



Manufacturing Development Commission

***“What impact will the implementation of final US
EPA air regulations have on manufacturing
and industrial development in Virginia?”***

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Industrial TurnAround Corporation:
ITAC Engineers & Constructors
Wood Fuels Developers
CO2 Neutral



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US EPA Air Regulations

Important Dates

- July 6 (19), 2010 – NESHAP Standard Comments
- August 2010 – NESHAP Final Rule Issued
- August 2010 – NAAQS Ozone Standard Final Rule Issued
- Jan 2, 2011 – GHG Tailoring Rule Subject to PSD Rules Report
- March 31, 2011 - Mandatory GHG Reporting (2010 Emissions)
- July 1, 2012 - EPA GHG Permit Options



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Outcomes

- New EPA Rules are designed for Air Quality and Health Improvement.
- Promote manufacturing and industrial development in rural areas. (Attainment areas)
- Promote smaller projects – lower emissions, sometimes less efficient.
- Promote the development of a Pollution Offset market.
- Development of GHG control technology industry.
- Increase pollution abatement capital cost.
 - Negative for capital sensitive industries.
- Increase “at risk” cost and time for project developers.
- Increased uncertainty related to GHG controls.
 - Possible 1.5 to 2 years delay in funding of new projects



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Ozone

- Ozone Level Reclassification will reclassify most regions with large populations as Nonattainment areas.
 - Major emitters ≥ 100 TPY will be required to purchase offsets
 - Availability of offsets will be dependant upon a baseline year TBD by EPA.
 - Baseline Year recommended by EPA to be 2011.
 - Pricing of Offsets undetermined.
 - VOC and NO_x are the required Offsets.
 - One year permit development schedule.
 - Jan. 2, 2011 implementation date.
 - Minor Emitters <100 TPY will require a Minor New Source Review
 - Requiring BACT air permit procedure.



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Ozone (cont.)

- Attainment Areas
 - Major emitters ≥ 250 TPY or 100 TPY based on Source Category are not required to purchase offsets
 - One year permit development schedule.
 - Air Modeling required
 - Over site by Federal Land Managers
 - BACT Analysis Required
 - Minor Emitters <100 TPY will require a minor New Source Review (NSR)
 - BACT Analysis Required
 - Typically less than 3 months for permit



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Ozone – (cont.)

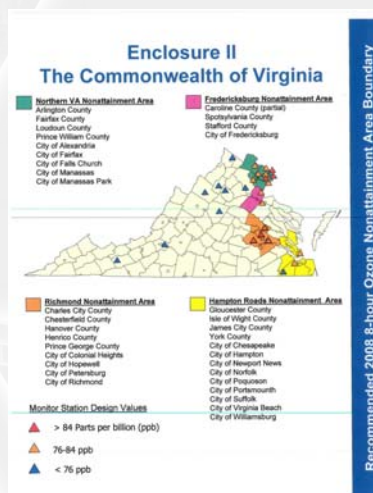
- August 2010 – Ozone Standard Final Rule Issued
- Final Rule Sets NAAQS Level
 - 0.70 ppb / 0.65 ppb / 0.60 ppb
- Comment Period to set Base Year
 - Base Year Determine Emissions Credits availability
 - Emission Offset Requirements



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VA Recommended 2008 8-Hr Ozone

Nonattainment Area Boundary

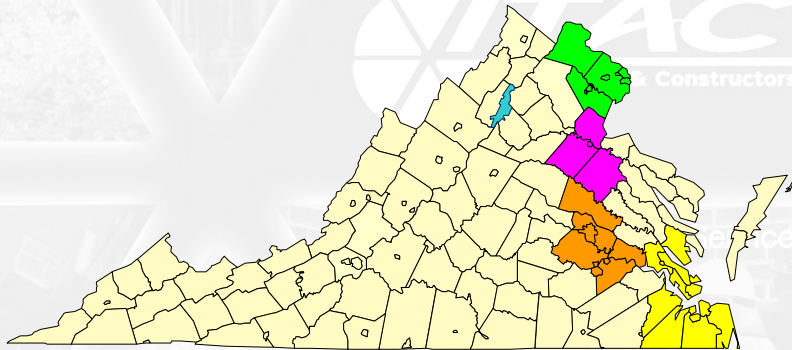


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Nonattainment Areas



(0.070 ppm)



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Virginia "Ozone"



Design Values 2007-2009

STANDARD AT 70 PPB

Loudoun	77	Shenandoah	73	Wythe	67
Prince William	71	Stafford	72	Rockbridge	64
Arlington	79	Caroline	74	Page	66
Alexandria	75	Frederick	69	Fauquier	66
Fairfax-Lee Park	80	Roanoke	70	Rockingham	67
Fairfax-McLean	77	Chesterfield	74	Albemarle*	69
Fairfax-Mt. Vernon	80	Henrico	78	Newport News*	66
Fairfax-Chantilly	73	Hanover	75	Suffolk-TCC	72
Fairfax-Annandale	78	Charles City	77	Suffolk-Holland	73

*Less than 3 years of data

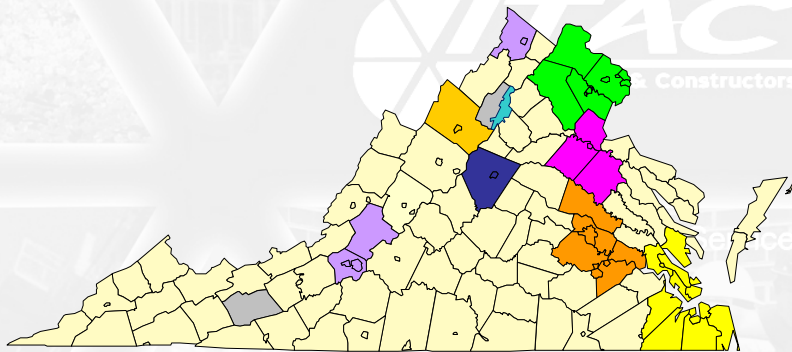


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Nonattainment Areas



(0.065 ppm)



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Virginia "Ozone"



Design Values 2007-2009 STANDARD AT 65 PPB

Loudoun	77	Shenandoah	73	Wythe	67
Prince William	71	Stafford	72	Rockbridge	64
Arlington	79	Caroline	74	Page	66
Alexandria	75	Frederick	69	Fauquier	66
Fairfax-Lee Park	80	Roanoke	70	Rockingham	67
Fairfax-McLean	77	Chesterfield	74	Albemarle*	69
Fairfax-Mt. Vernon	80	Henrico	78	Newport News*	66
Fairfax-Chantilly	73	Hanover	75	Suffolk-TCC	72
Fairfax-Annandale	78	Charles City	77	Suffolk-Holland	73

*Less than 3 years of data

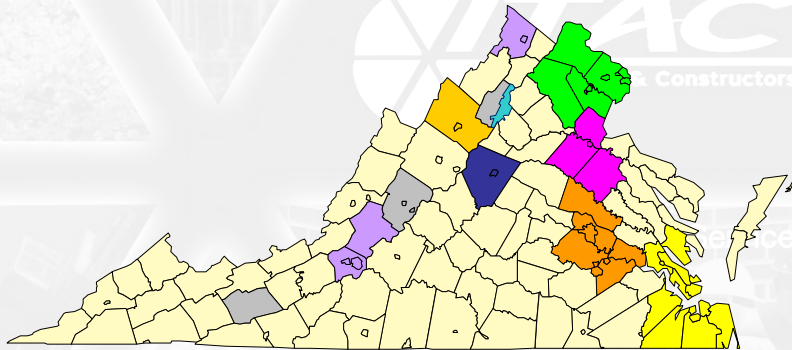


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Nonattainment Areas



(0.060 ppm)



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Virginia "Ozone"



Design Values 2007-2009

STANDARD AT 60 PPB

Loudoun	77	Shenandoah	73	Wythe	67
Prince William	71	Stafford	72	Rockbridge	64
Arlington	79	Caroline	74	Page	66
Alexandria	75	Frederick	69	Fauquier	66
Fairfax-Lee Park	80	Roanoke	70	Rockingham	67
Fairfax-McLean	77	Chesterfield	74	Albemarle*	69
Fairfax-Mt. Vernon	80	Henrico	78	Newport News*	66
Fairfax-Chantilly	73	Hanover	75	Suffolk-TCC	72
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*Less than 3 years of data



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Boiler Changes

- NESHAP - (Proposed Boiler Rules) – Commonly Referred to as “Boiler MACT”
- Boiler Considerations
 - Existing vs. New Boiler
 - Existing Boilers have 3 years to comply with new standards
 - New Boilers must comply at startup
 - <10MMBtu/Hr
 - Tune-up Program
 - >= 10MMBtu/Hr
 - Energy Assessment - Energy Conservation Measures
- Fuel:
 - Presently: Coal - MACT / Oil - *GACT / Biomass - *GACT
 - USEPA Proposing MACT vs. GACT
(Maximum Achievable Control Technology vs. Generally Available Control Technology)



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Summary – Boiler Changes

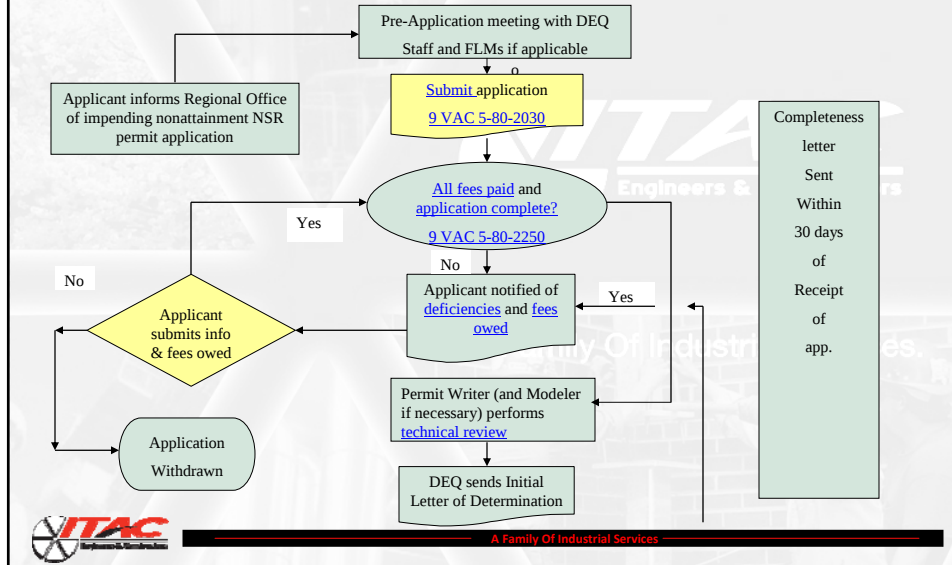
**Table 1 - Emission Limits for Area Source Boilers
(Pounds per million BTU heat input)**

Source	Subcategory	Particulate Matter (PM)	Mercury	Carbon monoxide (CO) (ppm)
New Boiler	Coal	0.03	3.0E-06	310(@7%oxygen)
	Biomass	0.03		100(@7%oxygen)
	Oil	0.03		1 (@3% oxygen)
Existing Boiler ...	Coal		3.0E-06	310(@7%oxygen)
	Biomass			160(@7%oxygen)
	Oil			2 (@3% oxygen)

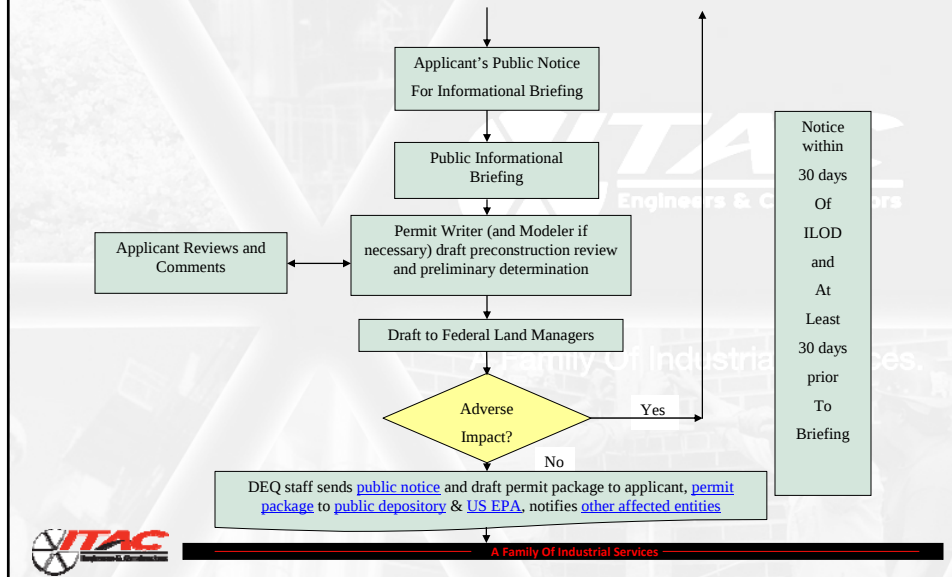


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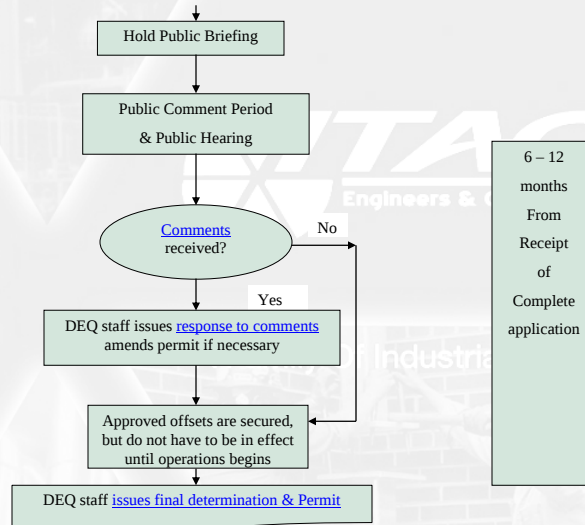
PSD - Nonattainment NSR Flow Chart



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PSD - Nonattainment NSR Flow Chart



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GHG Tailoring Rule

- Effective July 1, 2011
- Sets new major NSR threshold levels for GHGs
- Covers six GHGs – (CO₂e) - “CO₂ equivalents”
 - Carbon Dioxide (CO₂)
 - Nitrous Oxide (N₂O)
 - Methane
 - Sulfur Hexafluoride (SF₆)
 - Hydrofluorocarbons
 - Perfluorocarbons
- Existing sources exceed (New) or Increase (Modified) 75,000 tpy CO₂e – BACT Applies
- New Sources Exceeding 100,000 tpy of CO₂e – BACT Applies
- Can Trigger Title V Based on CO₂e Alone



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GHG Future Rulemaking

- EPA Rule by July 1, 2012
 - Impact sources < 75,000 tpy but >50,000 tpy CO₂e.
 - Include Streamlining GHG Permit Options
 - Address whether to exempt Small Sources
 - If a Permit is necessary, no small sources will be required to obtain a Permit until April 30, 2016



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Developer Impact

- Upfront development cost
 - Longer duration = Increased cost
 - Process / Permit definition
- Permitting duration (PSD – 1 year)
 - To affect duration
 - Well defined process
 - Completeness of Air Permit application
 - Proactive interface with VADEQ
- Funding
 - Purchase of pollution off-sets
 - Increased capital for pollution abatement controls
 - Increased administrative cost (reporting)
 - Negative impact on capital sensitive projects
 - GHG uncertainty!



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- Wood Fuels Developers



- CO2 Neutral



We are here to Help You !

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