STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Air Pollution Control Division
9th Floor, L & C Annex, 401 Church Street, Nashville, TN 37243

June 12, 2003

Kay T. Prince, Chief of Air Planning Branch
US EPA, Region IV
Atlanta Federal Center, 12th Floor
61 Forsyth Street, SW
Atlanta, GA 30303

RE: Submittal of "Likely" Control Measures for Early Action Compact Areas

Dear Ms. Prince:

In accordance with the Early Action Compact (EAC) agreement, you will find enclosed the "likely" list of control measures for each of the EAC areas in Tennessee. This is being submitted on behalf of each EAC area to comply with the June 16, 2003 milestone. Each compact area has selected control measures for their county, which are being considered as a means to achieve the 8-hour ozone standard by 2007.

The following information is enclosed:

- Executive Summary
- EPA - Checklist of June 16, 2003, Control Measures List
- Table 1 - Summary of likely EAC Control Measures by county with chosen control measures
- Table 2 - List of Control Measures with ID assigned to interpret Table 1
- Table 3 - List of likely Statewide Control Measures being considered
- Tennessee Map - Showing 8 hour ozone design values by MSA for 2000-2002
- Copy of the April 14, 2003, Memorandum from Lydia N. Wegman
- Likely Control Measures List and the signatory pages for the Chattanooga area, Haywood County, Knoxville area, Memphis area, Nashville area, Putnam County and the Tri-Cities area. Lawrence County submitted a request to opt out of the EAC.

I believe this submittal satisfies all requirements of the June 16th EAC milestone, but if more information is needed do not hesitate to contact me.

Sincerely,

Barry R. Stephens, P.E.
Director
Division of Air Pollution Control

cc: Karen Borel & Dick Schutt, EPA, Region IV
Local Air Programs
Tennessee Air Pollution Control Board
EAC Signatories

EXECUTIVE SUMMARY

Enclosed please find the necessary documentation to the meet the Ozone Early Action Compact (EAC) deadline for submittal of Likely Control Measures for Tennessee due June 16, 2003. This documentation meets the guidance provided in the letter signed by Lydia N. Wegman sent to appropriate Regional Administrators and Air Directors dated April 4, 2003 (enclosed for reference). The following describes the remaining contents of this submittal.

1. First find the June 16, 2003, EPA Control Measures Checklist.

2. Table 1 is a summary of the Likely Control Measures (LCM) chosen from a prepared list and submitted by each EAC. The table is arranged first by EAC, then by county within each EAC. The fourth column lists the chosen control measures for each county by a numeric ID. This ID identifies each of the control measures listed in Table 2 described next.

3. Table 2 is a slight modification of a list of LCM originally prepared by Dr. Wayne Davis, University of Tennessee, Knoxville, and the Nashville / Davidson County Air Program. This list was sent to all EACs to serve as a starting point for discussions and deliberations, and was specially targeted toward the rural counties. This table provides a brief description of each control measure along with other important information to assist the deliberative process. Each control measure is assigned a unique ID, and it is this ID that is listed in column four of Table 1. Please note that in some cases a reference is made in column four of Table 1 to an attachment. This was necessary when the submitting entity significantly modified or customized the original LCM list, or added additional control measures. Each EAC was encouraged to submit additional control measures tailored to their specific needs. The attached lists are found along with other documentation for each EAC in the tabbed sections of this binder described below.

4. Table 3 summarizes the Control Measures being considered for statewide implementation in Tennessee. Please note that regulatory development is currently underway.

5. Next comes a map of Tennessee detailing the 8-hour 2000-2002 ozone design values and Metropolitan Statistical Areas (MSA and CMSA). Also included is the Lydia Wegman letter dated April 4, 2003 referenced above.

6. Finally, find a tabbed section for each EAC. These sections contain transmittal letters, signature pages, and the LCM lists, some of which may be referenced in column four of Table 1 as discussed above.

Review Checklist for June 16, 2003, Control Measures List

1. **Did the Early Action Compact area submit an identification and description of control measures being considered by the local area? YES**

2. **Was this list of controls submitted (postmarked or emailed) no later than June 16, 2003? YES**

3. **What date was the list of controls submitted?**
   Submitted to EPA June 12, 2003

4. **Who submitted the list of controls?**
   Barry R. Stephens, P.E.
   Director, Division of Air Pollution Control

5. **Does it appear that the control measures contained in the June 16 list of controls can be implemented in this specific EAC area? YES**

6. **Does it appear reasonable that the list of controls can be implemented within the time frame of the EAC, i.e., no later than 2005? YES**

Table 1
Tennessee Likely EAC Control Measure Summary Table

	EAC	TN County	Chosen Control Measures By ID
1.	Chattanooga	Hamilton	3, 4, 5, 7, 8, 9, 10, 15, 16, 17, 21, 22, 23, & items 2, 3, 8 from custom list
2.		Marion	3, 4, 5, 7, 8, 9, 10, 15, 16, 17, 21, 22, 23, & items 2, 3, 8 from custom list
3.		Meigs	3, 4, 6, 8, 9, 10, 11, 14, 16, 18, 19, 20, 21, 22, 23
4.	Haywood	Haywood	3, 14, 15, 16, 20, 23, 25, 26, & item 9 in attached list
5.	Knoxville	Anderson	Control Measures 1-27
6.		Blount	Control Measures 1-27
7.		Jefferson	3, 7, 8, 12, 14, 15, 19, 22, 23, 25, 26
8.		Knox	Control Measures 1-27
9.		Loudon	Control Measures 1-27
10.		Sevier	Control Measures 1-27
11.		Union	Control Measures 1-27
12.	Lawrence	Lawrence	Opting out
13.	Memphis	Fayette	2, 4, 8, 9, 12, 15, 16, 17, 19, 21, 26, 27, & item 8 on attached list
14.		Shelby	See attached list of custom measures and descriptions for county
15.		Tipton	2, 4, 8, 9, 12, 15, 16, 17, 19, 21, 26, 27, & item 8 on attached list
16.	Nashville	Cheatham	12, 16, 19, 25
17.		Davidson	See attached list of custom measures and descriptions for county
18.		Dickson	Control Measures 1-27
19.		Robertson	5, 8, 10, 14, 16, 17, 19, 25. See also items 5, 6 on attached list.
20.		Rutherford	See attached list of custom measures and descriptions for county
21.		Sumner	1, 2, 4, 5, 6, 9, 11, 14, 15, 16, 17, 19, 20, 22, 23, & see items 15, 16, 20 from county custom list. See also custom lists for Hendersonville, Millersville, White House
22.		Williamson	Control Measures 1-27
23.		Wilson	1, 2, 3, 5, 6, 7, 12, 13, 15, 16, 18, 20, 22, 26, & item 15 from attached list
24.	Putnam	Putnam	1, 5, 6, 10, 12, 14, 15, 16, 17, 25, 26, 27, & item 2 on attached list
25.	Tri-Cities	Carter	See attached custom list for entire EAC
26.		Hawkins	
27.		Johnson	
28.		Sullivan	
29.		Unicoi	
30.		Washington	

TABLE 2
LIST OF LIKELY TENNESSEE EAC CONTROL MEASURES

ID	Source Category	Control Measure Description	Pollutant Reduced	S=Stationary M=Mobile C=Combination	R=Regulatory V=Voluntary	L=Local S=State wide
1	Mobile LDGV, HDGV	Support evaluation of an IM program EAC-wide or Statewide	NOx,VOC, CO	M	R	L and/or S
2	Mobile LDV	Free gas cap replacement program (in conjunction with IM)	VOC	M	R	L and/or S
3	Mobile	Local governments investigate installation of fuel infrastructure and conversion of local government fleets to alternative fueled vehicles	NOx, VOC, CO	M	R, V	L
4	Gasoline refueling stations	Implement or expand Stage I and or Stage II in all MSA counties	VOC	S	R	L and/or S
5	Stationary NOx sources	Support statewide NOx RACT Low NOx combustion controls	NOx	S	R	L and/or S
6	On-road HDDV and Buses	Encourage accelerated replacement with newer lower emitting vehicles	NOx, VOC,CO	M	V	L and/or S
7	On and Off Road Diesel Vehicles	Retrofitting local government vehicles (diesel fleets including school buses)	NOx, VOC, CO	M	R, V	
8	On and Off Road Diesel Vehicles	Encourage accelerated replacement with newer lower emitting vehicles	NOx, VOC,CO	M	V	L and/or S
9	On and Off Road Diesel Vehicles	Encourage use of catalysts and low sulfur diesel	NOx	M	V	L and/or S

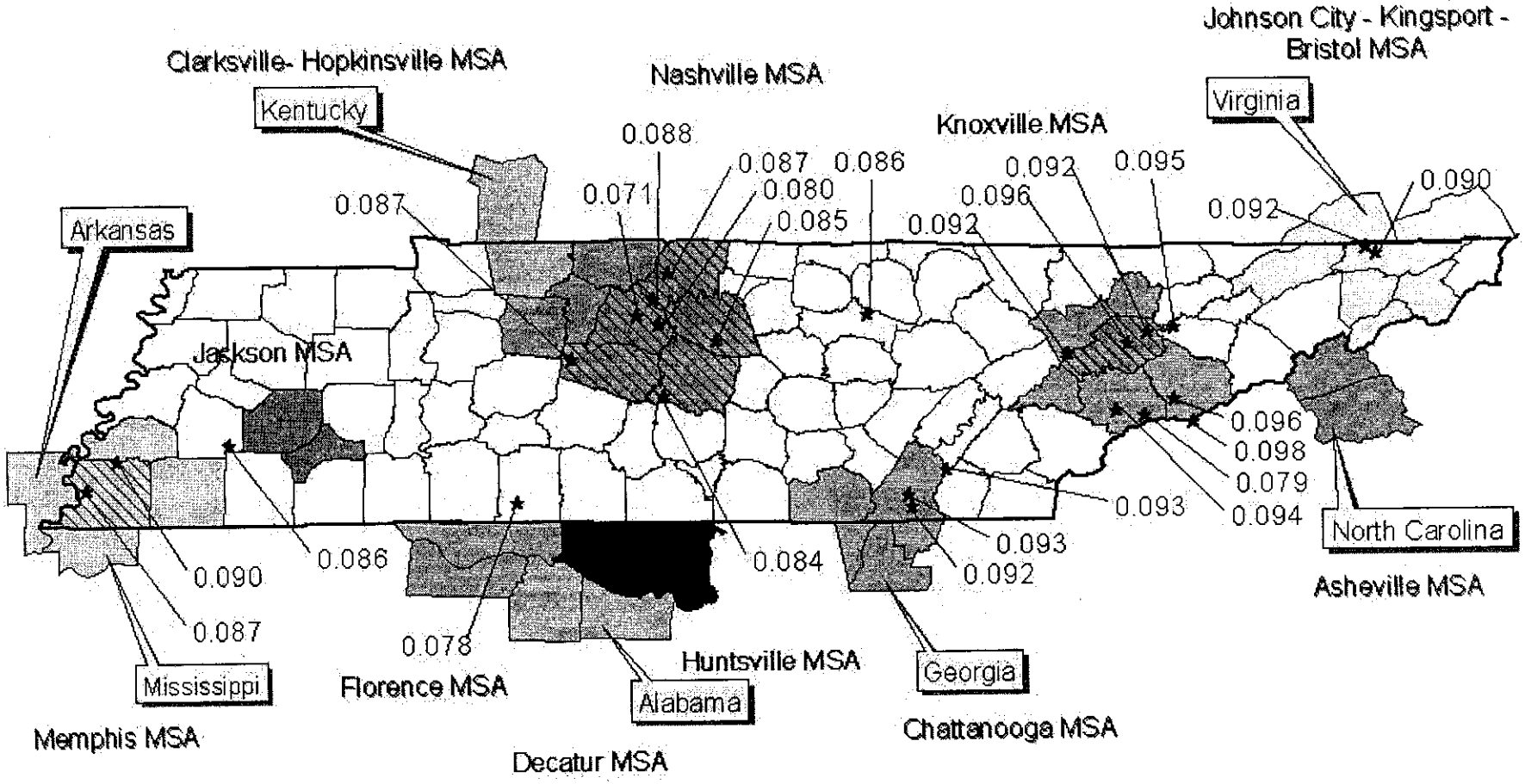
ID	Source Category	Control Measure Description	Pollutant Reduced	S=Stationary M=Mobile C=Combination	R=Regulatory V=Voluntary	L=Local S=State wide
10	On and Off Road Diesel Vehicles	Support the use of Cetane diesel fuel additive	NOx	M	R	L and/or S
11	Fleet Vehicles	Propose accelerated replacement with newer lower emitting vehicles or with vehicles using cleaner fuels	NOx, VOC,CO	M	V	L and/or S
12	On-road vehicles	Traffic signalization/synchronization	NOx, VOC,CO	M	V	L
13	On-road vehicles	Roadside assistance/Incident management program	NOx, VOC,CO	M	V	L
14	HDDV and buses	Truck stop electrification/Anti-idling regulation	NOx, VOC,CO	M	V/R	L
15	All categories	Air Quality Action Day (AQAD)	NOx, VOC,CO	C	V	L and/or S
16	Open burning	Open burning ban--perhaps on ozone action days	NOx, VOC,CO	S	R	L
17	On-road HDDV trucks	Support reducing speed limit on ozone action days (or for the ozone season)	NOx	M	V	L and/or S
18	On-road vehicles	Transportation management plan for large employers	NOx, VOC,CO	M	V	L
19	On-road vehicles	Area wide rideshare incentives	NOx, VOC,CO	M	V	L

ID	Source Category	Control Measure Description	Pollutant Reduced	S=Stationary M=Mobile C=Combination	R=Regulatory V=Voluntary	L=Local S=State wide
20	On-road vehicles	Support the enforcement of the smoking vehicle reg. similar to Davidson County to remove gross emitters from road	NOx, VOC,CO	M	R	L and/or S
21	All gasoline engines	Support lower gasoline RVP	VOC	M	R	S
22	All diesel engines	Participate in a regional initiative to seek early introduction of ultra-low sulfur diesel fuel	NOX, VOC, CO	M	R, V	L or S
23	TDOT	Support giving preference to bidders on state jobs with repowered, rebuilt or refueled diesel equipment	NOx, VOC,CO	M	R	S
24	Trip Reductions	Employer-based trip reduction plans	NOx, VOC, CO	M	V	L and/or S
25	All	Student outreach through education systems; educate future drivers on the impact of motor vehicles on the environment	NOx, VOC, CO	M	V	L
26	All	Public education at community events	NOx, VOC, CO	C	V	L
27	All	Air quality web page/public information	NOx, VOC, CO	C	V	L
	OTHERS---					

TABLE 3
LIST OF LIKELY TENNESSEE EAC CONTROL MEASURES BEING CONSIDERED FOR STATEWIDE IMPLEMENTATION (REGULATORY DEVELOPMENT UNDERWAY)

ID	Source Category	Control Measure Description	Pollutant Reduced	S=Stationary M=Mobile C=Combination	R=Regulatory V=Voluntary	L=Local S=State wide
1	Mobile	Expanding scope of IM program to include heavier weight vehicles (up to 10,000 GVWR) in Middle Tennessee only	NOx, VOC, CO	M	R	S and/or L
5	Stationary & Mobile NOx sources	Drafting statewide NOx RACT Rule -The rule is for NOx generating sources and facilities. The target is 50 TPY. It will require a RACT determination or verification of non-applicability.	NOx	S & M	R	S and/or L
10	On and Off Road Diesel Vehicles	Support the use of Cetane diesel fuel additive	NOx	M	R	S and/or L
14	HDDV and buses	Drafting statewide Anti-idling rule	NOx, VOC, CO	M	R	S and/or L
20	On-road vehicles	Drafting smoking vehicle reg. similar to Davidson County to remove gross emitters from road	NOx, VOC, CO	M	R	S and/or L
	Other					
	On-road vehicles	Drafting statewide vehicle Anti-tampering rule	NOx, VOC, CO	M	R	S and/or L

Tennessee 8 Hour Ozone
Design Values By MSA 2000 - 2002



Notes:
Design values in parts per million.
Old 1-hr nonattainment areas in hatched areas.
A county with a design value greater than or equal to 0.085 ppm is violating the standard.

★ **Monitoring Sites With an 8 Hr Ozone DV**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

APR 04 2003

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

MEMORANDUM

SUBJECT: Early Action Compacts (EACs): The June 16, 2003 Submission and Other Clarifications

FROM: Lydia N. Wegman, Director
Air Quality Strategies and Standards Division

TO: Air Directors, Regions III, IV, VI, and VIII

This memorandum responds to questions from States and local EAC areas about what needs to be included in the milestone submittals and semiannual reports due June and December 2003. As we have stated before, completion of each of the critical milestones and schedules as described in the "Protocol for Early Action Compacts Designed to Achieve and Maintain the 8-hour Ozone Standard" ("Protocol"), revised November 2002, and the November 14, 2002 memorandum from Jeffrey Holmstead to EPA Regional Administrators is essential if areas are to remain eligible for participation in the EAC program. To ensure that the 2003 submissions and subsequent milestones will be met, we are issuing this memorandum (1) to provide State and local air pollution control agencies some general guidelines to assist them in completing the June 16, 2003 submission; (2) to clarify what should be included in the semiannual reports due in June and December 2003; and (3) to clarify several technical requirements of the program to ensure that the attainment demonstrations being developed in conjunction with the local air quality plans are representative of current information and conditions.

1. June 16, 2003 Submission

The Protocol and the November 14, 2002 Holmstead memorandum require EAC areas to identify and describe the local control measures that will be considered during the local planning process. This June 16, 2003 milestone must be met to maintain eligibility in the EAC program. This submission can be referenced in the June 2003 progress report, as described in the Section 2 of this memorandum.

We recommend that EAC areas, based on stakeholder consultation, submit by June 16, 2003 a list of candidate local control measures that is sufficient to ensure a control strategy can be developed to achieve attainment of the 8-hour ozone standard by 2007. As provided in the Protocol, areas should describe each of the local control measures under consideration.

As EAC areas prepare and subsequently analyze the June 2003 list of local measures, we advise the participants to work with stakeholders to consider carefully each of the following components needed to develop an attainment strategy:

- Local control measures that can reasonably be implemented in each area. Among the factors to consider are the resource and political constraints of that specific area;

- Realistic implementation dates for the control measures;

- The range of potential emissions reductions that will result from each control measure based on reasonably available information. (In accordance with the Protocol, these local measures must be specific, quantified, and permanent, and that if approved by EPA, will be federally enforceable SIP revisions.) A list of resources containing emissions reduction estimates for specific measures can be found in the attachment to this memorandum; and

- The geographic area to which control measures could be applied.

Any public comments received in response to the June 16, 2003 submissions will be posted on EPA's EAC website at: http://www.epa.gov/ttn/naaqs/ozone/eac/ .

2. June 30, 2003 Progress Report

The Protocol requires local areas to assess and report every 6 months their progress against milestones in a regular, public process. At a minimum, the June 2003 progress report should do the following:

- Document progress in developing the stakeholder process, including the roles and responsibilities of various stakeholder groups, a list of stakeholders, and a brief summary of stakeholder meetings;

- Report progress on evaluating and selecting emission reduction measures for the local control strategy, including stakeholder involvement in the development of the initial list of control measures (The June 2003 progress report can reference the June 16, 2003 submission discussed above.);

- Describe public outreach activities (press coverage, public presentations, websites, etc.); and

- Provide an update on modeling/technical planning activities.

3. December 31, 2003 Progress Report

As part of the December 2003 progress report, EAC areas should address in detail each of the bulleted components discussed in section 1 above. This progress report will be an important element in EPA's consideration of whether or not to grant a deferral of the effective date of the nonattainment designation at the time of final designations in April 2004. More specifically, the progress report should address:

- A list of control measures still under consideration for adoption by the local area as part of the March 2004 submission;
- Likely implementation dates for the local control measures that are under consideration;
- Current assessment of the amount of emissions reductions expected to be achieved through implementation of the local control measures; and
- The geographical area in which each control measure is anticipated to apply.

4. Attainment Demonstration

As State and local agencies move forward to develop the modeling and other technical analyses in support of attainment demonstrations for EAC areas, they have asked EPA for clarification of the modeling guidance and its application to EAC areas. As modeling demonstrations will become part of the enforceable SIP, State and local agencies should do the following:

- Follow the most recent OAQPS modeling guidance ("Draft Guidance on the Use of Models and Other Analyses in Attainment Demonstrations for the 8-hour Ozone NAAQS," May 1999, EPA-454/R-99-004); see: http://www.epa.gov/scram001/guidance/guide/drafto3.pdf ;
- Model most current emissions inventory, preferably 2002; however, if 2002 is not available, use of a 1999 or later inventory for EAC modeling is acceptable;
- Base 2007 projections on 1999 emissions inventory or later;
- Use MOBILE6 in both the current and future inventories;
- Select episodes that are representative of the area's ozone problem;
- Use appropriate assumptions and emissions analysis techniques in quantifying emissions reductions.

Please advise your States that any deviations from the above guidance need to be reviewed by and coordinated with the EPA Regional Office. For additional clarification of these and other technical requirements, State and local agencies should refer to questions and answers related to EAC modeling issues at: http://www.epa.gov/scram001/guidance/guide/eac-ozone.pdf . This document, which will be updated periodically with additional questions as necessary, provides clarification of the current modeling guidance and its application to EAC areas.

I hope this information will be helpful to you and EAC areas as they move forward to meet the swiftly-approaching milestone and semiannual reports for this year.

Any questions related to EAC policy issues should be directed to David Cole at 919/541-5565, while questions related to EAC modeling and attainment demonstration issues should be directed to Ellen Baldridge at 919/541-5684.

cc: Air Directors, Regions I, II, V, VII, IX, X
Margo Oge, OTAQ
Steve Page, OAQPS
Peter Tsirigotis, OAQPS
Joe Tikvart, OAQPS
G.T. Helms, OAQPS
Jan Tierney, OGC

ATTACHMENT

Resources for Identification of Control Strategies, Emission Reduction Estimates and Emission Inventories

URL	Downloadable Document(s) and Websites
www.epa.gov/otaq/transp/costemis.pdf	"Summary Review of Costs and Emission Reductions for 24 CMAQ Projects" (September 1999)
www.epa.gov/otaq/transp/publicat/pub_volu.htm	"Quantification of Episodic Control Programs" (EPA420-R-97-0061, April 1997)
http://www.epa.gov/oms/transp/comchoic/sipguide.pdf	"Index of Transportation Measure Quantification Efforts: Methodology Matrix" (EPA420-R-98-018, September 1998)
http://www.epa.gov/oms/transp/comchoic/sipguide.pdf	"State Implementation Plan Development Guidance: Using Emission Reductions from Commuter Choice Programs to Meet Clean Air Act Requirements" (EPA420-R-98-007, December 1998)
www.epa.gov/otaq/transp/publicat/pub_tcms.htm	"Benefit Estimates for selected TCM Programs" (EPA420-R-98-002, July 1999)
www.epa.gov/otaq/transp/publicat/pub_tech.htm	Transportation and Air Quality ACM Technical Overviews. These documents provide overviews of individual TCMs, discussing their advantages, disadvantages, and issues involved in their implementation. Topics: *Accelerated Retirement of Vehicles, Bicycle and Pedestrian Programs, Commute Alternative Incentives, Congestion Pricing, Guaranteed Ride Home, High Occupancy Vehicle Lanes, Intelligent Transportation Systems, Parking Management, Parking Pricing, Improved Public Transit, Telecommuting, Traffic Flow Improvements, Trip Reduction Ordinances, Work Schedule Changes*

www.epa.gov/otaq/transp/publicat/pub_mrkt.htm	"Opportunities to Improve Air Quality Through Transportation Pricing Programs" (EPA420-R-97-004, July 1997)
http://www.epa.gov/otaq/transp/publicat/pub_pedo.htm	"TDM Case Studies and Commuter Testimonials" (August, 1997) Successful transportation demand management programs are described in 19 case studies.
http://www.epa.gov/dced/pdf/comparing_methodologies.pdf	"Comparing Methodologies to Assess Transportation and Air Quality Impacts of Brownfields and Infill Development" (EPA-231-R-01-001, August 2001)
PDF file will be made available on EAC website at:http://www.epa.gov/ttn/naaqs/ozone/eac/	"Methodologies for Estimating Emission and Travel Activity Effects of TCMs" (EPA-420-R-94-002, July 1994)
http://www.epa.gov/ttn/chief/	Clearinghouse for Inventories and Emission Factors, including a new draft of an update to the 1999 National Emission Inventory (March 11, 2003)
PDF file will be made available on EAC website at:http://www.epa.gov/ttn/naaqs/ozone/eac/	"Meeting the 15-Percent Rate-of-Progress Requirement Under the Clean Air Act: A Menu of Options," STAPPA/ALAPCO, September 1993.
PDF file will be made available on EAC website at:http://www.epa.gov/ttn/naaqs/ozone/eac/	"Controlling Nitrogen Oxides Under the Clean Air Act: A Menu of Options," STAPPA/ALAPCO, July 1994.
PDF file will be made available on EAC website at:http://www.epa.gov/ttn/naaqs/ozone/eac/	"Serious and Severe Ozone Nonattainment Areas: Information on Emissions, Control Measures Adopted or Planned and Other Available Control Measures," November 24, 1999.
http://www.epa.gov/otaq/voluntary.htm	EPA Website: Transportation and Air Quality Voluntary Programs, including Green Vehicle Guide, Voluntary Diesel Retrofit Program, and Commuter Choice Leadership Initiative, U.S. EPA (updated January 10, 2003)

http://www.epa.gov/otaq/transp/traqdata.htm	EPA Website: Transportation and Air Quality Planning, Clearinghouse and Databases. Includes Survey of Episodic Control Programs, Market Incentives Resource Center for Air Quality Programs, Smart Travel Resource Center, Transportation-related Grants Database, and Transportation Control Measures Program Information Directory (updated June 28, 2002)
http://www.epa.gov/otaq/transp/landguid.htm	"Improving Air Quality Through Land Use Activities." Report (EPA420-R-01-001, January 2001)
http://www.epa.gov/otaq/transp/traqtcms.htm	EPA Website on Transportation Control Measures: On-line Database; Methodologies for Estimating Emission and Travel Activity Effects of TCMs - (EPA420-R-97-004, July 1997)
http://www.trb.org	Transportation Research Board Website: Quantifying Air-quality and Other Benefits and Costs of Transportation Control Measures

MEMPHIS EARLY ACTION COMPACT AREA

Fayette
Shelby
Tipton

Fayette County Government

Rhea Taylor / County Mayor

June 6, 2003

Mr. Barry Stevens
Tennessee Department of Environment and Conservation
Division of Pollution Control
9th Floor, L&C Annex
401 Church Street
Nashville, TN 37243-1531

2003 JUN 11 PM

Dear Mr. Stevens:

Enclosed, please find a list of Fayette County's recommended strategy options for the State of Tennessee and Memphis Local Areas Early Action Compact. Please include the attached list with your submittal to the Environmental Protection Agency (EPA) of local control measures being considered. I would appreciate receiving a copy of the final June 16th submittal to EPA and also the June 23rd Initial Progress Report for the Memphis Area Early Action Compact.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely,

Rhea "Skip" Taylor, Mayor
Fayette County, Tennessee

P.O. Box 218, Fayette County Courthouse Somerville, Tennessee 38068
Phone (901) 465-5202
Fax (901) 465-5229

EARLY ACTION COMPACT
RECOMMENDED 8-HOUR CONTROL STRATEGY OPTIONS FOR
FAYETTE COUNTY, TENNESSEE
MEMPHIS METROPOLITAN STATISTICAL AREA

1. Low RVP (7.8 psi) gasoline (at refinery)

2. Stage I vapor recovery (at fueling stations)

3. Electric or propane-fueled forklifts

4. Ozone Alert program: Drive 55

5. Gas cap for vehicles giveaway

6. Lower speed limit from 70 to 55 mph for heavy duty (18 wheel) trucks during ozone season and increased enforcement

7. Intelligent Transportation System (electronic signs on roadway provide real time info to drivers)

8. Use TDOT "enhancements" grants to link greenways/bikeways/bike racks/pedestrian walkways

9. Adopt open burning restrictions during peak ozone periods

10. Provide the public with information through education programs and community events

11. Develop an air quality web page to provide the public with information

12. Encourage the use of catalyst and low sulfur diesel

13. Encourage car pooling and the use of area wide ride share incentives

CITY OF MEMPHIS
AND
SHELBY COUNTY, TENNESSEE

2003 JUN 11 AM 9:37

WILLIE W. HERENTON
City of Memphis Mayor

A C WHARTON, JR.
Shelby County Mayor

June 6, 2003

Barry R. Stephens, P.E.
Technical Secretary
Tennessee Air Pollution Control Board
9th Floor, L & C Annex
401 Church Street
Nashville, TN 37243-1531

SUBJECT: Memphis Metropolitan Statistical Area
Early Action Compact
June 16th List of Control Measures Under Consideration

Dear Mr. Stephens:

In accordance with the Early Action Compact entered into by Memphis and Shelby County in December, 2002, the attached list is hereby submitted. The West Memphis, Arkansas Metropolitan Planning Organization has submitted a list of recommended strategy options for possible implementation in Crittenden County, Arkansas. DeSoto County, Mississippi will also submit a list. It is our understanding that you will present the lists to the Tennessee Air Pollution Control Board at its June 11th meeting and forward them to U.S. EPA Region IV by the June 16th milestone deadline in the Early Action Compact.

We will continue to participate in the stakeholder process to develop an area wide plan. I certify that I have the necessary authority to submit this list.

Sincerely,

AC Wharton, Jr.
Mayor

Dr. Willie W. Herenton
Mayor

Cc: Yvonne Madlock, Director, Memphis & Shelby County Health Department
John Fowlkes, CAO, Shelby County
Keith L. McGee, Interim CAO, City of Memphis
Diane Arnst, Pollution Control, Memphis & Shelby County Health Department
Carter Gray, MPO
Kay Prince, U.S. EPA Region IV

MEMPHIS & SHELBY COUNTY COMPONENT OF
LIST OF CONTROL MEASURES BEING CONSIDERED
FOR EARLY ACTION COMPACT FOR
MEMPHIS METROPOLITAN STATISTICAL AREA

SEPARATE LISTS TO BE SUBMITTED BY
DESOTO COUNTY, MISSISSIPPI; CRITTENDEN COUNTY, ARKANSAS;
FAYETTE COUNTY and TIPTON COUNTY, TENNESSEE
June 16, 2003

FUEL STRATEGIES

1. Will work with Premcor Refining Group, Inc. and other suppliers and with the MSA counties outside of Shelby County to determine if Low Reid Vapor Pressure (7.8 psi) gasoline supply can be expanded to Crittenden, DeSoto, Tipton and Fayette Counties during ozone season [already required within Shelby County]
   Status: Meeting with Premcor Refining Group, Inc. scheduled June 9th; Lion Oil spokesman (Arkansas) stated 5/14 that it could not supply this fuel in this timeframe
2. Stage I Vapor Recovery expanded beyond Shelby County at fueling stations [already required within Shelby County]
   Status: Would require ordinances; may require statutory changes; would require infrastructure changes; probably could be implemented by 2005.. Cost approximately $400 per tank
3. Low Sulfur Gasoline to Memphis MSA by May 1, 2005
   Status: Meeting with Premcor Refining Group, Inc. scheduled June 9th to discuss
4. Stage II Vapor Recovery at fueling stations
   Status: Cost approximately $1,200/TON of VOCs reduced. Also reduces hazardous air pollutant emissions from fuels. May be viewed as duplicative of onboard canisters on newer model cars
5. Cetane Additive at diesel terminal distribution point
   Status: Cost approximately $4,00/TON of NOx reduced; determination of credit to local area issue; infrastructure needed for fuel mixing; pilot program summer 2004 in East Tennessee
6. BioDiesel (plant oil added at diesel terminal distribution point)
   Status: Adds NOx but reduces VOCs; determination of credit to local area issue; infrastructure needed for fuel mixing; may add $ 0.30 to $2.00 per gallon to consumer
7. Federal Reformulated Gas Opt-In
   Status: Governor must apply under Clean Air Act Section 211(k)(6) for classified nonattainment area; unclear if available to deferred Early Action Compact areas; may be more effective for carbon monoxide reduction strategy than for ozone reduction; Premcor Refining Group, Inc. spokesman stated 5/14 that this would be the toughest fuel to supply locally
8. BioDiesel and fuelborne catalyst (plant oil and catalyst added at diesel terminal distribution point)
   Status: Determination of credit to local area issue; infrastructure needed for fuel mixing
9. Diesel Fuel Emulsions (water based fuel additive at diesel terminal distribution point)

Status: Reduces horsepower and fuel economy so industry resistance is expected to be high; determination of credit to local area issue; infrastructure needed for fuel mixing; may add $0.35 to $3.00 per gallon

NOTE: Mandatory local fuel strategies require an EPA Fuel Waiver under Clean Air Act Section 211(c)(4)(B). EPA can grant waiver only " if no other measures that would bring about timely attainment exit, or if other measures exist and are technically possible to implement but are unreasonable or impracticable." Time to obtain Fuel Waiver is lengthy. Voluntary local fuel strategies do not need waiver, but only 7% of target reductions could be voluntary for the Early Action Compact.

STATIONARY SOURCE STRATEGIES

1. Fogging at 4 large and 16 small Combustion Turbines at TVA Allen Steam Plant. Reduces NOx emissions by about 10% when Combustion Turbines are in use, ambient temperature is over 70 degrees Farenheit, and humidity is 80% or less
   Status: Fogging devices have been installed beginning 1998 and ending 2002 on all 20 Combustion Turbines and are now in use when Combustion Turbines are in use, per ***TVA Allen Steam Plant*** spokesmen 5/30. TVA to provide data to quantify NOx emissions reductions for credit and for attainment modeling purposes. TVA to provide cost per ton of emissions reduction figures.
2. Wet injection at Combustion Turbines at TVA Allen Steam Plant to reduce NOx by about 40% to about 60 ppm
   Status: Memphis & Shelby County Health Department obtaining permission of Arkansas-Tennessee-Mississippi Ozone Study Operations Committee for contractor SAI, Inc. to release data to Larry Gautney of TVA to model emissions impacts before ***TVA Allen Steam Plant*** commits to this strategy. Modeling results expected about July 15th if data is provided to TVA first week of June. TVA to provide cost per ton of emissions reduction figures.
3. Operate Selective Catalytic Reduction equipment for three EGUs covered by NOx SIP call on specified days in April and October each year IF Pollution Control Section forecasts an ozone exceedance for the next day OR if Pollution Control Section observes at 8 AM that overnight ozone levels remained high. Forecaster to advise Technical Manager and PAS-Executive, who telephone TVA [Ozone Action Plan approach]
   Status: Spokesmen for ***TVA Allen Steam Plant*** agreed 5/30 to model this strategy before it commits to this strategy. SCR can be in operation within 2 or 3 hours after notification to TVA; cost per day is about $10,000; TVA to provide cost per ton of emissions reduction figures. Health Department reviewed historical data to determine typical date of 4th highest 8-hour ozone value each ozone season and provided to TVA on 6/2.
4. Will work with the MSA counties outside of Shelby County on early implementation of NOx Reasonably Available Control Technology (RACT) in MSA
   Status: Ordinance revisions needed for this longterm strategy for new/replacement sources of NOx; effective for Early Action Compact 2007 deadline if a retrofit requirement and effective for maintenance through 2012.
5. DriveMax programmable computer installed on diesel engines for tub grinders at mulching operations to reduce NOx

- Status: Need to inventory mulching operations to determine number of engines and quantify possible reductions

6. Electric or propane-fueled forklifts
   Status: ***Memphis Light, Gas & Water*** has seven (7) electric forklifts and sixteen (16) diesel forklifts. Need to inventory MSA to determine number, useful life, and to quantify possible NOx reductions
7. Compressor station diesel engines at natural gas pipelines SIC Code 4922 or 4923
   Status: ***Texas Gas Transmission, LLC*** **on 6/2/03 orally committed to Memphis & Shelby County Health Department** to complete a programming change on computers that operate eight (8) reciprocating compressors to operate at 90% of rated load no later than start of ozone season 2004 at its Covington facility **in Tipton County TN to reduce average annual ozone season NOx reductions by 149 TONS** and to achieve similar further NOx reductions of 83 TPY elsewhere in the MSA, **which would achieve NOx emissions reductions of approximately 235 TONS Per Year (1.09 TONS Per DAY)** from April 1st through October 31st. Darrell Morgan of Texas Gas Transmission, LLC submitted written calculations to the Health Department,. The Health Department will work with the Tennessee Department of Environment and Conservation on any related permitting issues. .

   On May 23, 2003, EPA received a notice of intent to sue from the Georgia Sierra Club for EPA's failure to promulgate the NOx SIP Phase II rule, according to Kay Prince, EPA Region IV. This rule would achieve 82% to 90% reduction in NOx from natural gas transmission pipeline compressor engines in the twenty-two (22) NOx SIP Call states, which include Tennessee but not Mississippi. First year in which emissions reductions would occur is unknown. Tennessee Department of Environment and Conservation is reviewing its emission inventory for this source category and may consider a statewide control strategy in the interim if tens of thousands of NOx emissions are attributable from this source category as anticipated..

VOLUNTARY MEASURES

1. Ozone Alert Program: Drive 55
   Status: Need to work on publicity and tie in ozone forecasts and with Intelligent Transportation System
2. Gas cap for vehicles giveaway
   Status: Need to approach Autozone to flesh out this idea. Could tie in with I/M inspection stations or Clean Air Month event at start of ozone season

FLEET STRATEGIES

1. Fleet ULEV or SULEV Program (Buses, taxi, private, utility, airport ground)
   Status: ***Federal Express*** announced 5/23 phase-in of a hybrid diesel/electric E700 truck (medium delivery truck size) into its fleet of 30,00 nationwide. First phase is 20 trucks in 4 cities; Memphis is being considered. Truck manufacturer Eaton states E700 trucks are 45% more fuel-efficient and emit 75% less smog-forming gases and

90% fewer particulates. Cost is 10% to 20% more than conventional diesel, offset by lower fuel costs. Trucks are replaced every 10-12 years. Congressional tax credits are pending. Regenerative braking and a particulate trap are the controls. Timing for conversion of entire Memphis fleet will not coincide with 2007 deadline, but is an effective longterm strategy for 2012 maintenance. ***Memphis Light Gas & Water*** (MLGW) has one (1) hybrid electric car, 900 light-duty diesel onroad vehicles, 370 heavy duty diesel vehicles, and 684 offroad diesel vehicles. MLGW has begun to purchase cleaner half-ton trucks with a specified number to be purchased per year, VMT/year/truck]

VEHICLE INSPECTION AND MAINTENANCE (I/M) STRATEGIES

1. Basic I/M, measuring hydrocarbons and carbon monoxide from tailpipe exhaust only; plus gas cap check of evaporative emission control system
   Status: Need to examine cost of adding gas cap check at existing stations; need to estimate cost/ton of reduced emissions; significant resistance expected to expanding throughout MSA; funding problems expected
2. I/M tailpipe test and ASM/IM240 while vehicle is driven on a treadmill-like device (a dynamometer) over a driving cycle with many different speeds resembling typical city driving; measures hydrocarbon, carbon monoxide and nitrogen oxides emissions from entire exhaust stream; also measures fuel economy and generates diagnostic information targeting repairs needed
   Status: Need to examine cost of adding ASM/IM240 at existing stations; need to estimate cost/ton of reduced emissions; significant resistance expected to expanding throughout MSA; funding problems expected
3. ASM/IM240 test plus gas cap check with 5% waiver rate
   Status: Need to examine cost of adding ASM/IM240 at existing stations; need to estimate cost/ton of reduced emissions; significant resistance expected to expanding throughout MSA; funding problems expected
4. Onboard Diagnostics II: test of 1996 and newer model year vehicle OBD computer systems for proper functioning in addition to tailpipe test for these model years.
   Status: Statutory ordinance changes may be required to authorize use of "hand scanner" equipment inside automobile or inside engine hood of privately owned automobiles. Cost to add "hand scanners to the three existing I/M stations [10 lanes, 2 mobile units, and 5 spare units] estimated at $60,000 plus subsequent software upgrades.
5. Remote Sensing outside City of Memphis limits
   Status: Need to determine cost and number of devices required to have an effective program; quantification of emissions reductions issue; privacy issue

ENERGY EFFICIENCY STRATEGIES

1. Memphis Light, Gas & Water Energy Audits of residential buildings "Energy Doctor Program"
   Status: MLGW is gathering data concerning the number of residences per year audited and resulting emissions reductions per house
2. Memphis Light, Gas & Water Energy Audits of commercial buildings

Status: MLGW is gathering information about start date of this new program and expected emissions reductions

3. Adopt International Energy Conservation Code and energy efficiency chapter of International Residential Code into Local Building Codes
   Status: Longterm strategy to maintain to 2012; ordinance revisions necessary; need to obtain copy of it and solicit public comments; dovetails with Smart Growth

TRAVEL BEHAVIOR STRATEGIES

1. Lower Speed Limit from 70 to 55 mph for Heavy Duty (18-Wheel) Trucks during Ozone Season and increase enforcement
   Status: Representatives of Tennessee Department of Environment and Conservation began meeting in May with Tennessee Department of Transportation officials to discuss Early Action Compact strategies; safety benefits; TDOT increased speed limit in 2003 to 65 mph for all traffic on I-240; possible resistance from trucking industry; unclear if TDOT can accomplish or if State legislature must act; may need additional funding for additional enforcement
2. Intelligent Transportation System (electronic signs on roadway provide real time information to drivers that reduces congestion
   Status: Already funded for completion by 2006; determination of emission reduction credit issue
3. Use TDOT "enhancements" grants to link greenways/bikeways/bike racks/pedestrian walkways
   Status: Dovetails with Smart Growth; MPO ranking during grant cycle; current 3-year Transportation Improvement Plan timeframe; quantification of emissions reduction issue

MOTOR VEHICLE STRATEGIES

1. NOx flash (recalibrate diesel engine fleets to lowest NOx emission rate)
   Status: Need to quantify for Memphis Federal Express fleet where this was completed to claim credit; approximately $1,000 cost/ton reduced
2. Diesel Retrofit of On-Road vehicles with catalytic converters after low sulfur diesel fuel is available
   Status: Low sulfur diesel fuel availability federal deadline is 1/1/06; retrofit is eligible for federal Congestion Mitigation and Air Quality (CMAQ) Improvement funds and for federal Toyota Settlement funds; cost estimated at $4,000 to $12,000/Ton of NOx reduced
3. Diesel Retrofit of Off-Road vehicles with catalytic converters after low sulfur diesel fuel is available
   Status: Low sulfur diesel fuel availability federal deadline is 1/1/06; retrofit is eligible for federal Congestion Mitigation and Air Quality (CMAQ) Improvement funds and for federal Toyota Settlement funds; cost estimated at $4,000 to $12,000/Ton of NOx reduced
4. Local government contract preference for bidders with retrofitted diesel engines

Status: Need to pursue after 1/1/06 availability of low sulfur diesel fuel; emission reduction quantification issue

5. Install DriverMax programmable computers on buses
   Status: Already installed on MATA Paratransit buses; need to quantify for NOx reduction credit; consider for larger buses during MATA budget cycle; may be eligible for CMAQ funding
6. Liquified Natural Gas for Railroad Switch Engines
   Status: Need to inventory to determine number, useful life, and to quantify possible NOx reductions
7. Truck idling emissions reduction through truckstop electrification
   Status: Pilot at one truckstop in West Memphis, AR by private sector; strategy may also be useful for fleets garaged in Memphis MSA; CMAQ project underway in Knoxville (Supplier: Idleair, Inc.) to install at 100 parking spaces for $1 million; operating expense subsidy to truck driver for per night charge up to 3 years is also eligible for CMAQ funding; estimated $1,660 /Ton of NOx reduced

EMPLOYER-BASED STRATEGIES

1. Pay taxable cash compensation in lieu of non-taxable parking benefit of up to $175/month pursuant to Section 132 of IRS Code, Section 1072 of Taxpayer Relief Act of 1997
   Status: Need to track by employer; quantification of emission reductions issue
2. Provide employee Transit Passes of up to $65/month Tax Free De Minimis Fringe Benefit pursuant to Section 132 of IRS Code
   Status: Need to track by employer; quantification of emission reductions issue
3. Provide a Commuter Highway Vehicle for employees pursuant to Section 132 of IRS Code
   Status: Need to track by employer; quantification of emission reductions issue
4. Flexible work hours and telecommuting
   Status: Need to track by employer; quantification of emission reductions issue

TIPTON COUNTY

JEFF HUFFMAN
COUNTY EXECUTIVE
PHONE (901) 476-0200
FAX: (901) 476-0227

June 11, 2003

Mr. Barry Stevens
Tennessee Department of Environment and Conservation
Division of Pollution Control
9th Floor, L & C Annex
401 Church Street
Nashville, TN 37243-1531

Dear Mr. Stevens:

Enclosed, please find a list of Tipton County's recommended strategy options for the State of Tennessee and Memphis Local Ares Early Action Compact. Please include the attached list with your submittal to the Environmental Protection Agency (EPA) of local control measures being considered. I would appreciate receiving a copy of the final June 16th submittal to EPA and also the June 23rd Initial Progress Report for the Memphis Area Early Action Compact.

If I can be of any further assistance, please do not hesitate to contact me.

Respectfully submitted,

Jeff Huffman
Tipton County Executive

P.O. Box 686 • Court Square • Covington, Tennessee 38019
TCOUNTY@netten.net

EARLY ACTION COMPACT
RECOMMENDED 8-HOUR CONTROL STRATEGY OPTIONS FOR TIPTON COUNTY, TENNESSEE MEMPHIS METROPOLITAN STATISTICAL ARES

1. Low RVP(7.8 psi) gasoline (at refinery)
2. Stage I vapor recovery (at fueling stations)
3. Electric or propane-fueled forklifts
4. Ozone Alert program: Drive 55
5. Gas cap for vehicles giveaway
6. Lower speed limit from 70 to 55 mph for heavy duty (18 wheel) trucks during ozone season and increased enforcement
7. Intelligent Transportation System (electronic signs on roadway provide real time info to drivers)
8. Use TDOT "enhancements" grants to line greenways/bikeways/bike racks/pedestrian walkways
9. Adopt open burning restrictions during peak ozone periods
10. Provide the public with information through education programs and community events
11. Develop an air quality web page to provide the public with information
12. Encourage the use of catalyst and low sulfur diesel
13. Encourage car pooling and the use of area wide ride share incentives