The Summer of 2012 & Ozone Advance
Agenda

- Look back on the summer of 2012
- Questions

-------------------

- What is Ozone Advance?
- What areas are participating?
- What will the Action Plans contain?
- Questions
The Summer of 2012-Hot & Dry

- 11 day heat wave from 6/28-7/8 was record setting in a number of ways.


- Various stages of draught watch across much of the Commonwealth
June-August 2012 Statewide Ranks
National Climatic Data Center/NESDIS/NOAA

Temperature
1 = Coldest
118 = Warmest

Data from NOAA - courtesy of Dan Salkovitz
Data from Richmond International Airport - courtesy of Dan Salkovitz
Data from Norfolk Interna’l Airport - courtesy of Dan Salkovitz
Data from National Airport - courtesy of Dan Salkovitz
The Summer of 2012..Air Quality

- Stafford recorded the first exceedence on May 19th!
- A couple days of high transport from the Midwest
- 19 of 23 monitors exceeded on 6/29
- Hampton recorded 101 on 6/29

75 ppb is the current standard!

<table>
<thead>
<tr>
<th>Monitor</th>
<th>4th Highest, 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caroline</td>
<td>76 ppb</td>
</tr>
<tr>
<td>Stafford</td>
<td>76 ppb</td>
</tr>
<tr>
<td>Charles City</td>
<td>76 ppb</td>
</tr>
<tr>
<td>Hanover</td>
<td>76 ppb</td>
</tr>
<tr>
<td>Henrico</td>
<td>78 ppb</td>
</tr>
<tr>
<td>Hampton</td>
<td>74 ppb</td>
</tr>
</tbody>
</table>
Questions on 2012 Summertime Data?
What is Ozone Advance?

Goals:

- Reduce emissions of ozone precursors so that areas will continue to maintain healthy air quality and comply with the 2008 Ozone NAAQS
- Make progress towards meeting any future ozone NAAQS

New EPA program

- Final guidance published on 4/4/2012
- Builds off the Early Action Compact and Ozone Flex programs

Area must currently be in attainment of ozone standards to sign up.
What is Ozone Advance?

- Voluntary program to encourage emission reductions of ozone precursors
  - Regulatory efforts
  - Non-regulatory efforts
  - Public awareness

- Collaborative Effort
  - State agencies (VDOT, VDRPT, VPA, VDEQ, DMME)
  - Local governments
  - Area Stakeholders (Military bases, Industry, Citizen Groups, Others)

- Participants may withdraw from program at any time
Why Participate? Background

- Formation: $\text{VOC} + \text{NO}_X + \text{Sun} = \text{Ozone}$
  
  (volatile organic compounds + oxides of nitrogen + sunlight = ozone)

- Mainly a Summertime Pollutant

- Lung Irritant: Primary Component of Smog

- Heavily regulated by the Clean Air Act
  (National Ambient Air Quality Standards)

- Affected populations:
  - Children
  - Elderly
  - People with lung diseases
  - Heavy exposure/Outdoor workers

Severity of Effects

Proportion of Population Affected
Why Participate? Background

- Areas have historically experienced problems complying with EPA’s ozone standards:
  - Richmond-Petersburg
  - Hampton Roads
  - Fredericksburg
  - Northern Virginia
  - Roanoke

- Variety of planning exercises used to bring air quality into compliance
  - Costly
  - Time consuming
Why Participate? More Background

- 2008 standard: 0.075 ppm (75 ppb) over 8-hour average
  - All areas designated attainment for the 2008 ozone NAAQS, except Northern VA
- Action Plans will help areas to:
  - Maintain good air quality,
  - Improve air quality if it degrades
  - Begin process for compliance with new standard (due early 2014)
Participating Areas: Hampton Roads

1997 Ozone NAAQS Maintenance Area

- Gloucester
- Isle of Wight
- James City
- York
- Chesapeake
- Hampton
- Newport News
- Norfolk
- Poquoson
- Portsmouth
- Suffolk
- Virginia Beach
- Williamsburg
Participating Areas: Richmond-Petersburg

1997 Ozone NAAQS Maintenance Area

- Chesterfield
- Henrico
- Hanover
- Charles City
- Prince George
- Hopewell
- Colonial Heights
- Petersburg
- Richmond

Monitoring Locations
Participating Areas: Fredericksburg and Caroline

1997 Ozone NAAQS Maintenance Area

- Fredericksburg
- Spotsylvania
- Stafford

Monitoring Locations
Why Participate?
Ozone 3-Year Averages
From EPA’s Ozone Advance Guidance dated 4-4-12:

...Should a violation occur, EPA would consider the factors in §107(d)(3)(A) of the Act. These include “air quality data, planning and control considerations, or any other air quality-related considerations the Administrator deems appropriate.” Where control measures are actively being implemented by program participants, EPA may allow time to determine whether such measures bring the area back into attainment...
Why Participate?

- Avoid Nonattainment Designations:
  - Impact on citizens-healthy air quality
  - Economic development, federal facilities/military, transportation

- Ozone Advance Action Plans can:
  - Proactively work towards cleaner air
  - Provide a framework for meeting future standards
  - Allow owners additional consideration for federal DERA grants
  - Allows EPA to provide additional time for areas not complying to improve air quality
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 5, 2012</td>
<td>Ozone Advance guidance finalized</td>
</tr>
<tr>
<td>April 30, 2012</td>
<td>Area designated attainment for the 2008 ozone standard</td>
</tr>
<tr>
<td>June 4, 2012</td>
<td>DEQ submitted letter notifying EPA of area’s intent to participate in Ozone Advance</td>
</tr>
<tr>
<td>Jan-Feb 2013</td>
<td>Ozone Advance Action Plan drafts ready for review</td>
</tr>
<tr>
<td>March 2013</td>
<td>Ozone Advance Action Plan public notice period</td>
</tr>
<tr>
<td>Apr-May 2013</td>
<td>Final Action Plans sent to EPA</td>
</tr>
<tr>
<td>June 2014-2019</td>
<td>Annual Action Plan updates submitted by DEQ to EPA</td>
</tr>
</tbody>
</table>
Who Should Be Involved?

- **State Agencies**
  - VDEQ-data analysis, plan drafting, air quality programs
  - VDOT-CMAQ programs and information
  - VDRPT & VPA-Air quality improvement plans
  - DMME-Energy Efficiency programs

- **Localities & MPOs**
  - Information on current programs, both voluntary and mandatory
  - Consideration of and implementation of any new programs
  - Citizen outreach

- **Other Stakeholders**
  - Electrical generation industry
  - Industry
  - Military bases/federal facilities
  - Educational facilities
  - Public
  - Anyone willing to help out
What do the Proposed Action Plans Contain?

- **Summary/Intro/Background**
  - Geographic area
  - Current air quality data
  - Current emissions estimates
  - Air quality future year modeling estimates

- **Description of current and future measures**
  - Detail on each measure
  - Stakeholder responsible for measure
  - Timeline for each measure

- **Implementation timeline for action plan**
- **Stakeholder/public participation**
Stakeholders & Programs

**Stakeholders**
- MPO’s, Caroline
- VDEQ, VDOT, VDMME, VPA
- Fort A. P. Hill, Fort Lee
- Dominion
- Virginia Clean Cities
- VCU

**Programs Included**
- Travel demand/congestion mitigation
- On-road & non-road retrofit programs
- VA Energy Management/Energize Virginia
- VA Get Ready (electric vehicles); Autogas efforts;
- EGU fuel switches/retirements
- Point source permitted actions
- Sustainability efforts
- VPA: barge efforts, other programs
- Regional reductions
State Wide Emission Reductions

![Graph showing emission reductions over time for different categories such as NOx, PM2.5, VOC, and SO2, with data for 2007, 2017, and 2020. Each category is broken down into subcategories like EGU, Area, and Mobile.]
AQ Modeling Predictions

- 2020 Estimates
- OTC Screening Modeling
- Shows all VA ozone monitors in compliance by 2020
Questions on Ozone Advance?