

DG Emissions Standards Here, There, and Everywhere

Nathanael Greene

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In the Beginning: the TX Rule

- Technology & fuel neutral, output-based standards that get stricter over time for NO_x (and fuel sulfur levels)
- CHP credited for thermal energy on 1:1 basis (3412Btu/KWh)

TX NO_x Standard for units operating >300 hrs/yr
(lbs/MWh)

	East Texas	West Texas
Prior to 2005	0.47	3.11
2005 and after	0.14	3.11

Then Came: The CA Rule

- Technology neutral, output-based standards that get stricter over time
- Explicit legislative mandate to eventually reach parity with central generation
- Standards for NO_x, CO, VOC, and PM
- Technology review in 2005
- Standardized type testing and labeling requirement



The CA Rule Continued

- CHP credit is 0.2lbs/MWh NO_x prior to 2007 and 1:1 (3.4 MBtu/MWh) starting in 2007 for standardized packages with 60% efficiency.

	NO _x Standards (lbs/MWh)
Prior to 2007	0.5
2007*	0.07

*Subject to 2005 technology review

The Gold Standard: the RAP Rule

- A model rule developed with state air and energy regulators, industry, and enviros
- Technology/fuel neutral standards for NO_x, SO₂, CO, PM and CO₂.
- Output-based standards (lbs/MWh)
- Standards that get stricter over time
- A fair credit for CHP



RAP NO_x Standards (lbs/MWh)

Non-Emergency Generators

	Non-Attainment	Attainment
Phase I (2004)	0.6	4
Phase II (2008)	0.3	1.5
Phase III* (2012)	0.15	0.15

* Subject to Technology Review



RAP CO Standards (lbs/MWh)

Non-Emergency, All Areas

Phase One (2004)	10.0
Phase Two (2008)	2.0
Phase Three* (2012)	1.0

* Subject to Technology Review



RAP PM Standards

(lbs/MWh for non-gas only)

Non-Emergency, All Areas

Phase One (2004)	0.7
Phase Two (2008)	0.07
Phase Three* (2012)	0.03

* Subject to Technology Review



RAP CO₂ Standards (lbs/MWh)

Emergency and Non-Emergency, All Areas

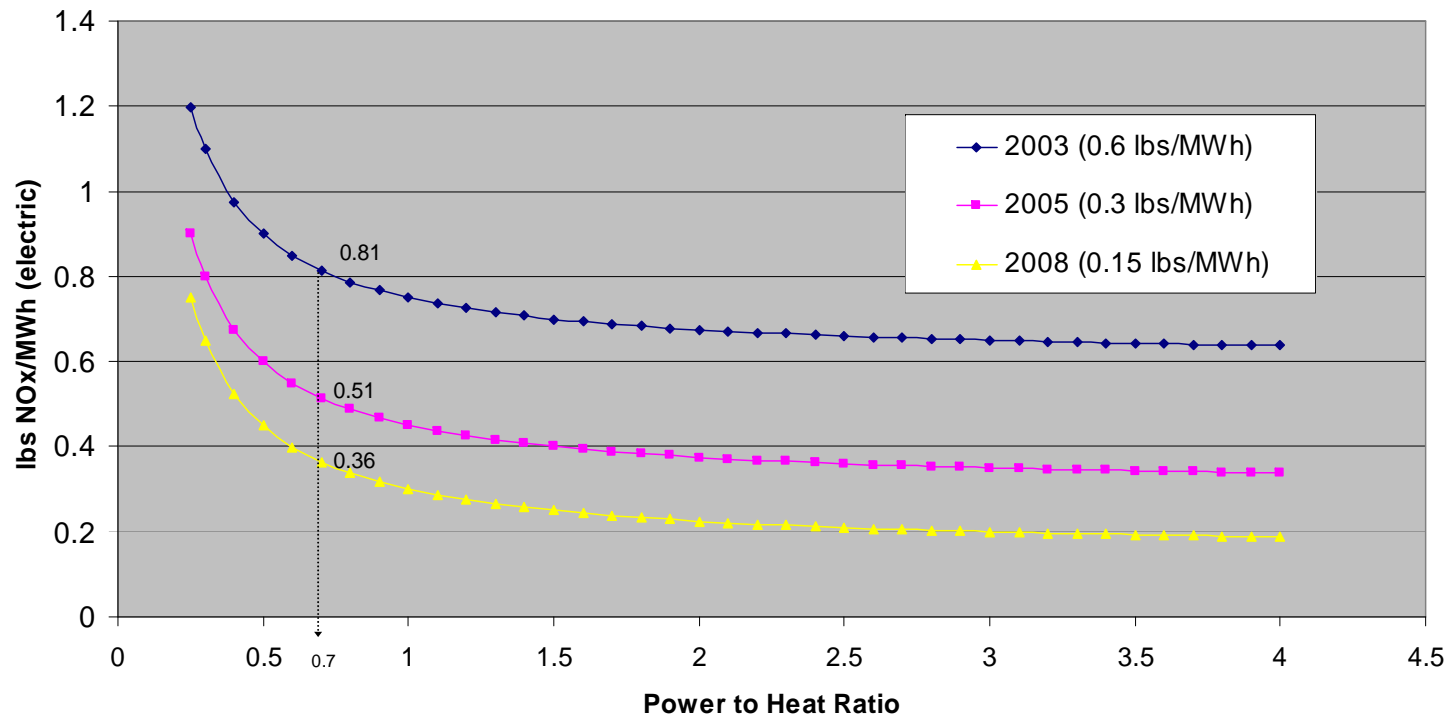
Phase One (2004)	1900
Phase Two (2008)	1900
Phase Three [*] (2012)	1650

^{*} Subject to Technology Review

RAP CHP Credit

- Credit is based on boiler emissions standard converted to lbs/MWh using 3412 Btu/kWh and the Power to Heat Ratio.

Based on RAP Standards & Displacing 80% Efficient Boiler



Spreading Like Wildfire

- CT – Formal rulemaking underway, goal of Jan 1, 2005. **Based on RAP rule** including CHP
- MA – Formal rulemaking underway, final comment due by June 30. **Based on RAP rule**, but stricter standards for turbines and no CHP credit in draft
- NY – Stakeholder process nearly finished. NOPR this summer? Technology & fuel neutral, output-based for NOx, CO, & PM. Does not get stricter & no credit for CHP.
- ME – Drafting a rule on expedited basis. Draft in August?
- DE – Stakeholder process underway. **Based on RAP rule** including CHP.

More Spreading

- NJ – Draft rule in July? Interest in RAP rule.
- RI – GHG stakeholders have recommended adoption of RAP rule
- PA & VT have expressed interest in starting a process and in the RAP rule.