Department of Environmental Quality

Air Program Regulatory Update
Environment Virginia
April 7, 2010
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New 8 Hr Ozone Standard – Impact on Virginia

- Will put many Virginia areas into nonattainment
- EPA not considering another “early action” program
- More regional/national controls will be needed in areas like No. Va.

Virginia 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*

Virginia 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
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**Less than 3 years of data*

Virginia Design Values 2007-2009

STANDARD AT 60 PPB

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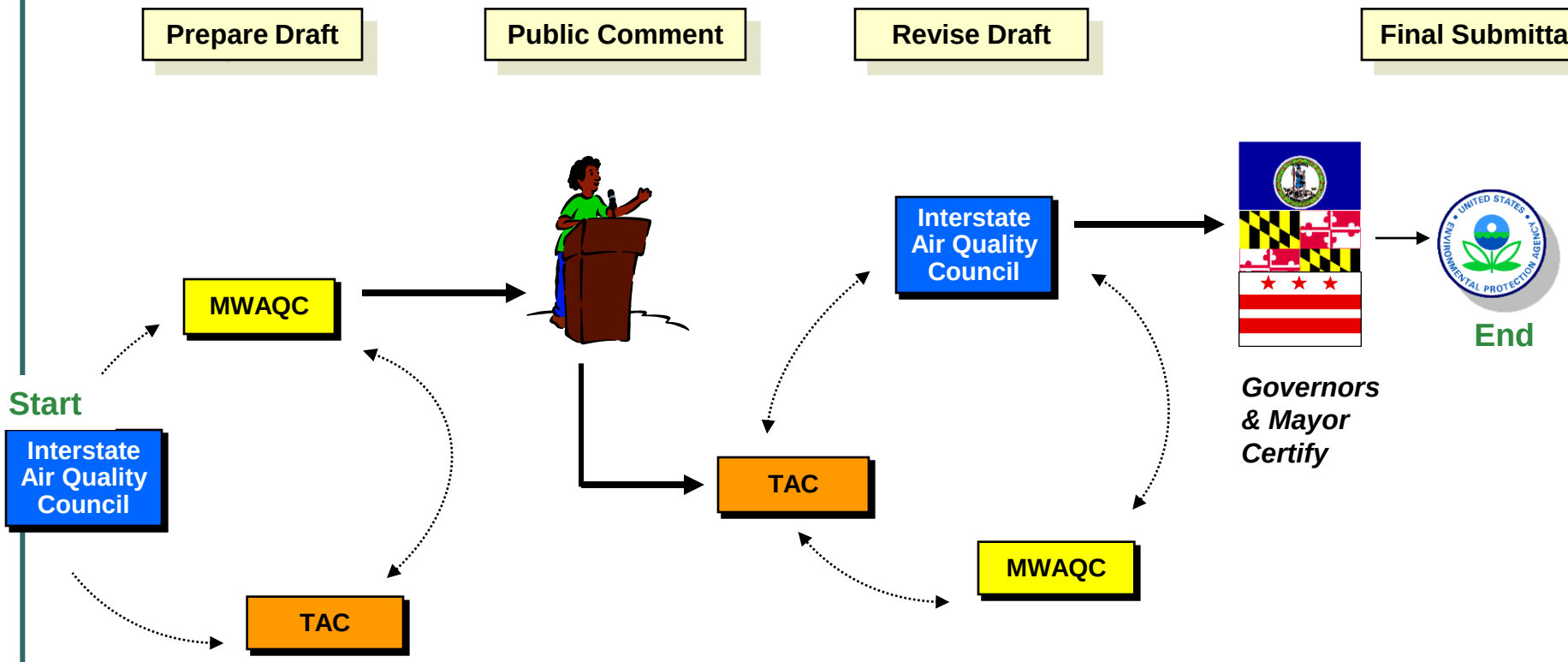
**Less than 3 years of data*

Regional Air Quality Plan Development



The Future of Ozone Standards

- EPA will propose another new ozone standard in May 2013 as required by CAA 5 yr review schedule
  - More science, no safe threshold
  - Costs can't be considered
- Biogenic background levels at 30-45 ppb
  - So. Cal. claims 48 ppb background
- "Combustion out" control strategy?

Future Air Quality Standards – Shift in Regulatory Approach?

- Current “single-pollutant” based approach
  - Reducing mass emissions of a single pollutant is key
  - Embodied in CAA (NAAQS)
- New “source-exposure” based approach
  - Suggested by “cutting-edge” air pollution health science
  - Reducing exposure is key
  - Wrung all we can out of current approach
  - Much scientific uncertainty; *very* complex & expensive

Shifting to Source-Exposure Based Regulatory Approach

- EPA moving from ambient to source-specific monitoring
  - Pb “source-oriented” monitoring
  - NO2 “near-road” monitoring and “focus on vulnerable and susceptible groups”
- Communities demanding individual control strategies for local “hot-spots”
  - Rhoda
  - Hopewell
- Resources lagging behind

Climate Change/ Green House Gases

- EPA will require GHG permitting in 2011
- GHG permitting threshold to be set @ 50,000-100,000 tpy of CO2e
- However, under current regulations GHG permitting threshold in Va. would be 100-250 tpy of CO2e per language of CAA
- Expeditious promulgation of Va. Tailoring Rule modeled on EPA's rule:
  - Raise GHG permitting threshold to federal levels
  - Administrative necessity
  - Level regulatory playing field for Va. regulated entities

General Permits for Biomass Projects General Assembly Legislation 2008

- DEQ must develop an expedited process for permitting qualified energy generators that use biomass
- Not applicable to any QEG subject to major new source review

Legislative Definitions

- Biomass:
  - Forest-related materials
  - Agricultural-related materials
  - Animal waste
  - Solid woody waste
  - Crops and trees planted to produce energy
  - Landfill gas, wastewater treatment gas, biosolids, *including organic waste byproducts generated during the wastewater treatment process*
  - Municipal solid waste; excluding tires and medical and hazardous waste

Legislative Definitions

- Expedited process:
  - Fee no more than $50
  - Final permit action 60 days after receipt of completed application

Legislative Definitions

- Qualified Energy Generator:
  - Commercial facility
  - With the *capacity annually to generate no more than five megawatts of electricity* or produce the equivalent amount of energy in the form of fuel, steam, or other energy product, that is generated or produced from biomass, and is sold to an unrelated person or used in a manufacturing process

Regulation Development

- TAC formed: meetings since August
- Encountering many obstacles:
  - Don’t have emission factors for most of materials in definition
  - Can’t write permit without emissions limits

Regulation Development – Elements of GP

- Operating schedule
- Compliance determination and verification by emission testing
- Recordkeeping requirements
- Reporting requirements
- Compliance
- Enforcement

Regulation: Pilot Test Facility

- Allows 18 months to construction
- Allows 12 months to conduct testing
- Test results will be compared to permitting emission thresholds
  - PM 25 tpy
  - PM 10 15 tpy
  - PM 2.5 10 tpy
  - NOx 40 tpy
  - SO2 40 tpy
  - CO 100 tpy
  - VOC 40 tpy

Biomass GP Represents Big Change in DEQ Permitting Philosophy

- < threshold – exempt from permitting
- > threshold – minor NSR permit required
- GP is permit to “construct and test” as opposed to traditional permit to “construct and operate”
- Test emissions data will lead to biomass GP to “construct and operate”

Unresolved Issues

- Emissions above threshold values:
  - Continue to operate until permit is issued?
  - Required to shutdown?
- Once facility is permitted and wants to switch fuel do they meet original threshold values or are they a modified source?
- What is the proper opacity limit?

General Permits for Emergency and Peak-Shaving Generators – General Assembly Legislation 2009

- DEQ must develop general permits for:
  - 1) Emergency generators to include a definition of "emergency" that is compatible with the ISO's emergency operations manual; AND
  - 2) Generators that participate in a voluntary demand response program (i.e. load curtailment, demand response, peak shaving or like program)
- Only for non-major facilities

Legislative Definitions

- New definition of “emergency” (per DEQ Guidance APG-570):

  “Emergency” means a condition that arises from sudden and reasonably unforeseeable events where the primary energy or power source is disrupted or disconnected due to conditions beyond the control of an owner or operator of a facility including:

  a. A failure of the electrical grid,

  b. On-site disaster or equipment failure,

  c. Public service emergencies such as flood, fire, natural disaster, or severe weather conditions,

  d. An ISO-declared emergency, where an ISO emergency is:

  - An abnormal system condition requiring manual or automatic action to maintain system frequency, to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property.
  - Capacity deficiency or capacity excess conditions.
  - A fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel.
  - Abnormal natural events or man-made threats that would require conservative operations to posture the system in a more reliable state.
  - An abnormal event external to the ISO service territory that may require ISO action.

Regulation Development

- Public input on NOIRA for both generator general permits ended March 18, 2010
- DEQ is forming the TACs now
- The TACs will be combined for both general permits

Air Toxics – Virginia Inhalation Toxicology Assessment Group (VINTAG)

- An expert workgroup (VINTAG) was assembled to assist DEQ with respect to inhalation toxicology
- VINTAG's recommendations have been presented to senior DEQ management for consideration
- DEQ risk assessment staff is currently evaluating options for target risks and hazards to be used in the development of Significant Ambient Air Concentrations (SAAC)

Air Toxics – Hopewell Community Project

- Draft risk assessment for Hopewell Community Project under DEQ management review
- Technical Issues
  - Inclusion of values below the method detection level
  - Inclusion of pollutants with a very low frequency of detection
- Policy Issues
  - Target Risk
  - Hazard Quotient
  - Comparison with other areas of the state
  - Risk Management Options
- To be released shortly

Air Program Regulatory Update

Questions?