

US EPA ARCHIVE DOCUMENT

The EARLY ACTION COMPACT

for

The Northern Shenandoah Valley Region in the Commonwealth of Virginia

(City of Winchester and County of Frederick)

Submitted by the

Air Improvement Task Force

TABLE OF CONTENTS

1. Background
 - The National Ozone Standards
 - The 1-Hour Standard in Northern Shenandoah Valley Region
 - The 8-Hour Standard in Northern Shenandoah Valley Region

2. Ozone Early Action program (OEAP)
 - Protocol for OEAP
 - The Program
 - OEAP Versus Traditional Nonattainment
 - OEAP Timeline
 - The Area Encompassed by the OEAP
 - Signatories and Their Responsibilities
 - Conditions for Modification or Early Termination

3. Early Action Compact
 - General Provisions
 - Local Government Responsibilities
 - Milestones and Reporting
 - Emissions Inventories
 - Initial modeling emissions inventory
 - Future year modeling emissions inventory
 - Further episode inventories
 - Modeling
 - Emission Reduction Strategies
 - Maintenance for Growth
 - Public Involvement
 - The Virginia Department on Environmental Quality
 - The Environmental Protection Agency

1. BACKGROUND

The National Ozone Standards

The Federal Clean Air Act is the comprehensive law that regulates airborne emissions from area, mobile, and stationary sources nationwide. This law authorizes the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The EPA currently has two NAAQS for ozone, the 1-hour peak standard and 8-hour standard.

Areas formally declared in violation of the NAAQS and adjacent contributing areas are designated “nonattainment areas.” Nonattainment areas must meet certain Clean Air Act requirements, such as:

- **Transportation Conformity** - Requires a demonstration that regional long-range transportation plans will not negatively impact air quality or federal transportation funds can be withheld.
- **New Source Review** - Requires a review of new or expanded industrial operations to minimize air pollution.
- **Rate of Progress Requirements** - A certain percentage of pollutants must be reduced each year.
- **10-year maintenance plan** after attainment that includes additional or continuing mandatory programs.

Another requirement obligates the state to develop and implement a prescriptive comprehensive clean air plan that mandates how the area will come into compliance with the standard. This plan and any revisions to it are known as will be incorporated in the State Implementation Plan (SIP).

The 1-Hour Standard in the Northern Shenandoah Valley Region

An area must have a monitored hourly peak ozone concentration below 125 parts per billion (ppb) to meet the 1-hour ozone standard. If an area exceeds the standard more than three times in three years, it is subject to a nonattainment designation. The Northern Shenandoah Valley Region (NSV) has never exceeded the 1-hour standard.

Since the monitor was installed in 1987, it has never exceeded the one-hour standard hourly peak ozone concentration. NSV has an ozone monitor located in its most northeastern part.

Areas in relative proximity to NSV did show exceedences. Shenandoah National Park had three exceedences of the one-hour standard during the 1987 to 2002 period.

Air quality 1-hour ozone results in the general region also had exceedences throughout this period. Areas in Northern Virginia, including Fairfax County, Fauquier County, and Loudoun County showed exceedences, and of those three counties, the Chantilly monitor in Fairfax County is identified as having non-attainment status for the one-hour standard. These areas considerably are more urban than NSV.

The 8-Hour Standard in the Northern Shenandoah Valley Region

During the past several years, air quality planning in NSV has intensified as ozone concentrations have exceeded the value permitted by the 8-hour ozone NAAQS. Due to legal challenges to the new NAAQS and ensuing litigation, EPA has not formally designated any areas of the United States in violation of the 8-hour ozone NAAQS. The 8-hour NAAQS has been upheld by the Supreme Court and EPA anticipates nationwide designation of nonattainment areas in 2004. Based on recent monitoring data, it is probable that the NSV will be designated a nonattainment area when formal designations occur.

The 8-hour ozone standard is found by averaging three years of the fourth highest 8-hour ozone levels in an area. This number, called the design value, must be lower than 85 parts per billion (ppb) to meet the standard. Currently, NSV's design value (averaging 2000, 2001, and 2002) is 85 ppb. Each year this design value will change slightly. Results are available for NSV for the 8-hour ozone standard beginning in 1992. Ozone concentrations have exceeded the values permitted by the 8-hour ozone.

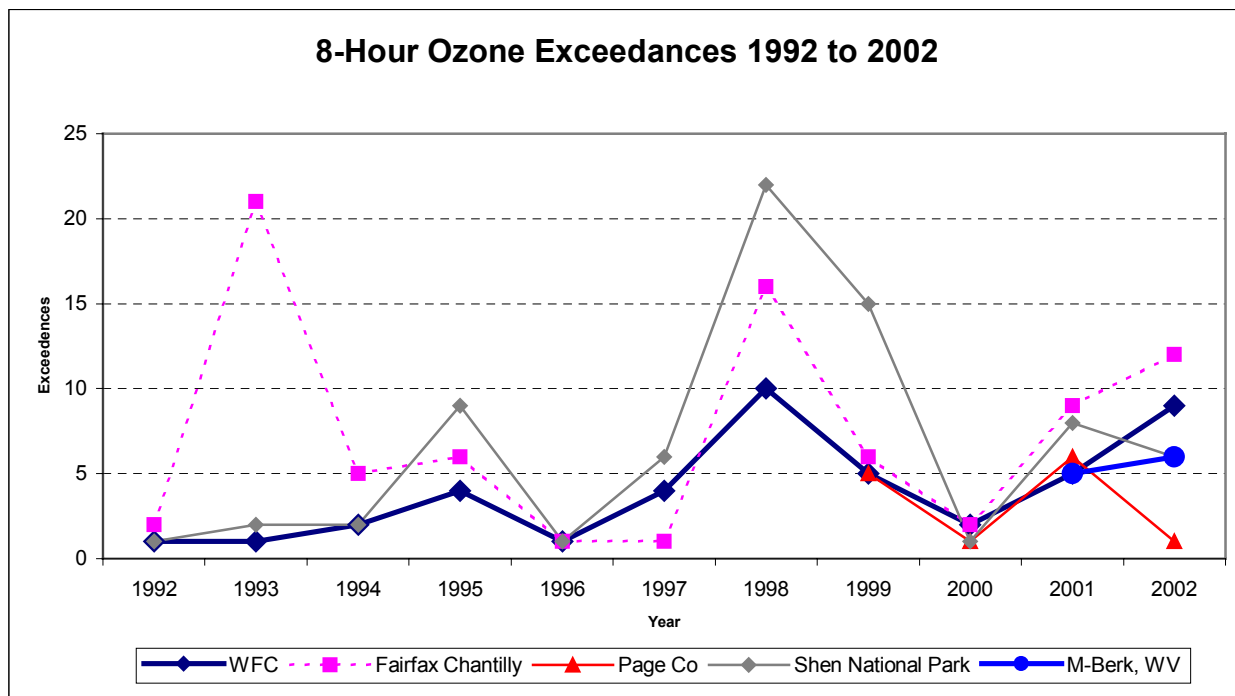
Exceedences were as follows:

Winchester-Frederick County, VA

92	93	94	95	96	97	98	99	00	01	02
1	1	2	4	1	4	10	5	2	5	9

Martinsburg-Berkeley County, WV

92	93	94	95	96	97	98	99	00	01	02
									5	6



Fairfax County (Chantilly) 1-hour Exceedences

92	93	94	95	96	97	98	99	00	01	02
0	1	1	2	0	0	2	0	0	0	1

Fairfax County (Chantilly) 8-hour Exceedences

92	93	94	95	96	97	98	99	00	01	02
2	21	5	6	1	1	16	6	2	9	12

Other Shenandoah Valley Area 8-hour exceedences were recorded in Page County, Rockbridge County and the Shenandoah National Park.

In 2002, NSV experienced 8-hour exceedences on the following days:

Winchester-Frederick County, VA

June 21	87
June 25	87
July 2	93
August 11	92
August 13	91
August 21	89
September 9	87
September 10	97
September 13	85

Martinsburg-Berkeley, County, WV

June 10	88
July 1	88
July 2	89
August 3	94
August 21	89
September 10	90

2. OZONE EARLY ACTION PROGRAM (OEAP)

NSV is volunteering to put itself into the OEAP process to expedite air cleanup for future public health and welfare.

Protocol for OEAP

The OEAP was developed according to protocol endorsed by EPA on June 19, 2002. The OEAP offers a more expeditious time line for achieving clean air than expected under EPA's 8-hour implementation rulemaking.

The principles of the OEAP to be executed by Local, State and EPA officials are:

- Early planning, implementation, and emission reductions leading to expeditious attainment and maintenance of the 8-hour ozone standard;
- Local control of the measures to be employed, with broad-based public input;
- State support to ensure technical integrity of the OEAP;
- Formal incorporation of the OEAP into the SIP;
- Deferral of the effective date of nonattainment designation and related requirements so long as all OEAP terms and milestones are met; and
- Safeguards to return areas to traditional SIP requirements should OEAP terms and/or milestones be unfulfilled, with appropriate credit given for emission reduction measures implemented.

NSV's OEAP has two principal components:

The Program

1. The Early Action Compact (EAC) – EAC is an agreement to prepare and implement an Early Action Plan (EAP). More specifically, the EAC sets measurable milestones for developing and implementing the EAP.
2. The Early Action Plan (EAP) – EAP serves as NSV's official air quality improvement plan, with quantified emission-reduction measures. The EAP will include all necessary elements of a comprehensive air quality plan, (like the plans in Richmond, VA), but will be tailored to local needs and driven by local decisions. Moreover, the EAP will be incorporated into the formal SIP and the region will be legally required to carry out this plan just as in nonattainment areas. For example, development of the EAP will require the same scientific diligence and undergo the same scrutiny as the nonattainment areas' SIPs, so that the emission reduction strategies selected will be adequate to ensure the region stays in attainment of the 8-hour standard.

OEAP Versus Traditional Nonattainment

A major advantage of the region’s participation in the OEAP is the flexibility afforded to the signatories in selecting emission reduction measures and programs that are best suited to local needs and circumstances. Recognizing the varied social and economic characteristics of the region, not all measures can or should be implemented by every entity.

The primary differences between OEAP and the traditional nonattainment area process are:

- The OEAP allows for more local control in selecting emission-reduction measures.
- The OEAP provides deferral of nonattainment designation and related requirements, as long as Plan requirements and milestones are met. This would prevent any related stigma associated with a nonattainment designation.
- The OEAP is designed to achieve clean air faster than under the traditional SIP process.
- Should any milestones be missed in designing or implementing the EAP, the area would automatically revert to the traditional SIP requirements, with appropriate credit given for emission reduction measures already implemented.

OEAP Timeline

NSV ‘s OEAP is designed to enable a local, proactive approach to ensuring attainment of the 8-hour ozone NAAQS, and so protect human health. Using the OEAP approach, the region could begin implementing by 2005 emission-reduction measures directed at attaining the 8-hour standard. This allows for a significantly earlier start than waiting for formal EPA nonattainment designation and it gives the local area more flexibility in choosing which emission reduction strategies to implement in order to bring about 8-hour ozone NAAQS attainment

The Area Encompassed by the OEAP

The NSV, which is comprised of the jurisdictions listed below, is the planning area for which the OEAP is designed:

- Virginia
- City of Winchester
- Frederick County

Adjacent jurisdictions have been made aware of the process. Their participation in a voluntary manner will be pursued. Adjacent jurisdictions include the following:

- | | | | |
|-------------------|----------------------|-------------------|---------------------|
| <u>Virginia</u> | <u>West Virginia</u> | <u>Maryland</u> | <u>Pennsylvania</u> |
| Shenandoah County | City of Martinsburg | Washington County | Franklin County |
| Warren County | Berkeley County | Allegany County | Fulton County |
| Clarke County | Hampshire County | | |
| | Hardy County | | |
| | Jefferson County | | |
| | Morgan County | | |

Signatory jurisdictions in the EAC will be eligible for the deferral of the nonattainment designation effective date and associated requirements. After signing the initial EAC, additional jurisdictions may be added upon request and mutual consent of all the signatory parties, due to expansion of the nonattainment area or other reasons.

Signatories And Their Responsibilities

The individuals representing the entities that will sign this EAC are:

City of Winchester	Mayor
County of Frederick	Chairman of Board of Supervisors
United States Environmental Protection Agency (EPA)	Administrator, Region 3
Virginia Department of Environmental Quality (VDEQ)	Regional Administrator or Designee

The local entities whose representatives support and sign the EAC are committed to holding primary responsibility for the development and implementation of the EAP, and for maintaining communication with all parties. These commitments by local agencies are enumerated in the following Memorandum of Agreement, along with the commitments of the VDEQ and EPA. After signing the initial EAC, additional jurisdictions may be added upon request and mutual consent of all the signatory parties.

Conditions for Modification or Early Termination

Any signatory party can terminated their participation in the agreement at any time before formal incorporation into the SIP in 2004. All modifications to this agreement can occur at any time by mutual consent of all signatory parties before formal incorporation into the SIP in 2004. Before 2004, any signatory party may withdraw from the agreement if the other signatory parties do not carry out provisions of the agreement. If a party’s withdrawal from the agreement prevents remaining signatories from satisfying any of the terms and milestones of the original agreement, the agreement will be void and the area’s nonattainment designation immediately effective. Once the EAP is incorporated into the SIP, modification is considerably more difficult, as the SIP is a legally binding state and federal agreement to carry out specific emission-reduction activities. Additional jurisdictions wanting to enter during EAP development process will be allowed, upon approval by Air Improvement Task Force (AITF), provided they meet the qualifying criteria and EPA guidance.

3. NORTHERN SHENANDOAH VALLEY EARLY ACTION COMPACT

This EAC is between the local governments representing the City of Winchester and Frederick County of Virginia, (herein after referred to as the local governments), VDEQ and EPA. It is for the express purpose of developing and implementing a plan that will reduce ground-level ozone concentrations in the NSV to comply with the 8-hour ozone standard by December 31, 2007 and maintain that standard until at least 2012. Failure to meet that obligation results in immediate reversion to the traditional nonattainment process.

General Provisions

- A. The signatory parties commit to develop, implement and maintain the EAP according to the EPA Protocol for EACs issued June 19, 2002 (supplemented per a letter dated October 18, 2002 from Gregg Cooke, Regional Administrator, EPA Region 6, to Robert Huston, Texas Commission on Air Quality), and adhere to all terms and conditions stated in the guidelines.
- B. If NSV does not meet all the terms of the EAC, including meeting agreed-upon milestones, then it will forfeit its participation and deferred effective date of its nonattainment designation, thus having an effective nonattainment designation and becoming subject to EPA's 8-hour ozone nonattainment implementation rules.
- C. Any signatory party may terminate this agreement, prior to the EAP's formal incorporation into the SIP in 2004.
- D. This agreement may be modified by mutual consent of all signatory parties.
- E. The signature date of the EAC is the start date of the agreement's term and the agreement remains in effect until December 31, 2007.

Local Government Responsibilities

The local governments agree to enter into the EAC to develop and implement and an EAP that will demonstrate attainment, by December 31, 2007, of the 8-hour ozone standard and continued maintenance of the standard until at least 2012. The local governments will develop the EAP in coordination with VDEQ, EPA, stakeholders and the public. In this regard, the local area holds the primary responsibility for the development and implementation of the EAP, as well as for maintaining communication with all parties involved. Specific local commitments to the EAC and EAP are:

1. Drawing up the EAC, which embodies the requirements for EAP as outlined in Sections A to F of the Protocol, including a timeline for milestones.
2. Completing and signing by all parties of the EAC by no later than December 31, 2002.
3. Identifying and describing local strategies being considered for inclusion in the EAP by no later than June 16, 2003.
4. Selecting local control strategies no later than January 31, 2004. Each signatory jurisdiction must consider and formally approve and/or adopt the controls that make up the local component of the EAP before this date.
5. Submitting the final EAP to state and federal agencies no later than March 31, 2004.
6. Notifying parties as soon as possible of issues and developments, which may impact performance and progress towards milestones.
7. Notifying parties as soon as possible if any EAC milestones will be missed or have been missed.
8. Notifying parties as soon as possible if modification/termination to the EAC is to be requested.

Milestones and Reporting

1. Milestones

EAC/EAP Milestones (Responsible Party)	
December 31, 2002	Signed EAC (All parties)
May 31, 2003	Initial modeling emissions inventory completed (VDEQ)
	Conceptual modeling completed (VDEQ)
	Base case modeling completed (VDEQ)
June 16, 2003	Identify and describe local strategies being considered for inclusion in local clean air plans (<i>Local Governments</i>)
June 30, 2003	Semi-annual status reports to begin (<i>AITF & VDEQ</i>)
October 31, 2003	Future year emissions inventory modeling completed (VDEQ)
	Emissions inventory comparison and analysis completed (VDEQ)
	Future case modeling completed (VDEQ)
January 31, 2004	Attainment maintenance analysis completed (VDEQ)
	One or more modeled control cases completed (VDEQ)
	Local emission reduction strategies selected (<i>Local Governments</i>)
	Submission of preliminary EAP to VDEQ and EPA (<i>Local Governments</i>)
March 31, 2004	Final revisions to modeled control cases completed (VDEQ)
	Final revisions to local emission reduction strategies completed (<i>Local Governments</i>)
	Final revisions to attainment maintenance analysis completed (VDEQ)
	Submission of final EAP to VDEQ and EPA (<i>Local Governments</i>)
December 31, 2004	EAP adopted and incorporated into the SIP, SIP submitted to EPA (VDEQ)
December 31, 2005	Local emission reduction strategies implemented no later than this date (<i>Implementing Agency</i>)
June 30, 2006	Semi-annual status reports on implementation of measures and assessment of air quality improvement begin on this date (<i>AITF & VDEQ</i>)
December 31, 2007	Attainment of the 8-hour standard no later than this date (<i>All Parties</i>)

2. Reporting

In order to facilitate self-evaluation and communication with EPA, VDEQ, stakeholders, and the public, the region will assess and report progress towards milestones in a regular, public process, at least every six months, beginning with a biannual in June 2003.

Emissions Inventories

1. An **initial modeling emissions inventory** will be developed by **May 31, 2003**. This inventory will include:
 - a. Emissions modeling data for a 1996, 1997, or 1999 (or later) episode, which will be representative of a typical ozone season event and meets EPA episode selection guidance;
 - b. MOBILE6 data with link based Travel Demand Model (TDM) mobile data where available (HPMS elsewhere);
 - c. NONROAD model data adjusted for local equipment populations and usage rates (if available);
 - d. Area source data using best activity data available.

In addition, all modeling will be based on, to the extent possible, the "Draft Guidance on the Use of Models and Other analyses in Attainment Demonstrations for the 8-hour Ozone NAAQS" (EPA-454/R-99-004, May 1999). This modeling will follow this guidance as negotiated and agreed to with the EPA Regional Office. Any deviations from this guidance and the resulting modeling will be identified and reconciled with the draft guidance. Data availability issues may limit this reconciliation.

2. A 2007 **future year modeling emissions inventory** will be developed by **October 31, 2003**. This inventory will sufficiently account for projected future growth in ozone precursor emissions through 2007, particularly from stationary, non-road and on-road mobile sources.
3. Selection of specific episode inventories was partially determined by the conceptual model, which reflects an analysis of meteorological conditions typical of high ozone events. The conceptual model will be developed by **May 31, 2003**.
4. Emissions inventories will be compared and analyzed for trends in emission sources over time. The **emissions inventory comparison and analysis** will be completed by **May 31, 2003**.

Modeling

1. Regional photochemical modeling will be performed to provide a demonstration of attainment of the ozone standard through the local, state, and regional control strategies selected for the EAP. **Base case modeling** will be completed by **May 31, 2003** and **future case modeling** will be completed by **October 31, 2003**. One or more **modeled control cases** will be completed by **January 31, 2004**, with final revisions completed by **March 31, 2004**. All modeling:
 - a. Will be SIP quality and perform within EPA's accepted margin of accuracy;
 - b. Will be carefully documented;
 - c. Will sufficiently account for projected future growth in ozone precursor emissions;

- d. Will be accomplished by VDEQ and reviewed by EPA;
- e. Will be used to determine the effectiveness of NO_x and/or VOC reductions. The control case(s) will be used to determine the relative effectiveness of different emission reduction strategies and to aid in the selection of appropriate emission reduction strategies.

Emission Reduction Strategies

1. All adopted Federal and State emission reduction strategies that have been or will be implemented by the December 31, 2007 attainment date will be included in base, future and control case modeling.
2. Additional local emission reduction strategies that are under consideration will be identified and described by June 16, 2003. Any additional strategies needed to demonstrate attainment for NSV will then be selected by January 31, 2004, with final revisions completed by March 31, 2004. The selected local strategies will be implemented as soon as practical, but no later than December 31, 2005.
3. Local emission reduction strategies will be specific, quantified, permanent and enforceable. The strategies will also include specific implementation dates and detailed documentation and reporting processes.
4. Voluntary strategies can play a supporting role in the EAP. If emission reductions from voluntary strategies are quantified and credit is taken for them in the EAP, those emission reductions will be enforceable. Additional strategies must be implemented to meet those quantified reduction requirements if quantified voluntary strategies fail. This is true for all quantified emission reductions.
5. Local emission reduction strategies will be designed and implemented by the community with stakeholder participation.
6. Local emission reduction strategies will be incorporated by the state into the SIP. In the event that the region desires to add, delete or substitute strategies after SIP submittal, the region will request a modification. EAP modifications will be treated as SIP revisions and facilitated by the state.

Maintenance for Growth

1. The EAP will include a component to address emissions growth at least five years beyond December 31, 2007, ensuring that the area will remain in attainment of the 8-hour standard during that period. Attainment maintenance analysis will be completed by January 31, 2004, with final revisions completed by March 31, 2004. The analysis will employ one or more of the following or any other appropriate techniques necessary to make such a demonstration:

- Attainment emissions budget evaluation for maintenance demonstration year showing that future emissions remain below the attainment budget for the area;
 - Modeling analysis showing ozone levels below the 8-hour standard in 2012;
 - An annual review of growth (especially mobile and stationary source) to ensure emission reduction strategies and growth assumptions are adequate;
 - Identification and quantification of federal, state, and/or local measures indicating sufficient reductions to offset growth estimates.
2. A continuing planning process that includes modeling updates and modeling assumption verification (particularly growth assumptions) will be conducted concurrent with the tracking and reporting process for the EAP. This update and verification will be an ongoing process between the signatories, stakeholders and the public. Modeling updates and planning processes must consider and evaluate:
 - All relevant actual new point sources;
 - Impacts from potential new source growth; and
 - Future transportation patterns and their impact on air quality in a manner that is consistent with the most current adopted Long Range Transportation Plan and most current trend and projections of local motor vehicle emissions.
 3. If the review of emissions growth in conjunction with the continuing planning process demonstrates that adopted emission reduction strategies are inadequate to address growth in emissions, additional measures will be added to the EAP.
 4. In the event that the continuing planning process identifies the need to add, delete, or substitute emission reduction strategies after the EAP has been incorporated into the SIP, the local area will initiate, and VDEQ will facilitate a SIP revision to accommodate changes.

Public Involvement

1. Public involvement will be conducted in all stages of planning by one or more of the following, or other appropriate party: Community Consensus Coalition, Virginia Initiative to Save and Improve Our Neighborhoods, Winchester-Frederick County Economic Development Commission, and the Winchester-Frederick County Chamber of Commerce. Outreach may include one more of the following techniques: public meetings and presentations, stakeholder meetings, websites, print advertising and radio.
2. Public education programs will be used to raise awareness regarding issues, opportunities for involvement in the planning process, implementation of emission reduction strategies, and any other issues important to the area.

3. Interested stakeholders will be involved in the planning process as early as possible. Planning meetings will be open to the public, with posted meeting times and locations. Plan drafts will be publicly available, and the drafting process will have sufficient opportunities for comment from all interested stakeholders.
4. Public comment on the proposed final plan will follow the normal SIP revision process as implemented by the State.
5. Semi-annual reports detailing, at a minimum, progress toward milestones, will be publicly presented and publicly available,.

Virginia Department of Environmental Quality

VDEQ will provide support to areas throughout the planning and implementation process, including:

1. Development of emission inventories, modeling process, trend analysis and quantification and comparison of emission reduction strategies;
2. Necessary information on all Federal and State adopted emission reduction measures which affect the area;
3. Review of emissions inventory, modeling, and self-evaluation work;
4. Technical and strategic assistance, as appropriate, in the selection and implementation of emission reduction strategies;
5. Technical and planning assistance in developing and implementing processes to address the impact of emissions growth beyond the attainment date;
6. Maintenance of monitors and reporting and analysis of monitoring data;
7. Support for public education efforts;
8. Coordinate communication between local areas and EPA to facilitate continuing EPA review of local work;
9. Expeditious review of the locally developed plan, and if deemed adequate, propose modification of the SIP to adopt the early action plan;
10. Adoption of emission reduction strategies into the SIP as expeditiously as possible. The final complete SIP revision must be completed, adopted, and submitted by the state to EPA by 2004. The SIP revision will include a demonstration that the area will attain the 8-hour standard by December 31, 2007.

11. If EPA withdraws the deferred effective date, thereby triggering a nonattainment designation and applicable statutory requirements, the State will submit a nonattainment SIP to EPA within 1 year of the new effective date of the nonattainment designation.

The Environmental Protection Agency

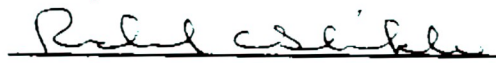
1. The EPA will provide technical assistance to the state and local area in the development of the early action plan.
2. The EPA will move quickly to review and approve completed plans by no later than nine months after submission of the SIP revision by the state.
3. At the time of designations, EPA will defer the effective date of nonattainment designation and related requirements for participating areas that fail to meet the 8-hour ozone standard as long as all terms and milestones of the compact are being met, including submission of the early action SIP revision by 2004.
4. Provided that the monitors in the area reflect attainment by December 31, 2007, EPA will move expeditiously to designate the area as attainment and impose no additional requirements.
5. If at any time the area does not meet all the terms of this EAC, including meeting agreed-upon milestones, then it will forfeit its participation and its nonattainment designation (or redesignation if necessary) will become effective after EPA withdraws the deferred date.
6. If the area violates the standard as of December 31, 2007, and the area has had the effective date of its nonattainment designation deferred, the area will be designated nonattainment. EPA will take action to withdraw the deferred effective date, and the area's nonattainment designation will become effective.
7. No area will be allowed to renew their EAC after December 31, 2007, or initiate a new compact if it has previously forfeited its participation.

Signatures:



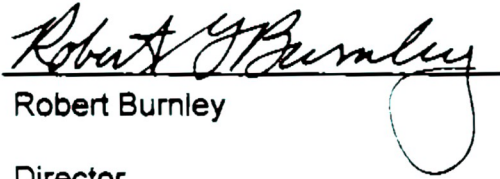
The Honorable Larry Omps
Mayor, Common Council
City of Winchester

Date: 12-20-02



The Honorable Richard Shickle
Chairman of Board of Supervisors
Frederick County, VA

Date: 12/23/02



Robert Burnley

Director
VDEQ

Date: 12/27/02



EPA - Representative

Date: 12/30/02