

Comprehensive 2015 Ozone Attainment Planning Roadmap

Marginal Attainment Planning

2018 & 2019 Exceptional Event Assessment (T2, T3)

Timing: Q3 2019 – Q2 2020

Description: AQD Meteorologists are evaluating 2018 and 2019 ozone, wildfire, and meteorology data to evaluate episodes of elevated ozone in both southeast and west Michigan to determine if wildfire events potentially adversely influenced ozone concentrations observed in Michigan. If the data supports an exceptional event demonstration, the AQD is planning to submit a demonstration for EPA's consideration in the second quarter of 2020. If accepted by EPA, those ozone values determined to be influenced by exceptional event(s) will be discounted from the design value calculations, lowering the calculated design value. AQD is evaluating multiple days in 2018 and 2019.

Reference links:

<https://www.epa.gov/air-quality-analysis/treatment-air-quality-data-influenced-exceptional-events-homepage-exceptional>

Successors: Attainment Extension Considered (T6), Marginal Attainment Date (D7)

Staff Resources: SDU, AMU

Emissions Inventory/Emissions Statement SIP (T4)

Timing: Q1 2020 – Q3 2020

Due: August 2020

Description: CAA 182(a)(1) requires the submittal of "current inventory of actual emissions" within 2 years of the designation. Emissions Inventory will be compiled for 2017 (latest comprehensive inventory available) by Emissions Reporting and Assessment Unit (ERAU) staff. SIP Development Unit (SDU) will verify the 2017 data will be acceptable to EPA (alternatives could be 2016 modeling inventories or 2020 modeling inventory that are yet to be developed). SDU staff will develop the submittal documentation.

Staff Resources: SDU; ERAU

Attainment Extension (T6)

Timing: Q3 2020 – Q2 2021

Description: CAA 181(a)(5) provides for a 1-year extension in certain circumstances. EPA guidance and communication suggest that if, in the final year before the attainment date, the 4th high daily 8-hour ozone concentration is below 70 ppb, the area would be eligible for a 1-year extension to the attainment date. If this were to happen, a potential reclassification (i.e., “bump-up”; [CAA181(b)]) could be postponed for a year in hopes of attaining the standard prior to the attainment date. (Note: if a bump-up occurs the following year, the moderate attainment date and other moderate SIP planning requirements are not affected by the marginal attainment extension). If attainment is not reached by the attainment date, the nonattainment area is subject to a bump-up to moderate nonattainment. In practice, SDU staff would work with EPA Region 5 staff to determine eligibility for a 1-year attainment extension.

Predecessors: Design Value Monitoring Data (I1), 2018 & 2019 Exceptional Event Assessment (T3)

Successors: Marginal Attainment Date (D7), Possible Reclassification to Moderate (D9)

Staff Resources: SDU; EPA

Marginal Attainment and Redesignation (T46 – T48)

Timing: Q1 2020 – Q1 2021

Description: The possibility of attainment will be tracked throughout the 2020 ozone season by ongoing review of ozone monitoring data by SDU and AMU. Attainment will be determined at the close of the ozone season: October 30, 2020. Beginning in August, if the possibility of attainment appears likely, AMU will prepare to prioritize the processing of ambient ozone data with a goal of having applicable ozone data certified by December 31, 2020. SDU will begin development of the Ozone Request for Redesignation SIP submittal in September 2020. This will include getting mobile emissions data from SEMCOG, other emissions data from ERAU, and data analysis products from LADCO.

Reference links:

[Berrien County Redesignation Request \(January 2020\)](#) (to be used as SIP template)

Predecessors: Design value Monitoring Data (I1), 2018 & 2019 Exceptional Event (T2-T3)

Staff Resources: SDU, ERAU, AMU, SEMCOG, LADCO

Moderate Attainment Planning

Following the marginal attainment date (August 2021), if an area has not attained the standard, the area is subject to a reclassification (“bump-up”) to the moderate classification [CAA 181(b)(2)]. This action takes place by the publication of a *Federal Register* notice. Attainment extensions and international emissions demonstrations [CAA 179B] can postpone or avoid a reclassification, respectively.

SEMI Field Study (T11, T12, T13, T14)

Timing: Q4 2019 – Q4 2020

Description: A field study has been proposed. The field study is proposed to take place during a 6-week period in late spring/early summer of 2020. The goal of the field study is to provide forensic data on cross-border pollution transport that can also be used to evaluate meteorological and ozone model simulations of contemporaneous ozone exceedances in SEMI. Analyses of the data may then be used to support either a 179B(b) petition based on Canadian emission source contributions to the observed ozone exceedances, or to provide a baseline episode for a future ozone attainment demonstration. A “science plan” has been developed detailing the various components of the field study. The field study is contingent on securing funding. It will inform the development of the Attainment Plan Modeling Demonstration, including the development of control strategies.

Reference links

[Link to science plan](#)

Successors: 2020 Baseline Modeling Platform Development, Attainment Demonstration Development

Staff Resources: J. Olaguer, USFS, LADCO, AQE

2020 Baseline Modeling Platform Development (T15 – T19, T21, T22) Timing: Q1 2020 – Q3 2022

Description: Utilizing the information obtained during the 2020 field study and the subsequent meteorology modeling, a 2020 modeling platform will be developed. Development of a modeling platform is an iterative process with each iteration becoming more refined. Initial development will include emission inventories derived by LADCO interpolating data developed for the national 2016 Inventory Collaborative. Subsequent refinement could include the utilization of more refined inventory segments as they become available (ERTAC EGU, 2020 Point, etc.). LADCO and ERAU staff will work cooperatively on any refinements of the inventories. Refinements to meteorology and chemistry are also likely. Results from the 2020 field study is also expected to provide significant information for model refinement. Ultimately, a model performance evaluation will be conducted by J. Olaguer and LADCO to the satisfaction of USEPA.

Reference links

[SEMI Modeling and Measurements Steering Committee Recommended Actions](#)

Predecessors: 2020 Field Study, 2016 Inventory Collaborative, Stakeholder Workgroups

Successors: Attainment planning, Control strategy Development, International Emissions Demonstration [179B], Exception Events Demonstration

Staff Resources: J. Olaguer, USFS, LADCO, AQE

Attainment Demonstration Development (T20, T23)

Timing: Q4 2021 – Q3 2022

Description: Following the development of the 2020 Baseline Modeling platform development and evaluation, an Attainment Demonstration will be developed evaluating various control strategies to quantify effectiveness. This will be an iterative process as well, and the initial development of future year attainment demonstrations can and will overlap with the further refinement of the Baseline Platform refinement.

Predecessors: 2020 Baseline Modeling Platform

Successors: Attainment Strategy, Moderate SIP Attainment Plan Submittal

Staff Resources: J. Olaguer, USFS, LADCO, AQE

Control Strategy Stakeholder Workgroups (T25)

Timing: Q4 2019 – Q4 2021

Description: Anticipating a possible reclassification to moderate, SDU staff have established Stakeholder workgroups to discuss potential control strategies with a goal of attaining the 2015 ozone standard as soon as possible and addressing mandatory requirements should a reclassification to moderate nonattainment occur. The control strategies groups established include 1) RACT & Primary Formaldehyde; 2) Natural Gas and Refined Product Pipeline Emissions; and 3) Intermodal Transportation Emissions. All three of these established workgroups meet regularly and each have unique charges with the overarching objective of developing strategies to attain the ozone standard as expeditiously as possible. Additional information regarding the workgroups are available on AQD Ozone website.

Reference links

[AQD Ozone Website](#)

Successors: 2020 Modeling Platform Development; Control Strategy Development (T24)

Staff Resources: SDU, Stakeholders, AQE, J. Olaguer

Marginal Attainment Assessment (T26)

Timing: Sept 2020 – November 2020

Description: An informal evaluation as to whether the nonattainment areas have met the 2015 Ozone NAAQS. Ozone values for 2018 – 2020 will be evaluated to determine whether the preliminary values suggest attainment has been achieved or whether an attainment date extension could be pursued. Also, an assessment of the status of any exceptional events evaluations will be considered. If attainment is not achieved and an attainment extension is not likely, several other moderate attainment planning activities will be triggered. Note: in late summer 2020 this analysis will be conducted with preliminary data. The preliminary data is subject to a QA/QC process and may change. Also, the ozone season does not conclude until Oct 31st, although elevated ozone values in late September and October are not likely. The official Marginal Attainment Date is August 3, 2021; however, the official evaluation will be conducted using data from 2018 – 2020.

Predecessors: Design Value Monitoring Data (I1)

Successors: Initiate I/M Discussions (T27), Rule/Legislation Development (T39-T42); Modeling platform refinement/finalization; Moderate Attainment Planning

Staff Resources: SDU, AMU

Potential Vehicle I/M Program (T27, T34, T35, T41)

Timing: Q3 2020 – Q4 2024

Description: In the event SEMI is reclassified to moderate nonattainment (D9), a Basic Vehicle Inspection and Maintenance (I/M) program will be required pursuant to the Moderate planning and control requirements [CAA 182]. If required to implement an I/M program, substantial stakeholder involvement including MDOT, EGLE, SEMCOG, State Legislature, Public Officials, etc., will be required. The deadlines for the various elements should be established by the federal notice for the reclassification to moderate. Nonattainment areas in west Michigan will not be subject to an I/M Program in the event they are reclassified to moderate. 40 CFR 51.350(a)(4) establishes a population threshold where I/M programs are required. The nonattainment areas in west Michigan do not meet this population threshold.

Reference links

[EPA Vehicle I/M Guidance](#)

Predecessors: Reclassification to Moderate (D9)

Staff Resources: MDOT, EGLE, and everyone else

CAA 179B International Emissions Demonstration (T43 – T45) Timing: Q2 2021 – Q1 2022

Description: If a reclassification to moderate appears to be likely, an analysis will be undertaken to evaluate the impact of International Emissions (Ontario, Canada) on violating monitors in SE Michigan. Data collected during the 2020 Field Study will be very important to this analysis. The analysis will conform to the guidance provided by EPA, and if it is demonstrated that SEMI monitors would have attained the ozone NAAQS but for emissions emanating from Ontario, the AQD will draft and submit a 179B(b) demonstration for EPA's approval.

Reference links

[Draft Guidance on 179B Demonstrations](#)

Predecessors: 2020 Field Study(T11-T13), Baseline Modeling Platform (T18), Marginal Attainment Assessment (T26)

Successors: Possible Reclassification to Moderate (D9)

Staff Resources: SDU, J. Olaguer, LADCO

Control Strategy/Regulation Development (T25, T28-T30, T40-T42) Timing: Q3 2020 – Q4 2024

Description: In the event any of the nonattainment areas in the state are reclassified to moderate nonattainment (D9), various control measures will be required including Reasonably Available Control Technology (RACT), Reasonable Further Progress, and Vehicle Inspection and Maintenance (SEMI only, See Potential Vehicle I/M Program). Implementation of RACT provisions are required per CAA 182(b)(2) and will require rule development (T40). The RACT Stakeholder workgroup will inform this required rule development effort. Other Stakeholder workgroups have also been established to develop effective strategies for reducing ambient ozone concentrations. These established stakeholder workgroups are an integral element of developing effective control strategies. An initial list of potential control strategies will be developed and evaluated using the photochemical modeling platform (T18-T19). For those feasible control strategies that are demonstrated to be effective in reducing ambient ozone concentrations, rules and/or legislation will be pursued. Stakeholder workgroup involvement will continue through and inform the rule and regulation development effort.

Predecessors: Reclassification to Moderate (D9), Photochemical modeling platform (T18, T19)

Successors: SIP Document Preparation(T31), Control strategy implementation (T34)

Staff Resources: SDU, Stakeholders, Modeling Committee, J. Olaguer

2015 Ozone Attainment Planning Roadmap

Description	Staff Resources	Risks	Start	End	2018				2019				2020				2021				2022				2023				2024																																										
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																																							
					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J
Marginal Attainment Planning																																																																							
I 1	Design Value Monitoring Data																																																																						
T 2	2018 & 2019 Exceptional Event Assessment	SDU			Q3 2019																																																																		
T 3	2018 & 2019 Exceptional Event Demonstration dev & submitted	SDU, AMU			Q1 2020																																																																		
T 4	Emissions Inventory / Emission Statement SIP Development	SDU, ERA			Q1 2020																																																																		
D 5	Emissions Inventory / Emission Statement SIP Due	SDU, ERA																																																																					
T 6	Attainment Extension Considered	SDU, EPA			Q3 2020																																																																		
D 7	Marginal Attainment Date																																																																						
Moderate Attainment Planning																																																																							
I 8	Design Value Monitoring Data																																																																						
D 9	Possible Reclassification ("bump-up") to Moderate	EPA			Feb-22																																																																		
T 10	SEMI modeling platform development / evaluation				Q1 2019																																																																		
T 11	Field Study Planning / Prep	JO, USFS	Funding		Q4 2019																																																																		
T 12	Field Study	JO, USFS, Contractors	Funding		Q2 2020																																																																		
T 13	Field Study Final Reports completed	Contractors	Funding																																																																				
T 14	High Resolution Meteorology Modeling	JO, USFS, Contractors	Funding		Q1 2021																																																																		
T 15	Alpha version of 2020 EI created	LADCO			Q1 2020																																																																		
T 16	Beta version of 2020 Modeling platform developed	JO, LADCO			Q3 2020																																																																		
T 17	Beta version of 2020 EI Created	LADCO			Q4 2020																																																																		
T 18	V1 2020 Baseline Modeling Episode completed	JO, LADCO	elevated O		Q2 2021																																																																		
T 19	Source Apportionment / Control Strategy Simulations	JO, Modeling Committee			Q2 2021																																																																		
T 20	Initial modeling results supporting attainment	JO, Modeling Committee			Q4 2021																																																																		
T 21	Final version of 2020 Baseline EI	ERA, LADCO			Q1 2022																																																																		
T 22	Performance evaluation of 2020 Baseline Modeling Episode	JO, LADCO			Q4 2021																																																																		
T 23	Second version of Modeling results supporting attainment	JO, Modeling Committee			Q3 2022																																																																		
T 24	Control Strategy Development				Q4 2019																																																																		
T 25	Control Strategy Stakeholder Workgroups	SDU, Stakeholders			Q4 2019																																																																		
T 26	Marginal Attainment Assessment	SDU, AMU			Sep-20																																																																		
T 27	Initiate Vehicle I/M program discussions with MDOT / Stakeholders	EGLE, MDOT			Q3 2020																																																																		
T 28	Control Strategy Evaluation (modeling)	SDU, JO, Stakeholders			Q2 2021																																																																		
T 29	Stakeholder comment on initial list of non-RACT Control Strategies	Stakeholder			Q4 2021																																																																		
T 30	Revised List of Control Strategies Developed	SDU, Stakeholders			Q4 2021																																																																		

