APPENDIX TWELVE:

Summary of Observation Derived Modeling Performed for Manitowoc and Kewaunee Counties

Estimating Air Mass Potential to Produce Ozone
In Manitowoc and Kewaunee on Selected High Ozone days

1. Brief Overview: Lake Michigan ozone meteorology dynamics

The Manitowoc (Woodland Dunes) monitoring site is located on the northern edge of the city, within 200 meters (m) of Lake Michigan and not near any major stationary sources of either the principal ozone precursor emissions (volatile organic compounds [VOCs] or oxides of nitrogen [NO]. The Kewaunee monitor is similarly located near Lake Michigan and not near any major stationary sources. Perhaps more importantly, on hot, humid days that are most conducive to high ozone, this location is usually downwind of the major metropolitan areas of Gary (IN), Chicago and Milwaukee.

It is generally accepted that much of the ozone that impacts Manitowoc and Kewaunee on high ozone days results from ozone precursor emissions (VOCs and NOx) that originate in the above-mentioned multi-state megalopolis.

Several researchers (e.g., Lyons, 1975) have documented that these emissions often advect out over Lake Michigan in an east-to-northeastward trajectory during the early-mid morning hours on warm, humid days that have relatively low wind speeds (i.e., a summer time stagnating air mass). The warm, humid, sunny, stagnating skies over the Lake result in a highly efficient "reaction chamber" which can photochemically transform the precursors into high levels of ozone.

In early-mid afternoon on hot, humid, stagnant days there is often a shift in the meteorological dynamics that can result in the ozone-laden air mass over the Lake to begin movement back towards the land (e.g., west-to-northwestward). This type of air movement, which is called a "lake breeze," can result in very high ozone levels along varying coastal stretches (up to 30 km inland) of Wisconsin, Illinois, Indiana and Michigan during the afternoon-early evening hours.

The Manitowoc and Kewaunee ozone monitors are within this geographical band that is often affected by the heavily-polluted (ozone) lake breeze. This brief overview helps given a general understanding as to why it is possible that Manitowoc and Kewaunee have witnessed ozone levels that resulted in both counties being designated as nonattainment for ozone.

2. Need for estimating the potential to form ozone

Many areas in the United States have often experienced unhealthfully high levels of tropospheric ozone for many years. Federal, state and local air pollution control agencies have established and implemented regulatory measures in an attempt to reduce and control those primary emission precursors that contribute to the formation of ozone (i.e., VOCs, NOx).

It is important to note that VOCs and NOx behave in an extremely complex, non-linear series of photochemical reactions in forming tropospheric ozone. Among the many features in atmospheric photochemistry, Seinfeld and Pandis (1998) state that an air mass's ozone production efficiency is somewhat controlled by the amount of hydroxyl radicals (·OH) that is available to react with NOx. NOx reacts with $OH^{\cdot}$ approximately 5.5 times faster than with VOCs. Seinfeld and Pandis go on to state the following:

> "Because ·OH reacts about 5.5 times more rapidly with NO_2 than VOCs, NOx tends to be removed faster than VOCs. In the absence of fresh NOx emissions, as the system reacts, NOx is depleted more rapidly than VOCs…. Eventually the concentrations of NOx become sufficiently

> low as a result of the continual removal by the OH-NO_2 reactions ·OH reacts preferentially with VOCs to keep the ozone-forming cycle going…. At sufficiently low concentrations of NOx, or at a sufficiently high VOC-to-NO_2 ratios, a further decrease in NOx favors peroxy-peroxy reactions, which retard ozone formation by removing free radicals from the system"

Consequently, it is the relative availability of NOx that most greatly directs the ability of an air mass to produce more ozone.

There have been qualitative and quantitative analyses to assess how effective it is for ozone to form in context to the strategies to reduce ozone precursor emissions. These studies might help in assessing how well these control measures have been in reducing ozone overall.

3. Estimating an air mass's ozone production potential: Observation Derived Methods (ODMs)

One type of ozone assessment study is to investigate the air mass in a particular area for its potential to produce ambient ozone, particularly on high ozone days. This type of study attempts to model and analyze measurement data in order to identify which precursor reductions might be most effective in further lowering ozone. It is believed that using actual, not simulated input data might yield more "real world " evaluation of an air mass's ozone production potential.

The techniques employed in using measurement data to evaluate an air mass's potential to produce ozone are collectively called ozone observation derived models (ODMs). There are a couple different ODMs that have been used in the Upper Midwest. These ODMs are briefly described below.

3.1 Measurement-based Analysis of Preferences in Planned Emission Reductions (MAPPER) / Smog Production Algorithm (SPA).

The MAPPER / SPA model, originally developed by Johnson (1984) and improved upon by Blanchard, et al., (1999), is designed to use ambient measurements of ozone, nitrogen oxide (NO), and either "source" oxides of nitrogen (NOx) or "source + reacted" oxides of nitrogen (NOy) to estimate an air mass's ozone formation potential in terms of the relative responsiveness to NOx or VOC concentration levels. Specifically, the MAPPER analysis of hourly-averaged values of NOx or NOy and ozone has a capability to evaluate how the relative supply of available NOx and ozone being produced and the potential for ozone production (i.e., extent of reaction) are both varying and inter-relating throughout a 24-hour period.

The MAPPER calculates an "extent of reaction" (E) parameter that empirically establishes a ratio between an air mass's instantaneous (i.e., hourly-averaged) SP potential and its maximum SP potential. The extent of reaction ratio varies between zero (0) and one (1). An extent of reaction in the lower range (towards zero [0]) would indicate that NOx is still plentiful – indicating a relatively fresh air mass, often associated with more urbanized environments. In this situation, de-optimizing the ozone-NOx-VOC balance in order to lower an air mass's ozone production potential could best be achieved by reducing VOC emissions (i.e., a "VOC-sensitive" or "VOC-limited" air mixture).

Alternatively, when E approaches one (1), then ozone production can be expected to decrease considerably because virtually all of the NOx has reacted out in this somewhat aged air mass (Johnson, 1984). Under this scenario, ozone levels could be more effectively reduced by targeting further reductions in NOx emissions (i.e., a "NOx-sensitive" or "NOx-limited" air mixture).

3.2 Indicator Ratio (O3/NOy) processing

Dr. Sanford Sillman and other atmospheric scientists have reviewed ambient data and conducted extensive photochemical grid modeling to help evaluate the criteria by which to quantify the responsiveness of an air

mass to ozone production in terms of the air's various indicator species and ratios (e.g., Sillman , *et.al.*, [1997], Sillman [1995, 1998]). Specifically, they have studied measurement and modeling information to derive ranges in certain ratios of various pollutants, both source and reacted, that signify a transition in an air mass's ozone sensitivity between VOC-sensitive and NOx-sensitive regimes. These ratios can help estimate an air mass's ozone production efficiency relative to the supply of the hydroxyl radicals (·OH) to NOx.

Sillman and others have derived indicator species ratios, with transition ranges for several pollutant pairs, including what can be characterized in the Midwest: the O_3/NOy ratio. For those sites that monitor ozone and NOy (including Manitowoc and Kewaunee over the past few years), Sillman and others have estimated that ozone / NOy ratios less than 7 signal a VOC-sensitive air mass while O_3 / NOy > 7 suggests a NOx-sensitive air mass. These ozone / NOy ratios can be compared with the NOy extent of reaction estimates for the same site-hours to determine how both ODMs fare in estimating the ozone sensitivity for that particular site's air mass.

4. Estimating an air mass's ozone production potential on selected high ozone days in Manitowoc

The Wisconsin DNR monitoring site in Manitowoc (2315 Goodland Rd [Woodland Dunes]) measures ozone, "source" oxides of nitrogen (NOx) and "total" oxides of nitrogen (NOy). The NOy represents the total oxides of nitrogen in the atmosphere (i.e., "source" [NOx] + "reacted" [NOz products] and offer a more complete chemical snapshot of how the nitrogen oxides are being processed for a particular time and place.

For this study, the hourly ozone, NOx and NOy measurement data collected at Manitowoc on 2 high ozone days (23-24 June 02 – Figures 12-1 and 12-2) and the ozone and NOx data only on one Manitowoc high ozone day (3 Sept 99, Figure 12-3, no NOy data for this day) have been processed through both the MAPPER extent of reaction ("E") and O3/NOy ratio observation-derived methods (ODMs).

4.1 June 23, 2002

The Wisconsin DNR (2003a) conducted a study of the June 2002 episode that included June 23. This analysis revealed that the Lake Michigan meteorology for this day included an exacerbation of the previous day's ozone-conducive conditions (i.e., high ozone carryover from the previous day, warm temperatures, high humidity, substantial sunlight and a lake breeze). This resulted in many of the ozone sites situated near the shoreline of southern Lake Michigan (including Manitowoc [peak 1-hr ozone: 95 ppb]) witnessing very high ozone on June 23.

Both of the MAPPER "E" profiles ("NOx", "NOy") for Manitowoc on 23 June (Figure 12-1) indicate that during the peak ozone production period the air mass was strongly NOx-sensitive (high extent values, relatively high VOC/NOx ratios). Figure 12-1 also shows that peak O3/NOy ratios for this site-day were approaching 20, which also signifies a very NOx-sensitive air mass.

These types of high ozone-day air masses are typically associated with less urban environments. Following the discussion in Section 3, implementing NOx emission reduction measures would appear to have been the most effective means to help lower ozone levels in this NOx-sensitive air mass.

4.2 June 24, 2002

The Wisconsin DNR (2003a) analysis of the meteorology and ozone measurements in the Lake Michigan region on 24 June 2002 found that it was very similar to the conditions identified on June 23. This included Manitowoc, which recorded a peak 1-hour ozone concentration of 101 ppb on this day.

This similarity between the ozone meteorology of June 23 and June 24 also pertains to the estimated potential to produce ozone at Manitowoc. Namely the diurnal profiles for hourly calculations of MAPPER

extent of reaction ("E") profiles ("NOx", "NOy") and ozone/NOy ratios and the subsequent hourly ozone measurements at Manitowoc for 24 June (Figure 12-2) are highly comparable to the same profiles on 23 June (Figure 12-1).

4.3 September 3, 1999

There was widespread ozone throughout Wisconsin on 3 Sept 1999. The median peak daily 1-hour ozone value for all Wisconsin ozone monitoring sites was approximately 100 ppb for this day (Wis. DNR, 2003b).

There were no Noy measurements collected at Manitowoc on 3 Sept 99, which witnessed a peak 1-hr ozone value of 106 ppb. Consequently, it was possible to only derive the diurnal profile of MAPPER NOx extent of reaction for this site-day.

As with the MAPPER NOx extent calculations for 23-24 June 02 at Manitowoc (Figures 12-1, 12-2), the NOx extent on 3 Sept 99 indicated a NOx-sensitive air mass. However the magnitude of this extent estimate was noticeably less (peak: 0.76) than during 23-24 June 02 (peak: 0.99). This would seem to suggest that the balance between VOC and NOx influence was a bit more equitable on 3 Sept 99 than on the other examined days at Manitowoc.

References:

Blanchard, C.L., F. W. Lurmann, P. M. Roth, H. E. Jeffries, and M. Korc, 1999: The use of ambient data to corroborate analyses of ozone control strategies**. Atmos. Environ., 33**: 369-381.

Johnson, G.M., 1984: A simple model for predicting the ozone concentration of ambient air.. **Proceedings of the 8th International Clean Air Conference**. 2 May, pp715-731.

Lyons, W.A., 1975: Turbulent diffusion and pollution transport in shoreline environments. From **Lectures on Air Pollution and Environmental Impact Analyses**. American Meteorological Society. pp 136-208

Seinfeld, J.H. and S.N.. Pandis, 1998: **Atmospheric Chemistry and Physics: From Air Pollution to Climate Change**. John Wiley and Sons, Inc.

Sillman, S., 1995: The use of NOy, H_2O_2 and HNO_3 as indicators for ozone-NOx-hydrocarbon sensitivity in urban locations. **J. Geo. Research 100**:14175-14188.

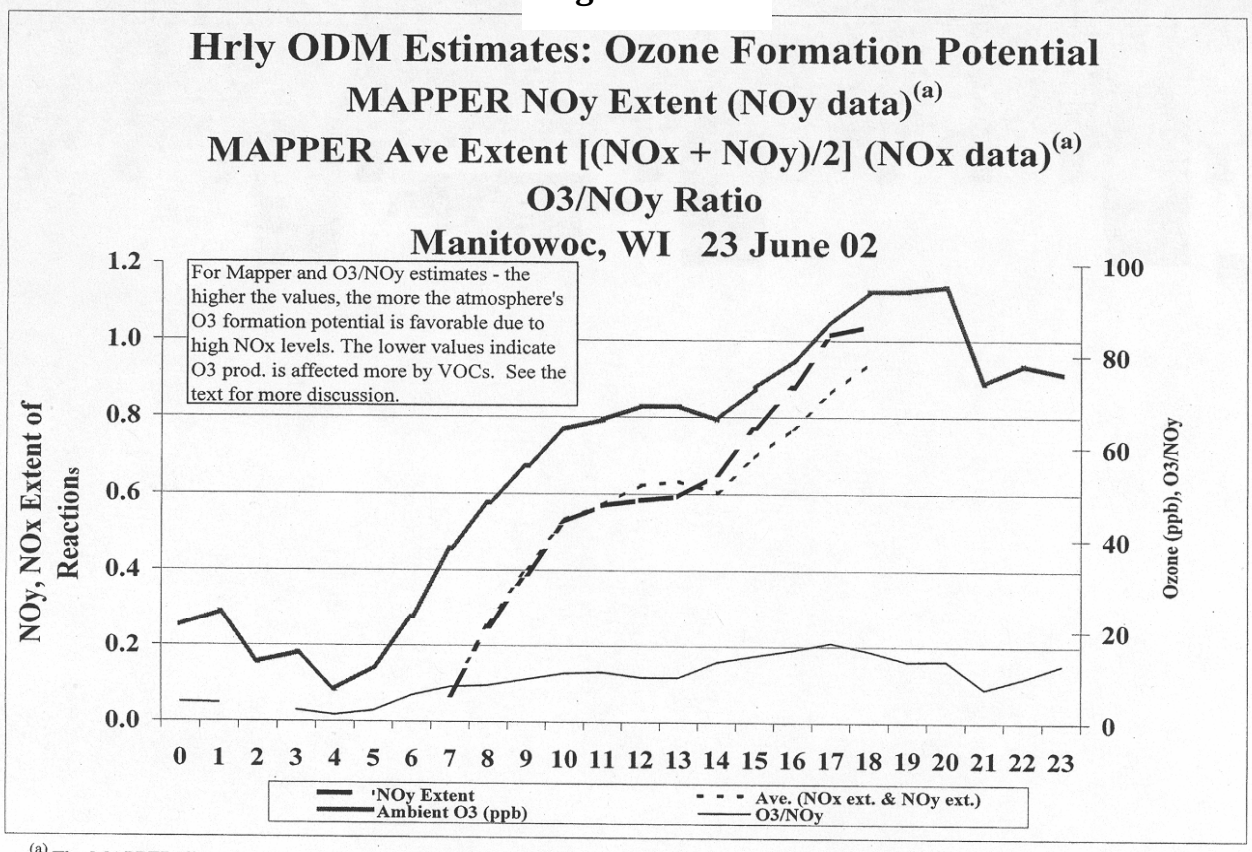
Sillman, S., et.al., 1995: Photochemistry of ozone formation in Atlanta, GA – models and measurements. **Atmos. Environ 29:**3055-3066.

Sillman, S., 1998: The method of photochemical indicators as a basis for analyzing ozone-NOx-hydrocarbon sensitivity. Submitted to **J. Geo. Research**.

Wis Dept of Natural Resources, 2003a**: Ozone Episode: Southern Lake Michigan Region, 20 - 25 June 2002. An Analysis of Ozone and Meteorological Measurements Aloft and at the Surface**. Publication AM-332-2003. Bureau of Air Management, May, 27 pp.

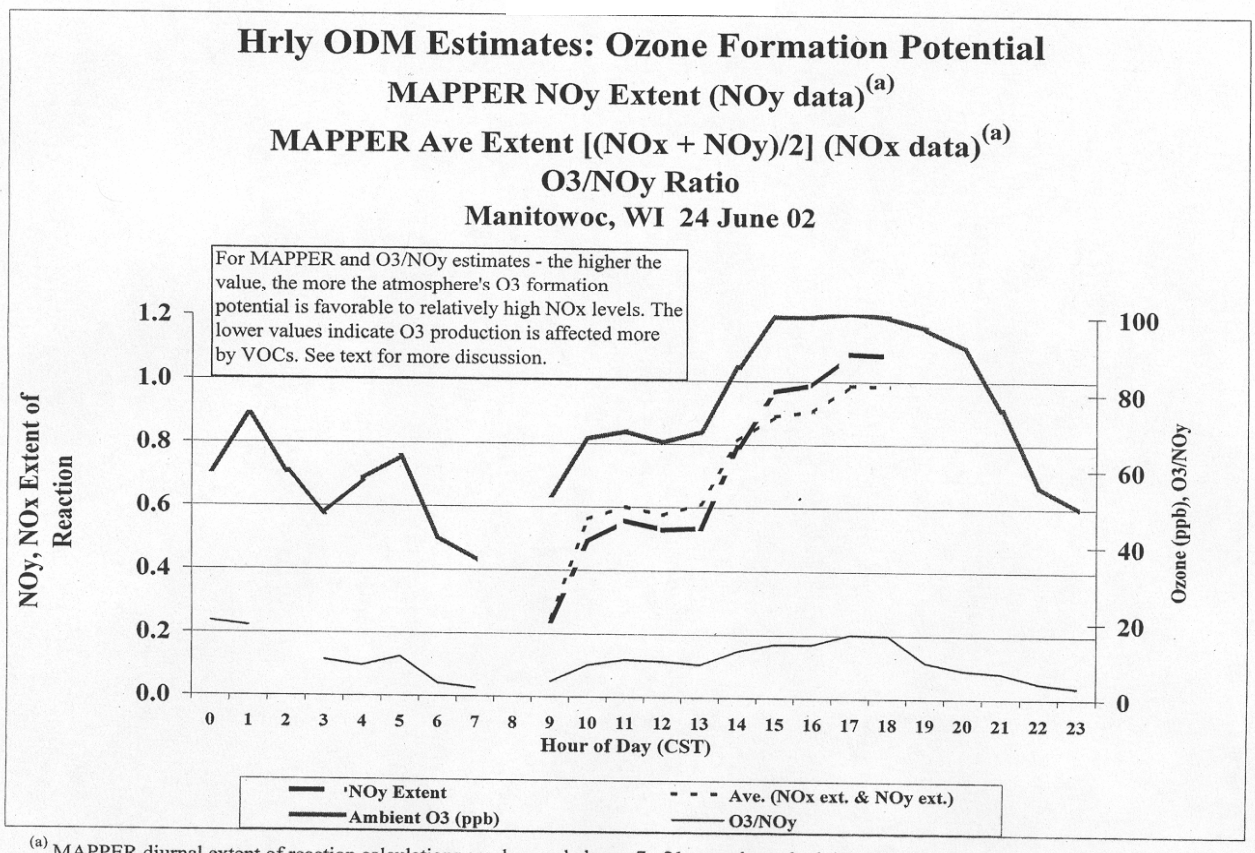
Wis Dept of Natural Resources, 2003b**: Characterizing Ambient Fine Particulate Matter (PM2.5) in Wisconsin, 1999-2001.** Publication AM-329-2003. Bureau of Air Management, May, 57 pp.

Figure 12-1



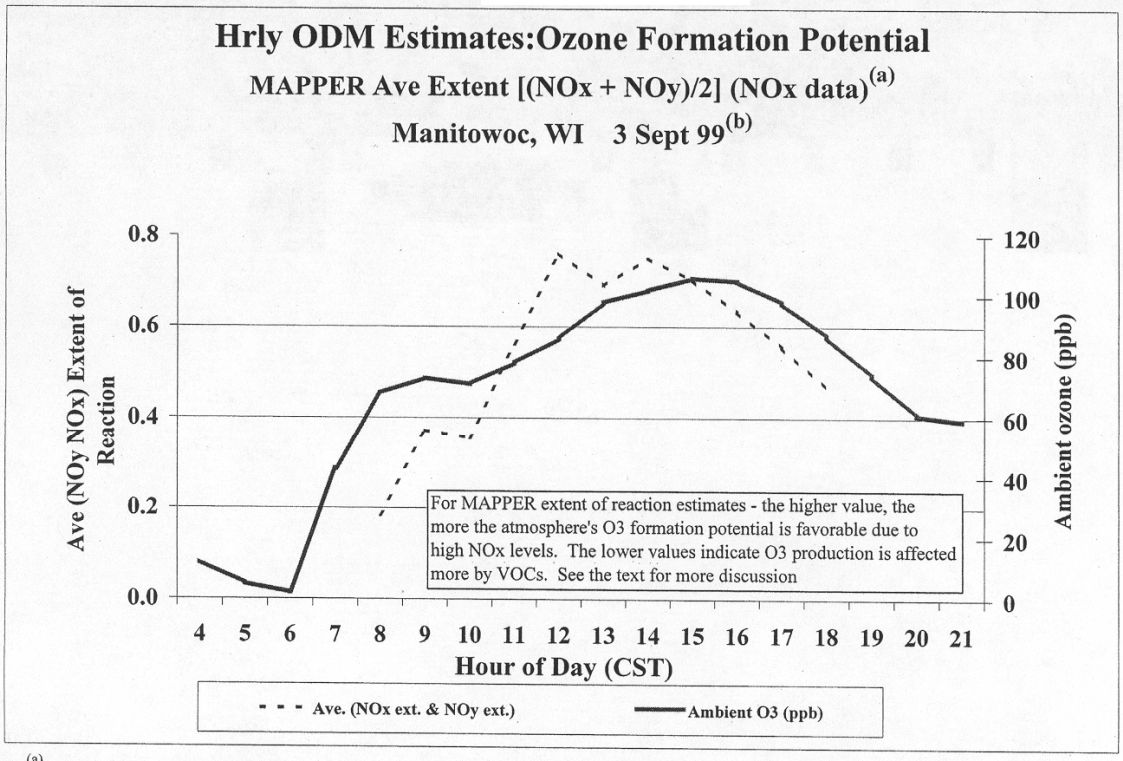
(a) The MAPPER diurnal extent of reaction calculations are done only for hours 7 - 21 central standard time (CST).

Figure 12-2



(a) MAPPER diurnal extent of reaction calculations are done only hours 7 - 21 central standard time (CST0.

Figure 12-3



(a) The MAPPER extent of reaction calculations are only done for hrs 7 - 21 CST.

(b) Manitowoc NOy measurements were not taken on 3 Sept 99.
So "NOy Extent" values and O3/NOy ratios could not be derived for this site-day.

APPENDIX THIRTEEN:
WDNR's Response to Comments

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: June 11, 2007 FILE REF:

TO: Al Shea

FROM: Kevin Kessler

SUBJECT: Summary of public hearing and written comments received on the proposed Manitowoc and Kewanee Counties Redesignation Request

The Department held a public hearing regarding the proposed Manitowoc and Kewaunee Counties Redesignation Request on April 26, 2007 in Manitowoc at the Manitowoc Public Library. 7 people attended the hearing. Manitowoc Grey Iron, Wisconsin Cast Metals and Wisconsin Manufacturers and Commerce testified regarding the proposal. All of the testimony was in favor of submitting a redesignation request to the U.S. EPA with suggested changes to the contingency measures.

In addition, the Department received written comments from the following:

A&E Incorporated
Balys Platukis
Bay-Lake Regional Planning Commission
Charter Steel
City of Manitowoc
Clean Wisconsin
David Wesner
E Rugolo
Green Bay Area Chamber of Commerce
Jack Riopelle
Manitowoc Crane Group, Port Washington
Manitowoc Public Utilities
Marshall & Ilsley Bank
Metropolitan Milwaukee Association of Commerce
Modine Manufacturing Company
Prime Coatings
Quad Graphics
Richard McCreary
Shane Schmutzler
Sierra Club
Southeastern Wisconsin Regional Planning Commission
Steve Braham
Timothy Reis
United States Environmental Protection Agency
We Energies

Printed on Recycled Paper

Wisconsin Cast Metals Association
Wisconsin Department of Transportation
Wisconsin Industrial Energy Group
Wisconsin Manufacturers and Commerce
Wisconsin Paper Council
Wisconsin Utilities Association
WS Packaging Group Incorporated

1. Comments from U.S. EPA

a. Comment: NOx emissions in Manitowoc County appear to increase between 2002 and 2005. WDNR needs to address this increase in NOx emissions when making the demonstration that the requirements of section 107(d)(3)(E)(iii) of the CAA have been met for the Manitowoc area.

Department response: Revised nonroad emission estimates include updated and improved data regarding commercial marine and railroad. There was a corresponding decrease in NOx emission due to these improvements.

b. Comment: The 2004-2006 design value for Waukesha monitor should be 0.071 rather than 0.068.

Department response: This has been corrected.

c. Comment: Monitoring completeness data included in Table 4 of both the submittal for the Milwaukee-Racine area and the Manitowoc County and Kenosha County areas differ from the data included in Appendix 2 and reported in EPA's Air Quality System. This data should be consistent.

Department response: This has been corrected.

d. Comment: There are source categories for which CTG documents exist and Wisconsin has not adopted RACT rules. The Wisconsin Department of Natural Resources (WDNR) must reexamine sources in the nonattainment area to determine if sources covered by any of these source categories exist. If no sources are found, WDNR must submit a current negative declaration, with supporting documentation. If sources are found, RACT must be adopted for those sources. Recertifying existing negative declarations is not sufficient.

Department response: WDNR identified 13 CTG and ACT categories for which Wisconsin has no VOC Reasonably Available Control Technology (RACT) rules for the moderate nonattainment counties. Using the 2002 North American Industry Classification System, WDNR broadly identified categories of industry that are potentially affected by the CTGs or ACTs. WDNR acquired information from two very large, comprehensive, and up-to-date business information databases (Reference USA and Dun & Bradstreet InfoSource). Results from the two databases were merged and thoroughly analyzed for potential affected sources in the moderate nonattainment counties. Staff employed Google.com to search broadly for any potential industry sources. Staff searched for industry group association web pages and contacted some associations for more information. Staff used information from other bureaus within the WDNR as well. Staff identified over 350 potentially affected distinct business facilities in the seven counties. After thoroughly reviewing all available information, staff further narrowed the list of potentially affected sources to 79 facilities. Staff provided this list to compliance and permitting engineers that work in the seven county area for their review. No major VOC sources were found in the Milwaukee-Racine nonattainment area. Plymouth Foam, Inc. in Sheboygan County was identified as major for VOC. However, it is regulated under Best Available Control Technology (BACT), which is more stringent than RACT as described in the polystyrene foam manufacturing ACT.

e. Comment: As noted in the draft redesignation request, WDNR must submit NOx RACT rules and a base year emissions inventory.

Department response: The NOx RACT rule has been adopted by the Natural Resources Board, been reviewed by the legislature, as required by Wisconsin statute and is to be submitted to US EPA by June 15, 2007. The base year emissions inventory will also be submitted by June 15, 2007.

f. Comment: WDNR needs to address SIP requirements under the 1-hour ozone standard for the Milwaukee-Racine area. (In most cases this has been done in Appendix 3.) The periodic inventory requirement of section 182(a)(3)(A) of the Clean Air Act (CAA) needs to be addressed.

Department response: The Department will be submitting all necessary periodic inventories to address this comment on June 12, 2007.

g. Comment: Under section VI.C.5., "Controls to Remain in Effect," Wisconsin "commits that any changes to its rules or emission limits applicable to VOC and/or NOx sources, as required for maintenance of the ozone standard in the Milwaukee MSA [Manitowoc and Kewaunee Counties] will be submitted to US EPA for approval as a SIP revision." WDNR should clarify that this commitment also applies to any contingency measures adopted under the section 175A maintenance plans.

Department response: This has been addressed in the final redesignation request documents for both areas.

h. Comment: For the Milwaukee-Racine area, the contingency plan lists Stage 1 and Stage 2 triggering events. A Stage 2 triggering event occurs when "quality assured monitoring data indicating one or more sites in the Milwaukee MSA maintenance area is violating the 8-our ozone ambient standard with a design value greater than 0.087 ppm." The phrase "with a design value greater than 0.087 ppm" should be eliminated. Any violation of the NAAQS should trigger implementation of the contingency plan.

Department response: This has been corrected.

i. Comment: In some cases, the 2012 and 2018 Motor Vehicle Emissions Budgets (MVEBs) established in the maintenance plans are set at levels below estimated onroad emissions for 2012 and 2018. It would be advisable for WDNR to reevaluate the levels of the MVEBs to ensure that they are appropriate.

Department response: This has been corrected. A 20% uncertainty margin has been included in the MVEB.

j. Comment: For the Manitowoc County and Kewaunee County areas, Wisconsin must include a list of contingency measures and a schedule for their adoption and implementation should either of the areas monitor a violation of the ozone standard. While an attainment demonstration is a planning tool, it cannot be considered a contingency measure.

Department response: This has been corrected.

2. Contingency Measures

a. Comment: The Department received a number of identical comments regarding the contingency measures section of the proposed redesignation request. The comments requested the proposed contingency measures be revised to "on the books" controls instead of a commitment to adopt expensive new rules.

Department response: The Department commits first to evaluate the sufficiency of control measures that have already been promulgated, but not fully implemented at the time of the violation, to return the area to attainment. If the evaluation determines that additional measures are necessary to return the area to attainment, the Department will consider selecting contingency control measures from the list, as

required by US EPA. Wisconsin's contingency plan is consistent with other 8-hour ozone redesignation requests in the Midwest and the plan fully conforms to federal requirements.

b. Comment: The proposed threshold for triggering the contingency requirements is set at an arbitrary level.

Department response: This comment has been addressed by triggering contingency requirements when a violation of the 8-hour ambient ozone standard is exceeded in the area i.e., when an ozone design value, based on quality-assured data, exceeds 0.084 ppm.

c. Comment: The proposed contingencies exceed both federal requirements and also measures included in other states' redesignation plans.

Department response: As noted above, the Department has realigned its contingency plan to be similar to redesignation requests approved by US EPA for other states in the Midwest. The Department will first evaluate the sufficiency of control measures that have already been promulgated, but not fully implemented at the time of the violation, to return the area to attainment. If the evaluation determines that additional measures are necessary to return the area to attainment, the Department will consider selecting contingency control measures from a list.

d. Comment: The contingency measures are not adequate to meet the requirements of the Clean Air Act §175A (d).

Department response: The contingency measures properly address the requirements of the Clean Air Act and are modeled on the measures approved by the EPA in other states.

3. Transportation Conformity Budget

a. Comment: The proposed transportation conformity budget contains no uncertainty/safety margin for future year projections.

Department response: The Department has addressed this comment by adding a 20.0% uncertainty margin to the proposed future year transportation budget.

4. Local Controls of Traffic Congestion

Comment: The State should not require the implementation of the local controls of traffic congestion listed in Section 4 of the redesignation request.

Department response: The Department now designates the traffic congestion local controls as voluntary measures and as such, states that there is no guarantee that these measures will continue to be implemented in the future.

5. The redesignation requests violate the Clean Air Act.

a. Comment: The Area has not attained the air quality standards.

Department response: Based on the strictly prescribed methodology for calculating ozone design values, all monitoring sites in the Milwaukee-Racine Area meet the existing National Ambient Air Quality Standard for ozone.

b. Comment: The Area will not have an approved SIP, pursuant to CAA §§ 110 of Subchapter I, part D, when the Administrator considers the redesignation request.

Department response: The final redesignation request directly addresses the SIP deficiencies.

A thorough VOC RACT reexamination analysis was performed to fulfill the VOC RACT SIP requirement. WDNR evaluated VOC sources in the moderate nonattainment counties to determine whether they are major sources under the CAA. No sources in the moderate nonattainment counties meet the criteria for the eight (8) CTG categories or the (7) ACT categories for which Wisconsin does not have adopted rules. See also WDNR's response to EPA's comment on the VOC RACT reevaluation.

Wisconsin's NOx RACT rule has been adopted by the Natural Resource Board, has been reviewed by the legislature and will be submitted to US EPA by June 15, 2007. The US EPA will act upon the redesignation request once Wisconsin's final NOx RACT rule is submitted. The 2005 Base Year Inventory, a SIP requirement, will be submitted contemporaneously with the redesignation requests.

The commenter further states that Wisconsin does not have a fully approved SIP in place for the 8-hour ozone standard. This requirement is not due until June 15, 2007 and therefore Wisconsin is not SIP deficient with respect to this requirement.

Additionally, the commenter states that Wisconsin does not have a fully approved SIP for the Clean Air Interstate Rule (CAIR). The state rules implementing CAIR have been approved by the Natural Resource Board and are currently undergoing legislative review. Wisconsin has requested the EPA to process the proposed CAIR rule parallel to the legislative review process. Even without an approved Wisconsin CAIR SIP, Wisconsin is not SIP deficient with respect to CAIR requirements because of the federal backstop of the CAIR federal implementation plan. There is no requirement that the SIP include provisions for the Clean Air Mercury Rule prior to requesting redesignation for the 8-hour ozone nonattainment areas as the commenter suggests.

The commenter states that the state lacks adequate funding and personnel to provide a user-friendly website for its permits, to respond to EPA comments regarding PSD permits, and maintain organized files accessible to the public. These shortcomings were identified by EPA as part of its review of the state's PSD program in 2006. The EPA had mentioned that these areas were areas where the Department could improve but the EPA did not identify these areas as deficiencies and therefore does not have any bearing on the SIP. The Department, however, is working to improve the website and has implemented steps to provide EPA with increased abilities to provide comments.

c. Comment: The Department has not shown that the reductions are due to enforceable and permanent measures.

Department response: Section VI (c) of the redesignation requests clearly demonstrates that Wisconsin has implemented, and benefited from, significant, permanent-and-enforceable air pollutant emission reduction regulations including Rate of Progress control measures, VOC RACT, New Source Review provisions, and federal onroad and nonroad control measures. In addition, a number of federal measures are scheduled to be implemented in the coming years including NOx reductions due to CAIR and NOx RACT.

d. Comment: The maintenance plan is deficient for the following reasons:

- the Department failed to include all SIP measures required for a maintenance plan under the CAA § 175A(d);
- the Department failed to perform modeling to demonstrate maintenance; and
- the proposal to remove the NSR provisions also violates 42 U.S.C. §7410(l). This provision states that "the Administrator may not approve a revision of a plan if the revision would interfere with any reasonable applicable requirement concerning attainment and reasonable further progress…or any other applicable requirement of this chapter." The commenter states

that creating large loopholes that increase the major source threshold, lower the control technology requirements, and removing the offset requirements all will result in increased air pollution and interfere with both attainment and reasonable further progress.

Department response: The Department has provided that it will continue to maintain the control measures listed in section VI. C of the redesignation request as part of its maintenance plan.

EPA guidance as well as case law (Wall v. EPA, 265 F.3d 426 (6th Cir. 2001)) allows the state the discretion in using either an attainment-emissions inventory approach or photochemical grid modeling. The Department fulfilled the requirement to provide for maintenance of the NAAQS for at least 10 years after redesignation by using the attainment-emissions inventory approach.

All sources throughout the state are subject to new source review (NSR) provisions regardless of the area's attainment status. For sources in nonattainment areas, NSR provisions include offsetting new emissions and installing lowest achievable emission rate (LAER). Once an area is redesignated to attainment, there is no basis for continuing to apply the NSR provisions like offsets or LAER to sources in the former nonattainment area. The application of NSR requirements in attainment areas include the requirement to install best available control technology and therefore will result in well-controlled new emission sources.

6. Compliance with WEPA.

Comment: The DNR has failed to comply with the Wisconsin Environmental Policy Act (WEPA).

Department response: The Department has identified the designation to nonattainment and the associated issuance of documents under ch. NR 401, Wis. Adm. Code and s. 285.23, Stats., as a Type IV action under ch. NR 150, Wis. Adm. Code. Type IV actions do not require an environmental assessment under WEPA. It follows that the process of requesting the redesignation would be classified as a Type IV action.

Even if the redesignation request was treated differently than the nonattainment designation, the actions by the Department do not rise to the level of a “major action significantly affecting the quality of the human environment" The Department in submitting the redesignation request is proposing that EPA redesignate the counties as in attainment of the ozone standard, based upon the criteria outlined in section 107 of the Clean Air Act. The Act and EPA’s regulations identify the criteria for redesignation and the implications of such redesignation. The EPA acts on such a request and approves the action. None of the actions taken by the Department rises to the level of a “major action” subject to WEPA. Even though there is a separate state redesignation process under s. 285.23 Stats., and ch. NR 401, Wis. Adm. Code, which is a concurrent process the Department is undertaking with the request to EPA for redesignation – if and when EPA redesignates the areas and the Department completes the state redesignation process, that action will merely be consistent with EPA’s action and would not constitute a “major action.”

7. Implementing controls to achieve the 0.060 to 0.070 ppm standard

Comment: Rather than relaxing pollution controls based on an outdated standard for which there is no scientific justification, the Department should be implementing pollution controls that achieve the 0.060 to 0.070 ppm standard that actually protects the health of Wisconsin residents in eastern and southeastern Wisconsin.

Department response: The standard that the commenter refers to is not a promulgated standard. The Department has no statutory authority to regulate sources at a standard that has not been promulgated.

8. The redesignation request is not ripe.

Comment: The redesignation request is not ripe. The redesignation request should not be considered until Summer 2007 air quality data can be included in modeling.

Department response: A redesignation request is ripe once the area has monitored three years of ozone data without a violation. The areas contained in the request fulfill this requirement and therefore the request is ripe for submission to the EPA.

EPA Region V
Wisconsin SIP Submittal
Completeness Review

Submittal Letter

1. Signed by Governor's Designee (Kevin Kessler)? Yes: X No:

2. Date of Submittal: June 12, 2007

3. WDNR Person in charge of SIP submittal.
   Name: Ralph Patterson Telephone: (608)267-7546
   FAX Number: (608)267-0560
   E-MAIL Address: Ralph.Patterson@wisconsin.gov

4. WDNR Technical Person in charge of answering questions on SIP Submittal
   Name: Bart Sponseller Telephone: (608) 264-8861
   FAX Number: (608) 267-0560
   E-MAIL Address: bart.sponseller@wisconsin.gov

Incorporation Into Wisconsin Administrative Code

5. Is evidence that the State incorporated the revision into the Wisconsin Administrative Code supplied in this SIP package?
   Yes:
   No: X if No explain. - This is not applicable. This is not a rule submittal and therefore requires no incorporation into the Wisconsin Administrative Code.

6. The effective date of the regulation is or was: Not applicable

7. Are test methods/rules incorporated by reference correctly? (Has approval been obtained from the state Attorney General

   Yes:
   No:
   Not applicable: X
   For No and Not applicable explain answer. - This is not applicable. This is not a rule submittal and therefore the Attorney General need not approve this submittal.

8. Has WDNR provided evidence that it has necessary legal authority under State law to adopt and implement the revision?

   Yes: X
   No:
   Additional Explanation (if necessary).

9. Did the State include a copy of the actual regulation or document for USEPA review?

   Yes:
   No: X
   Additional Explanation (if necessary). – This is not applicable.

10. Did the State provide evidence that it followed all of the requirements of its Administrative Procedures Act (ch. 227, Wis. Stats., Administrative Procedure and Review) in conducting and completing adoption/issuance of the revision?

    Yes:
    No: X
    Additional Explanation (if necessary) – This is not applicable.

11. Did the State include evidence that Public Notice was given of the revision, including date of publication?
    Yes: X
    No:
    Additional Explanation (if necessary)

12. Did the State provide a copy of the certification that public hearings were held in accordance with the information provided in the public notice (copy of notarized Class I paper proof).

    Yes: X
    No:
    Additional Explanation (if necessary).

13. Does the submittal contain a compilation of public comments and the State's response?

    Yes: X
    No:
    Additional Explanation (if necessary).

Technical Issues

14. Name the all the regulated pollutants affected by the revision? The SIP revision, if approved has an indirect effect on emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx), since an approved revision somewhat relaxes nonattainment area new source review requirements.

15. Does the submittal identify the designation, status of the attainment plan and attainment date for the area(s)

    Yes: X
    No_____
    Additional Explanation (if necessary)

16. Does the submittal identify the location and types of affected sources?

    Yes:
    No: Not applicable, since this SIP submittal is not a rule.
    Additional Explanation (if necessary)

17. Does the submittal quantify the changes in SIP-allowable emissions and estimate or quantify the changes in actual emissions from affected sources?

    Yes:
    No: X
    Additional explanation (if necessary) –This is not necessary for an ozone redesignation request.

18. Has the State demonstrated that the NAAQS/PSD Increment/RFP demonstration/visibility will be protected if the revision is approved and implemented?

Yes: X
No:
Additional explanation (if necessary).

19. Has the State provided modeling information to support the revision.

Yes:
No:
Unnecessary: X

20. Has the State provided evidence that emission limitations are based on continuous emission reduction technology?

Yes:
No: X
Additional explanation (if necessary).- This is not applicable for an ozone redesignation request.

21. Has the State provided evidence that the revision contains emission limitations, work practice standards and record keeping/reporting requirements where necessary, to ensure emission levels?

Yes:
No: X
Additional explanation (if necessary). - This is not applicable for an ozone redesignation request.

22. Does the submittal contain enforcement/compliance strategies including how compliance will be determined in practice, and at what frequency?

Yes:
No: X
Additional explanation (if necessary). - This is not applicable for an ozone redesignation request.

STATE APPROVABILITY CHECKLIST-ENFORCEABILITY

USEPA USE ONLY

SIP Package Number _____
Date Received by USEPA _____
Date Due_____
State: WISCONSIN

WDNR Information

Subject Matter: Request for Redesignation for Ozone Attainment in the Manitowoc and Kewaunee Counties Subpart-1 Nonattainment Areas and Maintenance Plan for Manitowoc and Kewaunee Counties

Applicability

USEPA Question	USEPA Requirement	State Response
What sources are being regulated?	Clear discussion	No sources are being regulated under the SIP submittal. This is not a rulemaking.
What are criteria for exemption?	Clear discussion	This is not applicable to this SIP submittal.
Is calculation procedure for exemption clearly specified?	Supply example calculation or clear explanation of how to determine exemption (line by line, etc.)	This is not applicable to this SIP submittal.
Is emission inventory listed in the background document of the attainment demonstration?	Inventory including allowable and actual emissions in source category should be included, for enforcement purposes and independent of any Clean Air Act requirements, in the attainment demonstration if such data is necessary for determining baselines in regulations.	Wisconsin is submitting several inventories as a part of this SIP submittal. In the redesignation request documents, the 2002 inventory serves as the nonattainment year inventory. The 2002 inventory also fulfills the CAA periodic inventory requirement under section 182 (a)(3)(A). The 2005 inventory serves as the attainment year inventory. Attainment year inventories are included for 2012 and 2018, demonstrating decreasing NOx and VOC emissions into the future. A
Is the averaging time(s) used in the rule different from that of the ambient standard?	The averaging time in the rule must be consistent with protecting the ambient standard in question. Normally, it should be equal to or shorter than the time associated with the standard. Longer term averaging is available only in limited instances provided that the ambient standard is not compromised.	This is not applicable to this SIP submittal.
What are the units of compliance (lbs VOC per gallon of solids applied less water, grains per standard cubic foot?)	Clearly stated in the rule.	This is not applicable to this SIP submittal.
Is bubbling or averaging of any type allowed? If yes, state criteria. Could a USEPA inspector independently	Explicit description of how averaging, bubbling, or equivalency is to be determined. VOC equivalency must be on a "solids applied" basis. Any method must be	This is not applicable to this SIP submittal.

determine if the criteria were met?? Does USEPA have to approve each case?	independently reproducible. Provision must be explicit as to whether USEPA case-by-case approval is required. If provision intended to be "generic" then USEPA bubble policy must be met.	
If there is a redesignation, will this change the emission limitations? If yes, which ones and how?	Regulation may not automatically allow for self nullification upon redesignation of area to attainment. New maintenance demonstration required to order to drop regulation.	This is not applicable to this SIP submittal. This is not a rulemaking.

Compliance Dates

USEPA Question	USEPA Requirement	State Response
What is the compliance date?	The compliance date must not be later than the approved or about to be approved date of attainment unless emission reductions are not necessary for attainment. In some cases, it will be necessary for the regulation to specify dates in compliance schedules that are required to be submitted by source to state.	This is not applicable to this SIP submittal. This is not a rulemaking.
What is the attainment date?	Clearly defined.	This is not applicable to this SIP submittal. This is not a rulemaking.

Specificity of conduct

USEPA Question	USEPA Requirement	State Response
What test method is required?	Test method must be explicitly stated.	This is not applicable to this SIP submittal.
What is the averaging time in the compliance test method?	Averaging time and application of limit must be explicit.	This is not applicable to this SIP submittal.
Is a compliance calculation or evaluation required? (i.e., daily weighted average for VOC).	Clearly defined.	This is not applicable to this SIP submittal.
If a compliance calculation is necessary, list the formula, period of compliance, and/or evaluation method.	Formula must be explicit.	This is not applicable to this SIP submittal.

Incorporation by reference

USEPA Question	USEPA Requirement	State Response
What is the state authority for rulemaking.	Clearly stated.	This is not applicable to this SIP submittal. This is not a rulemaking.
Are methods/rules incorporated by	Clearly stated.	This is not applicable to this SIP

reference in the right manner?		submittal. This is not a rulemaking.

Record keeping

USEPA Question	USEPA Requirement	State Response
What records are required to determine compliance?	Clearly stated.	This is not applicable to this SIP submittal. This is not a rulemaking.
In what form or units (lbs/gal, gr/dscf, etc.) must the records be kept? On what time basis (instantaneously, hourly daily)?	Records to be kept must be consistent with units of compliance in the performance requirements, including the applicable time period .	This is not applicable to this SIP submittal.
Does the rule affirmatively require the records be kept?	There must be clearly defined and distinguishable from what constitutes a violation.	This is not applicable to this SIP submittal.

Exemptions

USEPA Question	USEPA Requirement	State Response
List any exemptions allowed.	Must be clearly defined and distinguishable from what constitutes a violation.	This is not applicable to this SIP submittal.
Is the criteria for application clear?	Clearly stated.	This is not applicable to this SIP submittal.

Malfunction Provisions

USEPA Question	USEPA Requirement	State Response
Are there any malfunction provisions in the rule?	Rule must specify what exceedances may be excused, how the standard is to be applied, and who makes the determination.	This is not applicable to this SIP submittal.