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June 30, 2006

Mrs. Judith M. Katz
Director, Air Protection Division
US EPA Region III
1650 Arch Street (3AP00)
Philadelphia, PA 19103-2029

Dear Mrs. Katz:

The purpose of this letter is to formally transmit the June 30, 2006 status reports and supporting documents for the Early Action Compact areas of Roanoke and the Northern Shenandoah Valley to EPA Region III. This submission is in response to the requirements of the EAC program and EPA guidance on this subject.

These status reports clearly document the great amount of continuing effort and progress that has been made at both the local and state levels to meet all the commitments of the ozone early action plans for these areas. As a result of these plans, both areas are now in compliance with the 8-hour ozone standard.

Please contact me if you have any questions concerning these reports, and thank you again for your support throughout this successful air quality planning effort.

Sincerely,

/ S / TRB – June 30, 2006

Thomas R. Ballou, Director
Office of Air Data Analysis

Enclosures

cc: M. Morris, EPA R3
E. Wentworth, EPA R3
D. Cole, EPA OAQPS
J. Sydnor, VA



Ozone Early Action Plan

Northern Shenandoah Valley

June 30, 2006

Mr. James E. Sydnor, Acting Director
Air Division
Virginia Department of Environmental Quality
629 East Main Street, 8th Floor
Richmond, VA 23219

**RE: Ozone Early Action Plan for Northern Shenandoah Valley
June 30th 2006 Progress Report Submittal to US EPA**

Dear Mr. Sydnor:

This submittal includes the 6th semi-annual Early Action Compact status report for The Northern Shenandoah Valley Region in the Commonwealth of Virginia. Per the April 19, 2006 communication received from Ellen Wentworth of US EPA Region 9, the following elements are included:

Documentation of any progress from the period January 2006 – June 2006, includes:

- Major events and meetings that have taken place;
- Status of control measures that have already been implemented;
- Any impediments to implementation; and,
- An updated summary chart summarizing the status of the implemented control measures of the Northern Shenandoah Valley Early Action Compact Area.

What follows in this report is this brief introductory memo followed by actions taken to fulfill early action compact milestones during the period of January 2006 to June 2006.

The Winchester-Frederick County Economic Development Commission has, and continues, to administer the overall Ozone Early Action Plan (EAP) for the Northern Shenandoah Valley. If you have any questions regarding our submittal, please contact me at (540) 665-0973.

Sincerely,

Patrick Barker, AICP
Executive Director



Ozone Early Action Plan

Northern Shenandoah Valley

6th Semi-Annual Status Report

for

The Northern Shenandoah Valley Ozone Early Action Compact Area

June 30, 2006



Ozone Early Action Plan

Northern Shenandoah Valley

Northern Shenandoah Valley Ozone Early Action Compact Area *June 30, 2006 Submittal – Table of Contents*

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Ozone Early Action Plan

Northern Shenandoah Valley

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PROJECT ORGANIZATION AND SUMMARY TO DATE

This report represents the 6th semi-annual status report for the Northern Shenandoah Valley (NSV) Early Action Compact Area in Virginia, which consists of the City of Winchester and Frederick County. As such, this report documents the status and progress made towards the development and implementation of an Early Action Plan (EAP) to address ground-level ozone air pollution in the area. Specifically, this report covers the period from January 1, 2006 to June 30, 2006.

The EAC process in the Northern Shenandoah Valley (NSV) area began in the fall of 2002, with the establishment of the NSV Air Quality Improvement Task Force and the formal development and signing of the Early Action Compact in December 2002. Moving forward, a series of required documents have been produced, culminating in the submission of the official EAP in March 2004. Provided below is listing and timeline of the products and documents provided by the NSV EAC effort:

- **December 31, 2002** – Early Action Compact for the Northern Shenandoah Valley Area.
- **June 16, 2003** – Potential local control list submission.
- **June 30, 2003** – 1st Semi-Annual Status Report, January to June 2003.
- **December 31, 2003** – 2nd Semi-Annual Status Report, July to December 2003.
- **March 31, 2004** – Ozone Early Action Plan for the Northern Shenandoah Valley Area.
- **December 31, 2004** – State Implementation Plan
- **June 30, 2005** – 4th Semi-Annual Status Report, January to June 2005.
- **December 30, 2005** – 5th Semi-Annual Status Report.

All these documents, along with other information concerning the EAC program and other EAC areas, can be viewed at and retrieved from the following websites:

EPA - <http://www.epa.gov/ttn/naaqs/ozone/eac/index.htm>

Valley AIRNow - <http://www.valleyairnow.com/newsandupdates.html>

Efforts on the state and local levels have now moved towards the maintenance and enforcement of the emissions control measures and other actions committed to in the EAP.

The remainder of this status report documents the major actions, milestones, and events that have occurred since the submission of the 5th Semi-Annual Status Report on December 30, 2005.

SUMMARY OF EVENTS (JANUARY TO JUNE 2006)

Provided below is a listing of major events held and actions taken during the period covered by this status report toward the implementation and maintenance of the local ozone air quality improvement plan and associated nonattainment implications:

January 4, 2006 – Northern Shenandoah Valley Air Improvement Task Force meeting is administered by Valley AIRNow.

January 12, 2006 – Valley AIRNow attends a Clean Commute Retreat at the American Lung Association of Virginia Headquarters in Richmond, Virginia. Commute Smart Virginia, an organization dedicated to promoting smart transportation choices, is formed.

January 18, 2006 – Valley AIRNow presents to the Woodstock Rotary Club. The presentation given is entitled “Preserving Our Air in Winchester and Frederick County.”

January 23, January 30, February 6, February 13, 2006 – The SHENAIR Institute holds a series of Teacher Workshop Planning sessions at James Madison University in an attempt to integrate air quality information with Virginia Standards of Learning and the science curriculum of local schools. Teachers representing four school systems—Winchester City, Frederick County, Rockingham County, and Harrisonburg City—attend each meeting.

January 29 - February 2, 2006 – Valley AIRNow attends the 86th Annual American Meteorological Society Conference, 15th Symposium on Education in Atlanta, Georgia. Valley AIRNow and SHENAIR Institute representatives provide a poster presentation at the Symposium entitled “Best Practices of Local Air Quality Outreach Programs.”

February 5 - 8, 2006 – Valley AIRNow attends the 2006 AIRNow National Air Quality Conference in San Antonio, Texas. On February 7th of the Conference, Valley AIRNow provides a PowerPoint presentation entitled “A Review of Effectiveness Measures for Local Air Quality Outreach Programs.”

March 1, 2006 – Northern Shenandoah Valley Air Improvement Task Force meeting is administered by Valley AIRNow.

April 11, 2006 – Valley AIRNow attends the 38th Annual Air Pollution Workshop in Charlottesville, Virginia and provides a PowerPoint presentation entitled “A Review of Effectiveness Measures for Local Air Quality Outreach Programs.”

April 11, 2006 – Valley AIRNow presents to the Northern Shenandoah Valley Petroleum Marketer’s Association. The presentation given is entitled “Preserving Our Air in Winchester and Frederick County.”

April 18, 2006 – Valley AIRNow presents to the Stephen’s City Rotary Club. A PowerPoint presentation entitled “Preserving Our Air in Winchester and Frederick County” is provided.

April 19, 2006 – Valley AIRNow attends and presents at the Environment Virginia Conference in Lexington, Virginia. An overview of the Valley AIRNow outreach program is given.

May 1, 2006 – Valley AIRNow runs several weeklong public service announcements on Winchester-Frederick County and surrounding area radio stations regarding the onset of Ozone Season 2006.

May 3, 2006 – Valley AIRNow presents to the Northern Virginia Manufacturer’s Association on the economic consequences and costs associated with poor air quality in the area.

May 3, 2006 – Northern Shenandoah Valley Air Improvement Task Force meeting is administered by Valley AIRNow.

May 5- 6, 2006 – The Shenandoah Apple Blossom Festival Kids Bloomin' Mile and adult 10K race takes place. Valley AIRNow places an informational ozone bookmark in 1,400 Runner's Packets.

May 6, 2006 – Valley AIRNow partners with the American Lung Association of Virginia to host Clean Commute Day activities in Winchester and Frederick County. Clean commute signs are posted on transit buses in the area and a Clean Commute public service announcement is issued for Winchester-Frederick County and surrounding areas.

May 11, 2006 – Valley Health Systems hosts an Employee Health and Fitness Fair at the Winchester Medical Center, a highly acclaimed non-profit, regional referral hospital. Valley AIRNow staffs an informational booth and distributes materials on ozone and its health effects.

May 19, 2006 – Valley AIRNow partners with the Net Tech Center of Winchester to host a local Clean Commute Day event and luncheon. Local businesses and existing members of Valley AIRNow's business outreach program, Valley AIRCorps, are targeted. Attendees are provided with a tour of the Center and the efforts of the 2005 Ozone Season AIRCorps members are recognized.

June 1, 2006 – Valley AIRNow attends a Commute Smart Virginia meeting at the American Lung Association of Virginia's headquarters in Richmond. Future collaboration on ozone projects and programs with other Shenandoah Valley air quality programs are discussed.

June 7, 2006 – Northern Shenandoah Valley Air Improvement Task Force meeting is administered by Valley AIRNow. An outreach meeting with the Eastern Panhandle ozone outreach coordinator follows to share outreach efforts and ideas for 2006.

June 26 – 30, 2006 – The SHENAIR Institute at James Madison University hosts a 5-day air quality workshop for Winchester City, Frederick County, Rockingham County, and Harrisonburg City teachers who educate 4th, 6th, 7th, and 9th grade students enrolled in science courses. The workshop is entitled "Climate and Air Quality in the Shenandoah Valley" and serves to introduce the issues and science surrounding air quality as well as to examine how this content can be used to bring an inquiry and problem solving approach to science instruction. Partners of the workshop include Global Learning and Observations to Benefit the Environment (GLOBE) and the Virginia Department of Environmental Quality (VA DEQ). All participants of the workshop are provided with a grade appropriate set of GLOBE certified scientific instruments to incorporate climate and air quality monitoring into their curriculum.

IMPLEMENTATION STATUS OF EARLY ACTION CONTROL MEASURES

This section describes the status of each emission control measure included in the early action plan.

Local Phase I Controls

The Phase I strategies were implemented as of December 2005 and have since been upheld, maintained, and enforced. These measures have the greatest public acceptance and will provide an important foundation for continued future efforts.

1. Ozone Action Days/Public Awareness

Control Strategies:

General Public Awareness Program/Education and Promotion Campaign

Valley AIRNow email system: Maintained since January 2006

The community can contact Valley AIRNow via email at: info@valleyairnow.com. The system is checked for messages every weekday at 9:00 a.m. and responses are returned promptly within one business day or less.

Post-educational intervention surveys: Analysis completed April 2006

Lord Fairfax Community College was subcontracted by Valley AIRNow to complete and compile data from phone surveys on Winchester City and Frederick County residents in order to measure the success of Valley AIRNow's ozone education and outreach program. Two surveys were administered—a pre-ozone season survey lasting from May to June 2005 and a post-ozone season survey performed in November of the same year. The analysis of the pre- and post-ozone season surveys was completed in April.

Three important conclusions were made from the analysis of the survey data. First, the Winchester-Frederick County population has a general knowledge about ozone, but lacks specificity in their knowledge. Second, the population is amenable to ozone education but the message must be delivered more effectively. Third, although television is the preferred media, most of the respondents' knowledge of air quality comes from the newspaper. Valley AIRNow would benefit from developing a stronger presence and relationship with television news outlets, while concurrently improving its presence in The Winchester Star, the local newspaper.

In addition to these conclusions, it was found from the post-ozone season survey that approximately 17% of those polled changed their driving habits in some way (i.e. trip chaining, refueling after dark) as a result of what they had learned about air quality during the 2005 ozone season.

Radio Interviews: April 2006

WINC FM, a popular radio station serving the Winchester-Frederick County area, interviewed Dan Salkovitz of the Virginia Department of Environmental Quality regarding the upcoming ozone season.

Newspaper articles: News coverage resumed April 2006

The Winchester Star has published 3 articles related to Valley AIRNow and air quality issues in the area.

- April 28, 2006 – Open Forum: “Take it Personally – What You Can Do to Combat ‘Noxious’ Ozone.”
- May 17, 2006 – Open Forum: “Having a Bad ‘Air’ Day?”
- May 20, 2006: “Telecommuting an Environmentally Friendly Convenience – Completing Work Via Computer and Telephone Cuts Down on Driving Time and Ground-level Ozone.”

Other related articles from various newspapers, include:

- May 20, 2006: “Valley AIRNow Pushing Air Quality” (Northern Virginia Daily)
- June 12, 2006: “Teachers Span The GLOBE – Educators to Attend Sessions That Emphasize Air Quality” (Daily News Record)

Valley AIRNow Air Quality Hotline: Daily forecasting reinitiated May 2006

The air quality hotline provides daily air quality forecasts during ozone season, information about how to contact Valley AIRNow (email, website), and messaging service capabilities. The hotline number is (540) 450-2207. During ozone season, the hotline is updated seven days a week with the following day’s ozone prediction as issued by the Virginia Department of Environmental Quality.

Valley AIRNow Website maintenance: Weekly updates begun May 2006

The Valley AIRNow website can be accessed at: www.valleyairnow.com. Air quality information is added on a weekly basis to keep local residents informed of the most current and up-to-date news on ground level ozone. Also, additional links to ozone forecasts on current air quality conditions, as well as links to several webcams located in and around the Shenandoah Valley have been added to the site. Upcoming and past 2006 Valley AIRNow events are explicitly outlined in “News & Updates” by accessing <http://www.valleyairnow.com/newsandupdates.html>.

Media Kits: Distributed May 2006

Media kits containing ozone information relevant to media resources were sent to approximately 25 television, radio, newspaper, and other print businesses in and surrounding the Winchester-Frederick County area. All basic Media Kits included information on Valley AIRNow, Air Quality Action Days, Valley AIRCorps program, the Air Quality Index, steps residents can take to improve air quality, ozone and its associated health effects, as well as a sample Air Quality Action Day Media alert and a miscellaneous novelty item (Figure 1).

In addition to these materials, television stations were provided with information on air quality mapping to incorporate visual maps of smog development and movement into their weathercasts. Media Kits specific to newspapers and journals were provided with a tip sheet for reporters that lists creative ideas for air quality stories and highlights.



Figure 1. Contents of a basic 2006 Ozone Season Media Kit.

Air Quality Action Day Program: Reinitiated May 2006

The Air Quality Action Day Program (AQAD) is a five-dimension Network created by Valley AIRNow in 2005. The five separate groups in this Network that are alerted of an Air Quality Action Day are Business (Valley AIRCorps program), Educators, Government, Health, and Media. If enacted, the Air Quality Action Day Program protocol is as follows. When the Virginia Department of Environmental Quality forecasts ozone levels for the next day to reach the Code Orange level or higher, the Valley AIRNow team alerts the AQAD Network by sending an email or fax press release (Figure 2). The community and general public are then alerted mainly through the Media, Business, and Health dimensions. Local area newspapers run stories and local radio stations run public service announcements. Businesses, health-care providers, and local government offices share the alert with all employees and if applicable, customers, by displaying informative posters in high visibility areas, offering incentives for participation in emissions reduction activities, displaying the AQAD Alert on their message boards, etc.

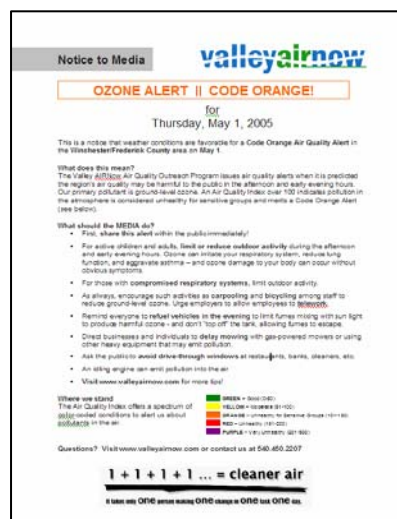


Figure 2. Sample AQAD Network Code Orange ozone alert.

The Air Quality Action Day Program was reinitiated for the 2006 Ozone Season on May 1st. All Business, Educators, Government, Health, and Media AQAD Network members were contacted prior to this date to ensure preparedness and to answer any questions or concerns regarding the upcoming ozone season.

Expanded coordination with various organizations to make air quality information available to the public: May 2006

Since 2005, Winchester City and Frederick County air quality forecasts have been made available through several notification systems—the Virginia Department of Environmental Quality's daily air quality forecast and the American Lung Association's Smog Alert systems. As of May 2006, links for the general public to join these notification systems have been made available at the Valley AIRNow website by following our "Current Air Quality" navigation bar (<http://www.valleyairnow.com/currentairquality.html>). Winchester-Frederick County residents have also been given the option to contact us at info@valleyairnow.com to join our Air Quality Action Day email list and receive alerts only on Code Orange days or higher.

In addition, real-time ozone data for Winchester-Frederick County is available from the following sources from various agencies and organizations. Updated links and information to these sources have also been included in the Valley AIRNow website at <http://www.valleyairnow.com/currentairquality.html>.

- Hourly ozone levels measured daily from the Frederick County ozone monitor – VA DEQ:
<http://www.deq.virginia.gov/airquality/510690010.html>.
- Current air quality conditions for Virginia and 2-day forecasts by region – VA DEQ:
<http://www.deq.state.va.us/airquality>.
- Current air quality conditions and 1-day forecast for Winchester – EPA AIRNow:
<http://cfpub.epa.gov/airnow/index.cfm?action=airnow.showlocal&cityid=376>.
- Current air quality conditions and 1-day forecast for the Mid-Atlantic Region, including Winchester – The Weather Channel:
http://www.weather.com/outlook/health/airquality/?state=VA&from=36hr_outlet_aq.
- Current air quality conditions and 4-day forecasts for Winchester – Weather Underground: <http://www.wunderground.com/US/VA/Winchester.html>.
- Regional (Northeast) current air quality map – Weather Underground:
<http://www.wunderground.com/US/Region/Northeast/AirQuality.html>.
- Animated ozone-AQI map for Virginia/North Carolina – EPA AIRNow:
<http://www.airnow.gov/index.cfm?action=airnow.showmap>.
- Current air quality hotline for Winchester-Frederick County – Valley AIRNow: (540) 450-2207.
- Air quality hotline – VA DEQ: (804) 698-4444.

On WAZT-TV, a television network serving the entire Shenandoah Valley, ozone forecasts for Winchester-Frederick County are integrated into a local cutaway that airs five days a week in the evenings during a program entitled "CBN Newscast". In the fall, a new television news station will begin airing in Winchester-Frederick County—TV-3 Winchester. Valley AIRNow is hoping to work with the TV-3 Winchester meteorologists to incorporate air quality forecasts and animated ozone maps into their daily weather segments.

Other methods of making air quality information available to the public continued from last year to this 2006 ozone season. A local Winchester newspaper, *The Winchester Star*, publishes air quality forecasts and information in their daily newspaper. On The Weather Channel, whenever an ozone action day is forecasted the words "Valley AIRNow Air Quality Outreach Program" will be displayed on the "Local on the 8's" air quality forecast segment.

Implementation of radio and television Public Service Announcements: Begun May 2006

Several public service announcements (PSAs) were issued in May to radio stations in Winchester City and Frederick County, and surrounding areas. A 30-second PSA explaining the onset of ozone season and where listeners can expect to be informed when high ozone days are forecasted was run from May 1st – May 8th. A 60-second PSA was also run during this time frame that explained the Air Quality Index and steps to take to protect one's health on Orange days or higher. From May 8th – May 15th, a 30-second public service announcement was run to explain the health effects associated with Air Quality Action Days.

Other radio public service announcements have been created by Valley AIRNow to be issued only in the event of an Air Quality Action Day.

Television public service announcements are currently being obtained from the *It All Adds Up to Cleaner Air* program and will be issued to local television networks by the end of July.

Materials development, adaptation, and revision: Begun May 2006

Valley AIRNow will continue to adapt and revise existing air quality materials as needed for Winchester-Frederick County businesses, government, schools, media resources, health-care providers, and community members. This includes Valley AIRNow posters, brochures, memorandums, public service announcements, as well as air quality curriculum for both public and private schools.

In addition to existing materials, new air quality materials will be developed on an ongoing basis. Recent material development for 2006 includes:

For media: Media kits (Figure 1) were developed that contained the following basic materials: Valley AIRNow Air Quality Action Day and AIRCorps brochures, informational EPA ozone brochures, American Lung Association pamphlets, Air Quality Index guides, an air quality forecasting press release, and an air quality novelty item. Other resource-specific materials were included in kits for meteorologists and news reporters.

For schools: During early 2006, an informational brochure advertising the Teacher Air Quality Workshop at James Madison University was created and distributed to Winchester City and Frederick County teachers.

For general public: Educational Valley AIRNow bookmarks were inserted in 1,400 packets which were handed out to all participants in the Shenandoah Apple Blossom Festival's two races—the Kids Bloomin' Mile and adult 10K race. The purpose of these bookmarks was to explain the adverse health effects associated with ground-level ozone on runners.

For business and health: In May, a large poster was created for the advertisement and recruitment of our business outreach program, Valley AIRCorps (Figure 3a). The magnetic nature of this poster allows for easy manipulation of company names from one membership level to another. In addition, Valley AIRNow continues to work with each business that signs up for the AIRCorps program to personalize posters with what the particular business is doing to help preserve the air on Air Quality Action Days (Figure 3b). These will be displayed on Air Quality Action Days only.

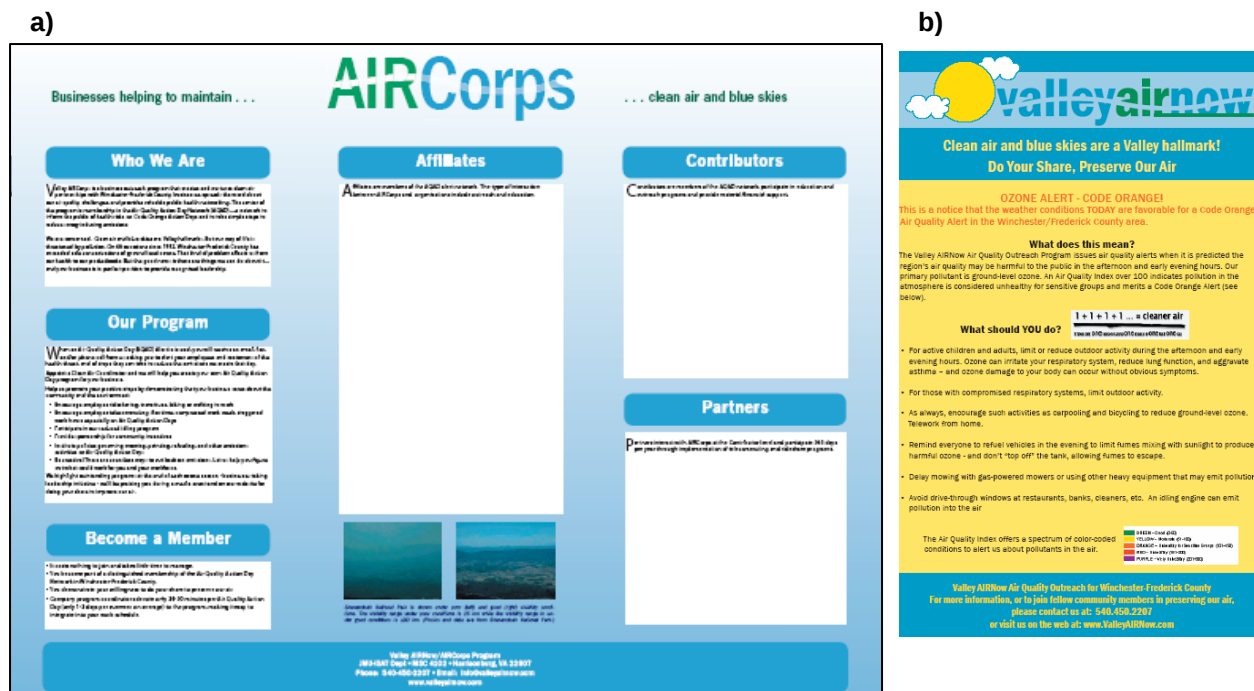


Figure 3. Materials are developed on an ongoing basis for the businesses enlisted in the Valley AIRCorps program, including: a) a large poster for AIRCorps member advertisement and recruitment; b) personalized posters for display on Air Quality Action Days.

Materials from the EPA AIRNow website were adapted in June to create posters for display in heavily trafficked areas of local businesses to serve as educational tools for employees and/or customers. These posters included a large visual display of the Air Quality Index (Figure 4a) and a *Health Effects of Common Air Pollutants* poster (Figure 4b) for display in medical offices, retirement homes, wellness centers, and other health care providers. These posters were delivered to existing AIRCorps members in June and will be provided to future members upon enlisting in the AIRCorps program.

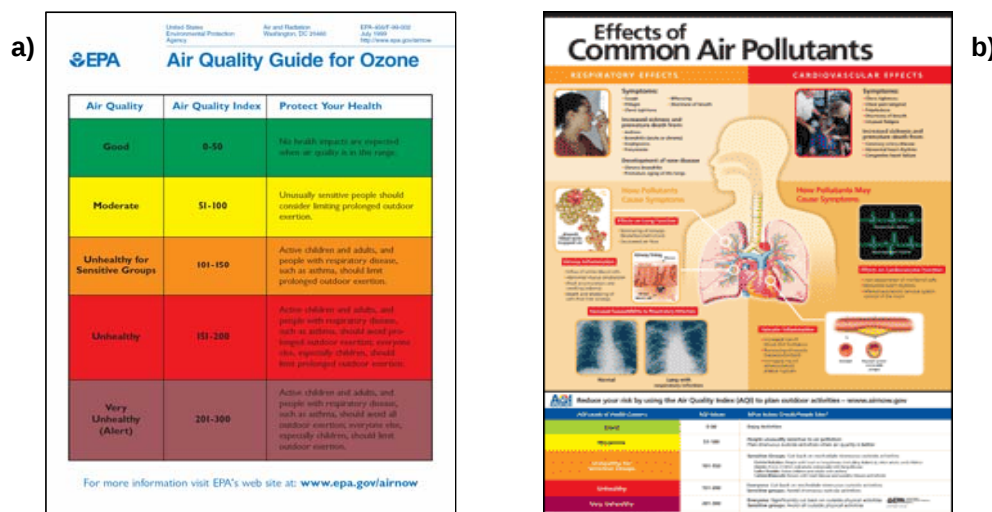


Figure 4. Adapted EPA AIRNow materials for Valley AIRCorps program members. a) Air Quality Index poster for display in business lobbies, store windows, employee message boards, etc; b) Informational health poster for health care providers to be displayed in waiting rooms and exam rooms.

American Lung Association's Clean Commute Day: May 6, 2006

Winchester City and Frederick County coordinated with the American Lung Association of Virginia for the statewide designated Clean Commute Day. A public service announcement was run on local radio stations this day explaining the various Clean Commute options. Clean Commute Day bus signs were displayed on Winchester City buses in a weeklong campaign encouraging residents to explore alternative methods of commuting (Figure 5).



Figure 5. Commute Smart Virginia bus signs were posted on local transit buses to encourage residents to Clean Commute EVERY Day.

Valley Health Systems Employee Health & Fitness Fair: May 11, 2006

Valley AIRNow staffed a booth at the Winchester Medical Center's Employee Health & Fitness Fair, sponsored by Valley Health Systems. Approximately 260 Valley Health employees attended the event. All attendees were required to visit each booth and answer a trivia question to earn personal points for a Wellness program operating in conjunction with Valley Health Systems and the Medical Center. Consequently, all attendees were required to peruse informational materials regarding ozone at the Valley AIRNow booth. EPA "Ozone and Your Health" brochures, American Lung Association "Protecting Yourself from Ozone Smog" brochures, Valley AIRNow "Air Quality Action" pamphlets, and Air Quality Index rulers were among some of the informational materials that were distributed. Several individuals enlisted in the Valley AIRNow network to receive Air Quality Action Day alerts.

Presentations to targeted groups on the local air quality initiative: Begun January 2006

Valley AIRNow began seeking out and presenting to various groups, organizations, and conferences in 2006. A total of eight presentations occurring from January to June were given. These presentations, along with a brief description of each, are listed below. Additional presentations will be undertaken for the remainder of the year as opportunities arise.

- January 18, 2006: Valley AIRNow presented to the Woodstock Rotary Club. Background information on ozone, the history of the Early Action Program in Winchester-Frederick County, and environmental, social, economic, and public health consequences of poor air quality were outlined.
- January 29 – February 2, 2006: Valley AIRNow attended the 86th Annual American Meteorological Society Conference, 15th Symposium on Education in Atlanta Georgia. Valley AIRNow and SHENAIR Institute representatives provided a poster presentation at the Symposium entitled "Best Practices of Local Air Quality Outreach Programs." This presentation displayed results from an online-based survey on the effectiveness of measures utilized by other air quality programs across the nation.

- February 5 – 8, 2006: Valley AIRNow attended the 2006 AIRNow National Air Quality Conference in San Antonio, Texas. On February 7th of the Conference, Valley AIRNow provided a PowerPoint presentation entitled “A Review of Effectiveness Measures for Local Air Quality Outreach Programs.” Again, this presentation displayed results from an online-based survey on the effectiveness of measures utilized by other air quality programs across the nation.
- April 11, 2006 - Valley AIRNow attended and presented at the 38th Annual Air Pollution Workshop in Charlottesville, Virginia. The presentation entitled “A Review of Effectiveness Measures for Local Air Quality Outreach Programs” was given.
- April 11, 2006 – Valley AIRNow presented to the Northern Shenandoah Valley Petroleum Marketer’s Association. Background information on ozone, the history of the Early Action Program in Winchester-Frederick County, and an overview of the Valley AIRCorps program were provided.
- April 18, 2006 – Valley AIRNow presented to the Stephen’s City Rotary Club. Background information on ozone, the history of the Early Action Program in Winchester-Frederick County, and environmental, social, economic, and public health consequences of poor air quality were outlined.
- April 19, 2006 – Valley AIRNow attended and presented at the Environment Virginia Conference in Lexington, Virginia. An overview of the Valley AIRNow outreach program was given.
- May 3, 2006 – Valley AIRNow presented to the Northern Virginia Manufacturer’s Association. The presentation given was entitled “Preserving Our Air in Winchester and Frederick County” and focused on the economic consequences and costs associated with poor air quality in the area.

School-based Public Awareness Program

Educators Air Quality Action Day Program: Reinitiated May 2006

Winchester City Public Schools and Frederick County Public Schools were contacted prior to May 1st to ensure preparedness and to answer any questions or concerns regarding the upcoming ozone season.

Curriculum development: Ongoing 2006

The SHENAIR Institute held a series of Teacher Workshop Planning sessions at James Madison University in an attempt to integrate air quality information with Virginia Standards of Learning and the science curriculum of local schools. Teachers representing four school systems—Winchester City, Frederick County, Rockingham County, and Harrisonburg City—attended each session.

Teacher Air Quality Workshop: June 26 – 30, 2006

An intensive 5-day workshop entitled “Climate and Air Quality in the Shenandoah Valley” was held at James Madison University for pre-K – 12 science teachers who teach in the Winchester, Frederick, Rockingham, and Harrisonburg School Districts. The goals of the workshop were to increase knowledge of the air quality content defined by the Virginia Standards of Learning (SOLs) as well as improve instructional delivery of the content. SOL content included the following six science strands: scientific investigation, reasoning, and logic; force, motion, and energy; interrelationships in Earth/space systems; resources; matter; and Earth patterns, cycles, and change. Emphasis was placed on SOLs related to weather (4.6, 6.6, ES.13), atmosphere

(6.6, ES.12), matter and energy (6.2, 6.3, 6.4, PS.2, PS.5), resources (4.8, 6.9, ES.7), and scientific investigation (4.1, 6.1, PS.1, ES.1, ES.2, ES.3).

Two Frederick County and three Winchester City teachers attended the workshop. These participants were certified in GLOBE (Global Learning and Observations to Benefit the Environment) atmosphere protocols and were provided with a grade appropriate set of GLOBE certified instruments to incorporate climate and air quality monitoring into their curriculum.

Employer-based Ozone Action Days/Ozone Action Days for Area Sources

Valley AIRCorps program: Ongoing 2006

Valley AIRCorps is the Business Outreach and Promotions Program of the Northern Shenandoah Valley Ozone Early Action Plan. Valley AIRCorps is a no-cost program that seeks to create, nurture and promote clean air partnerships with businesses in the Northern Shenandoah Valley. The program spreads the word about our air quality challenges, and provides valuable public health networking.

The center of the AIRCorps program is membership in the Air Quality Action Day Network (AQAD)—a network to inform the community of health risks on Code Orange Action Days or higher ozone level, and to take simple steps to reduce smog-inducing emissions. Businesses appoint a Clean Air Coordinator (CAC) who subscribes to the AQAD email or fax notification system. Valley AIRNow sends out a media release to each CAC the day before ozone levels are predicted to be Code Orange or higher.

In return, each AIRCorps member agrees to disseminate the AQAD information to all employees and/or customers. This informational dispersion may take the form of one or more of the following methods: email notification to all employees, media release or AQAD poster (Figure 3b) displayed on employee message boards, personalized AQAD poster displayed in heavily trafficked areas (e.g. waiting rooms, lobbies, store windows, checkout registers, etc.), verbal announcement to employees and/or customers throughout the day. Additional methods of AQAD dissemination continues to be explored with AIRCorps Clean Air Coordinators.

As of June 2006, 22 Winchester-Frederick County businesses have enlisted in the Valley AIRCorps program to receive Air Quality Action Day alerts. A current list of these businesses can be viewed on the Valley AIRNow website at <http://www.valleyairnow.com/aircorpsmembers.htm>. The recruitment of additional AIRCorps and AQAD alert network members for 2006 is ongoing.

Dynamic Message Signs

Episodic Ozone Program: Implemented April 2006

If not needed for emergency purposes, Virginia Department of Transportation (VDOT) highway variable message signs will be utilized when VA DEQ designates an Air Quality Action Day. On these days, the message signs will display the words “Air Action Day” to inform motorists of potential 8-hour ozone exceedances.

VDOT currently operates two variable message signs in Northern Shenandoah Valley at the following locations:

1. I-81 Northbound, mile marker 287.5 (17, Figure 6), and
2. I-81 Southbound, mile marker 323.1 (18, Figure 6).

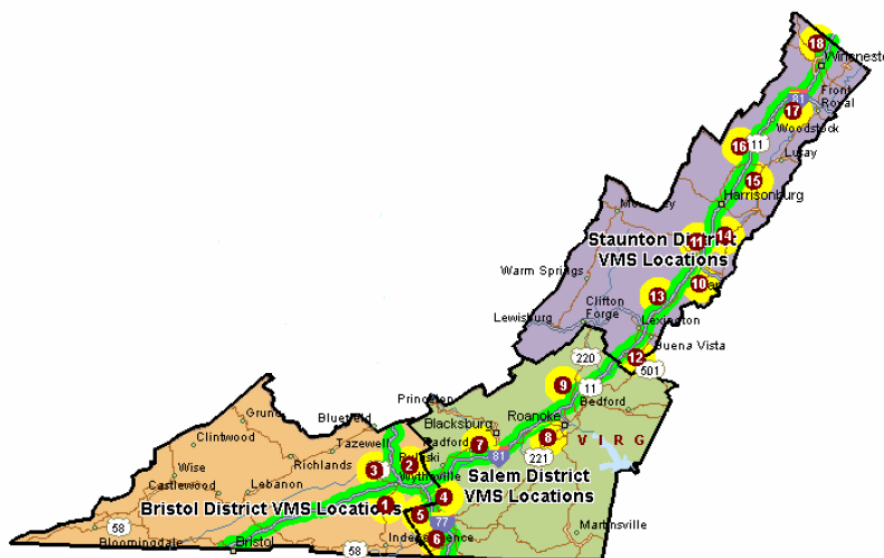


Figure 6. VDOT variable message sign locations for Bristol, Salem, and Staunton Districts.

Video Monitor System Deployment

Availability of haze and congestion web camera images on website: Implemented May 2006

Visibility webcams were made available to the public on the Valley AIRNow website in May. VDOT initiated a closed circuit television (CCTV) pilot in 2004 by placing several IP-addressable cameras at several positions along the I-81 corridor at New Market, Strasburg, and Woodstock. A link to these webcams, as well as a camera overlooking the Potomac River in Washington, D.C., is now available on the Valley AIRNow homepage at <http://www.valleyairnow.com/>.

VDOT is currently involved in a project to install 30 additional IP-addressable cameras throughout the District along I-81, I-64, and I-66. Proposed I-81 locations for cameras in the Northern Shenandoah Valley area include West Virginia State Line (Exit 323), Winchester (Exit 315), South Winchester (Exit 310), Stephen's City (Exit 307), Middletown (Exit 302), and Strasburg (Exit 300). Links to these images will be added to the Valley AIRNow website as they become available.

Lawn & Garden Equipment Usage Restrictions

City and County restrictions on Air Quality Action Days: Maintained Ozone Season 2006

In June, a memorandum regarding local government actions on Air Quality Action Days was issued by the Winchester City Manager and Frederick County Administrator to all their local government agencies and offices. This memorandum specified the postponement of mowing on Air Quality Action Days, which included the use of publicly-owned gasoline and diesel

powered mowers, weed eaters, and other similar gasoline engines. Other AQAD actions specified in the memorandum included postponement of the use of oil-based paints and solvents, restrictions on engine idling, restrictions on any burning associated with County land clearing and construction, as well as the limitation of prolonged outdoor exertion by government employees.

VDOT Episodic Ozone Program: Maintained Ozone Season 2006

In April, VDOT issued a memorandum for employees that outlined 2006 VDOT actions on Air Quality Action Days. These actions included the following ozone alert procedures:

- Travel reduction;
- Postponement of mowing;
- Fueling restrictions;
- Use of variable message signs;
- Reduction of electricity usage;
- Postponement of painting.

Also in April, VDOT issued a memorandum for employees regarding 2006 VDOT gas restrictions on Air Quality Action Days. This memorandum specified that gasoline pumps operated by VDOT in early action compact areas would be closed from 8:30 am to 5:00 pm on these days. Travelers needing to refuel state cars in Winchester-Frederick County on Air Quality Action Days are required to do so before 8:30 am or else make other refueling arrangements.

2. VMT Reduction Programs

This strategy combines a number of individual programs/activities designed to reduce vehicle miles of travel (VMT).

Control Strategies:

Enhance/Expand existing Northern Shenandoah Valley Regional Commission (NSVRC) Ridesharing Program

From January to June 2006, the NSVRC, operating through its Valley Commuter Assistance Program, has been involved with the following programs and activities to promote ridesharing and improve air quality in the Northern Shenandoah Valley area.

Coordination with various organizations: Initiated February 2006

Valley Commuter Assistance Program coordinated with TrafficFlex in February to discuss providing information via cell phone to commuters utilizing the Route 7 corridor. Meetings were also held with the Rappahannock/Rapidan ridesharing program and Loudoun County Office of Transportation to explore future rideshare opportunities and to coordinate bus services.

Media advertising: Initiated April 2006

From April to June, Valley Commuter Assistance Program initiated a spring media campaign on Q102.5 FM—a local radio station in Winchester-Frederick County. During these months, a series of radio spots promoting ridesharing services were ran weekday mornings and evenings.

In preparation for Memorial Day traffic, a series of radio safety messages were sponsored by the Valley Commuter Assistance Program on WFTR FM.

Employer Outreach event: May 17, 2006

NSVRC staff attended an employer work fair at the Westfields Business Park in Fairfax County on May 17th. Valley Commuter Assistance Program provided information at this event on the commuter bus service between the Business Park and Northern Shenandoah Valley. In addition, materials explaining alternative methods of transportation (i.e. carpooling, vanpooling and telecommuting) were disseminated.

Rideshare programs: Developed, initiated, and maintained 2006

NSVRC developed two new vanpools containing approximately 15 passengers each to serve the Northern Shenandoah Valley area.

To replace the service canceled by Schrock Tours in 2005, NSVRC initiated a new commuter bus service carrying 20 passengers to Washington D.C. on the I-66 corridor. Also, NSVRC maintained its support and promotion of a private commuter bus service to Westfields Business Park located in Fairfax County. 39 passengers currently utilize this service.

NSVRC continues to provide rideshare matching services to the Northern Shenandoah Valley area. Between January and May, approximately 100 new requests for carpools, vanpools, and commuter bus services were received, in addition to 50 renewal requests from existing participants of the program.

Park and Ride lot designation: Ongoing 2006

Discussions were initiated with VDOT and Winchester-Frederick County surrounding areas to explore available options for the creation of a park and ride lot within the Town of Berryville. Currently, NSVRC has identified 11 park and ride lots in the Northern Shenandoah Valley area, totaling 1,050 parking spaces available for commuters.

Although no park and ride lots currently exist within the Winchester-Frederick County MPO area, the 2030 Transportation Plan (refer to Bicycle and Pedestrian Accommodation) includes the development of two future park and ride facilities at:

- US Route 522 near Tasker Road (Route 642), and
- Route 7 between I-81 and the Clarke County Line.

Bicycle and Pedestrian Accommodation

Winchester-Frederick County Metropolitan Planning Organization (MPO) Bicycle and Pedestrian Mobility Study: Ongoing 2006

A study assessing the potential integration of bike and pedestrian facilities between Winchester and Frederick County began in 2005. As of early 2006 Toole Design Group, LLC, one of the nation's leading planning and design firms specializing in multi-modal transportation, was hired as the consultant for the Study. Toole Design has developed similar projects in the past, including the Maryland Pedestrian and Bicycle Safety Education Program, District of Columbia Bicycle Master Plan, and the Loudoun County Bicycle and Pedestrian Mobility Master Plan. Additionally, a grant was received from the National Park Service's Rivers, Trails, and Community Assistance Program to provide technical assistance to the MPO Study.

The anticipated completion date of the MPO Bike and Pedestrian Mobility Study is January 2007.

Winchester-Frederick County Metropolitan Planning Organization (MPO) 2030 Transportation Program: Ongoing 2006

The Winchester-Frederick County MPO 2030 Transportation Program consists of a multi-modal transportation plan that addresses existing and current transportation needs of the Winchester-Frederick County MPO area. Among the many goals and objectives of the Plan are:

- Encourage the use of alternate modes of transportation such as bicycle, pedestrian, carpooling and ridesharing, public transit, air, and rail.
- Provide a transportation network that is sensitive to the region's environment.
- Provide land use patterns that maximize the efficiency of the transportation network.

As of June 2006, the 2030 Vision and Final Transportation Plans were developed and made available for public access at the following website:

http://www.winfredmpo.org/transplan_final.asp

Bike and Pedestrian Safety Grant project analysis: Ongoing 2006

Earlier this year, Winchester City was awarded a Bike and Pedestrian Safety grant from VDOT. The City is currently involved in negotiations with VDOT to administer the projects locally that would involve the incorporation of pedestrian signals and crosswalks to 7 intersections along the Winchester Green Circle route.

Walking & Wheeling the Northern Shenandoah Valley program: Promoted 2006

The Northern Shenandoah Valley Regional Commission and Shenandoah Valley Battlefield Foundation's Walking & Wheeling Plan was adopted in 2005 and continues to be promoted in 2006 as a source of justification for further bicycle and pedestrian accommodation studies and projects.

Transportation District Feasibility Study: Ongoing 2006

The Winchester-Frederick County MPO Policy Committee carried over a Transportation District Feasibility Study from Fiscal year 2004-2005. The purpose of this study is to analyze the feasibility of creating a transportation district to facilitate the expansion of mass transportation services outside the City of Winchester. Progress of the study thus far in 2006 includes the development of a draft feasibility study. Additional information on the Feasibility Study can be viewed at <http://www.winfredmpo.org/upwp.asp>.

Promote Green Space Preservation

Frederick County Conservation Easement Authority: Ongoing 2006

The Frederick County Conservation Easement Authority was created in August 2005 to assist county landowners in the protection and preservation of farm land, forests, open space, scenic landscapes, historic sites, water resources, and environmentally sensitive lands.

In 2006, a publicity campaign for the Easement Authority was initiated. The Authority developed informational materials, which included a Frederick County Conservation Easement Authority brochure and application. All County landowners retaining 50 or more acres were sent these educational materials to promote and generate interest in the program. Authority members and

County staff also began to meet with landowners and members of the community to discuss land preservation and to provide explanations of how conservation easements work. On April 3rd, approximately 80 landowners attended an Authority Information Meeting which included a panel of guest speakers and an appraiser for the program. As of June 2006, no easements have been

Winchester Green Circle Project: Ongoing 2006

The Winchester Green Circle Project is a walking and biking trail that, once completed, will encircle the City and provide safe alternative transportation methods for the community by connecting parks, neighborhoods, schools, and tourist attractions. In 2005, Phase 1 of the Project was completed by creating a 1-mile trail along Abrams Creek Wetland Preserve (Figure 7). As of June 2006, the current focus of the Winchester Green Circle Project is the environmental review of Phase 1-A—Town Run Linear Park. Town Run Linear Park is a proposed section of trail following Town Run from Pleasant Valley Road to Pall Mall Street to Cecil Street (dashed blue line, Figure 8). This trail would connect Shenandoah University, Jim Barnett Park, Winchester-Frederick County Virginia Conventions and Visitors Bureau, and Shawnee Springs Park.

Winchester City has recently been awarded funds from the VDOT Transportation Enhancement Program for work to be continued on the Green Circle Project in 2007.



Figure 7. Photographs of the Winchester Green Circle Project's Phase 1 trail.

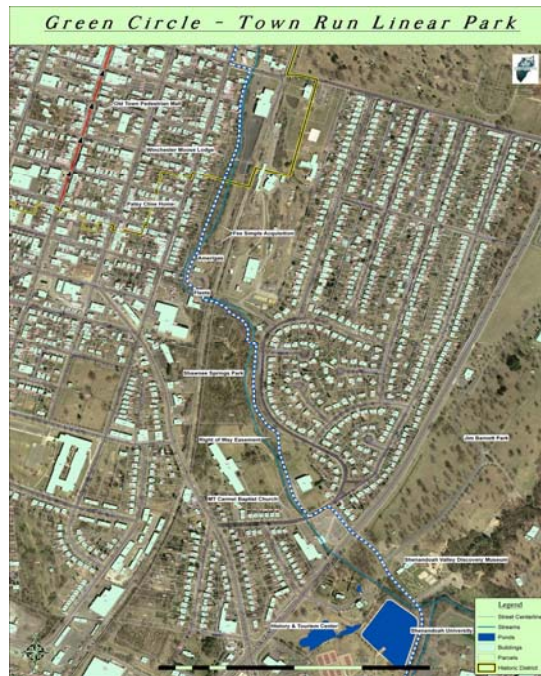


Figure 8. Town Run Linear Park—proposed Phase 1-A trail of the Winchester Green Circle Project.

Promote Mixed Use Development

City and County Comprehensive Plans: Ongoing 2006

Comprehensive plans for the City of Winchester and Frederick County include provisions for promoting mixed use and cluster development.

Urban Development Area Study: Ongoing 2006

Beginning in January 2006, the Frederick County Planning Commission and Board of Supervisors held a series of joint work sessions to implement an Urban Development Area (UDA) Study. The purpose of the UDA Study is to evaluate the County land use policy within the existing Comprehensive Plan and to propose revisions for the promotion of a new form of development in the Urban Development Area. One concept of the UDA Study is neighborhood mixed use urban community centers—a new philosophy of development that creates neighborhoods which incorporate residential, retail, educational, and public uses, commercial services, opportunity for employment, and institutional and recreational resources.

Promote Telecommuting

Episodic Ozone Programs: Ongoing 2006

Each Air Quality Action Day Network member (i.e. Business, Government, Educators, Media, and Community) is encouraged to promote telecommuting, especially on Air Quality Action Days.

NetTech Center of Winchester support: Ongoing 2006

The NetTech Center is a member of the Valley AIRCorps program and the Air Quality Action Day network. The Center was a co-sponsor with Valley AIRNow of the Clean Commute/AIRCorps Recognition event held on May 19th, 2006. Free telework usage at the Center was offered on this day. The NetTech Center also offers a free trial for Federal employees at specific times throughout the year.

3. Open Burning Restrictions

Establishing open burning restrictions for land clearing activities has the potential to reduce combustion sources in the emissions inventories. While this type of rule is sometimes difficult to enforce, the reduction of related fire hazards along with the reduction of visible smoke and resulting air quality benefits were deemed important by the Northern Shenandoah Valley Task Force. This measure will be implemented by local ordinances.

Control Strategies:

City and County restrictions: Maintained Ozone Season 2006

On June 5th, 2006, a memorandum regarding Frederick County local government actions on Air Quality Action Days was issued by the County Administrator to all government agencies and offices. This memorandum specified the restrictions of any burning associated with County land clearing and construction projects on AQAD. Other AQAD actions specified in the memorandum included postponement of mowing and the use of oil-based paints and solvents, restrictions on engine idling, as well as the limitation of prolonged outdoor exertion by government employees.

Winchester City code prohibits open burning within City limits.

4. Engine Idling Restrictions

Due in part to the nearby, heavily traveled I-81 corridor, restrictions for engine idling is another control strategy for the Northern Shenandoah Valley area. A large amount of idling emissions are generated from heavy-duty diesel vehicles that are parked at truck stops, rest areas and to a lesser extent, distribution centers.

Control Strategies:

City and County restrictions on Air Quality Action Days: Maintained Ozone Season 2006

In June, a memorandum regarding local government actions on Air Quality Action Days was issued by the Winchester City Manager and Frederick County Administrator to all their local government agencies and offices. This memorandum specified restrictions on engine idling of gasoline powered, publicly-owned vehicles on Air Quality Action Days. Other AQAD actions specified in the memorandum included postponement of mowing and the use of oil-based paints and solvents, restrictions on any burning associated with County land clearing and construction, as well as the limitation of prolonged outdoor exertion by government employees

5. School Bus/Heavy Duty Fleets Retrofits

Retrofitting heavy duty diesel engines with emissions control technologies, such as EGR systems, or after treatment devices is an emissions control measure that was addressed by the Northern Shenandoah Valley Task Force and completed as of December 2005. 18 Winchester City and 124 Frederick County schools buses were retrofitted with diesel oxidation catalysts. In addition, the ECM on all (6) late model school buses were reprogrammed to reduce NOx emissions.

6. Voluntary Industrial Reductions

Although emissions reduction benefits are sometimes difficult to quantify for voluntary industrial reductions, a campaign to promote voluntary measures by local industries is a reasonable and practical method to improve local air quality. Additionally, this strategy helps to increase awareness of the pollution problem and establish a relationship between local government and area industry.

Control Strategies:

Valley AIRCorps program: Ongoing 2006

Valley AIRNow continues to recruit new members in a year-round effort for its Valley AIRCorps business outreach program. Beginning in January of 2006, Valley AIRNow presented to several Northern Shenandoah Valley groups and organizations, including Rotary Clubs and a Petroleum Marketer's Association, to promote AIRCorps and enlist new members. Upon enrollment in the program, companies designate a Clean Air Coordinator, who will receive email or fax notification of an Air Quality Action Day. The company can choose to formulate and personalize their AQAD program by encouraging alternative commute options, promoting telecommuting to those employees who qualify, regularly providing sponsorship for community events, regularly providing AQAD outreach assistance, lending use of dynamic message signs, and other emissions activities on AQAD. Companies have the flexibility to implement any creative policy that reduces emissions during ozone season.

Appendix A

Northern Shenandoah Valley Ozone Early Action Compact Area
June 30, 2006 Submittal

The Northern Shenandoah Valley Ozone Early Action Compact Area June 30, 2006 Submittal Summary Table

Control Measure	Summary description of control measure	Program/Measure status	Implement- ation Date	VOC/NOx Reductions	Resources	Additional Information
Ozone Action Days/Public Awareness Campaign	A comprehensive local Ozone Action Days Program. This strategy is a combination of a number of measures that had been evaluated earlier as individual strategies and are currently being maintained and promoted, including: • General Public Awareness Program • School-based Public Awareness Program • Education and Promotion Campaign • Education and Promotion Campaign • Employer-based Ozone Action Days • Area Sources Ozone Action Days • Dynamic Message Signs • Video Monitor Deployment • Lawn and Garden Equipment Usage Restrictions for State/Local Governments • Other State/Local Government Restrictions (Refueling, Pesticides) • Voluntary Restrictions by Public (Lawn and Garden, Refueling, Others) Further information can be found in	Valley AIRNow, an education and outreach program, was created in April 2005 to address this milestone, and continues its maintenance, implementation, and promotion in 2006. The activities of the program are broken down into two main categories: networks and information dissemination. Networks: <u>Government Air Quality Action Day Network</u> • Valley AIRNow continued to collaborate with City/County officials and designated Clean Air Coordinators to maintain and enforce the Air Quality Action Day (AQAD) Plan for Local Government. This Plan consists of (a) the dissemination of Alerts by the City and County-wide Clean Air Coordinators before predicted high ozone days specifying measures employees can take to protect their health and reduce emissions for that day, and (b) the restriction of City/County department activities, such as mowing, painting, open burning, idling, and physical outdoor exertion on Action Days. <u>Schools Air Quality Action Day Network</u> • Valley AIRNow continued to collaborate with City and County schools to maintain and enforce the Air Quality Action Day (AQAD) Plan for Educators. This Plan consists of the dissemination of Alerts by the City and County-wide School Clean Air Coordinators before predicted high ozone days. Specific	Public Education and Outreach launched 2004 with creation of website, PSAs, and Air Quality Action Day alerts. Valley AIRNow Air Quality Education and Outreach Program launched April 2005. Full implement- ation completed September 30, 2005. Ozone Action Days/Public Awareness Campaign maintained and promoted October 2005	Please refer to associated VADEQ document for all reductions estimates.	Funding provided by Winchester-Frederick County and the SHENAIR Institute.	Additional information on Valley AIRNow, including outreach materials, can be found at www.valleyairnow.com or by request at info@valleyairnow.com .

Ozone Action Days/Public Awareness Campaign (cont...)	the SIP submitted December 30, 2004 on page 13, and in Appendix B	measures employees and students can take to protect their health and reduce emissions for the day, are clearly identified. - Valley AIRNow held a series of Teacher Workshop Planning sessions to integrate air quality information with Virginia Standards of Learning (SOLs) and the current science curriculum of Winchester-Frederick County schools. - The SHENAIR Institute and Valley AIRNow partner with GLOBE to host an intensive 5-day air quality workshop for Winchester-Frederick County 4th, 6th, 7th, and 9th grade science teachers. The goals of the workshop were (a) to increase knowledge of the air quality content defined by the Virginia SOLs, and (b) to improve the instructional delivery of this content. In addition, all participants were provided with a basic set of GLOBE certified scientific instruments to incorporate climate and air quality monitoring into their curriculum. <u>Media Air Quality Action Day Network</u> - Valley AIRNow continued to collaborate with television, print, and radio resources in and around Winchester-Frederick County to maintain the Air Quality Action Day (AQAD) Plan for Media. This Plan consists of the dissemination of Alerts by Media Clean Air Coordinators before predicted high ozone days. Specific measures employees and audiences can take to protect their health and reduce emissions for the day, are clearly identified in the Alert. - Valley AIRNow developed media kits unique to each media resource type: (1) television, (2) print (e.g. newspapers, journals), and (3) radio.	to present.			
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Ozone Action Days/Public Awareness Campaign (cont...)		These media kits were distributed to each type of media resource located in and around the Winchester-Frederick County area, resulting in the growth of a media network that supplements Valley AIRNow's public awareness campaign. - Valley AIRNow was featured in several newspaper articles and radio spots in 2006. In addition, multiple PSAs were run on local radio stations and one television station implemented air quality information into their local broadcasts. <u>Health Air Quality Action Day Network</u> - Valley AIRNow continued to collaborate with Northern Shenandoah Valley health-care providers to maintain the Air Quality Action Day (AQAD) Plan for Health. This Plan consists of the dissemination of Alerts by Health Clean Air Coordinators before predicted high ozone days. Specific measures employees and patients can take to protect their health and reduce emissions for the day, are clearly identified in the Alert. - Valley AIRNow partnered with various health organizations (e.g. Valley Health Systems, The American Lung Association, Shenandoah Valley Runners Association) to provide informational health and ozone materials to the community at various events. <u>Business Air Quality Action Day Network</u> - Valley AIRNow continued to collaborate with various Winchester-Frederick County businesses to maintain the Air Quality Action Day (AQAD) Plan for Business. This Plan consists of the dissemination of Alerts by designated Business Clean Air Coordinators				
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Ozone Action Days/Public Awareness Campaign (cont...)		before predicted high ozone days. Specific measures employees and customers can take to protect their health and reduce emissions for the day, are clearly identified in the Alert. - Valley AIRNow continued to promote and expand the Valley AIRCorps business outreach program. Current membership in the AIRCorps program as of June 2006 is a variety of 22 manufacturing, petroleum, and health/fitness businesses. - Valley AIRNow hosted a Clean Commute event to recognize outstanding Valley AIRCorps members that participated in the program during the 2005 Ozone Season. Information Dissemination: <u>Stakeholder Building</u> - Valley AIRNow adapted, revised, and/or developed AIRCorps educational and recruitment posters, banners, brochures, bus advertisements, certificates, media kits, news briefings, presentations, and a variety of other informational materials. - Valley AIRNow hosted, attended, and/or presented at the following events: 38th Annual Air Pollution Workshop, 86th Annual American Meteorological Society Conference, 2006 AIRNow National Air Quality Conference, American Lung Association's Clean Commute Day, Clean Commute/AIRCorps Recognition Event, Environment Virginia Conference, Teacher Air Quality Workshop, Teacher Workshop Planning Sessions, Shenandoah Apple Blossom Festival races, Valley Health Systems Employee Health & Fitness Fair. - Valley AIRNow provided informational presentations on ozone to the following local, civic groups: Northern Shenandoah Valley				
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Ozone Action Days/Public Awareness Campaign (cont...)		Petroleum Marketer's Association, Northern Virginia Manufacturer's Association, Stephens City Rotary Club, and Woodstock Rotary Club. - Valley AIRNow continued to provide real-time, local air quality information to the public via the Valley AIRNow website, Valley AIRNow Air Quality Hotline, and by coordinating with the DEQ Ozone Forecasting Program, EPA AIRNow, American Lung Association's Smog Alert Program, The Weather Channel, and Weather Underground. <u>Coordination</u> - VDOT highway variable message signs will be utilized when VA DEQ designates an Air Quality Action Day, displaying the words "Air Action Day" to inform motorists of current conditions. - VDOT visibility webcams were made available to the public on the Valley AIRNow website in May. - Valley AIRNow continued to coordinate and host monthly/bi-monthly Air Quality Improvement Task Force meetings, lead the Ozone Action Days/Public Awareness Phase I strategies, and ensure the implementation and maintenance of all other Phase I strategies. - Valley AIRNow continued to coordinate and maintain valuable collaborative partnerships with the following organizations: American Lung Association of Virginia, Eastern Panhandle Clean Air Connection, Shenandoah Valley Runners, Valley Commuter Assistance Program, Winchester Green Circle Project, etc.				
Vehicle Miles Traveled Reduction Programs	A comprehensive local Vehicle Miles Traveled (VMT) Reduction Program. This strategy is a combination of several individual programs and	Many programs and policies addressing VMT control measures were developed, implemented, and/or expanded upon throughout the Winchester-Frederick County area, including:	Full implementation completed	Please refer to associated VADEQ document for	The Valley Commuter Assistance Program is	Appendix I-K included in the December 2005 NSV Semi-

Vehicle Miles Traveled Reduction Programs (cont...)	activities that are promoted to reduce vehicle miles of travel, including: - Enhanced/expanded Northern Shenandoah Valley Regional Commission Ridesharing Program - Bicycle and Pedestrian Accommodation - Green Space Preservation - Promotion of Mixed Use Development - Promotion of Telecommuting Further information can be found in the SIP submitted December 30, 2004 on pages 13-14, and in Appendix B.	- Valley Commuter Assistance Program (VCAP, www.vcapride.virginia.gov) via rideshare programs, park and ride lot expansion, coordination with various organizations, outreach events, and media advertisement; - Metropolitan Planning Organization (MPO) Bike and Pedestrian Mobility Study to integrate bicycle and pedestrian facilities between Winchester and Frederick County; - Metropolitan Planning Organization (MPO) 2030 Transportation Program to create a multi-modal transportation plan that addresses existing and current transportation needs of the Winchester-Frederick County MPO, including the use of alternate modes of transportation, creation of a transportation network sensitive to the environment, and the utilization of land use patterns that maximize the efficiency of the network; - Bike and Pedestrian Safety Grant project analysis to administer local projects involving the incorporation of pedestrian signals and crosswalks to 7 intersections along the Winchester Green Circle route; - Walking & Wheeling the Northern Shenandoah Valley project to justify further bicycle and pedestrian accommodation studies and projects; - Transportation District Feasibility Study to analyze the feasibility of creating a transportation district to facilitate the expansion of mass transportation services outside the City of Winchester; - Frederick County Conservation Easement Authority to assist county landowners in the protection and preservation of farm land, forests, open space, scenic landscapes, historic sites, water resources, and environmentally	September 30, 2005. Vehicle Miles Traveled Reduction Programs developed, implemented, and promoted September 2005 to present.	all reductions estimates.	funded by the State, with 20% local matching funds. Funding has been allocated for all bicycle and pedestrian accommodations, green space preservation initiatives, and mixed use development initiatives as described. The funding of the Net Tech Center of Winchester is Congressional ordered and is administered by the GSA.	Annual Status Report.
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Vehicle Miles Traveled Reduction Programs (cont...)		sensitive lands. - Winchester Green Circle Project to complete the construction of Town Run Linear Park—a section of trail for pedestrians and bicyclists that connects parks, neighborhoods, schools, and tourist attractions; - Comprehensive Plans for the City of Winchester and Frederick County to promote mixed use and cluster development; - Urban Development Area Study to create neighborhoods which incorporate residential, retail, educational, and public uses, commercial services, opportunity for employment, and institutional and recreational resources; and, - NetTech Center of Winchester to promote telecommuting services in the Northern Shenandoah Valley area.				
Open Burning Restrictions	A ban(s) and/or restriction(s) on open burning during predicted high ozone days and/or the ozone season. Further information can be found in the SIP submitted December 30, 2004 on page 14, and in Appendix B.	The Frederick County Administrator issued a memorandum on June 5 specifying 2006 restrictions on burning associated with County land clearing and/or construction projects on Air Quality Action Days. Winchester City Code prohibits open burning within City limits.	Full implementation completed September 30, 2005. Open Burning Restrictions maintained and promoted for ozone season 2006.	Please refer to associated VADEQ document for all reductions estimates.	Coordination of plans to restrict open burning on Action Days is incorporated into the Valley AIRNow budget.	Appendix E included in the December 2005 NSV Semi-Annual Status Report.
Engine Idling Restrictions	A restriction(s) on public and private diesel truck idling. The EAC jurisdictions are committed to reduce idling of local government vehicles (including school buses) and to promote voluntary restrictions from privately owned vehicles and fleets.	Winchester City and Frederick County issued a memorandum in June specifying 2006 restrictions on the idling of local government vehicles on Air Quality Action Days.	Full implementation completed September 30, 2005. Engine Idling	Please refer to associated VADEQ document for all reductions estimates	Coordination of plans to restrict engine idling on Action Days is incorporated	December 2005 NSV Semi-Annual Status Report.

Engine Idling Restrictions (cont...)			Restrictions maintained and promoted for ozone season 2006.		into the Valley AIRNow budget.	
School Bus and Heavy Duty Fleets Retrofits	A program involving the retrofitting of heavy duty diesel engines with emissions control technologies, such as EGR systems, or after treatment devices. Further information can be found in the SIP submitted December 30, 2004 on page 14, and in Appendix B.	The retrofitting of 142 Winchester City and Frederick County school buses with diesel oxidation catalysts was completed in 2005. The reprogramming of all late model school bus ECM devices was completed in 2005 as well.	Full implementation completed September 30, 2005. No further control strategy progress exists for 2006.	Please refer to associated VADEQ document for all reductions estimates.	The VA DEQ committed \$475,000 to complete this project in 2005.	Appendix L(a) and L(b) included in the December 2005 NSV Semi-Annual Status Report.
Voluntary Industrial Reductions	A voluntary reductions program for local industries. The EAC jurisdictions are committed to seek voluntary commitments from local industries to reduce ozone precursor emissions during the ozone season and/or on predicted high ozone days. This strategy will help increase awareness of the pollution problem and establish a relationship between local government and area industry. Further information can be found in the SIP submitted December 30, 2004 on page 14, and in Appendix B.	Valley AIRNow worked with local industry through the AIRCorps program to formulate unique and personalized programs/policies for members that reduce smog-inducing emissions, particularly on Air Quality Action Days. New members are recruited for the program in a year-round effort. As of June 2006, Valley AIRNow targeted members of Rotary Clubs, and a local Manufacturers and Petroleum Marketers Association by providing them with informational presentations.	Full implementation completed September 30, 2005. Voluntary Industrial Reductions program maintained and promoted September 2005 to present.	Please refer to associated VADEQ document for all reductions estimates.	Coordination of plans for Voluntary Industrial Reductions on Action Days is incorporated into the Valley AIRNow budget.	Additional information about Valley AIRCorps, including program materials, can be found at www.valleyairnow.com/aircorps.htm .

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's, \$\$)	H. Additional Information
27 Northern Shenandoah Valley, VA (Effective date of nonattainment designation deferred)							
Ozone action days/public awareness -multiple activities	Comprehensive local ozone action days program - Program strategy includes a combination of individual measures	Program and individual measures have been fully implemented under the Valley AIRNOW program (see local report for much more details)	Apr-05	0.3 TPD	0.02 TPD	70,000/year	Additional information on Valley AIRNOW can be found at www.valleyairnow.com
VMT Reduction programs - multiple activities	Implementation of a comprehensive local VMT reduction program	Program and individual measures have been fully implemented	Sep-05	0.15 TPD	0.3 TPD		See NSV June 2006 local status report
Open burning restrictions	Open burning bans/restrictions during predicted high ozone days and /or during the ozone season	Both jurisdictions issued memorandums in 2006 reiterating restrictions on open burning during air quality action days - fully implemented	Sep-05	0.28 TPD	0.12 TPD		See NSV June 2006 local status report. To be replaced by more restrictive state rule in 2007
Engine idling restrictions -truck/school bus	Restrictions on diesel idling of government vehicles	Both jurisdictions reiterated policies regarding idling restrictions of government vehicles during action days in 2006 - fully implemented	Sep-05	0	0.1 TPD		See NSV June 2006 local status report
School bus/heavy duty diesel retrofit	Voluntary diesel retrofit program for school buses	A total of 142 school buses have been retrofitted with oxidation catalysts - fully implemented	Sep-05	0.002 TPD	0.001 TPD	172,000-DEQ Grant	See NSV June 2006 local status report
Voluntary industrial reductions	Voluntary reductions from local industries	Established the AIRCorps program to establish voluntary programs - to date 22 local businesses have enlisted in the AIRCorps program. - fully implemented	Spring 2005	NQ	NQ		See the Valley AIRNOW site for more information
Regional Reduction of NOx Emissions	Regional program to reduce ozone transport by reducing NOX emissions from power plants.	fully implemented by state regulation during 2004 ozone season	May 31, 2004	NQ	NQ		11,000 tons/per season reduced in VA between 2002 and 2005. Over 150,000 tps in VA and adjacent states
National Low Emission Vehicle Program	Requirement for the sale of low emissions vehicles	Program fully implemented by state regulation	1999	NQ	NQ		
RACT Controls -- VOC only, no NOx reductions	Expansion of existing source VOC control regulations and non-CTG RACT for major NOX sources	Fully Implemented region-wide by state regulation	Nov-05	0.792 TPD	0		
Enhanced Ozone Forecasting tool	Preparing daily ozone forecasts during the ozone	Program fully implemented	May-05	NQ	NQ	70,000 & 1 FTE	
State Cutback Asphalt Regulation	Restriction on the use of cutback asphalt	Fully implemented region-wide by state regulation	Nov-05	0.001 TPD	0		
Comments:							



Ozone Early Action Plan

Northern Shenandoah Valley

Northern Shenandoah Valley Ozone Early Action Area

State Air Quality & Program Update

June 30, 2006



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APPENDIX – Control Program and Measures Summary

Northern Shenandoah Valley Ozone Early Action Plan State Air Quality & Program Update – June 30, 2006

Introduction

Provided in this report is a status of the state efforts to assist the Northern Shenandoah Valley (Winchester) Ozone Early Action Compact (EAC) Area in implementing the commitments contained in the Early Action Plan for the area. This plan was submitted as a State Implementation Plan (SIP) by the Virginia Department of Environmental Quality (VADEQ) on December 20, 2004 on behalf of the Commonwealth and the localities participating in the EAC process.

Since the formal submission of this plan, great strides have been made at the local, state, and regional levels to both implement control measures and produce emission reductions in ozone precursor pollutants. In turn, these controls and emission reductions have continued to translate into cleaner air for the Winchester area.

To demonstrate this progress in term of improved air quality, reduced emissions and pollutant transport, and the implementation of controls, the following discussed in the remainder of this report:

- Recent air quality improvement trends and observed reductions in regional ozone transport
- Updated 2005 emissions inventory demonstrating progress towards 2007 attainment goals.
- Implementation of regional and state programs contributing to the EAP process.
- Summary and status of control measures implemented as part of the Winchester EAP.

Air Quality Update

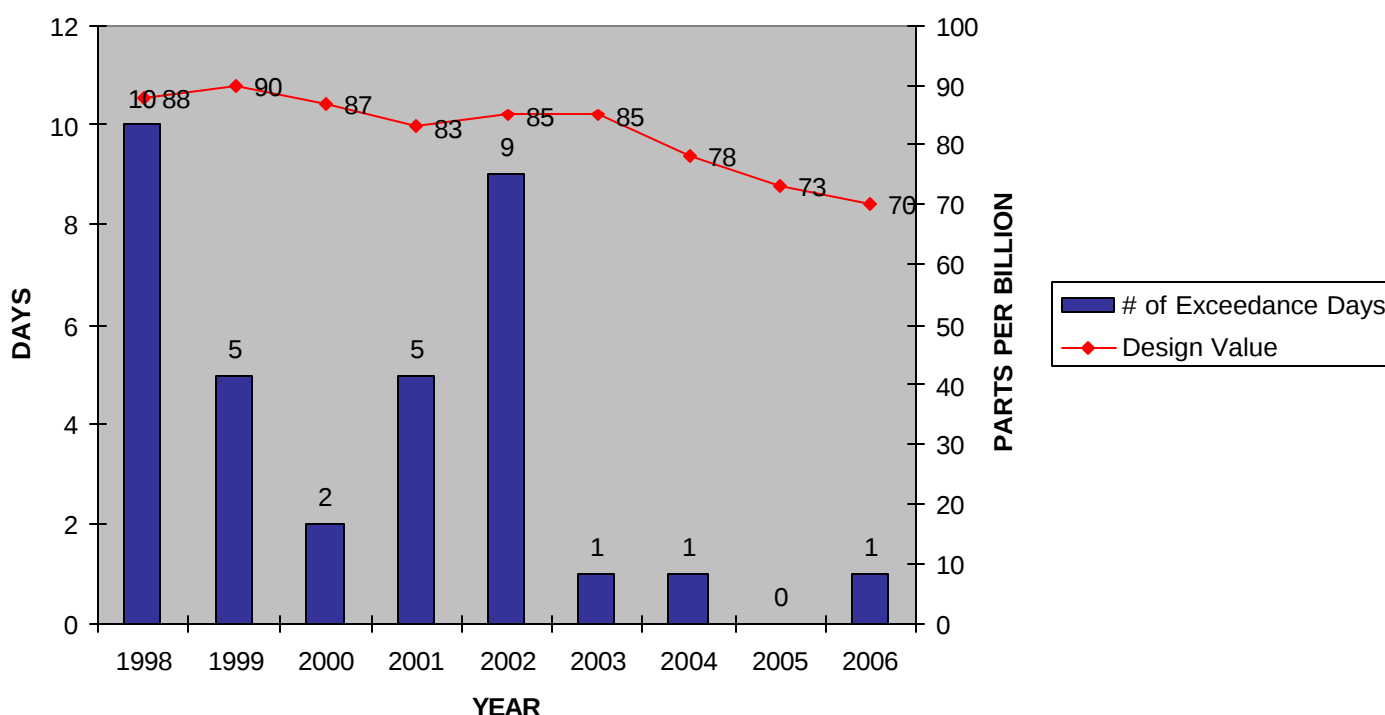
As the 2006 ozone season begins, air quality continues to improve in the Winchester area. This is demonstrated by the fact that the area has recorded only 3 exceedances of the 8-hour ozone standard since 2003. The improvement of air quality continued in 2005 despite weather more conducive to ozone formation than in previous years. This trend in air quality improvement is documented below from highs recorded in the late 1990s. As a result, the Winchester area is now in compliance with the 8-hour ozone standard. Thus far, one exceedance of the standard has been recorded in the during the 2006 ozone season.

Table 1 – Winchester Area Ozone Trends

<i>YEAR</i>	<i># OF EXCEEDANCE</i>	<i>3-YEAR DESIGN VALUE</i>
--------------------	-------------------------------	-----------------------------------

1998	10	88 Parts Per Billion (PPB)
1999	5	90 PPB
2000	2	87 PPB
2001	5	83 PPB
2002	9	85 PPB
2003	1	85 PPB
2004	1	78 PPB
2005	0	73 PPB
2006*	1*	70 PPB*

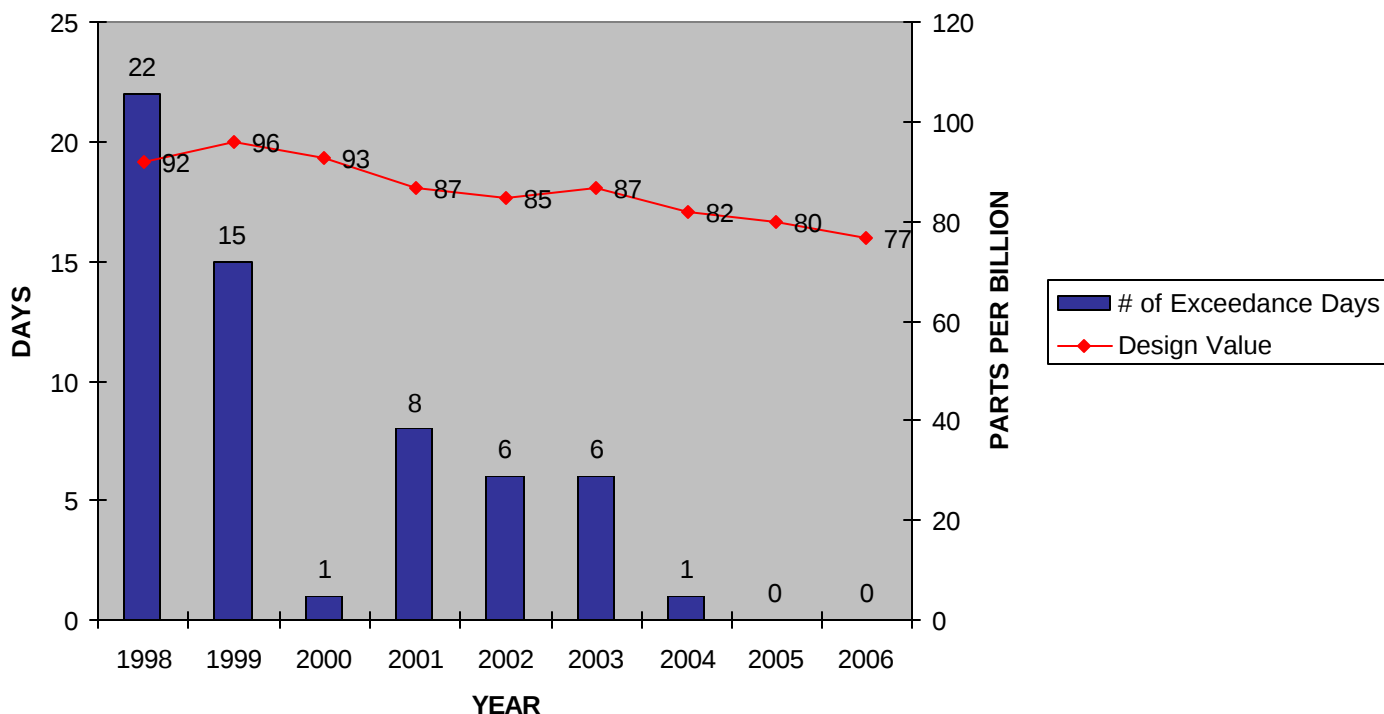
Figure 1 – Winchester Area Ozone Trends



Of equal or even more importance than the local ozone air quality improvement in the Winchester is the trends being observed in the reduction of ozone being transported in to Virginia and the EAC areas. Small areas like Roanoke and Winchester, with relatively small local ozone precursor pollutant emissions are significantly impacted by the regional pollutant load of ozone that is generated in upwind areas and transported into these areas by typical summer weather patterns.

To track and analyze the influence of transported ozone, Virginia has a long standing high-altitude monitor in the Shenandoah National Park (SNP) at Big Meadows. It is well accepted that high ozone values observed at this monitor is reflective of pollution being transported into Virginia from areas west of this monitoring station. As shown in the graph below, ozone air quality has also improved significantly at the SNP monitor.

Figure 2 – Big Meadow (SNP) Ozone Exceedance & Design Value Trends



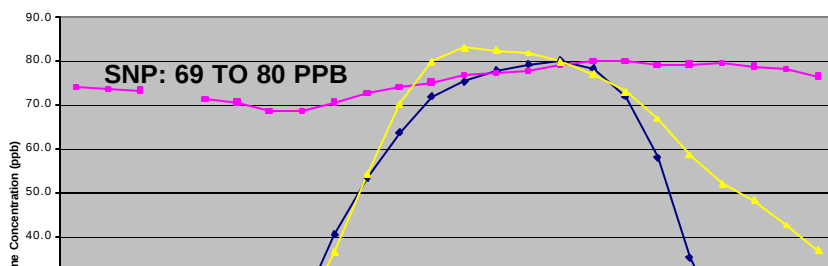
To investigate this reduction in transported pollution, the following analysis was performed. The table and charts presented below and on the next page show that the average ozone levels measured at Big Meadows during ozone exceedance days has dropped from 1998 to 2005 by approximately 15 ppb.

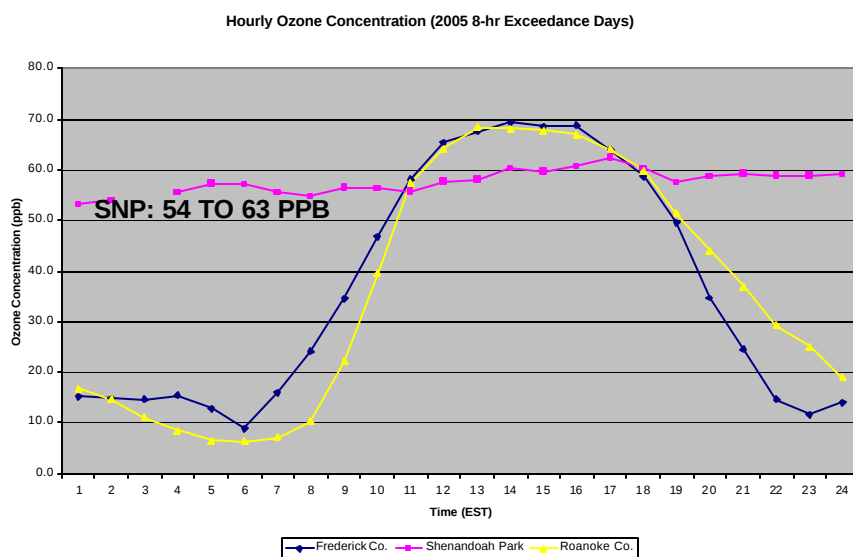
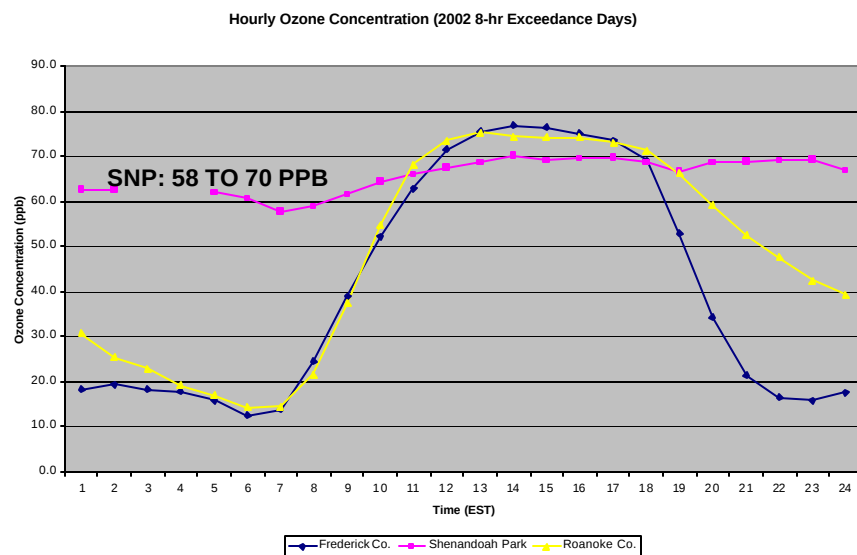
Table 2 – Range of Big Meadows Hourly Average Concentrations

YEAR	AVERAGE CONCENTRATION RANGES
1998	69 TO 80 PPB
1999	65 TO 76 PPB
2000	67 TO 74 PPB
2001	68 TO 75 PPB
2002	58 TO 70 PPB
2003	70 TO 77 PPB
2004	56 TO 69 PPB
2005	54 TO 63 PPB

Figure 3-5: Reduction in Ozone Transport (1998, 2002, & 2005)

Hourly Ozone Concentration (1998 8- hr Exceedance Days)





This reduction in the regional ozone load is most likely due to the numerous control programs implemented to reduce ozone precursor emissions on the state and national levels. Most significant of these, the regional reduction of Oxides of Nitrogen (NO_x) emissions from power plants. This analysis of transport will be updated to 2006 once the data becomes available.

Emissions Inventory Update

To demonstrate that the Winchester area is making good progress towards the emissions reductions committed to in the EAP, an updated 2005 emissions inventory for the area has been developed and is presented below along with a comparison to the 1999, 2002, and 2007 emissions inventories developed for the planning process. The 2005 estimates have been updated from the last report using actual point source data reported through the emission statement & update program.

Table 3 – Winchester Area Emissions Inventories and Trends

Source Category	1999 (Baseline)	2002 (Interim)	2005 (Current Year)	2007 (Control Case)
<i>Volatile Organic Compound (VOC) Emissions in tons/day</i>				
Point Sources	6.019	5.638	4.070	6.068
Area Sources	7.806	7.982	7.137	7.081
Non-road Sources	2.650	2.672	2.270	2.051
Mobile Sources	8.047	7.164	6.000	4.934
Totals:	24.522	23.456	19.477	20.134
<i>Oxides of Nitrogen (NO_x) Emissions in tons/day</i>				
Point Sources	0.745	0.934	0.970	1.075
Area Sources	2.526	2.603	1.412	2.612
Non-road Sources	1.910	1.942	1.770	1.647
Mobile Sources	15.090	14.029	12.950	9.952
Totals:	19.271	19.508	17.102	15.186

Figure 4 – Winchester Area Emissions Inventory Trends

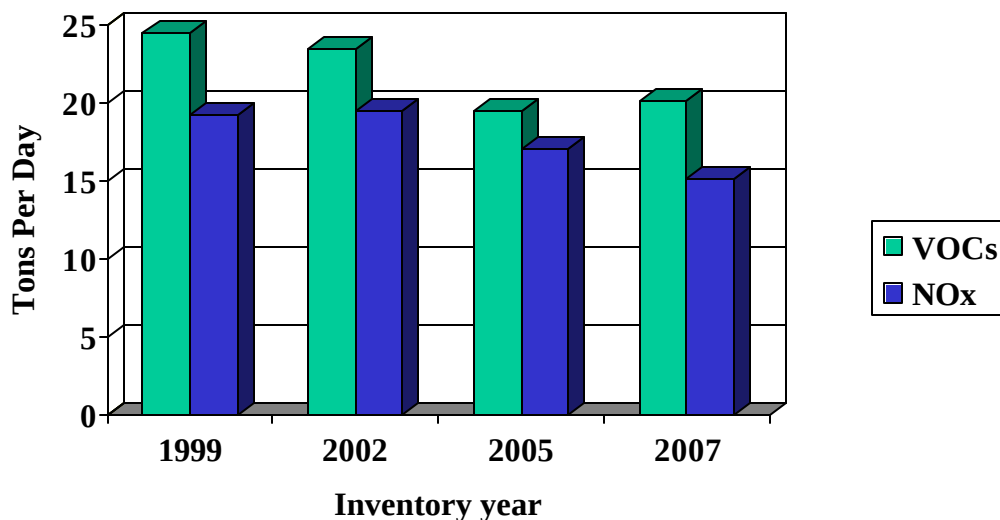
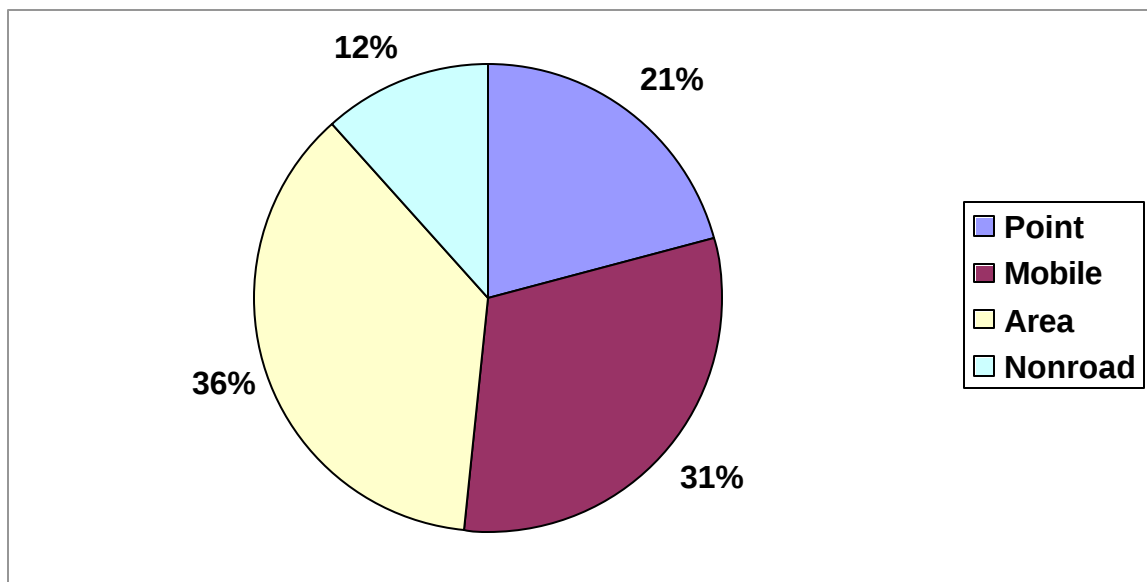
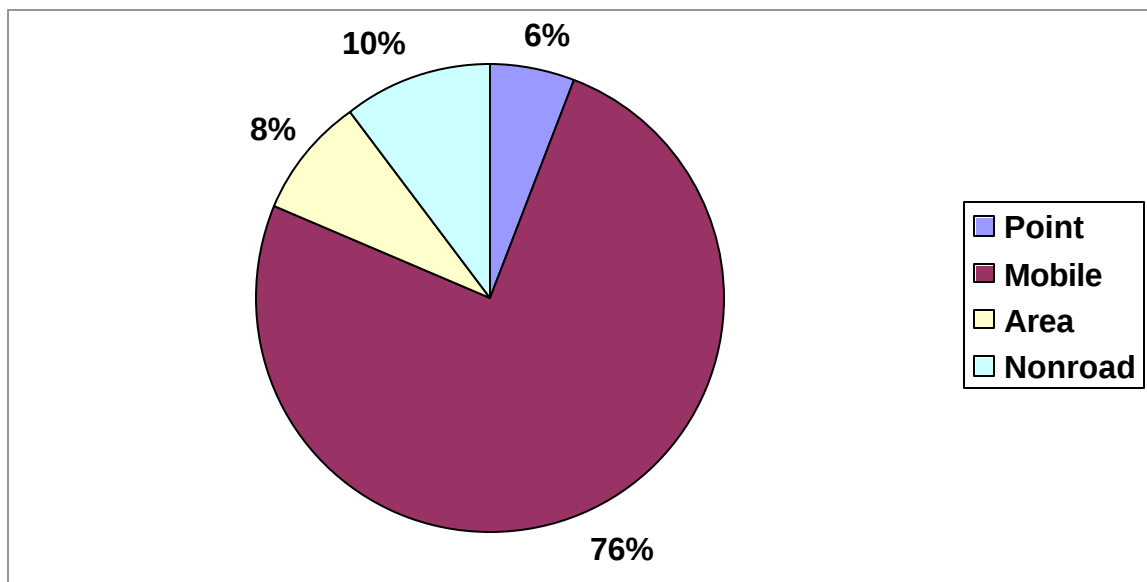


Figure 5 - 2005 Baseline Ozone Season Daily Emissions of Volatile Organic Compounds (VOC)



Summary of the Winchester Area Current VOC Emissions Inventory for Calendar Year 2005	
Major Source Categories	Emissions (tons/day)
Major Stationary Point Sources	
25 individual facilities (7 in Winchester, 18 in Frederick) - Description: Includes several printing, plastics, and mineral products industries. No utilities in the project area.	4.070 tpd
On-Road Mobile Sources	
Motor Vehicles on Public Roads – Description: local and through traffic on the I-81 corridor. Large percentage of heavy-duty diesel trucks. Also, vehicle traffic on all other public roads from major arterials to local roads.	6.000 tpd
Area Sources	
Use of Solvent-based Products – Description: paints, cleaners, consumer products, & others. Gasoline Distribution & Marketing – Description: Gasoline storage & transfer operation at terminals and service stations Others – description: Open burning, landfills, & others	7.137 tpd
Non-Road Mobile Sources	
Non-road Equipment – Description: lawn & garden, construction, recreational vehicles. Others – Description: Locomotives, aircraft, boats	2.270 tpd
Total	19.447 tpd

Figure 6 - 2005 Baseline Ozone Season Daily Emissions of Oxides of Nitrogen (NO_x)



**Summary of the Winchester Area Current
NOX Emissions Inventory for Calendar Year 2005**

Major Source Categories	Emissions (tons/day)
Major Stationary Point Sources	
25 individual facilities (7 in Winchester, 18 in Frederick) - Description: Includes several printing, plastics, and mineral products industries. No utilities in the project area.	0.970 tpd
On-Road Mobile Sources	
Motor Vehicles on Public Roads – Description: local and through traffic on the I-81 corridor. Large percentage of heavy-duty diesel trucks. Also, vehicle traffic on all other public roads from major arterials to local roads.	12.950 tpd
Area Sources	
Use of Solvent-based Products – Description: paints, cleaners, consumer products, & others. Gasoline Distribution & Marketing – Description: Gasoline storage & transfer operation at terminals and service stations Others – description: Open burning, landfills, & others	1.412 tpd
Non-Road Mobile Sources	
Non-road Equipment – Description: lawn & garden, construction, recreational vehicles. Others – Description: Locomotives, aircraft, boats	1.770 tpd
Total	17.102 tpd

The Winchester area is well on its way to achieving the emissions reductions needed to meet the attainment year (2007) goals. In fact, 2005 emissions levels are below the 2007 VOC emission target by 0.66 tons per day and within 1.92 tons per day of the NO_x target.

Regional/State Programs Update

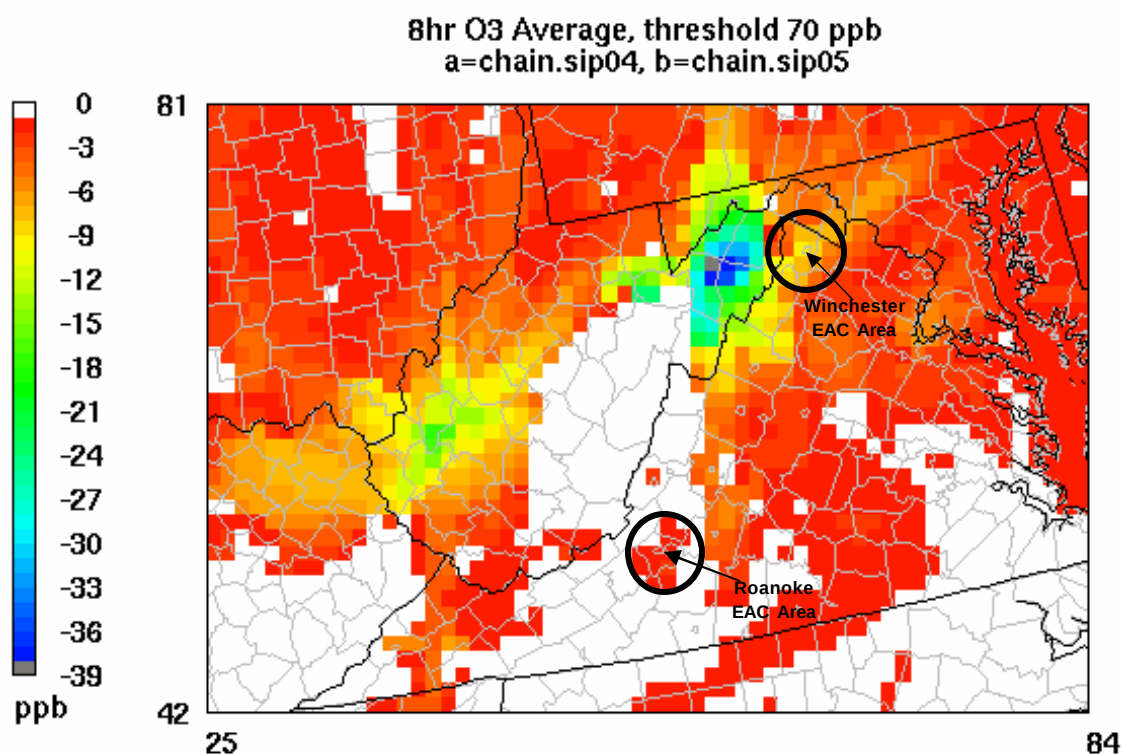
The Virginia Department of Environmental Quality (VADEQ) has implemented several control measures to assist the Winchester area in achieving its air quality goals.

1. Regional Reduction of NO_x Emissions (SIP Call)

The most significant of these programs has been the regional program to reduce NO_x emissions from power plants and large industrial boilers. This regional program, commonly known as the “NO_x SIP Call”, was established by the EPA to address the transport of ozone and precursor emissions in the eastern United States. Virginia, along with 22 other state became subject to this rule which now covers over 2,500 combustion unit in the control area.

To assess the impact of this program on the Winchester area, a limited modeling analysis was performed by the VADEQ to determine the benefits of emissions reductions from selected power plants within close proximity of the EAC area. The results of this analysis shows that the reductions achieved at the four selected power plants alone have a significant impact on predicted ozone values in the Winchester area as shown in concentration difference map below:

Figure 7 – Ozone Reductions from Local Power Plant Controls

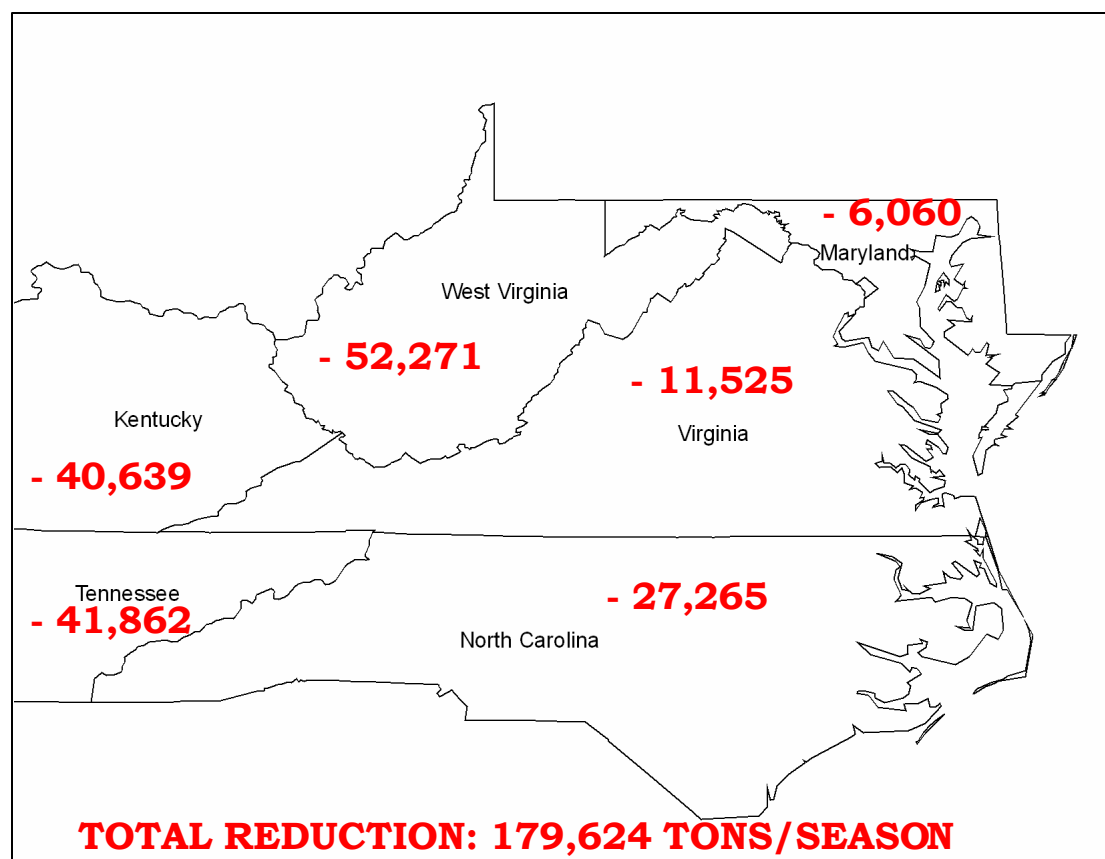


Reduction in emissions from the four selected power plants alone since 2002 have produced ozone concentration reduction of up to 10 parts per billion in the Winchester area. Time and resource constraints did not allow for a more comprehensive modeling analysis of the SIP Call impacts on the EAC areas and Virginia in general. However, the EPA report “Evaluating Ozone Control Programs in the Eastern United States – 2004” estimates much larger reductions in average ozone concentrations in Virginia of 7 to 23% from 1997 to 2004 with much of this reduction coming since 2002 and the implementation of the SIP Call requirements. These estimates are consistent with the

analysis of the reduction of the regional ozone load present in Section 1 of this document that shows a 10 to 15 ppb reduction in transported ozone in Virginia from 1998 to 2005.

As can be predicted, these reductions in ozone are being driven by the significant reduction of NO_x emissions in the SIP Call control area. To document these reductions, an assessment of NO_x emissions and emissions reductions has also been performed for Virginia and surrounding states using data from the EPA Clean Air Markets Division. The results of this analysis are presented below:

Figure 8 – NO_x Emissions Reductions from 2002 to 2005



As can be seen by this analysis, significant NO_x emissions reductions are being achieved through the SIP Call program that is certainly contributing to the improvement in air quality being observed throughout the region and specifically in the EAC areas. This analysis will be updated to 2006 once the ozone season utility data becomes available.

2. National Low Emissions Vehicle Program

The National Low Emissions Vehicle (NLEV) program is a voluntary clean vehicle program established by the EPA through national regulation on December 16, 1997. Due to the voluntary nature of the program, it was contingent upon agreement by a

number of Northeast states and the major automobile manufacturers. Virginia opted into this program for lower vehicle emissions standards, beginning with model year 1999 vehicles and subsequently adopted a state NLEV regulation, 9 VAC 5 Chapter 200, which became effective on April 14, 1999. This program along with the federal motor vehicle control programs, have and continue to provide substantial emissions reductions in Virginia that will assist areas like Winchester in meeting air quality standards and goals.

3. Existing Source Controls and NO_x RACT

To address local point source emissions, the state extended certain existing source and Reasonably Available Control Technology (RACT) regulations to the Winchester area to reduce the local contribution to ozone formation. These regulations were adopted by the Air Pollution Control Board in October 2003 and became effective on March 23, 2004. Compliance with these regulations was then required by November 15, 2005. These regulations mainly apply to two categories of sources which are described below.

A number of state regulations (Chapter 40) regarding existing sources of the Volatile Organic Compound (VOC) have been extended to the Winchester area. These regulations are as follows:

Article 5 - Synthesized Pharmaceutical Products Manufacturing Operations
 Article 6 - Rubber Tire Manufacturing Operations
 Article 11 - Petroleum Refinery Operations
 Article 24 - Solvent Metal Cleaning Operations Using Non-Halogenated Solvents
 Article 25 - Volatile Organic Compound Storage and transfer Operations
 Article 26 - Large Appliance Coating Application Systems
 Article 27 - Magnet Wire Coating Application Systems
 Article 28 - Automobile and light Duty Truck Coating Application Systems
 Article 29 - Can Coating Application Systems
 Article 30 - Metal Coil Coating Application Systems
 Article 31 - Paper and Fabric Coating Application Systems
 Article 32 - Vinyl Coating Application Systems
 Article 33 - Metal Furniture Coating Application Systems
 Article 34 - Miscellaneous Metal Parts and Products Coating Application Systems
 Article 35 - Flatwood Paneling Coating Application Systems
 Article 37 - Petroleum Liquid Storage and Transfer Operations
 Article 39 - Asphalt Paving Operations

Once these regulations became effective, the VADEQ regional office identified approximately 46 point sources in the Winchester area that were potentially subject to one or more these regulations (not including repair shops). These sources were subsequently notified of the potential applicability of these regulations by letter dated February 26, 2004.

As a result of this notification process, most of these sources were determined to be exempt from these rules. The remaining sources have been determined to be in compliance or in one case, on a compliance schedule for the applicable rule(s) and/or have permits which include VOC control requirements equal to or more stringent than the Chapter 40 requirements. Compliance with these regulations is specific to the individual process and regulation and mainly relies on VOC content limitations and/or

emission reduction requirements. The estimate of about 0.8 tons per day of cumulative reductions from these requirements remains valid.

The second part of the control requirements involved case by case RACT determinations for major sources of NO_x. One point source in the Winchester area was identified as being subject to this requirement which resulted in source specific RACT determination and permit that were submitted to the EPA and approved as separate SIP revisions as part of the overall EAP SIP. This RACT determination for the Global Chemstone Company did not require any additional controls and no reductions were included in the EAP.

4. Enhanced Ozone Forecasting tool for the Winchester Area

One of the main components of the local early action program is the establishment of an ozone action days program. This program requires a combination of mandatory and voluntary action by local governments and residents to reduce ozone precursor producing activities and emissions. In order to implement such a program, daily air quality forecasts are needed. To support this program, the VADEQ has completed the following actions to enhance the ozone forecast and health advisory program for the Winchester area:

- The VADEQ contracted with Sonoma Technologies Inc. to develop an enhanced ozone forecasting tool for various areas in Virginia, including the Winchester area. This work has been completed.
- An additional meteorologist has been hired to support the VADEQ air quality forecast and advisory program.
- A consultation process has been established with other local EAC areas in Maryland and West Virginia to discuss and issue cooperative daily forecasts.
- The Winchester area has been updated on the VADEQ air quality forecast webpage, and on the EPA's AIRNOW national forecast webpage to reflect these changes. These sites are shown in the figures below:

Figure 8 – VADEQ Air Quality Forecast Page

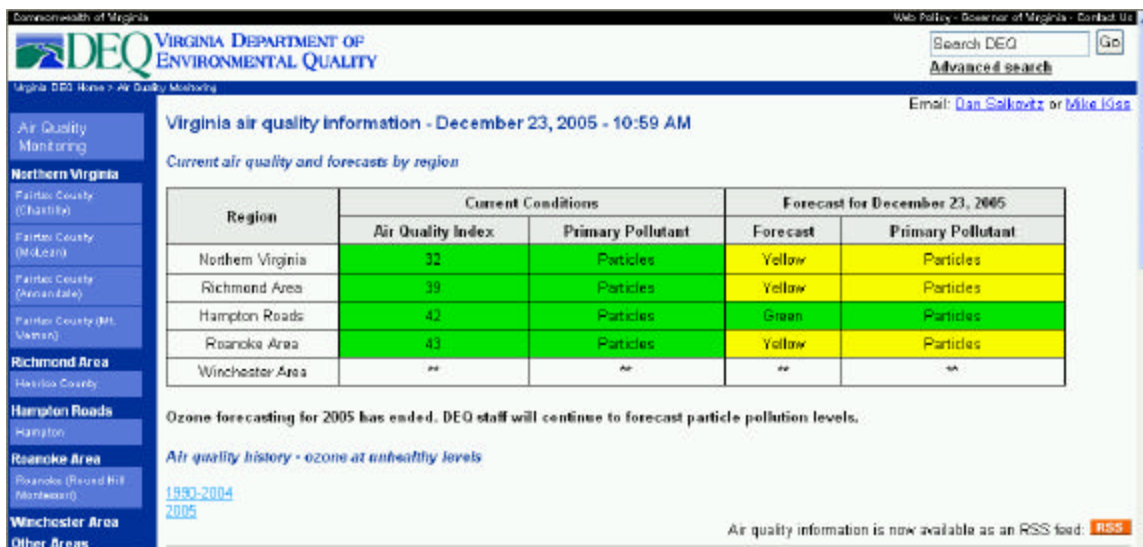
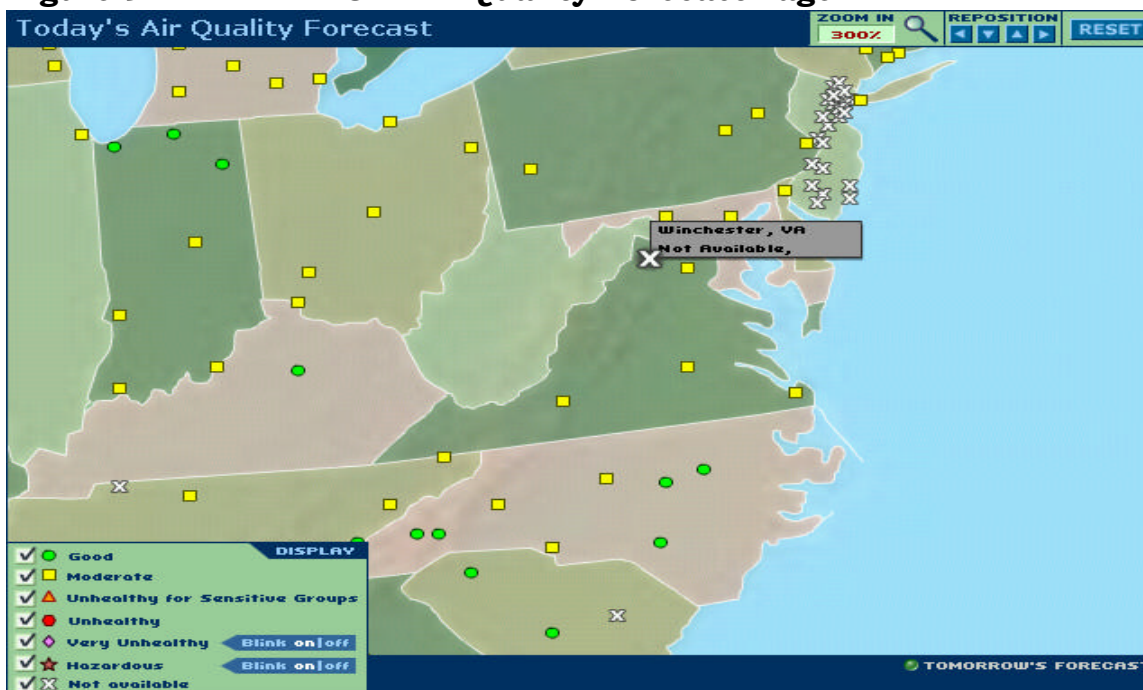


Figure 9 – EPA AIRNOW Air Quality Forecast Page



5. School Bus Emissions Control Retrofit Program

As part of an EPA/VADEQ funded and administered program, Frederick County and the City of Winchester have completed projects to retrofit a significant number of school buses with emission control technologies. The results of these projects are as follows:

Frederick County: 127 school buses retrofitted with diesel oxidation catalysts (DOC) at a total cost of \$163,000.

Winchester City: 8 buses retrofitted with DOC at a total cost of the project was \$8,800.

6. State Open Burning Regulation (New)

On June 21, 2006 the State Air Pollution Control Board gave final approval to the expansion of a more restrictive seasonal open burning control program to the Winchester area. This more restrictive program will replace the local program when it becomes effective in 2007.

Control Program and Measures Summary

In general, the Winchester area and its state and federal partners have been very successful in implementing the commitments contained in the air quality plan. A summary of the control measures and estimated reductions in 2007 is presented below. No changes have occurred in the emission reduction estimates from the 2004 SIP. Appendix B of the 2004 SIP submission provides detailed descriptions of these measures and the methods used to calculate the predicted emission reductions.

Control Measures & Estimated Emissions Reductions (2007)

Emissions Control Measures	VOC (tpd)	NO_x (tpd)	Modeled
<i>State/Federal Area Source Controls</i>			
Architectural & Industrial Paints – Federal Rule (Federally Enforceable)	0.134	0.000	YES
Consumer Products – Federal Rule (Federally Enforceable)	0.056	0.000	YES
Metal Cleaning Solvents – Federal Rule (Federally Enforceable)	0.056	0.000	YES
Motor Vehicle Refinishing – Federal Rule (Federally Enforceable)	0.003	0.000	YES
Cutback Asphalt – State Rule (Federally Enforceable)	0.001	0.000	YES
Subtotals:	0.250	0.000	
<i>Federal Non-Road Source Controls</i>			
Small Gasoline Engine Standards – Federal Rule (Federally Enforceable)	0.812	0.027	YES
Diesel Engine Standards – Federal Rule (Federally Enforceable)	0.047	0.276	YES
Locomotive Engine Standards – Federal Rule (Federally Enforceable)	0.000	0.020	YES
Large Gasoline Engine Standards – Federal Rule (Federally Enforceable)	0.068	0.248	YES
Recreational Engine Standards – Federal Rule (Federally Enforceable)	0.004	0.000	YES
Emissions Control Measures	VOC (tpd)	NO_x (tpd)	Modeled
Subtotals:	0.931	0.571	
<i>Federal Mobile Source Controls</i>			

Emissions Control Measures	VOC (tpd)	NO_x (tpd)	Modeled
Previous Motor Vehicle Standards – Federal Rule (Federally Enforceable)	2.675	3.202	YES
Tier 2 Vehicle Standards – Federal Rule (Federally Enforceable)	0.438	1.825	YES
Heavy Duty Diesel Standards – Federal Rule (Federally Enforceable)	0.001	0.111	YES
Subtotals:	3.114	5.138	
<i>State/Local Early Action Plan Controls</i>			
Existing Source RACT Controls – State Rule (Federally Enforceable)	0.792	0.000	YES
Ozone Action Days Program – State/Local (Mandatory/Voluntary)	0.302	0.015	YES
VMT Reduction – Local (Voluntary)	0.148	0.299	NO
Open Burning Restrictions (Mandatory/Voluntary)	0.122	0.280	NO
School Bus Retrofit Program (Mandatory)	0.002	0.001	NO
Engine Idling Restrictions (Mandatory/Voluntary)	0.000	0.102	NO
Subtotals:	1.366	1.291	
TOTALS:	5.661	7.000	

More details on local implementation efforts can be found in this the local status report and the implementation summary page.