REPORT TO THE 104TH GENERAL ASSEMBLY

ATTAINMENT OF THE FEDERAL NATIONAL AMBIENT AIR QUALITY STANDARD FOR OZONE

AIR QUALITY CONTROL MEASURES IMPLEMENTED OR UNDER CONSIDERATION

in

EARLY ACTION COMPACT AREAS

Tennessee Department of Environment and Conservation
Division of Air Pollution Control

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1.0 PURPOSE OF THE EARLY ACTION COMPACT

Early Action Compacts (EACs) were first considered by the Tennessee Air Pollution Control Board (Board) on November 20, 2002, and this new approach to clean air quicker was endorsed by the Board. EACs were a voluntary locally driven attempt to meet the new, more stringent 8-hour ozone standard by December 31, 2007. Using this EAC concept, communities are rewarded by deferring the more negative impacts of nonattainment while preserving industrial recruitment and transportation growth opportunities. The State, the County Mayors, and EPA entered into eight EACs on December 31, 2002. To date, there are three successful EACs in place in the Nashville, Chattanooga and the Tri-Cities areas.

An Early Action Compact (EAC) serves as a Memorandum of Agreement among government agencies representing, collectively, local governments, state governments, including the Tennessee Air Pollution Control Board (TAPCB), and the United States Environmental Protection Agency (EPA). It is for the express purpose of commitment to EPA's "Protocol for Early Action Compacts Designed to Achieve and Maintain the 8-Hour Ozone Standard".

The "Protocol" allows for early voluntary 8-hour air quality improvement plans to be developed through a "Compact" between Local, State, and EPA officials for areas that are in attainment for the 1-hour ozone standard, but approach or monitor exceedances of the 8-hour standard. All areas in Tennessee were in attainment of the 1-hour ozone standard and based on the preliminary data for 2000 through 2002, there were a number of areas which were not expected to be in attainment of the 8-hour ozone standard. This made these areas eligible and a good candidate for the Early Action Compacts.

An EAC required the development of an early action plan that included all necessary elements of a comprehensive air quality plan, but tailored to local needs and driven by local decisions. As long as all Compact terms and milestones are met, the effective date of nonattainment designations is deferred, as are the related requirements. The early action approach offered a more expeditious timeline for achieving emissions reductions than EPA's expected 8-hour implementation rulemaking, while providing "fail-safe" provisions for the area to revert to the traditional State Implementation Plan (SIP) process if specific milestones were not met. EPA planned to make the designations for the 8-hour ozone standard in 2004.

On April 15, 2004, EPA notified Governor Bredesen and Commissioner Child it was designating the following eighteen (18) counties in Tennessee nonattainment for the 8 hour ozone standard: Anderson, Blount, Cocke (Partial), Davidson, Hamilton, Hawkins, Jefferson, Knox, Loudon, Meigs, Montgomery, Rutherford, Shelby, Sevier, Sullivan, Sumner, Williamson and Wilson. Nine of these counties were successful in getting a nonattainment deferral with their EACs. These counties were Davidson, Hamilton, Hawkins, Meigs, Rutherford, Sullivan, Sumner, Williamson and Wilson. This nonattainment status requires additional control measures to be implemented in order for attainment of the air quality standard to be achieved.

2.0 BACKGROUND

2.1 Air Quality Status/Trends in Tennessee

The 2004 ozone-monitoring season turned out to be a very good year with regard to the number of 8-hour ozone exceedances observed in Tennessee. The ozone-monitoring season runs from March through October in Tennessee. In 2004, the state reported only 4 unhealthy days as a result of ozone (8 hour standard) in contrast to 22 unhealthy days in 2003 and 54 unhealthy days in 2002 (8 hour standard). The three remaining EAC (Early Action Compact) regions in Tennessee have benefited from the lower ozone levels during 2004.

The EAC areas in Tennessee are the counties and areas comprising the Chattanooga EAC region (including Hamilton and Meigs counties), the Tri-Cities region (including Hawkins and Sullivan counties) and the Nashville EAC region (including Davidson, Rutherford, Sumner, Williamson and Wilson counties). A number of the counties have ozone air quality monitors that have operated through 2004. In reviewing the previous ozone air quality design values for these areas, it is evident that air quality improvement is needed.

2.2 Historical Air Quality OZONE data in Tennessee

The historical data for the EAC regions are presented as follows:

Chattanooga EAC Region

County	Site Name	Monitor ID	1999-2001 Design Value PPM	2000-2002 Design Value PPM	2001 2003 Design Value PPM
Hamilton	Volunteer Army Ammunition Plant	470650028 - 1	0.092	0.092	0.088
Hamilton	Ridgetrail Rd.	470651011 - 1	0.092	0.093	0.087
Meigs	8401 Highway 60	471210104 - 1		0.093	0.088

Tri-Cities EAC Region

County	Site Name	Monitor ID	1999-2001 Design Value PPM	2000-2002 Design Value PPM	2001-2003 Design Value PPM
Sullivan	Hill Road	471632002 - 1	0.087	0.090	0.086
Sullivan	Ketron Middle School, Bloomingdale Rd.	471632003 - 1	0.090	0.092	0.086

Nashville EAC Region

County	Site Name	Monitor ID	1999 2001 Design Value PPM	2000 2002 Design Value PPM	2001 2003 Design Value PPM
Davidson	1015 Trinity Lane	470370011 - 1	0.076	0.071	0.069
Davidson	Percy Priest	470370026 - 1	0.087	0.080	0.077
Rutherford	Eagleville Puckett's Farm	471490101 - 1	0.086	0.084	0.080
Sumner	Rockland Rec. Area-Old Hickory Dam	471650007 - 1	0.093	0.088	0.086
Sumner	Cottontown Wright's Farm	471650101 - 1	0.090	0.087	0.082
Williamson	Fairview Middle School Crow Cut Rd.	471870106 - 1	0.088	0.087	0.084
Wilson	Cedars Of Lebanon State Park	471890103 - 1	0.087	0.085	0.082

2.3 Preliminary OZONE data for 2004 in Tennessee

The preliminary data for 2004 illustrate the differences that reflect the overall decline in ozone concentrations in comparing the 2001 – 2003 DV (Design Values) to the 2002 – 2004 DV for ozone (8 hour).

Chattanooga EAC Region

County	Site Name	Monitor ID	2001 2003 DV > 0.08 PPM	Prelim. 2002 2004 DV> 0.08 PPM
Hamilton	Volunteer Army Ammunition Plant	470650028 - 1	0.088	0.084
Hamilton	Ridgetrail Rd.	470651011 - 1	0.087	0.085
Meigs	8401 Highway 60	471210104 - 1	0.088	0.086

Tri-Cities EAC Region

County	Site Name	Monitor ID	2001 2003 DV > 0.08 PPM	Prelim. 2002 2004 DV> 0.08 PPM
Sullivan	Hill Road	471632002 - 1	0.086	0.084
Sullivan	Ketron Middle School, Bloomingdale Rd.	471632003 - 1	0.086	0.081

Nashville EAC Region

County	Site Name	Monitor ID	2001 2003 DV > 0.08 PPM	Prelim. 2002 2004 DV> 0.08 PPM
Davidson	1015 Trinity Lane	470370011 - 1	0.069	0.067
Davidson	Percy Priest	470370026 - 1	0.077	0.076
Rutherford	Eagleville Puckett's Farm	471490101 - 1	0.080	0.078
Sumner	Rockland Rec. Area-Old Hickory Dam	471650007 - 1	0.086	0.083
Sumner	Cottontown Wright's Farm	471650101 - 1	0.082	0.079
Williamson	Fairview Middle School Crow Cut Rd.	471870106 - 1	0.084	0.082
Wilson	Cedars Of Lebanon State Park	471890103 - 1	0.082	0.079

The three regions have all shown declines in both the controlling monitor ozone design value (highest reporting monitor in the region) and in the individual monitor design values. It is also evident that in 2004 the design values for the Nashville and Tri-Cities regions are below the 0.08 PPM threshold value. The data for the Chattanooga region also shows the same remarkable declines evident in the two other regions; however, the levels have not yet dropped below the 0.08 PPM threshold.

The status for the three EAC areas can be described as meeting the goal of an early reduction in observed ozone air quality in 2004. The challenges ahead for these regions include implementation of the additional control measures that have been identified for each region and continuing the progress already made throughout the timeline remaining for the EAC programs in Tennessee.

3.0 Early Action Compact Requirements/Air Quality Improvement Plan

3.1 Early Action Compact

Areas formally declared in violation of the NAAQS are designated "nonattainment areas" and must meet certain Clean Air Act requirements such as:

- New Source Review – requires a comprehensive review of new or expanded industrial operations to minimize air pollution. Emissions controls requirements are more stringent and costly than for attainment areas.
- Transportation Conformity – requires a demonstration that regional long-range transportation plans will not negatively affect progress toward attainment or federal highway funds can be withheld.
- Rate of Progress Requirements – a certain percentage of pollutants must be reduced each year.
- Failure to Attain – consequences of failure to reach attainment by the specified date include stricter control measures and the potential for stiff penalties.
- 10-year Maintenance Plan – includes additional or continuing mandatory programs for 10 years following attainment.

The area's participation in the Early Action Compact Protocol offers several key advantages relative to the traditional nonattainment SIP process. These include:

- The EAC Protocol is designed to achieve clean air sooner than would be expected under the traditional nonattainment process.
- The EAC Protocol affords the signatories greater flexibility in selecting emission reduction measures and programs that are best suited to local needs and circumstances.
- The EAC Protocol ensures deferral of nonattainment designation and related requirements, thereby avoiding the stigma, cost, and economic development impacts associated with a nonattainment designation while the protocol remains in effect.

The cornerstone of the Early Action Compact Protocol is the Air Quality Improvement Plan (AQIP) developed to reduce local ozone-forming emissions and lower summertime ozone levels. It is the official attainment/maintenance plan for the area to be developed under the EAC Protocol agreement. It is a comprehensive air quality plan that will be incorporated into a formal Tennessee State Implementation Plan, and the area will be required to carry out this plan just as in nonattainment areas. Unlike a nonattainment area SIP plan, though, the AQIP will be tailored to local needs and driven by local decisions. The specific elements required of the AQIP are described below in Section 3.2. According to the EAC Protocol, it must be completed and submitted by no later than December 31, 2004, to the EPA to be incorporated into the State SIP. However, recent guidance from EPA requires that the local plan must be complete and submitted to the State and EPA by March 31, 2004 to provide adequate time for Tennessee to adopt the plan as a State rule prior to submittal to EPA as a SIP revision by December 31, 2004.

3.2 Regional Interstate Coordination

Tennessee has also participated in the Southern Appalachian Mountains Initiative and in VISTAS to coordinate air quality management in a multi-state fashion in East Tennessee. Tennessee's participation in ATMOS with the neighboring states in West Tennessee was a major component to the success of EACs.

3.3 Air Quality Improvement Plan

3.3.1 EAC Milestones and Reporting Requirements

To facilitate performance monitoring and communication with the EPA, TAPCB, and stakeholders, the EAC protocol requires that the EAC include clearly measurable milestones for the development and implementation of the AQIP. Major milestones established for this EAC are shown below in Table 1. The individual participants representing their respective area will assess and report all progress relative to these milestones to the state which in turn will report all progress relative to these milestones in a regular, public process at least every six months.

Table 1. Major Milestones for the Tennessee State and Local Early Action Compact.

MILESTONE	DATE
EAC Memorandum of Agreement Executed	**31 DEC 02**
Identify & Describe Likely Local Control Measures Being Considered	**16 JUN 03**
Initial Progress Report Prepared and Updated Every 6 Months	**23 JUN 03**
Emissions Inventories Completed	**30 JUN 03**
Base Case/Future Case Modeling Completed	**30 SEP 03**
Control Scenarios Modeling Completed	**30 NOV 03**
Adoption of Emission Reduction Measures	**30 JAN 04**
Completion/Adoption of Air Quality Improvement Plan and Submittal to the EPA for Review	**31 MAR 04**
Submittal of SIP (Submitted to EPA December 29, 2004)	**31 DEC 04**
All Local Emission Reduction Strategies Implemented	**31 MAR 05**
Review Progress in Implementation of Reduction Strategies	**30 JUN 06**
EAC Expires	**31 DEC 07**
Annual Reviews of Growth	**2008-2012**

3.3.2 Emission Inventories

Base case(s) and related future year (2007) emissions inventories were developed and used for input for SIP-quality regional airshed modeling. The inventories included:

- Point source emissions – employing TDEC Emission Inventory System data.
- Onroad mobile source emissions – employing Mobile 6 emission modeling based on appropriate transportation data for Nashville MSA.
- Nonroad sources - model data adjusted for local equipment usage.
- Area sources - data based, where possible, on local survey data.
- Biogenic sources – inventory developed employing methods acceptable to TDEC and EPA.

Where practicable, trends in emissions from the various source categories were analyzed to provide a better understanding of emissions trends statewide and to facilitate verification of accuracy of the inventories.

3.3.3 Modeling

Modeling was be based on 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). The modeling followed the guidance as facilitated by the EPA Regional Office. Regional airshed modeling for the Air Quality Improvement Plan employed an EPA-accepted modeling technique and appropriate EPA guidance for SIP-level modeling. Modeling protocol development, episode selection, model input preparation, and actual model simulations involved close collaboration and agreement of the participating representatives, TAPCB, and EPA.

Base case and future case (2007) modeling have been completed, and control strategy modeling including direction (e.g. effectiveness of VOC vs. NOx controls) and range finding (percent reduction scenarios – i.e. needed reduction levels) as well as control strategies scenarios were completed by December 2004 and submitted to EPA for approval.
All adopted Federal and State emission reduction measures that have been or will be implemented by March 31, 2005, were included in base case, future case, and control strategy modeling.

Modeling efforts were carefully documented. Model performance was assessed to assure conformance with EPA's accepted model accuracy criteria. A technical support document describing the modeling effort and attainment demonstration was a critical part of the AQIP submittal.

3.3.4 Emission Reduction Strategies

Following research of various emission reduction strategies and, with guidance provided by testing of various strategies with the developed regional airshed modeling, the participating stakeholders selected and adopted local emission reduction measures necessary to support demonstration of attainment of the 8-hour ozone standard by December 31, 2007.

The selected local emission reduction measures had to be specific, quantifiable and enforceable. Specific implementation dates, as well as detailed documentation and reporting processes had to be provided to EPA for each measure.

The local emission reduction measures were incorporated by the TAPCB into the SIP and submitted to EPA for review and approval. In the event the area desires to add, delete or substitute measures after SIP promulgation, the area will request a modification of the AQIP. Such modification will be treated as a SIP revision and facilitated by the Tennessee Department of Environment and Conservation (TDEC).

3.3.5 Maintenance for Growth

The AQIP includes a component to address emissions growth at least 5 years beyond December 31, 2007, ensuring that the previous nonattainment or attaining participating areas will remain in

attainment of the 8-hour standard during that period. The future attainment maintenance analysis may employ one or more of the following or any other appropriate techniques necessary to make such a demonstration:

- Modeling analysis showing ozone levels below the 8-hour standard in 2012;
- An annual review of growth (especially stationary and mobile sources) to ensure control measures and growth assumptions are adequate;
- Identification and quantification of federal, state, and/or local measures indicating sufficient reductions to offset growth estimates.

The AQIP will also detail a continuing planning process that includes modeling updates and modeling assumption verification (particularly growth assumptions) where changes in emissions inventories and growth assumptions warrant. The continuing planning process will consider and evaluate:

- All relevant actual new point sources and major modifications of existing sources;
- Impacts from increased emissions from potential new source growth;
- Future transportation patterns and their impact on air quality in a manner that is consistent with the most current adopted Transportation Plan and most current estimate of future local motor vehicle emissions as adopted in applicable MPO's conformity documents approved by the U. S. Department of Transportation and EPA.

If the review of growth demonstrates that adopted emission reduction measures are inadequate to address growth in emissions, additional measures will be added to the AQIP through the SIP revision process.

3.3.6 Public Involvement

Public involvement (public hearings & numerous meeting) was conducted in all stages of the planning and implementation process. Public education programs were used to raise awareness regarding issues, opportunities for involvement in the planning process, implementation of control strategies, and any other issues important to the participants. Interested stakeholders were invited to participate in the planning process as early as possible, and were provided advance notice of meeting times, locations, and agenda for planning meetings. Stakeholders included, at a minimum, local environmental groups, MPOs, Chambers of Commerce and other business groups, and the transportation community. See **Appendix I** for more information.

3.4 Local, State, and EPA Commitments

3.4.1 State and Local Commitments

The State, including TDEC, and Local Governments jointly held responsibility for the development and implementation of the early action plan (Air Quality Improvement Plan), as well as for maintaining communication with all parties to the Compact. The Local Air Pollution Control Program and the MPO were the lead agencies for the coordination of the EACs and TDEC provided any needed technical assistance and guidance. Other responsibilities included:

- Drawing up the Compact, which embodies the requirements described in the EAC Protocol, including a time line for milestones;

- Completing and signing by all parties of the Early Action Compact no later than December 31, 2002;
- Completing and adopting the emission reduction measures elements of the AQIP as part of the SIP no later than March 31, 2004.
- Notifying parties as soon as possible if Compact milestones will be missed or have been missed;
- Notifying parties as soon as possible if Compact modification/termination is to be requested.

3.4.2 State Commitments

The State, represented by TDEC and TDOT, provided support to all participants throughout the planning and implementation process. Areas of support included:

- Technical assistance in the development of emission inventories, modeling process, trend analysis, and quantification and comparison of emission reduction strategies;
- Necessary information on all Federal and State adopted emission reduction measures which affect the area;
- Critical third party review of emissions inventory, modeling, and self-evaluation work;
- Technical and strategic assistance, as appropriate, in the selection and implementation of emission reduction strategies;
- Technical and planning assistance in developing and implementing processes to address the impact of emissions growth beyond the attainment date;
- Maintenance of monitors and reporting and analysis of monitoring data;
- Support for public education efforts;
- Coordinate communication between stakeholders and EPA to facilitate continuing EPA review of local work;
- Propose a modification of the SIP to adopt the appropriate elements of the AQIP;
- Adoption of emission reduction strategies into the SIP as expeditiously as possible. The final complete SIP revision had to be completed, adopted, and submitted by the state to EPA by December 31, 2004.

3.4.3 Tennessee Air Pollution Control Board Commitments

The Tennessee Air Pollution control Board, in consultation with TDEC, the local governments, interested stakeholders and members of the public helped to ensure that actions under the Early Action Compact were tailored to the needs of the EAC areas and that adequate progress was attained under the AQIP. In consultation with the aforementioned, the Tennessee Air Pollution Control Board committed to the following:

- By February 1, 2003 develop a plan for routine state-level consultation with members of the environmental, public health and business communities as well as opportunities for timely public input and comment.
- By March 1, 2003, develop measurable goals and milestones, building on those listed in Table 2: identify the consequences of failure to achieve goals and milestones and provide samples of acceptable control measures for the AQIP.

- Every 6 months conduct a formal review of progress attained under the EAC, including determining whether the terms of the EAC, in general and with respect to each local area, should be modified or revoked.

3.4.4 EPA Commitments

EPA recognized the State and Local commitment to voluntarily adopt an early, substantive, scientifically-based and enforceable attainment plan with early implementation of control measures by becoming a party to the Early Action Compact developed in conformance with the EPA's EAC Protocol. EPA responsibilities included the following:

- Provided that the monitors in the EAC areas reflected attainment by December 31, 2007, EPA would move expeditiously to designate those areas as attainment and impose no additional requirements other than those federally approved SIP revisions undertaken pursuant to this Early Action Compact. The Office of Management and Budget (OMB) announced changes for Core Based Statistical Areas (65 FR 82228,12/27/2000 FR) and planed to publish new lists of areas in June 2003. EPA would be evaluating OMB's new lists after they are released to determine whether they concur and/or can still use OMBs' new definition for purposes of the starting point for nonattainment area boundaries. At that time EPA would also look at the nonattainment boundary guidance memo of 3/28/2000 to see if it might need updating based on the OMB work.
- If monitors in the EAC area reflected nonattainment when EPA's 8-hour implementation guidelines call for designations or at any time during the area's participation in the Early Action Compact, EPA would defer the effective date of nonattainment designation and related requirements for the area as long as all terms and milestones of the compact were met, including submission of the early action SIP revision by 2004.
- The EPA would provide technical assistance to all Nashville MSA participants in the development of the AQIP.
- The EPA would move quickly to review and approve completed plans by no later than nine months after submission of the SIP revision by TDEC.
- Provided that the area progressed from nonattainment to attainment status by December 31, 2007, EPA would move expeditiously to designate the area as attainment and impose no additional requirements.
- If at any time the area does not meet all the terms of this compact, including meeting agreed-upon milestones, then it would forfeit its participation and be designated (or re-designated if necessary) according to EPA's 8-hour ozone implementation guidelines. The EPA would offer such an area no delays, exemptions or other favorable treatment because of its previous participation in this program.
- If any of the areas monitors identified in Table 1 violates the standard after December 31, 2007, the area will be designated nonattainment. TDEC will then submit a revised attainment demonstration SIP revision according to the Clean Air Act (CAA) and EPA's 8-hour implementation rule, unless the 8-hour implementation schedule requires SIPs from 8-hour nonattainment areas before December 31, 2008. In that event, a revised attainment demonstration SIP revision for the participating area will be due as soon as possible but no later than December 31, 2008. In no event will EPA extend the attainment date for the area beyond that required by the CAA and/or EPA's 8-hour implementation rule.

- The region will not be allowed to renew this EAC after December 31, 2007, or to initiate a new compact if it has previously forfeited its participation.

3.4.5 Termination Provision

Any Early Action Compact was offered to EPA in good faith as a way to achieve clean air quicker with the opportunity to tailor a control plan in the most beneficial way possible for the area. It is expressly declared that prior to adoption of early control measures into the Tennessee SIP, a signatory to this Early Action Compact may opt out of the process by filing a written notice to the other signatories. In filing said written termination notice, the terminating entity would revert to the routine attainment designation process provided in the Clean Air Act and its implementing regulations in effect at the time of the signing of this document. If any of the counties opt out of this process, the Compact could be terminated. It is also recognized that if EPA deems the terminating entity's emissions are critical to the success of an Early Action Compact, EPA may nullify the Early Action Compact for the entire MSA.

If litigation were to ensue that results in the inability of any entity to live up to the commitments made including actual SIP revisions, then the signatories shall have the option of withdrawing all or part of any SIP revision given to EPA as part of the Early Action Compact and EPA shall honor that withdrawal.

4.0 Air Quality Planning and Implementation

4.1 Air Quality Outreach

There have been over **100 meetings** held across the state by stakeholders involved in the EAC process. Each EAC area coordinated with stakeholders which included County Mayors, State & Local Governments, MPOs, Environmental groups and numerous other interested parties to determine what air quality control measures would be beneficial to the area, and necessary to achieve attainment of the ozone standard by December 2007. A listing of EAC stakeholder meetings and activities can be found in **Appendix I**.

4.2 EAC Control Measure Implementation

To receive the EPA nonattainment deferral, the **Nashville EAC** stakeholders recommended and moved forward with the following list of control measures:

- Expanded motor vehicle inspection and maintenance (additional weight class and testing of diesel-powered vehicles for Davidson, Rutherford, Sumner, Williamson and Wilson counties)
- Open-burning restrictions on construction land clearing (Davidson County)
- Transportation related measures:
  - HOV lane expansion
  - Trip reduction plans
  - Rideshare programs
  - Traffic signal synchronization
  - Roadside assistance program
  - New greenways/bikeways

Improve bus ridership
New rail service
Land use controls to reduce VMT
Air quality action day measures

To receive the EPA nonattainment deferral, the **Chattanooga EAC** stakeholders recommended and moved forward with the following list of control measures:

- Motor vehicle inspection and maintenance (similar to the program in Middle TN)
- Open-burning bans on residential garbage, yardwaste, and land clearing
- Stage I vapor recovery for gasoline
- Ozone action day program

To receive the EPA nonattainment deferral, the **Tri-Cities EAC** stakeholders recommended and moved forward with the following list of control measures:

- Voluntary transportation related measures
- Ozone action day program
- Stage I vapor recovery for gasoline
- Open-burning restrictions for Carter, Hawkins and Sullivan counties

In order for the EACs in Chattanooga, Nashville and Tri-Cities to be successful and meet the EAC milestones, these control measures had to be quantifiable and incorporated in to the SIP by the TAPCB. The proposed rules went out for public comment April 19, 2004. A summary of the proposed rules can be found in **Appendix II.**

The proposed amendments to the SIP to incorporate the air quality analysis technical documentation and quantification of the EAC control measures being implemented went out to public hearing to receive comments on December 6, 2004. These proposed amendments to the SIP were approved by the TAPCB on December 7, 2004 for submittal to EPA. The SIP submittal was submitted to EPA on December 29, 2004 to meet the critical December 31, 2004 EAC milestone.

4.3 Ozone Forecasting and Outreach Programs

In April 2001, a statewide effort was undertaken to develop and implement an effective ozone forecasting and public outreach program. The program is ongoing and has been a successful outreach tool. The ozone forecasting program focuses on the existing metropolitan areas of the state with the support of the local air pollution control agencies, EPA, TVA and the state Air Pollution Control Division.

Several areas of the state developed and are now participating in public outreach programs to encourage voluntary measures that can be taken on Ozone or Air Quality Action Days to help minimize emissions of precursor chemicals that contribute to ozone formation and exceedances.

5.0 Table of Acronyms as Used in this Document

APC	TDEC/Division of Air Pollution Control
ATMOS	Arkansas, Tennessee, Mississippi Ozone Study
OMB	Office of Management and Budget
MSA	Metropolitan Statistical Area
EAC	Early Action Compact
FR	Federal Register
ECD	Tennessee Department of Economic & Community Development
EPA	Environmental Protection Agency
TAPCB	Tennessee Air Pollution Control Board
SIP	State Implementation Plan
ppb	parts per billion
GVWR	Gross Vehicle Weight Rating
OBD II	On Board Diagnostics
I/M	Motor Vehicle Inspection and Maintenance
TVA	Tennessee Valley Authority
NAAQS	National Ambient Air Quality Standards
AQIP	Air Quality Improvement Plan
SAMI	Southern Appalachian Mountain Initiative
VISTAS	Visibility Improvement State and Tribal Association of the Southeast
VOC	Volatile Organic Compound
NO_X	Nitrogen Oxide
TDEC	Tennessee Department of Environment and Conservation
MPO	Metropolitan Planning Office
TDOT	Tennessee Department of Transportation
CAA	Clean Air Act

6. 0 APPENDICES

APPENDIX I

SUMMARY OF EARLY ACTION COMPACT ACTIVITIES IN 2003

The Tennessee Chamber of Commerce & Industry agreed to work with the state Department of Environment and Conservation to host a series of meetings to include local Chambers and Industrial Development Councils to understand the implications of non-attainment status, the role of you as business and industry leaders, and to encourage continuing involvement and support by local county officials and city officials. Local mayors and commissioners and industry were invited to attend.

The meetings were held in:

July 15 -*Memphis* at the Memphis Regional Chamber, 22 N. Front Street, Suite 200, 1:00-4:00 PM.
July 17 -*Knoxville* at the UT Training Center, 611 Henley Street, 9:00-12:00 noon.
July 18 -*Nashville* at the Millennium Maxwell House, 2025 Metro Center Blvd., 9:00-12:00 noon.
The very latest information was shared regarding the Governor's recommendations and the future potential controls that may be required to clean up the state's air to the new Ozone standard.

July 9, August 13, September 10, October 8, November 5, & December 10	Tennessee Air Pollution Control Division provided updates to the Air Board, Industry and the public of the latest EAC information.
November & December	Article ran in the Tennessee Conservationist Magazine covering Tennesseans working for Cleaner Air and Early Action Compacts in Tennessee.
August 14-15, October 2-3, November 13-14 & December 18	ATMOS meetings were held to discuss modeling and reductions for control measures considered.
October 29	Tennessee Air Pollution Control Division mailed letters to the EAC local signatories (**County Mayors**) providing a status report of EAC efforts, and an update on requirements of the next major EAC milestone of March 31, 2004 deadline.
November 18	The Tennessee Air Pollution Control Division as instructed by the Air Board mailed invitations to the Local governments (County Executives & Local Air Programs) involved in Early Action Compacts requesting they attend the December10th Air Board meeting. The purpose was to discuss Local EAC efforts underway. Dr. Wayne Davis and Dr. Terry Miller of UT were invited to give a presentation on the state of the science being used to inventory emissions and the atmospheric chemistry/dispersion modeling being done to predict ozone levels under difference control iterations.
September 2-4	The Division of Air Pollution Control setup a booth on Tennesseans Working for Cleaner Air at the Governor's Conference on Economic and Community Development promoting air quality goals and achievements and Early Action Compacts in Tennessee.
July 2, August 6 & December 12	Nashville MPO meetings discussing Air quality and Early Action Compact. The Technical Coordinating Committee discussed control measure recommendations for the Nashville EAC.

July 16, September 17, October 15, November 19, & December 17	The Nashville MPO Executive Board met on to discuss and approve TCC recommendations regarding air quality and control measures for the Nashville EAC area (Cheatham, Dickson, Davidson, Rutherford, Robertson, Sumner, Williamson and Wilson **County Mayors** & representatives).
November 13	Statewide MPO annual meeting, Barry Stephens and Quincy Styke with TDEC/APC updated the planning organization on Air Quality and EAC activities, and control measures under consideration.
December 17	Barry Stephens with the Division of Air Pollution Control met with Sumner County local government to discuss EAC activities and air quality.

Local Government Outreach for the Early Action Compact Areas 2003

July 9	Meeting with Tipton County Mayor Jeff Huffman to discuss EACs
August 6	Meeting with American Lung Association to discuss partnership on air quality public education
August 8	Meeting with Robertson County Mayor Howard Bradley
August 15	Tennessee Pollution Prevention Roundtable - First meeting of Tennessee Early Action Compact Advisory Committee
August 18	Loudon County Commission presentation on EACs
August 25	Presentation to Knoxville EAC on air quality action days
August 26	Meeting with Jefferson County Mayor Gary Holiway
September 4	Meeting of Tennessee Energy Education Steering Committee in Nashville
September 5	First meeting of Interagency Working Group on Air Quality (state agencies)
September 10	Williamson County Joint Chambers Luncheon, Common Sense and Clean Air, Organized by County Mayor Rogers Anderson
September 11	Meeting of Tennessee Pollution Prevention Roundtable
September 17	Meeting of Knoxville Clean Air Coalition
September 30	Energy efficiency presentation by Jim Fyke to State Park Managers
October 6	Meeting with business and environmental leaders to discuss environmental education priorities
October 10	Conference call with Tennessee Petroleum Council and Tennessee Oil Marketers Association to discuss fuel strategies for improving air quality
October 17	Chamber of Commerce Regional Transportation Summit, Nashville
October 21	Meeting with Errol Reksten, Chattanooga-Hamilton County Air Pollution Control Bureau, to discuss the Chattanooga EAC

October 22	Tennessee Energy Education Steering Committee in Chattanooga
October 29-30	Meeting with Georgia EPD to discuss early introduction of ultra low sulfur diesel
October 31	Evaluation Subcommittee of Tennessee Early Action Compact Advisory Committee, meeting in Knoxville
November 4	The 2nd meeting of the Interagency Working Group on Air Quality (state agencies)
November 7	Annual meeting of Tennessee Urban Forestry Council TDEC remarks on how urban forestry can improve air quality
November 13	Tennessee Pollution Prevention Roundtable, meeting in Nashville
November 17	US Senator Alexander's hearing on air quality in Tennessee in Nashville
November 18	Tennessee Energy Education Steering Committee in Nashville
December 2	US Senator Alexander's second hearing on air quality in Tennessee in Knoxville
December 2	Meeting of Steering Committee, Clean Air Nashville, Regional air quality alert program
December 4	Conference call of Communications Subcommittee P2 Roundtable Tennessee Early Action Compact Advisory Committee
December 5	A meeting with business and environmental leaders to discuss cooperative efforts in environmental education
December 16	Smart Choices Transportation Symposium in Cool Springs
December 17	Conference call, Outreach Subcommittee, Southeastern Alternative Fuels Task Force
December 19	The 2nd meeting of P2 Roundtable Tennessee Early Action Compact Advisory Committee in Nashville
November & December	Multiple meetings of 3 Priority Teams working on interagency issues, Cleaner fuels and vehicles, energy efficiency, public education and outreach and Interagency Working Group on Air Quality

SUMMARY OF EARLY ACTION COMPACT ACTIVITIES IN 2004

January 7	Clean Air Partnership of Middle Tennessee meeting
January 8	Meeting with EAC Advisory Committee subcommittee chairs
January 13	APC met with the Hendersonville City Government to discuss EACs and open burning issues.
January 22	Wilson County Air Quality Forum to discuss Air Quality Issues and Early Action Compacts. Attended by various TDEC staff.
February 4	Clean Air Partnership of Middle Tennessee meeting
February 6	EAC Advisory Committee Technical Assistance subcommittee call
February 12-13	ATMOS Meeting in Memphis, Tennessee
February 19	Update on EAC activities at the Tennessee Air Pollution Control Board meeting
February 24	Meeting with Dept. of Education and State Board of Education re school bus strategies
March 1	Meeting with American Lung Association regarding partnership ideas
March 1	Conference call with EPA rapid response team and EAC stakeholders to discuss questions and issues related to Motor Vehicle Inspection and Maintenance.

March 4	Washington County Economic Development Board meeting
March 5	East Tennessee Environmental Forum presentation
March 10	EAC update at the Tennessee Air Pollution Control Board meeting
March 11	Tennessee Pollution Prevention Roundtable
March 16	Clean Air Partnership of Middle Tennessee meeting
March 16	Region IV EAC Conference call
March 19	Quincy Styke with TDEC presented at the AWMA meeting on Air Quality and Early Action Compacts in Tennessee.
March 23	Conference call with UT Memphis Center for Health Services and TEC re EAC forum
March 25	TDEC Commissioner Betsy Child and Quincy Styke met with the Knox County Chamber of Commerce
March 31	Clean Air Partnership of Middle Tennessee meeting
April 1	TDOT Meeting to discuss Long Range Transportation Plan
April 13	Clean Air Partnership of Middle Tennessee meeting
April 17	Earth Day display – Clean Air Partnership of Middle Tennessee
April 19	APC public hearing on proposed rules was held at TDEC • IM expansion • Stage I & II • Motor Vehicle Tampering • Restriction on vehicle idling and smoking
April 22	Earth Day event with Dept of Education promoting clean air
April 27	EAC forum conference call
April 27	Governor and TDEC Commissioner met with proposed ozone nonattainment counties
April 27	Clean Air Partnership of Middle Tennessee meeting
April 28	Meeting in Cookeville with the Executive Directors of the two Clean Cities Coalitions in Tennessee to discuss alternative fuels
April 29	Conformity conference call with TDOT, MPOs, Federal Highway Administration, and EPA
May	TDEC developed a Clean Air Tennessee web site to provide anyone interested with the latest information on EAC activities and air quality.
May 3	Regional Clean Air Coalition of East Tennessee Media Meeting in Knoxville. This meeting was a media event to promote the Air Quality Air Alert program. There were about 30 media people from television, newspaper, and radio. TDEC gave a brief presentation about the Air Quality Alert Program that is taking place in that area.
May 7	Conference call with Wayne Davis, Terry Miller, Mike Vandenbergh, Bill Parkhurst and Laura Artates to discuss the best public messages on steps that citizens can take to reduce air pollution. The purpose was to develop recommended messages for regional air quality alert programs.
May 12	Clean Air Partnership of Middle Tennessee meeting
May 19	Legislation (House Bill No. 3498) was passed allowing the Air Board provisions for IM expansion and prohibitions for motor vehicle tampering. Legislation signed by the Governor June 8, 2004.
May 24	TDEC/APC staff met with Clarksville MPO, Mayors, and Ft. Campbell staff to discuss an Air Quality Action Day program, Transportation Conformity, and ozone nonattainment
May 25	Planning call for June 22 Air Quality Forum - UT Health Science Center
May 27	Air Quality Toolkit conference call (EPA Region 4, Georgia Power, TVA, Georgia EPD)
May 27	TDEC Commissioner met with Knox and surrounding county mayors in Knoxville to discuss air quality
June 7-9	Tennessee Association of Pupil Transportation Annual Meeting PowerPoint presentation on reducing emissions from diesel school buses
June 9	Tennessee Air Pollution Control Board discussed • Update on Ozone Early Action Compact (EAC) and Non-Attainment Designations • Update on likely PM 2.5 Non-Attainment Areas • I/M Update Status (Legislative Bill Act)
June 21	Conference call with Clarksville MPO, Mayors, Fort Campbell staff, Clean Fuels Coalition, and TVA to discuss an Clean Fuels, Transportation Conformity, and ozone nonattainment
June 22	Spreading the Word: Air Pollution and Health - a public health forum

June 23	Clean Cities of Middle Tennessee Advisory Committee meeting
June 23	Hopkinsville MSA and Clarksville -This meeting to discuss an Air Quality Air Program and how to get it in place for the area. TDEC committed to providing an air quality forecast for the area.
June 30	Air Quality Toolkit planning meeting in Atlanta
July 14-15	Tennessee Air Pollution Control Division provided updates to the Air Board, Industry and the public of the latest EAC information. All county mayors were sent a personal invitation from the Commissioner request they attend this meeting to discuss upcoming nonattainment and EAC actions.
September 29-30	Governor's Conference with ECD. TDEC Commissioner provided conference attendees with information on air quality and EAC activities, and had staff available to answer questions.
October 21-22	TN Urban Forestry Conference – EPA provided presentation on EAC activities and TDEC staff was available to answer questions.
November 3-4	Tennessee Air Pollution Control Division provided updates to the Air Board, Industry and the public of the latest EAC information on EACs and nonattainment.
December 6	Tennessee Air Pollution Control Division held a public hearing to receive comments on the proposed Early Action Compact areas State Implementation Plan technical documentation and quantification of state and local control measures being implemented in the Early Action Compact areas.
December 8	Tennessee Air Pollution Control Division presented to the Air Board the proposed amendments to the SIP to incorporate the technical documentation and quantification of state and local control measures being implemented in the Early Action Compact areas.

APPENDIX II

RULE SUMMARY

The following proposed rules summarized below went out to hearing on April 19, 2004 for public comment:

Chapter 1200-3-29 Light-Duty Motor Vehicle Inspection and Maintenance

Purpose: To broaden the scope of the exiting rule to achieve additional emissions reductions and allow for expansion.

Area of Applicability: Determined by the Air Board

Proposed Changes:

- Requires gasoline and diesel vehicles 1975 and newer with a gross vehicle weight rating (GVWR) up to 14,000 pounds or less to pass an emissions inspection prior to registration renewal
    - The Air Board reduced the GVWR to 10,500
- Requires the Air Board to designate counties subject to the rule
    - The Air Board designated Davidson, Hamilton, Rutherford, Sumner, Williamson and Wilson Counties
- Removes the exemption for diesel powered vehicles

(New) Chapter 1200-3-36 Motor Vehicle Tampering

Purpose: To reduce the air pollution caused by tampering with a motor vehicle emission system

Area of applicability: Statewide

Pertinent Facts:

- This rule is to prevent persons from tampering with the vehicle's emissions controls may which results in an increase in emissions beyond established federal standards.

- The rule identifies what is specifically prohibited (Example: removing catalytic converter)

(New) Chapter 1200-3-37 Mobile Source Prohibitions

Purpose: To reduce the air contaminants produced by the operation of mobile sources (i.e. gross polluting vehicles and needless idling).

Area of Applicability: Statewide

Pertinent Facts:

- Smoking Restrictions – A rule to abate excessive emissions from vehicles that are visibly smoking during their normal operation.
    - Air Board deferred action pending more information
- Idling Restrictions – to minimize idling of heavy duty diesel engines
    - Air Board deferred action pending more information

Chapter 1200-3-18 Volatile Organic Compounds

Purpose: To amend the existing rules by expanding the applicability requirements for Stage I and II gasoline vapor emission controls.

Area of Applicability: Early Action Compact Counties

Proposed Changes:

- Allows for a 3 year phase in from the effective date of the rule to have equipment installed
- Stage I requires gasoline tank trucks delivering or receiving gasoline to use vapor emission control
- Stage II requires vapor emission control at gasoline dispensing facilities (Pumps).
    - Based on comments received at public hearing Stage II requirements removed from proposed rule.

Public Hearing for the following NOx RACT proposed rule was held August 19, 2003.

Chapter 1200-3-27 Nitrogen Oxides

Purpose: A new Rule 1200-3-27-.08 is added to Chapter 1200-3-27 as part of a State program to reduce NOx emissions from stationary sources.

Area of Applicability: To be determined by the Air Board

Proposed Changes:

To require certain size stationary sources with NOx emissions to undertake a review and determine if they have reasonably available controls to minimize NOx formation and if not, to install controls.

All of the above rules will be presented to the Air Pollution Control Board for consideration July 14, 2004.