes additional Reasonably Available Control Technology (RACT) requirements for existing major stationary sources of nitrogen oxides (NOx) and volatile organic compounds (VOCs) as required under the federal Clean Air Act (CAA).
- The final rulemaking adds several definitions in 25 Pa. Code Chapter 121 and additional RACT requirements in Chapter 129 for the owners and operators of major NOx-emitting or major VOC-emitting facilities.
- This final rulemaking is reasonably necessary to attain and maintain the 1997 and 2008 ozone National Ambient Air Quality Standards (NAAQS).



# What is Reasonably Available Control Technology?

- RACT is defined by EPA and DEP as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.”
- Compliance with RACT is required statewide in Pennsylvania because the entire Commonwealth is included in the Ozone Transport Region established under Section 184 of the CAA.
- RACT State Implementation Plan (SIP) revisions must be submitted to EPA two years after the final designations for the revised ozone standard.

# Re-evaluation of RACT

- The CAA requires a re-evaluation of RACT each time EPA promulgates or revises the ozone NAAQS.
- This re-evaluation of RACT is necessary because EPA revised the ozone standards in 1997 and 2008. The RACT SIP revision was due to EPA by July 20, 2014 for the 2008 ozone standard.
- On October 1, 2015, EPA promulgated new ozone standards (70 ppb). Another RACT SIP submittal will be due to EPA by October 2019, if the final designations for the 2015 ozone NAAQS are effective by October 1, 2017.

# Final Rulemaking: Affected Facilities

- Any owner or operator of a “major NOx-emitting facility” or a “major VOC- emitting facility,” or both, that existed on or before July 20, 2012.
- Facility owners or operators modifying sources or changing methods of operation at an existing source after July 20, 2012, that result in the source or facility meeting the definition of a “major NOx-emitting facility” or a “major VOC emitting facility,” or both.

# Final Rulemaking: Affected Source Categories

The final rulemaking establishes presumptive RACT requirements and emission limitations for approximately 810 major stationary sources of NOx and VOC emissions including the following source categories:

- Combustion units
- Boilers
- Process heaters
- Turbines
- Engines
- Municipal solid waste landfills
- Municipal waste combustors
- Cement kilns
- Other sources that are not regulated elsewhere in Chapter 129.

# Proposed RACT Rulemaking

- The proposed additional RACT requirements for the control of NO<sub>x</sub> and VOC emissions from major sources (“RACT II”) were published in the *Pennsylvania Bulletin* by the Environmental Quality Board (EQB or Board) on April 19, 2014. (44 Pa.B. 2392)
- The public comment period closed on June 30, 2014.
- DEP received comments from 134 commentators.

# Commentator Breakdown

- U.S. Environmental Protection Agency
- Independent Regulatory Review Commission
- Concerned Citizens/Environmental Groups
- Regulated Industries
  - Power Generation
  - Natural Gas Transmission
  - Portland Cement
- Other States
  - New Jersey
  - Maryland
  - Delaware
  - Connecticut

# Key Comments

- Any source that has an emissions control device already installed should be required to operate the control device.
- The timing for compliance is too short.
- A facility owner or operator should not have to prove that emissions averaging is not possible in order to be eligible for a case-by-case determination.

# Main EPA Comments

- EPA recommended that EQB re-evaluate RACT limits for boilers currently equipped with add-on controls.
- EPA advised the EQB to re-evaluate the proposed presumptive RACT emission limits against current NO<sub>x</sub> emission limits currently in effect in other states for municipal waste combustors.
- EPA recommended that the EQB amend the averaging provisions to preclude averaging among sources inside and outside designated nonattainment area boundaries.

## Key Changes from Proposed to Final RACT Rulemaking

- An exemption is provided for sources located at a major NO<sub>x</sub> or VOC emitting facility that emit less than one ton per year (TPY) of NO<sub>x</sub> or VOC emissions (§129.96(c)).
- Section 129.97(b)(1) requires tune-ups for combustion units to be consistent with EPA's tune-up requirements in 40 CFR §63.11223.
- Section 129.97(c) also requires compliance with manufacturing specifications and good operating practices for sources with potential NOx emissions less than 5 TPY and potential VOC emissions less than 2.7 TPY.



## Key Changes from Proposed to Final Rulemaking

- System-wide NO<sub>x</sub> emissions averaging has been restricted to sources located within the same ozone nonattainment area in this Commonwealth.
- The final compliance date for a proposal involving the installation of an air cleaning device must be no later than 3 years after DEP issues the Plan Approval.
- The final-form RACT regulation requires compliance with the RACT requirements and presumptive emission limitations by January 1, 2017, instead of one year from the effective date of the final rulemaking.
- The January 1, 2017, compliance date is required under EPA's March 6, 2015 final rule, *Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements* (80 FR 12264).

# Final RACT Compliance Options

- The RACT II final-form regulation provides several compliance options for affected facility owners and operators. The compliance options include the following:
  - Presumptive RACT Emission Limitations and Requirements
  - Facility-wide or System-wide NOx Emissions Averaging
  - Alternative RACT proposals and compliance schedules
- This three-tiered approach will maximize flexibility for demonstrating compliance with the RACT requirements.

# Alternative RACT Proposals

- The final RACT amendments allow owners or operators of affected facilities to submit to the DEP or local air pollution control agencies alternative RACT proposals to establish NOx and/or VOC emission limitations to demonstrate compliance.
- The proposals would be due to state and local permitting authorities within six months after the adoption of the final rulemaking or six months after becoming subject to the rulemaking, whichever is later.
- Alternative RACT emission limitations approved by DEP or local air pollution control programs would be submitted to EPA for approval as SIP revisions.

# Anticipated Impact on Allowable Emissions

## Potential NO<sub>x</sub> Emission Reductions Beyond Current RACT Allowable Emissions

Source Type	Potential NO <sub>x</sub> Reduction (TPY)	Percent Reduction	Number of Units
Boilers	70,149	28%	257
EGUs with SCR	138,972	75%	12
Engines	20,596	44%	393
Turbines	23,906	40%	148
<b>Total</b>	<b>253,623</b>	<b>47%</b>	<b>810</b>

Potential to Emit = Allowable emission rate \* maximum throughput per year.

# Advisory Committee Recommendations

- On November 7, 2014 , the Air Quality Technical Advisory Committee (AQTAC) approved the draft final-form RACT II regulation by a vote of 11-5-0 (yes; no; abstain) for consideration by the Environmental Quality Board (EQB). DEP subsequently provided an update to AQTAC on April 16, 2015.
- On January 28, 2015, the Small Business Compliance Advisory Committee voted 6-2-0 to concur with the DEP recommendation to present the final rulemaking to the EQB for consideration.
- On September 15, 2015, the Citizens Advisory Council unanimously voted to concur with the DEP recommendation to present the final rulemaking to the EQB for consideration.

# Advisory Committee Recommendations

- The Citizens Advisory Council also raised several concerns and provided recommendations in a September 21, 2015, letter to Secretary Quigley regarding the draft final RACT II amendments.
- The final rulemaking does not set a precedent by establishing RACT NOx limitations for coal-fired power plants equipped with existing controls such as selective catalytic reduction (SCR) systems. In EPA's comments to the Board on June 27, 2014, EPA stated that the Board and DEP "need to re-evaluate the emission limits for coal fueled boilers with advanced controls and set appropriately justified final RACT limits."
- The Council's request for a clarification of the NOx emissions averaging provisions in Section 129.98 are addressed in the final Order for the RACT II final-form regulation. EPA believes that the emissions averaging "RACT provision as presently drafted meets legal guidance from the NRDC DC Circuit Court decision."

# Final Rulemaking Recommendation

- DEP recommends that EQB approve the RACT II final rulemaking.
- DEP will submit the final-form regulation, if adopted, to the EPA for approval as a SIP revision upon final-form publication in the *Pennsylvania Bulletin*.



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