

Public Comment Period Record



STATE OF MICHIGAN

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

PROPOSED PM_{2.5}

STATE IMPLEMENTATION PLAN

February 4 to March 5, 2008

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APPENDIX A: Proposed PM 2.5 State Implementation Plan, February 4, 2008

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN'S FINE PARTICULATE MATTER (PM 2.5) STATE IMPLEMENTATION

PLAN (SIP): The Air Quality Division is holding a public comment period through March 5, 2008, on a proposed SIP for Southeast Michigan's PM 2.5 nonattainment area, including Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne counties. The public comment period meets the public participation requirements for a SIP submittal.

Written comments should be sent to:

Attention: Mary Ann Halbeisen
Michigan Department of Environmental Quality
Air Quality Division
P.O. Box 30260
Lansing, Michigan 48909

TENTATIVE PUBLIC HEARING SCHEDULED:

If requested by March 5, 2008, a public hearing will be held on March 11, 2008, at 1:30 p.m., in the Constitution Hall, Lillian Hatcher Conference Room, 3rd Floor North, 525 West Allegan Street, Lansing, Michigan. Those interested may contact the Air Quality Division at 517-335-1059 after March 5, 2008, to determine if a hearing was requested and will be held.

The PM 2.5 SIP can be viewed by clicking on the following links:

- [Michigan State Implementation Plan for PM 2.5](#)
- [Appendix A](#)
- [Appendix C](#)
- [Appendix D](#)
- [Appendix E](#)
- [Appendix F](#)

For further information, contact Cynthia Hodges at 517-335-1059 or Email at hodgesc@michigan.gov.

Decision-maker: **DEQ Director.**



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 PO BOX 30473
 LANSING MI 48909-7973

CALENDAR

February 4, 2008

- ◆ **ENVIRONMENTAL ASSISTANCE CENTER**
800-662-9278
E-mail: deq-ead-env-assist@michigan.gov
 The DEQ Environmental Assistance Center (EAC) is available to provide direct access to DEQ environmental programs, answers to environmental questions, referrals to DEQ technical staff, and quick response. Questions on any items listed in the DEQ Calendar can be referred to the EAC.
- ◆ **PUBLICATION SCHEDULE**
 The DEQ Calendar is published every two weeks, on alternate Mondays, by the Michigan Department of Environmental Quality. We welcome your comments.
- ◆ **CALENDAR LISTSERV**
 You may subscribe to receive the DEQ Calendar electronically by sending an Email to the listserv at **LISTSERV@LISTSERV.MICHIGAN.GOV** and in the body of the message type Subscribe, DEQ-CALENDAR, and your name.
- ◆ **INTERNET ACCESS**
www.michigan.gov/deqcalendar
 The DEQ Calendar is available on the DEQ World Wide Web site in pdf and html format. Access the calendar at **www.michigan.gov/deqcalendar**.
- ◆ **TIMETABLE FOR DECISIONS**
 No decision listed in the DEQ Calendar will be made prior to seven days after the initial Calendar publication date.
- ◆ **TIPS FOR CITIZEN INPUT**
 Refer to the "Public Involvement Handbook, A Citizens Guide" to increase the effectiveness of your input into DEQ programs. Access the handbook at **www.michigan.gov/deq** and click on "Get Involved, Programs for Citizens."

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**PART I:
ENVIRONMENTAL ISSUES, PERMITTING AND RELATED REGULATIONS**

Permit Decisions Before the Office of the Director

**AIR QUALITY
DIVISION
See Map - ❶**

DOW CHEMICAL COMPANY – 32 INCINERATOR, MIDLAND, MIDLAND COUNTY, proposed Permit to Install application for changes to permit conditions for the existing hazardous waste incinerator and operation of 32-Incinerator. The facility is located at Midland Operations, Main Street, Midland. Additionally, the new 32-Incinerator will require revisions to Renewable Operating Permit (ROP) No. MI-ROP-A4033-2004a. This public comment period meets the public participation requirements for a future administrative amendment to the ROP. The responsible official for the source is Brad Fedorchak, Michigan Operations, 1261 Building, D-Street, Midland, Michigan. New Source Review and ROP public notice documents can be viewed on the Internet at www.michigan.gov/degair. Public comment will be taken through February 19, 2008. If a public hearing is requested in writing by February 19, 2008, an informational session and public hearing will be held February 21, 2008, (see February 21 listing in this calendar). Written comments should be sent to the Michigan Department of Environmental Quality, Air Quality Division, P.O. Box 30260, Lansing, Michigan 48909, to the attention of William A. Presson, Acting Permit Section Supervisor. Information Contact: **Paul Schleusener**, Air Quality Division, 517-335-6828. Decision-maker: **G. Vinson Hellwig**, Air Quality Division Chief.

**WASTE AND
HAZARDOUS
MATERIALS
DIVISION
See Map - ❷**

SAUK TRAIL DEVELOPMENT, INC., WAYNE COUNTY. Consideration of a Part 115 Solid Waste Management construction permit application for a type II solid waste landfill modification of an existing permit. A decision is expected by May 8, 2008. Information Contact: **Larry AuBuchon** at 586-753-3840 or, Email at aubuchol@michigan.gov Decision-maker: **DEQ Director**.

Other Decisions Before the Office of the Director

**ENVIRONMENTAL
SCIENCE AND
SERVICES DIVISION
See Map - ❸**

CLEAN CORPORATE CITIZEN DESIGNATION, PILGRIM MANOR RETIREMENT COMMUNITY, 2025 LEONARD STREET NE, GRAND RAPIDS, MICHIGAN, KENT COUNTY. The Michigan Department of Environmental Quality has received an application for Clean Corporate Citizen (C3) designation from Pilgrim Manor Retirement Community as provided for under Administrative Rules R324.1508: Clean Corporate Citizen Program. A decision on the C3 designation approval or disapproval will be made on or before March 18, 2008. The C3 program provides incentives for improved environmental protection. Regulated establishments that have demonstrated environmental stewardship can receive C3 designation and public recognition for their efforts and are entitled to certain regulatory benefits. Information Contact: **Kelie Bond**, Environmental Science and Services Division, 517-241-7969. Decision-maker: **DEQ Director**.

**AIR QUALITY
DIVISION
See Map - ❹**

H INDUSTRIES, DETROIT, WAYNE COUNTY. Written comments are being accepted on a proposed Consent Order to administratively resolve alleged air pollution violations. You may obtain copies of the proposed Consent Order and Staff Activity Report on the Web at www.michigan.gov/degair. Submit written comments to Ronald Pollom, Michigan Department of Environmental Quality, Air Quality Division, P.O. Box 30260, Lansing, Michigan 48909. Written comments must be received by February 20, 2008. If a request is received in writing by February 20, 2008, a public hearing will be scheduled. Information Contact: **Ronald Pollom**, Air Quality Division, 517-335-4624. Decision-maker: **G. Vinson Hellwig**, Air Quality Division Chief.

**AIR QUALITY
DIVISION
See Map - ❺**

MICHIGAN'S FINE PARTICULATE MATTER (PM 2.5) STATE IMPLEMENTATION PLAN (SIP) proposed for Southeast Michigan's PM 2.5 nonattainment area, including Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne counties. The Air Quality Division will hold a public comment period through March 5, 2008, that meets the public participation requirements for a SIP submittal. The PM 2.5 SIP can be viewed on the Web at www.michigan.gov/degair. If requested by March 5, 2008, a hearing will be held March 11, 2008 (see March 11 listing in this calendar). Written comments should be sent to the Michigan Department of Environmental Quality, Air Quality Division, P.O. Box 30260, Lansing, Michigan 48909, to the attention of Mary Ann Halbeisen. Information Contact: **Cynthia Hodges**, Air Quality Division, 517-335-1059. Decision-maker: **DEQ Director**.

CALENDAR

February 4, 2008

any air emission changes at the stationary source. The ROP public notice documents can be viewed on the Web at www.michigan.gov/deqair. The responsible official of the stationary source is Tim Schimke, 1525 Miltner Street, Cadillac, Michigan 49601. Comments on the draft permit are to be submitted to Kurt Childs, Michigan Department of Environmental Quality, Air Quality Division, Cadillac District Office, 120 West Chapin Street, Cadillac, Michigan 49601. The decision-maker for the permit is Janis Denman, District Supervisor. If requested in writing by March 5, 2008, a public hearing may be scheduled. Information Contact: **Kurt Childs**, Air Quality Division, 231-775-3960, extension 6253.

MARCH 5, 2008

DEADLINE FOR PUBLIC COMMENT REGARDING MICHIGAN'S FINE PARTICULATE MATTER (PM 2.5) STATE IMPLEMENTATION PLAN (SIP) proposed for Southeast Michigan's PM 2.5 nonattainment area, including Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne counties. This public comment period meets the public participation requirements for a SIP submittal. The PM 2.5 SIP can be viewed on the Web at www.michigan.gov/deqair. If requested by March 5, 2008, a hearing will be held March 11, 2008 (see March 11 listing in this calendar). Written comments should be sent to the Michigan Department of Environmental Quality, Air Quality Division, P.O. Box 30260, Lansing, Michigan 48909, to the attention of Mary Ann Halbeisen. Information Contact: **Cynthia Hodges**, Air Quality Division, 517-335-1059.

MARCH 11, 2008
1:30 p.m.

TENTATIVELY SCHEDULED PUBLIC HEARING REGARDING MICHIGAN'S FINE PARTICULATE MATTER (PM 2.5) STATE IMPLEMENTATION PLAN (SIP) proposed for Southeast Michigan's PM 2.5 nonattainment area, including Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne counties. This public comment period meets the public participation requirements for a SIP submittal. The PM 2.5 SIP can be viewed on the Web at www.michigan.gov/deqair. If requested by March 5, 2008, a public hearing will be held in the Constitution Hall, Lillian Hatcher Conference Room, 3rd Floor North, 525 West Allegan Street, Lansing, Michigan. Those interested may contact the Air Quality Division at 517-335-1059 after March 5, 2008, to determine if a hearing was requested and will be held. Information Contact: **Cynthia Hodges**, Air Quality Division, 517-335-1059.

Division Permit Contacts

For additional information on permits, contact:

Air Quality Division	517-373-7074 517-335-4607	Pam Blue Cari DeBruler
Land and Water Management Division (land/water interface permits)	517-373-8798	Wendy Fitzner
Office of Geological Survey (oil, gas, mineral well, and sand dune mining permits)	517-241-1545	Thomas Godbold
Waste & Hazardous Materials Division	517-335-4034	Wanda Williams
Water Bureau	517-241-1346	Susan Ashcraft
<ul style="list-style-type: none"> • Groundwater Permits on Public Notice • NPDES Permits on Public Notice • Certificates of Coverage on Public Notice 		



Attention: Mary Ann Halbeisen
Michigan Department of Environmental Quality
Air Quality Division
P.O. Box 30260
Lansing, Michigan 48909

Sent via Email: halbeism@Michigan.gov

March 5, 2008

Michigan's Fine Particulate Matter (Pm 2.5) State Implementation Plan

The Michigan Manufacturers Association appreciates the opportunity to submit comments on the notice for the proposed State Implementation Plan for Fine Particulate Matter (PM 2.5), which requires response by March 5, 2008.

The history on setting the federal standard dates back to 1997, when the EPA issued its PM 2.5 standard. MMA has been concerned about the economic impact of additional federal regulation on Michigan. MMA filed comments with the EPA outlining our concerns as recently as January 30, 2006. The history on setting the federal standard dates back to 1997, when the EPA issued its PM 2.5 standard. The federal courts have deliberated on these issues for years until the DC Circuit Court in 2002, rejected the claim that the agency acted in an arbitrary and capricious manner in setting the standard. Despite our objections, and those of many business organizations across the country, including the National Association of Manufacturers, the EPA has moved forward with changes in the standard, which result in seven counties in southeast Michigan being designated as not meeting the National Ambient Air Quality Standards for Particulate Matter (PM 2.5), including Wayne, Oakland, Macomb, Washtenaw, St. Clair, Monroe, and Livingston.

Given the constraints of the federal regulatory mandate, the state is forced to respond with a state implementation plan or face federal sanctions that include withholding federal transportation dollars.

The proposed SIP forwarded by the DEQ is the product of years of close consultation with Southeast Michigan Council of Governments (SEMCOG), which is the Metropolitan Planning Organization for Southeast Michigan. SEMCOG's Air Quality Task Force has held several meetings over the past several years that have included opportunities for public involvement and comment from interested stakeholders.

With our state economy having a manufacturing concentration seven times greater than the national average, any increase in regulation in Michigan tends to have more impact here than in other states. We believe the SIP addresses the requirements scientifically, and to the extent possible, recognizes the cost implications for Michigan.

We appreciate the work of both the DEQ and SEMCOG in developing this science based approach. Many stakeholders have taken advantage of the opportunities provided in the process

to make contributions to the understanding of PM 2.5. We believe that with the increased monitoring we have learned a great deal about the speciation of the components of PM 2.5. As we learn more, we begin to understand how much more there is to learn in the future. We hope that increased knowledge will help us refine our regulatory approaches to ensure regulatory resources are targeted where they have the most benefit, while not spending economic resources where they do not generate environmental benefit. We are confident we will continue to make significant scientific progress for the benefit Michigan's air quality and our economy.

We believe that Michigan is very close to meeting attainment under the new federal standards, and we look forward to achieving the goal of meeting attainment again. Michigan manufacturers are already spending billions of dollars implementing multiple control strategies that will continue to yield significant co-benefits for air quality in Michigan.

The process used to develop the DEQ's proposed SIP for PM 2.5 has been open and deliberative. Michigan is poised to continue to make significant progress in air quality improvement. MMA supports the proposed SIP for PM 2.5.

Thank you for the opportunity to participate in your processes and comment on the proposed SIP for PM 2.5.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Johnston". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael Johnston
Director of Regulatory Affairs

Suite 3600
100 Renaissance Center
Detroit, MI 48243-1157
313.259.7110
Fax 313.259.7926

Kurt A. Kissling
Direct: 313.393.7313
kurtkissling@pepperlaw.com

March 5, 2008

Via E-Mail and U.S. Mail

Ms. Mary Ann Halbeisen
MDEQ - Air Quality Division
P.O. Box 30260
Lansing, MI 48909
HalbeisenM@michigan.gov

Re: Michigan's PM_{2.5} State Implementation Plan

Dear Ms. Halbeisen:

This letter provides Oakland County's comments on the State of Michigan's "State Implementation Plan Submittal for Fine Particulate Matter" ("PM_{2.5} SIP"). The PM_{2.5} SIP was proposed on February 4, 2008, and addresses southeast Michigan's nonattainment with the 1997 PM_{2.5} standard. Oakland County is directly affected by the PM_{2.5} SIP because EPA designated Oakland County as nonattainment for PM_{2.5}.

Oakland County supports the PM_{2.5} SIP because, based on the best modeling and other evidence available, the PM_{2.5} SIP should result in southeast Michigan meeting the 15 µg/m³ standard in 2009. In addition, Oakland County offers the following specific comments:

1. The State of Michigan and its planning partners actively solicited input from PM_{2.5} SIP stakeholders, e.g., environmental organizations, local citizen groups, industry, and local governments. For example, public participation was sought throughout the PM_{2.5} SIP development process at public meetings held by the Southeast Michigan Council of Governments ("SEMCOG"). In addition, input was routinely requested from EPA and the Lake Michigan Air Directors Consortium ("LADCO") in conjunction with the periodic meetings of the SEMOS work group. Accordingly, the PM_{2.5} SIP development process was well-coordinated and readily accessible to interested parties.
2. In light of the documented technical challenges for testing, monitoring, and modeling PM_{2.5}, the weight of evidence ("WOE") approach taken by the State of Michigan represents the best basis for PM_{2.5} SIP planning. PM_{2.5} is somewhat unique in that: (a) speciation sampling data are needed to identify specific PM_{2.5} components; (b) PM_{2.5} components can vary significantly by location and time; (c) PM_{2.5} components are directly emitted as well as the product of secondary formation; (d) EPA has yet to endorse a

Ms. Mary Ann Halbeisen

Page 2

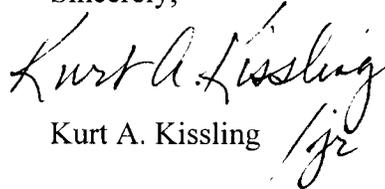
February 29, 2008

PM_{2.5} stack test method for stationary sources; (e) PM_{2.5} inventories are relatively new and less developed than those for other pollutants; and (f) computer models have performed somewhat inconsistently when trying to synthesize the numerous variables associated with PM_{2.5} emissions. In light of these technical issues, the WOE approach provides the best basis for air quality planning because it looks at multiple sources of relevant information for consistencies among the data. Thus, rather than depending heavily on one or two sources of data, the PM_{2.5} SIP conclusions are based on a robust set of information, e.g., PM_{2.5} monitoring data, speciation data, meteorological data, long-term emission trends, the effect of national emission reduction programs, local emission modeling, regional emission modeling, etc. As a result, the State of Michigan's multifaceted approach to understanding PM_{2.5} emissions in southeast Michigan provides the best foundation available for planning an attainment strategy.

3. The PM_{2.5} SIP correctly defers the pursuit of area-wide RACM in favor of focused solutions that directly affect the PM_{2.5} nonattainment. As MDEQ's RACM modeling proved, blanketing southeast Michigan with area-wide RACM requirements would fail to solve the problems evident at the two nonattaining monitors in south-central Wayne County. *See* PM_{2.5} SIP at 36. For example, requiring emission controls in Oakland County would do nothing to resolve the core problem because the northern counties of the nonattainment area do not contribute to PM_{2.5} nonattainment measured in south-central Wayne County. *See* PM_{2.5} SIP at pp. 18-19. This is consistent with Michigan's past PM₁₀ nonattainment area and the successful PM_{2.5} attainment strategy, both of which focused on the same area of south-central Wayne County measuring in nonattainment for PM_{2.5}. *See* PM_{2.5} SIP at 5, Figure 2.2. In sum, the proposed PM_{2.5} SIP provides an efficient means for addressing PM_{2.5} nonattainment by focusing on the localized problem.

Please contact me with any questions about these comments.

Sincerely,



Kurt A. Kissling

c: Keith Lermينياux, Oakland County
#9393000 v1

DTE Energy Company
2000 2nd Ave., Detroit, MI 48226-1279

DTE Energy



March 5, 2008

VIA FAX

Attention: Mary Ann Halbeisen
Michigan Department of Environmental Quality
Air Quality Division
P.O. Box 30260
Lansing, Michigan 48909

Comments of DTE Energy on the State of Michigan's
Fine Particulate Matter (PM2.5) State Implementation Plan (SIP)
February 4, 2008

DTE Energy is one of the nation's largest diversified energy companies. With headquarters in Detroit, Michigan, DTE Energy is involved in the development and management of energy related businesses and services, nationwide. Its largest operating units are Detroit Edison, an electric utility serving 2.2 million customers in Southeastern Michigan, and MichCon, a natural gas utility serving 1.3 million customers in Michigan. The DTE Energy portfolio also includes non-utility energy businesses focused in power, industrial projects, coal and gas mid stream, unconventional gas production and energy trading.

DTE Energy is extremely supportive of Michigan's state implementation plan (SIP) which addresses air pollution control measures needed to reach acceptable fine particulate matter (PM2.5) levels in some industrial portions of southeast Michigan. The State, and local agencies involved in developing the SIP, chose to balance region-wide measures with focused controls close to the areas which exceed the annual PM2.5 national ambient air quality standard. DTE Energy appreciates this approach which avoids instituting controls which do not contribute to attainment in the areas which currently exceed the annual PM2.5 ambient standard. This situation is especially evident when wind directions are from the northwest, or northeast. Weight of evidence figures presented in the draft SIP show extremely low PM2.5 levels with these wind directions.

However, DTE Energy does not agree with including additional sulfur dioxide controls on the Edison Energy Service's coke battery as a contingency measure. Even though there is a slight annual average sulfate excess ($\sim 0.3 \text{ ug/m}^3$) at the Dearborn site, when it is compared against the Allen Park site, the majority of this excess is associated with wind directions from the southwest. There is a slight sulfate excess with southeast winds, which is the wind direction when the coke battery is upwind of the Dearborn site. However, the magnitude of the excess sulfate and the lower frequency of winds from the southeast indicate the majority of the excess sulfate at Dearborn is due to sources southwest of this site, rather than southeast of it. Recent reductions in sulfur content of locomotive fuel in nearby rail yards will likely reduce this upwind sulfate local contribution to PM2.5 at the Dearborn site.

The contingency plan would benefit from more details regarding how ongoing special monitoring studies at the Dearborn site will be used to identify the source(s) responsible for the organic carbon (OC), and possibly the sulfate excess, when compared against Allen Park data. The current list of sources is too broad and ambiguous. Many of the sources listed in this category have a very small impact on PM2.5 at this critical monitoring site. The term "landfill flares" was probably intended to be different flares from the nearby refinery (i.e., BOF and other refinery flares), which has recently had controls installed on this source. There are no nearby char-broiling restaurants, but there are two smoke houses just south of the monitor. Preliminary OC data indicate that the highest OC levels at Dearborn were when winds were from the south.

The table identified as the "Model Based Projections of Future Year Air Quality" has a misleading title. This table lists the results from regional modeling runs that only account for region-wide controls, and not local controls. This table's title should reflect the true nature of this modeling projection. A new table should include future year predicted impacts accounting for region-wide and local control measures.

Even though Dearborn is clearly the key site, the SIP needs to address other nearby sites that slightly exceed the annual NAAQS, like Southwestern High School (SWHS). The SIP should document why this site is of less concern than Dearborn (i.e., regional modeling shows attainment).

And, finally, wind directions need to be addressed consistently in the document. Sometimes wind directions are separated into 60-degree sectors, and other analyses analyze 10-degree wind sector data. This needs to be clarified in the SIP, especially since some 10-degree sectors clearly identify specific contributing sources that 60-degree sector data cannot resolve. A recent OC presentation showed an OC spike from 180 degrees that would be lumped with other wind directions from the southeast, when other sources in these other directions did not contribute to the OC excess.

Again, DTE Energy is grateful that we were able to participate in the development of this PM2.5 SIP. We feel it meets the requirements established by EPA using some modeling, and a significant amount of weight-of-evidence support for its choice of control measures.

Respectfully submitted,



Michael Lebeis
Environmental Management & Resources
DTE Energy

CC: Chuck Hersey, SEMCOG
Abed Houssari, DTE
Lillian Woolley, DTE

COMMENTS OF CONSUMERS ENERGY

March 5, 2008

Submitted via e-mail to: halbeism@michigan.gov

SUBJECT: Comments of Consumers Energy on Michigan Department of Environmental Quality's Proposed State Implementation Plan Submittal for Fine Particulate Matter (PM 2.5)

Ms Halbeisen:

Consumers Energy appreciates this opportunity to comment on the DEQ's Proposed State Implementation Plan Submittal for Regional Haze. Consumers Energy is one of the nation's largest combined gas and electric utilities, ranking fifth among the gas utilities and thirteenth among electric utilities. We serve approximately 6.5 million of Michigan's 9.9 million residents with electricity, or gas, or both. We serve more than 8,600 industrial electric customers.

Consumers Energy is proud of its achievements in meeting or exceeding previous Federal and State air regulatory initiatives. These include, but are not limited to Michigan's 1980 sulfur in fuel limitation rule, the Acid Rain provisions of the 1990 Clean Air Act Amendments, and the NOx SIP Call. We are currently carrying out our plans for the implementation of the first phase of the Clean Air Interstate Rule (CAIR). We have historically been active participants in State Implementation Plan (SIP) development for criteria pollutants in Michigan, particularly when our sources are factors in designing an attainment strategy. Accordingly, we have been active participants in the preparation of this proposed SIP.

GENERAL STATEMENT REGARDING AIR EMISSIONS AND AMBIENT AIR QUALITY

Nationwide, emitting sources, including electric power plants, have been making dramatic reductions in emissions for decades while supplying the nation's ever-increasing demand for energy and consumer products. Since 1970, total emissions of the six criteria air pollutants dropped by 54 percent. Air quality will continue to dramatically improve due to huge emission cuts already in the pipeline, some ordered just within this past year.

Many of the control programs that are producing these successes are still being implemented. For the electric utility industry, this includes CAIR, which will result in significant reductions in PM 2.5 and its precursors, over the course of its implementation.

COMMENTS PERTAINING TO THE PROPOSED STATE IMPLEMENTATION PLAN SUBMITTAL FOR PM 2.5

Consumers Energy supports the DEQ's proposed submittal and plan of action. In particular, we commend the Department and the Southeast Michigan Council of Governments (SEMCOG) for convening a stakeholder group that was well versed in issues related to particulate matter and nonattainment in Southeast Michigan. We believe that the end result is a deliberate, practical, area-specific approach to defining and resolving the issue of nonattainment of the PM 2.5 NAAQS in Southeast Michigan.

We believe that it is important to acknowledge and commend the efforts of the DEQ's Air Quality Division and SEMCOG, with assistance from the Lake Michigan Air Directors Consortium (LADCO), in working to understand the nature of PM 2.5 nonattainment in Southeast Michigan. This included the use of advanced monitoring techniques to detect and quantify the various components of PM 2.5, as well as the efforts put forth to compile a comprehensive emissions inventory. It made use of reasoned application of air quality computer models for PM 2.5. We also acknowledge the strong, open, professional, working interaction with the stakeholder group. The information obtained and ideas exchanged, combined with State and Federal rules that are on the books, the application of local control measures, and the trend analyses for PM 2.5 data, provide the basis for the weight of evidence argument for attaining the standard. The problem was clearly analyzed, debated and defined. The solution presented in this proposed submittal is geared towards resolving the problem at hand.

During this process, the state of the understanding of PM 2.5 was advanced. It also brought the recognition that there is much more that is to be learned, particularly as we head towards addressing nonattainment issues with regard to the next PM 2.5 NAAQS.

Consumers Energy appreciates this opportunity to discuss our views on the DEQ's Proposed State Implementation Plan Submittal for PM 2.5. If you have any questions, please contact Louis Pocalujka at 517-788-2160.

Sincerely,

Louis Pocalujka, Senior Environmental Planner
Environmental & Laboratory Services
Consumers Energy
1945 W. Parnall Road
Jackson, MI 49201

February 20, 2008

Attention: Mary Ann Halbeisen
Michigan Department of Environmental Quality
Air Quality Division
P.O. Box 30260
Lansing, Michigan 48909

RECEIVED
FEB 25 2008
AIR QUALITY DIV.

Dear Sir or Madam,

The Southeast Michigan Council of Governments (SEMCOG) strongly supports the Michigan Department of Environmental Quality's PM2.5 State Implementation Plan (SIP) for Southeast Michigan. As the region's lead local air quality planning agency under the Clean Air Act, SEMCOG has worked closely with MDEQ and other local stakeholders to analyze the fine particulate problem in Southeast Michigan and identify the most cost-effective strategy for bringing the region into compliance as soon as possible.

As the SIP's weight of evidence demonstrates, extensive analysis of inventory, monitoring and modeling data have been undertaken in the development of Southeast Michigan's PM2.5 attainment strategy. All of these analyses have confirmed that the most effective strategy involves targeted local controls in the area of the region measuring the highest PM2.5 concentrations: southeast Dearborn/southwest Detroit. This is the only area in the region with monitors currently exceeding the annual standard.

While the SIP includes a thorough review of all data available at the time it was written, additional information has, or will soon, become available that further reinforces the State's attainment strategy. We encourage MDEQ to incorporate this new information into the SIP before submitting it to the USEPA.

SEMCOG concurs with MDEQ that expected reductions from national controls, combined with local controls currently being implemented at Severstal, U.S. Steel, and the Marathon refinery, will bring the region into attainment by 2010. Indeed, significant reductions have already taken place over the last five years and monitoring data now shows only one monitor (Dearborn) with an annual average concentration above the standard. Clearly the region is on the right path to attainment.

Sincerely,



Paul Tait
Executive Director

cc: Steven Chester, MDEQ
Vincent Hellwig, MDEQ
Robert Irvine, MDEQ
John Mooney, USEPA
Chuck Hersey, SEMCOG



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
AIR AND RADIATION DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 17 2008

REPLY TO THE ATTENTION OF:
(AR-18J)

Robert Irvine
Division of Air Quality
Department of Environmental Quality
525 West Allegan Street
P.O. Box 30473
Lansing, MI 48909-7973

Dear Mr. Irvine:

We appreciate the work that the Michigan Department of Environmental Quality has done to address the particulate matter problem in Southeast Michigan. We are pleased to review the draft plan that you have made available for public comment.

The enclosure provides comments on your draft plan. We are particularly concerned that Michigan appears to need to request an extension to the attainment deadline for Southeast Michigan, and in that context that Michigan appears not to have evaluated candidate control measures adequately or implemented a full set of reasonably available control measures.

We look forward to working with you to address these concerns. Please contact John Summerhays at (312) 886-6067 if you have any questions about these comments.

Sincerely yours,

A handwritten signature in cursive script that reads "Steve Rosenthal".

Steve Rosenthal, Acting Chief
Criteria Pollutants Section

cc: Mary Ann Halbeisen, MDEQ

Enclosure

Comments on Draft Michigan SIP
for PM2.5 in Southeast Michigan

Modeling Analyses

Michigan's attainment demonstration for PM2.5 in Southeast Michigan reflects a combination of regional and local modeling. Michigan's draft SIP mostly addresses the local area analysis, and so our comments predominantly apply to this analysis.

A key component of the local area analysis is the concentration, identified through air quality data analyses, that is attributed to local sources. Our guidance for local area analyses recommends using a concentration derived in this manner in conjunction with local area modeling that assess prospective reductions in these local area concentrations. We applaud Michigan for following this general approach. However, we have concerns about several elements of Michigan's draft analysis. We have organized our modeling comments into comments on 1) the magnitude of the estimated impact of local sources, 2) the relationship between the estimated impact of local sources (derived from monitoring data) and the emissions of the sources included in the local source modeling analysis, 3) separating the concentration addressed by regional modeling from the concentration addressed by local source modeling, 4) more specific comments on modeling methods used in the local source modeling, 5) clarifications we would request, and 6) evidence to be considered in the weight of evidence assessment.

1. The most challenging element of a local area analysis is assessing the concentrations attributable to local sources and assuring reasonable correspondence between this impact estimate and the source emissions to which those impacts are being attributed. Source apportionment analyses are often the best means of assessing this impact, and we are pleased that several studies of this type have been conducted. This first comment addresses the overall magnitude of the local source impacts.

a. The local area analysis must address the same time frame as the regional analysis. If Michigan uses regional modeling for years centering on 2005, then Michigan must assure that its local area analysis also represents conditions in the years centered on 2005.

Tables 7 and 9 show a downward trend measured PM2.5 at all monitors. They also show that the difference between Allen Park and Dearborn has gotten smaller over time. This means that presumably, the local contribution to PM2.5 at Dearborn is smaller now than it was 3-5 years ago. Thus, if Michigan's principal analysis of attainment uses data centered on 2005, then a lower local source impact would be warranted.

b. The Sonoma report identifies a "Steel Industry" impact at the Dearborn monitor of 0.81 ug/m3. The failure to note this result is a serious omission from the draft SIP that reduces its credibility. The Sonoma report identifies several other industrial source types with similar or greater impacts. The steel mill impact, which reflects the impact of Severstal and other sources with similar types of emissions, is a better starting point for assessing the impact of local source controls, particularly the controls at Severstal.

EPA has also conducted analyses of the impact of steel mills in this area. EPA estimated that these sources cumulatively contribute 0.48 ug/m³ to this monitor. Further details of EPA's analysis are provided in "Regulatory Impact Analysis (RIA) for the Proposed National Ambient Air Quality Standards for Particulate Matter," dated October 6, 2006, in particular in Appendix B, "Local-Scale Assessment of Primary PM_{2.5} for Five Urban Areas," at page B-29, Table 17.

We are continuing to examine the various studies that evaluate the impact of various local sources. Nevertheless, it appears that Michigan has substantially overstated the impact of local sources included in its analysis, such that the benefit of the noted local controls is likely to be substantially less than the draft SIP estimates.

2. The validity of the local area analysis depends on assuring that the local source impact determined by monitoring data analysis reflects the impact of a set of sources that reasonably corresponds to the set of sources included in the local area modeling, as well as assuring that the composition (mix of PM_{2.5} components) included in the estimated local impact reasonably corresponds to the composition of the modeled emissions. We have several comments regarding how well the impact estimate corresponds to the emissions being analyzed.

a. The draft SIP's estimates of local source impacts reflect the results of source apportionment analyses. By their nature, such analyses involve substantial quantities of information regarding the composition of each of the source combinations identified as contributing to the observed concentrations. This information should be presented, along with more information about the studies generally.

This information should indicate the relative proportions of the various PM_{2.5} components that are included. The draft SIP focuses on the combination of "mixed industrial" and "soil." As noted above, information on the contribution of steel industry sources is more germane to Michigan's local area analysis and would provide a better means of assessing the impact of emission reductions at Severstal.

b. The identified sources for the AERMOD modeling only included point sources. Michigan must either include other relevant sources or use an estimated impact of local sources that excludes the impact of other sources. Other local sources that may be affecting the monitors include locomotives and other non-road vehicles, on-road vehicles, road dust, and other area sources. Since Michigan in particular has not included "soil"-related emissions in its modeling analysis, it is inappropriate to include "soil" in its monitoring-based estimate of local source impacts. If the impact of local rail operations are included in the monitored impact value, it would clearly be important to include those sources in the modeling analysis as well. Excluding important local sources of primary PM from the modeling but including the impact of those emissions in the monitoring-based impact estimate will cause an overstating of the importance of the modeled sources.

c. The AERMOD modeling and post-processing used only total PM_{2.5} data. Speciation of the PM_{2.5} data into components (organic particles, elemental carbon, sulfate, nitrate, and other) should be applied to help determine how much of the emissions and emissions reductions (especially from Severstal) may actually be organic particles or elemental carbon. It may not be reasonable to assume that all of the PM_{2.5} emissions are crustal/metals without documentation of assumed speciation profiles from these facilities. The CAMx modeling speciation profiles are one source of data.

d. Similarly, Michigan should characterize the composition of the estimated impact of local sources to the extent practicable. At least some of this information is available from the source apportionment analyses Michigan is using. This type of information is essential to assess whether the impact estimate appropriately matches the emissions included in the local area modeling.

The evidence available suggests that the ambient impact used in Michigan's analysis includes a significant fraction of organic particles, especially insofar as this impact estimate reflected conditions around 2002. In contrast, the local area modeling appears to include very little organic particle emissions. The result appears to be the application of a reduction percentage derived from principally inorganic particle emissions data to an impact estimate that includes particulate matter (especially organic particulate matter) that is not reduced by that percentage. Thus, more generally, despite the challenges of addressing speciated information, this type of information is necessary to assure that the estimated local impact properly matches the emissions used in the modeling analysis.

3. Conceptually, Michigan is considering some portion of the monitored concentration to be attributable to regional sources and some portion of the monitored concentration to be attributable to local sources. It follows that the regional model would only address prospective changes in the impacts of regional sources, just as the local area analysis only speaks to the impact of local sources. That is, if the 2005-centered total design value at the Dearborn monitor is 17.6 ug/m³, and if the impact of the addressed emissions of local sources is 2.3 ug/m³, then the regional modeling would only address the difference of 15.3 ug/m³.

Since the multiplication by relative response factors is done on a PM_{2.5} component-by-PM_{2.5} component basis, we recommend that Michigan estimate the local source impact on a component-by-component basis, subtract these values from the total estimated component concentrations, and thereby obtain an estimate of the portion of the observed concentration for each component that is attributable to regional sources (i.e., sources and emissions not included in the local area analysis). These regional values should then be multiplied times the appropriate relative response factor to estimate the future year concentrations attributable to regional sources.

4. We have several more specific comments on procedures for the local modeling analysis.

- a. The greatest impact of PM_{2.5} from Severstal on Dearborn seems to be due to emissions from roof monitors. The parameters used when modeling these emissions as volume sources in AERMOD suggest that the emissions from the roof monitors have no buoyancy (i.e. are emitted at ambient temperature). In fact these emissions would be quite hot. Consideration of the buoyancy of these emissions in the modeling run could have a large impact on the results.
- b. For the AERMOD run which analyzed the impact of Severstal at the Dearborn monitor, the rural setting was used though the sources are clearly in an urban area and would most likely experience the effects of the urban heat island effect at night. Using the urban setting for this analysis would be more appropriate. Given that this rural run does not include the increased turbulence at nighttime due to the simulation of the urban heat island effect that would be included in the urban run, the contribution of the roof monitor emissions from Severstal could be overestimated due to an increased number of simulated stable conditions.
- c. On Page 20-21, the last several paragraphs of Section 9.6.2 discuss the guidance for demonstrating attainment for Ozone, PM_{2.5}, and Regional Haze. The text further discusses how several aspects of the guidance were not followed; e.g., quarterly analysis and speciated primary PM_{2.5}. As a general rule, the guidance should be followed. If situations arise where the guidance isn't followed, justification and documentation should be provided to allow the reviewers to assess the validity of the alternative method. It's not clear whether or not quarterly RRF's would result in a significantly different result than use of the annual values. Quarterly RRF's should be developed from the modeling and applied to the local source contribution to the primary quarterly PM_{2.5} value.
- d. No information is presented to discuss how the meteorological data has been processed, for example what surface and upper air stations were used and how the surface characteristics were generated. The meteorological preprocessor for AERMOD, called AERMET, incorporates surface characteristics (i.e., surface roughness, Bowen ratio, albedo). The selection of surface characteristic values can have a significant impact on predicted concentrations. Documentation on these aspects should be included to allow a more comprehensive review.
- e. The documentation indicates 1 year of meteorological data was used. The guidance recommends more data be used if available. Five years of met data (e.g., 2002-2006) should be modeled to determine if there is variation in the local sources impact contribution from year to year. This could be particularly important in determining the relative response factor and in Step 2 on page 21 where the percent of the local primary PM_{2.5} determined to come from Severstal is based on AERMOD results.
- f. EPA's guidance recommends using a receptor grid sufficient to represent local scale impacts at and near the monitor. We recommend applying a 100 meter receptor grid, extending out a distance that would preclude receptors being located on modeled source private property (e.g., 300-400 meters). The receptors should be averaged to obtain a representative value.

5. We would request several types of information that would clarify the nature of the State's analyses.

a. Throughout the main document there are references to modeling and inventories for 2002, 2005, and 2009. The CAMx modeling used 2005 and 2009, and the AERMOD modeling used 2002 and 2009. However, it is difficult to understand what emissions levels were used in various parts of the modeling analyses. Many of the tables in Appendix A have inconsistent inventory numbers and it is not always clear what year the emissions represent. Also, there is limited documentation available for the CAMx modeling inventories. We request the following inventory summary information:

- 1) Statewide emissions totals (NO_x, VOC, SO₂, PM_{2.5}, etc.) used for the 2002, 2005, and 2009 CAMx modeling for EGU, non-EGU point, area, on-road mobile, and non-road mobile.
- 2) The same information for the Detroit nonattainment area.
- 3) Detailed emissions summaries for 2005 and 2009 for the Detroit area EGUs (by unit).
- 4) PM_{2.5} emissions summaries for 2002/2005 and 2009 for all sources modeled with AERMOD.
- 5) CAMx emissions summaries for 2005 and 2009 for the AERMOD sources.
- 6) Detailed emissions (by process and/or stack) for the AERMOD sources. (See comment 5.c below)

b. Page 52 of the TSD shows emissions totals by State and by sector. The emissions projections for Michigan for EGU SOX emissions in 2009 projected from 2005 are 667 TPD. The Michigan EGU SOX emissions in 2009 projected from 2002 are 1,022 TPD. The Michigan EGU SOX emissions in 2002 are 1,103 TPD and 1,251 TPD in 2005. There is clearly some change in methodology or some reason that needs to be explained about why Michigan SOX emissions are higher in 2005 than 2002 and so much lower in 2009 when projected from 2005 compared to 2009 projected from 2002.

c. The SIP should also better clarify the inventory of sources used in the local modeling analysis. Further documentation of the inventory should especially be provided for Severstal, including full documentation of the estimates of emissions before and after compliance with the requirements that Michigan has adopted for this company. Given the potential for deterioration of control equipment, this documentation should identify the limits being imposed, so as to reflect the degree of control equipment deterioration which could occur without violating the adopted requirements. The draft SIP should include the complete AERMOD input files for both the base case and the future case runs.

Based on information provided informally to EPA, it appears that Michigan has assumed a reduction of emissions at Severstal that likely represents an overly optimistic capture and control efficiency mandated by the applicable limit. It is also not clear whether the emission estimates for the future case and the current case are based on the same underlying emission factor.

d. The regional modeling indicates PM_{2.5} reductions of 1.5-1.9 ug/m³ at the Detroit area monitors between 2005 and 2009 (Table 1). Application of the speciated model attainment test involves calculating changes in concentration for each PM species. Therefore, the 1.5-1.9 ug/m³ reduction can be broken down into each of the component species. Please supply a table which shows the changes in PM species to allow a better understanding of where the PM reductions are coming from.

e. There is a discussion of the emissions from switching locomotives, noting that 28 of them will be retrofitted with anti-idling equipment. It is noted that the emissions from these sources are relatively small, but may be important due to their proximity to monitors and the fact that they operate 24 hours per day. From the documentation it is not clear:

- 1) Where all of these rail yards and locomotives are located.
- 2) Which ones will be retrofitted or replaced.
- 3) How these locomotives and other rail yard sources were modeled in the regional modeling and local scale modeling.

f. To help support the modeled conclusions, it would be helpful to include a discussion on the meteorological data used in the AERMOD modeling, including some information that support the fact that the number of calms in the 2002 meteorological data was not unreasonably large. This seems particularly important in this modeling exercise where the greatest impacts are coming from roof monitor emissions close to the receptor that are modeled as non-buoyant.

g. NO_x and SO₂ RACT modeling is mentioned on page 17 of this section. It is unclear how the impact of the 50% reduction in all NO_x emissions across the entire State was evaluated. The term “relative reduction factor” is mentioned but the estimation methodology is not described in any detail.

h. According to the discussion on page 21, the 2009 project design value for Dearborn (15.7) and SWHS (14.2) are based on “on the books” controls after a review of the TSD. The TSD has results for each monitor in 2009 based on “on the books plus will do” controls and has slightly higher 2009 projected design values for Dearborn (15.8) and SWHS. Michigan should clarify whether the “will do” scenario includes the changes in emissions from the 3 local sources in Wayne County that are mentioned in the local scale dispersion modeling. Michigan should also further explain the differences in controls in Southeast Michigan between the “on the books” scenario and the “on the books plus will do” scenario. It is difficult to understand why controls beyond those that are on the books will lead to an increase in the projected design value.

h. It is unclear from the write-up how the primary PM_{2.5} emissions from Severstal were modeled in CAMx. Michigan should explain whether the full emissions were modeled for both the base and future year CAMx runs, whether the PM_{2.5} emissions were excluded entirely, or whether the 2009 CAMx run reflects emission controls at this facility. If Michigan has concluded that it has avoided double-counting the effects of

Severstal and its emission changes, Michigan should explain its rationale for this conclusion.

6. We have comments on the supplementary evidence as to whether Southeast Michigan will attain the standard by 2009.

a. Some important evidence, contributing to the weight of evidence, suggests that Southeast Michigan will not attain the standard as early as 2009. First, modeling conducted by LADCO based on 2000 to 2004 data suggests that the area will be at 17.7 ug/m³ (minus any reductions from local source emission controls) in 2009. Second, the modeling described by Michigan assumes full control of the Monroe power plant, whereas the installation of controls at this plant are not expected to occur until mid- to late 2009, so that the significant benefits of this control will mostly not occur in 2009.

For these reasons, and given our concerns about the magnitude of air quality improvement that can be expected from the local source controls, we are concerned about the prospects that Southeast Michigan will not in fact attain the standard in 2009.

b. The draft SIP cites a number of emission reductions, implying that these improve the prospects beyond what would be inferred from the modeling results. However, most of these reductions occurred before 2005, so that these reductions would already be reflected in 2005 air quality and thus would already be reflected in Michigan's modeling analysis.

Most of the plants on the list in Table 4 were closed by 2005. The largest change in emissions from plant closings is with NO_x, and we agree with the implication that NO_x emission reductions can have significant benefits for PM_{2.5} air quality. However, use of air quality data centered on 2005 in the modeling analysis inherently already takes credit for these air quality benefits.

Similarly, many of the reductions at Marathon occurred either before or during 2005, and the controls at US Steel were implemented in mid-2005. Thus, these reductions are also inherently already largely reflected in the modeling analysis.

Conversely, some emission increases are expected at relevant local sources. For example, Severstal is expected to increase its NO_x emissions by 37.6 tons per year. If the rail yard reductions in NO_x (67 and 66 tpy) are significant given their proximity to the monitor of interest, then the increase in Severstal's emissions would also be significant. Severstal is also expected to increase its SO₂ emissions. Emission increases between 2005 and 2009 are also expected at Marathon.

Reasonably Available Control Technology (RACT)/Reasonably Available Control Measures (RACM)

1. The comments above suggest significant prospects that Michigan will not attain the PM_{2.5} standard in 2009. In this context, it appears that Michigan has not provided the

review and implementation of RACT measures that the PM Implementation Rule requires.

Michigan seems to have conducted very little review of candidate control measures. Michigan must address RACT for the range of significant PM_{2.5} components or their precursors, as applicable for sources throughout the designated nonattainment area. This review must address directly emitted organic and inorganic particles as well as SO₂ and NO_x.

2. Michigan conducted sensitivity modeling assessing the impact of an arbitrary percentage reduction of NO_x and SO₂ emissions, including one run assessing the impact of statewide reductions and another run assessing the impact of reductions within the 7-county nonattainment area. While we are not fully clear on the details of Michigan's analysis, Michigan's results suggest to us that reduction of NO_x and SO₂ emissions in Michigan have the potential to provide significant benefit for air quality in the Detroit area. We do not think the analysis approach in Appendix F can adequately address the RACT/RACM requirement.

Control measures outside the nonattainment area in some cases have less air quality benefit in the nonattainment area and may be less reasonable than control measures within the nonattainment area. Nevertheless, Michigan must evaluate the candidate measures and assess whether any of these measures can reasonably be implemented outside the nonattainment area.

Within the nonattainment area, given the significant air quality problems that exist and appear likely to remain, we believe that Michigan upon further review will identify several measures that will be found to constitute RACT. Two measures in particular that we would highlight are the set of measures known as "NO_x RACT" and coke oven gas desulfurization.

Many states in the Midwest and elsewhere that, like Detroit, are violating both the ozone and the PM_{2.5} standard are adopting rules requiring RACT for NO_x. We believe that the benefits of reducing industrial point source NO_x are commensurate with the portion of the inventory that these sources emit. The particulate matter problem by nature involves a combination of numerous components, and so the solution to the problem necessarily involves numerous measures, no one of which by itself would solve the problem. (Indeed, particulate matter appears to have even more contributors than ozone, and an even greater variety of control measures may be needed.) It appears that "NO_x RACT" would have a significant benefit in the Detroit area at reasonable cost. We would be happy to share information on the limits that other states have adopted or proposed, to provide more information on the limits that they have found to constitute RACT.

Coke oven gas desulfurization is done at most U.S. coke plants. We believe this measure can be expected to provide worthwhile air quality benefits in the Detroit area at reasonable cost. Further discussion of this and other iron and steel plant measures is provided in a report by RTI International, available at

http://www.epa.gov/pm/measures/detroit_steel_recommendations20060207.pdf. This report recommends testing of condensible emissions at the EES coke plant to assess the quantity of these emissions. These emissions presumably are predominantly sulfate emissions, which would be substantially reduced with desulfurization of the coke oven gas. That is, desulfurization of the coke oven gas would make moot what quantity of condensible particulate matter is currently emitted.

3. The draft SIP comments on the length of Michigan's rulemaking process and the difficulty of implementing controls before 2010. Since the SIP submittal schedule has provided the state 3 years after the April 2005 effective date of the PM_{2.5} designations to complete any necessary rulemaking, the length of the state's rulemaking process does not constitute an acceptable rationale for failing to adopt measures that would facilitate attainment. In addition, Michigan has provided very little information on the timetable for implementing individual measures. A more detailed review must be conducted to identify candidate measures and to evaluate whether each candidate measure is reasonable. Given the prospects for continued nonattainment in Southeast Michigan beyond 2009, we believe that the SIP submittal schedule is providing Michigan ample opportunity to implement additional measures that will assist and expedite attainment.

4. Regarding organic particle impacts, Michigan's draft SIP notes the uncertainties regarding the composition of this impact. We would comment that 0.8 ug/m³ impact attributed to a steel mill, if it all approximates an annual average impact, is a highly significant impact. We also note the work underway under LADCO contract to extend and enhance previous work on organic particle origins in the Detroit area and elsewhere.

Organic particles are a substantial fraction of the PM_{2.5} concentrations in Southeast Michigan. LADCO has done substantial work to assess contributions to organic particle concentrations in Southeast Michigan and elsewhere. This is important information to provide in the SIP, in part because it has significant relevance to this plan for providing for attainment of the PM_{2.5} standards.

The draft SIP comments that the Dearborn monitor records an especially high quantity of organic particles, and implicitly suggests that the industrial area has greater than average emissions of these particles. For this reason, it is especially important that Michigan supplement the air quality analyses with work to investigate these emissions, including investigating the industrial sources that would be suspected of emitting this type of particulate matter. Since the area has a number of candidate sources of organic particulate matter, and since these types of sources appear to have a significant effect on air quality, a more thorough investigation of these sources must be conducted. Michigan should request stack tests in cases where potentially significant emissions cannot readily be estimated accurately through available emission factors. We understand that the investigation of candidate measures may need to begin as an investigation of the emissions of candidate sources, but for purposes of this SIP the investigation must then include an investigation of candidate control measures, with implementation of those measures that are reasonable.

5. At various places in the SIP, Michigan identifies source types that appear to be significant. For example, on page 20, the draft SIP notes that fugitive dust from storage piles, unpaved lots, and barren land areas collectively is cause for concern. Michigan needs to identify candidate measures and evaluate whether the measures addressing the source types that have been identified as contributing to the problem constitute RACT/RACM.

6. Some interesting analysis done by LADCO using nonparametric regression shows local area hotspots in Zug Island and at the Ambassador Bridge. The SIP should describe what types of controls are being implemented for these 2 hotspot areas that are clearly impacting local PM2.5.

7. Some parts of the discussion of local controls need clarification. On page 32, Michigan should provide estimates of PM2.5 emission reductions for U.S. Steel, to provide more directly relevant information concerning potential PM2.5 air quality impacts. On pages 32-33, for Marathon, it is not clear how the installation of a new coking unit to process heavy crude oil will affect PM and PM precursor emissions.

Enforceability of Control Measures

1. Michigan's draft SIP does not include copies of any rules, permits, consent decrees or other enforceable documents. Therefore, the draft SIP provides no basis for finding the control measures described in the SIP to be enforceable or creditable. To make these control measures enforceable and creditable, the final SIP must include documents that mandate these control measures, and the limits must be provided in a manner that, upon EPA approval, could be enforced by EPA. We would also encourage Michigan to send us these documents informally for our early review. We intend to examine the limits in these documents, to assess the both the enforceability of the requirements and the quantitative reduction required, including assessing the degree to which equipment for emissions capture and equipment for emissions control might be allowed to deteriorate.

2. Michigan's draft SIP notes emission reductions attributable to several source shutdowns. For these reductions to be creditable, Michigan must assure that the shutdowns are permanent and enforceable, such that the shutdowns will not create offsets that would allow a new source or a major modification to use the emission reductions negate the air quality benefits of the shutdown.

Contingency Measures

Under Clean Air Act and the Implementation Rule, contingency measures must be able to "take effect without significant further action by the State or EPA." Merely having a list of potential measures that would be candidates for future evaluation, adoption and implementation falls well short of this test. Especially given the prospects that Michigan will need to implement its contingency measures relatively soon, Michigan needs to

complete the evaluation work in advance of submitting its contingency measures, so that the submitted contingency measures will be fully defined measures that can be implemented promptly.

Given our concerns about implementation of RACT/RACM in Southeast Michigan, we anticipate that the listed contingency measures will also be evaluated as candidate RACT/RACM measures. We expect that Michigan's work on RACT/RACM measures will also lead to identification of other possible contingency measures, just as we expect that some of the measures on Michigan's contingency measure list will prove to be RACT/RACM. Once Michigan completes the necessary evaluation of candidate RACT/RACM measures, Michigan should from that process obtain sufficient information also to provide better defined contingency measures. For each measure, we then expect the SIP to document exactly how the measure would be implemented and under what schedule and under what circumstances the measure would take effect.

Reasonable Further Progress

If, as appears to be the case, the Detroit area needs an extension of the attainment deadline, then Michigan would need to provide a submittal addressing the requirement for reasonable further progress.

Emissions Inventory

We understand that the final SIP will include more thorough documentation of the emissions inventory, including documentation being prepared by LADCO. We will provide more thorough comments once that documentation becomes available. Nevertheless, we recommend one clarification to the summary information provided here. The table has a category of emissions identified as "nh3." We request further explanation of this category. We then recommend use of a more descriptive label for this category of sources.

Monitoring Analyses

1. The draft SIP, at page 18, states that "counties to the north of Wayne County do not contribute to PM2.5 nonattainment at the monitors showing violation of the standard." The draft SIP then concedes that an increase in concentrations at the violating monitors (characterized as a little increase) "is attributable to Oakland and Macomb Counties." Additional comments on EPA's designation for Southeast Michigan appear at various points throughout the draft SIP. As another example, on pages 4 to 5, the State reiterates arguments that only Wayne County should be designated nonattainment and asserts that EPA's inclusion of other counties in the designated nonattainment area was "arbitrary."

As you know, EPA promulgated designations effective April 5, 2005. That rulemaking included EPA's evaluation of what areas violate the standards, and what areas

“contribute” to violations of the standard in accordance with section 107 of the Clean Air Act. That rulemaking took into consideration the views of the State. Thus, EPA has already addressed the appropriate geographic scope of the area that contributes to violations of the standards in Wayne County. As a result of that designation, the SIP developed for the Southeast Michigan area must meet the statutory and regulatory requirements for nonattainment area plans, most notably the requirement for Michigan to submit a SIP providing for timely attainment and adequate analysis and implementation of RACT and RACM throughout the nonattainment area. While Michigan has latitude to provide for attainment using any of various combinations of measures providing for timely attainment, the nonattainment area, by defining the contributing area, represents the geographic area for which control measures are most likely to be beneficial and necessary.

EPA has previously explained in detail the reasons for the geographic scope of the designated nonattainment area. These reasons were articulated both to the State and to Oakland County in the following documents: (i) a letter from EPA to Governor Jennifer M. Granholm, dated June 29, 2004; (ii) a letter from EPA to Steven E. Chester, Director of MDEQ, dated January 20, 2006; (iii) a letter from EPA to Marc D. Machlin, Esq., also dated January 20, 2006, concerning a petition for reconsideration filed on behalf of Oakland County, Michigan; and (iv) a letter from EPA to Marc D. Machlin, Esq., dated September 25, 2007, concerning a second petition for reconsideration filed on behalf of Oakland County, Michigan. These documents and other information relevant to the designation may be found at: <http://www.epa.gov/pmdesignations/>.

The inclusion of this commentary in the draft SIP suggests that Michigan has failed to address the requirement for the SIP to examine candidate control measures throughout the designated nonattainment area. Furthermore, of course, we disagree with these statements, having thoroughly examined the pertinent issues in our prior rulemaking. The area violates the annual standard, which reflects a combination of contributions from all wind directions. We have already determined that sources beyond the 3 mile radius referenced in the draft SIP and indeed sources outside of Wayne County contribute to violations of the standards in the area. Accordingly, the area to be addressed by this SIP has already been defined, and the SIP is an inappropriate place to dispute the designation or to suggest that the State prefers to fall short of its SIP obligation.

2. Figure 6 does not suggest that OC is decreasing faster at one location or that it is substantively decreasing at all.
3. Figures 8 and 9 contradict each other. The Detroit urban excess in Figure 8 appears to be around 1 to 1.5 ug/m³. The Detroit urban excess in Figure 9 appears to be around 5 to 7 ug/m³.
4. Section 9.4 and Figure 18 are very confusing. It is very difficult to discern the mobile contribution to OC from Figure 18 because it looks like it contains pie charts of contributions to PM_{2.5} mass and not OC.

5. A mobile laboratory study is referenced in this section, but the measurement locations relative to Dearborn are not stated and the results are for a single day, so it is difficult to discern information relevant to Dearborn.

General Summary of Comments and MDEQ Responses for the PM2.5 SIP

Comment: Comments were received from several groups that appreciated the opportunity to participate with the SEMOS group in developing this SIP and WOE. Several comments supported the WOE approach that clearly analyzed emissions inventory, monitoring and modeling to develop the attainment strategy. Several comments supported using a focused and cost effective strategy in the attainment demonstration by targeting sources local to the monitors showing non-attainment instead of applying controls to the whole 7-county non-attainment area.

Comment: DTE Energy did not agree with including additional sulfur dioxide controls on the Edison Energy Service's coke battery as a contingency measure since the coke battery is upwind of the Dearborn monitor.

Response: MDEQ disagrees and believes that sulfur controls on the coke battery are a valid contingency measure and likely have some impact on the high monitors.

Comment: DTE Energy indicated several areas that needed clarification:

1. The table identified as the "Model Based Projections of Future Year Air Quality" has a misleading title and should reflect the true nature of this modeling projection.
2. The SIP needs to address other nearby sites that slightly exceed the annual NAAQS, like SWHS and should document why this site is of less concern than Dearborn (i.e., regional modeling shows attainment).
3. Indicated that wind directions need to be addressed consistently in the document. Sometimes wind directions are separated into 60-degree sectors, and other analyses use 10-degree wind sector data.
4. The current list of contingency measure sources is too broad and ambiguous.
5. The contingency plan would benefit from more details regarding how ongoing special monitoring studies at the Dearborn site will be used to identify the source(s) responsible for the organic carbon (OC), and possibly the sulfate excess, when compared against Allen Park data.

Response: MDEQ has made these corrections/clarifications.

Comment: SEMCOG suggested that additional information that has become available should be incorporated into the SIP before submitting to EPA.

Response: MDEQ agrees and has made appropriate updates.

EPA comments

Region V EPA provided extensive comments on Michigan's draft PM2.5 SIP, particularly focusing on the local scale modeling and including several areas where information was lacking or needed updating. MDEQ notes that generally accepted procedures for doing the local scale modeling, as has been discussed for months by state modelers throughout the region as well as EPA modelers, was used in this SIP. The approach taken is conservative in the assumptions and has been thoroughly described in the SIP document. Comments and responses are as follows:

Comment: Local area modeling needed to address the same time frame as the regional modeling.

Response: The local scale modeling was re-run using '05 met data. There was very little change in the final values as a result of this action.

Comment: Results from source apportionment analyses should be noted.

Response: A review of several source apportionment studies was included in Appendix G.

Comment: Modeling could be run using the urban setting.

Response: The local scale modeling was re-run using urban meteorological data.

Comment: Additional information on the MET data used in modeling is needed.

Response: Surface characteristic values have been documented. The guidance (referenced below) specifies "For both base and future year use the same 1 year of met data – the same year as used for the photochemical modeling". The guidance DOES say "if available, use more than 1 year of met data" but gives no additional information. As 2005 was a worse case year (as opposed to 2004 and 2006), using the single year of 2005 met is defensible, and it remains consistent with the photochemical modeling run.

Reference: "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze"; Section 5.3.2

Comment: Additional details and permit limits for Severstal's emissions is needed.

Response: Documentation has been added more completely describing the permitted emission limits at Severstal and the emission values modeled.

Comment: Information on modeling locomotives is needed.

Response: The table describing how locomotives were modeled in the regional and local scale modeling has been updated.

Comment: Additional information on RACT modeling and RACT analysis is needed.

Response: Additional documentation was provided regarding the 50% cut analysis for RACT, including the relative reduction factors, etc. Much more detail has been provided on the likely affected sources and affected emissions under RACT programs.

Comment: Additional information on contingency measures is needed.

Response: MDEQ has added more information on the individual potential measures and has ranked the measures on the ease of implementation.

Comment: Clarification needed on the 'nh3' category for the emissions table.

Response: A footnote was added to the table to clarify that the nh3 emission values only apply to the NH3 source category in the table.

Comment: Clarification needed for several figures in the WOE.

Response: MDEQ has clarified the figures, adding and revising headings and making other revisions.