

Cleveland Ozone Update

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Meeting Logistics

- Please keep yourself muted unless you are talking to minimize background noise/distraction
- Opportunity for questions and discussion at end of presentation
- Slides will be emailed following today's meeting
- If you joined via a telephone line (and thus we cannot identify you for our attendance records), please email holly.kaloz@epa.ohio.gov with notice that you attended the meeting



Background

- February 2020 meeting
 - 2015 ozone standard
 - 70 ppb based on a 3-year average of annual 4th high values (called “design value”)
 - Cleveland is currently designated marginal nonattainment
 - Required to meet standard by August 3, 2021 (called “attainment date”)
 - 2020 is last ozone season before attainment date
 - Ozone season is March 1 to October 31
 - Cleveland unlikely to meet standard or be eligible for 1-year extension
 - May get “bumped up” to moderate nonattainment



Current Cleveland Ozone Outlook

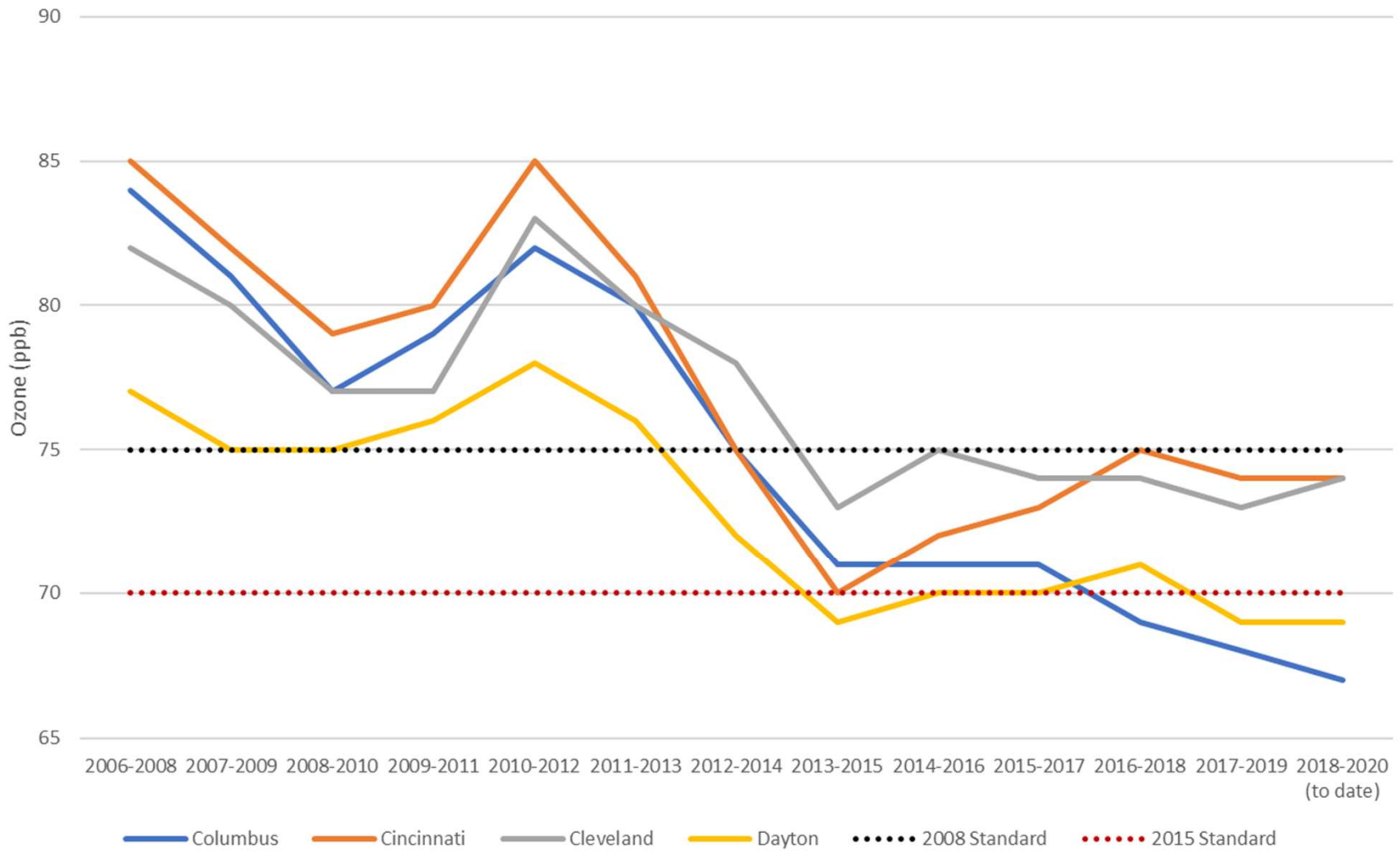
- **Cleveland will not meet standard by end of 2020**
- Required to meet standard (“attain”) by August 3, 2021
 - 2020 is last ozone season before attainment date
- 3 monitors (so far) do not meet standard based on current 2018-2020 design value
 - District 6 (Cuyahoga County) – 71 ppb
 - Mayfield (Cuyahoga County) – 71 ppb
 - Eastlake (Lake County) – 74 ppb
- **Will not qualify for 1-year extension – even with reduced traffic due to pandemic**
 - All monitors in area need 2020 4th high meeting standard (70 ppb or below)
 - District 6 and Eastlake do not meet criteria



Cleveland Ozone Outlook

Site Name	Site Id	County	2014 4th High	2015 4th High	2016 4th High	2017 4th High	2018 4th High	2019 4th high	2020 4th high needed to violate 2015 standard	Current 2020 4th high	Current 2018-2020 Design Value
District 6	39-035-0034	Cuyahoga	71	68	69	69	72	68	73	74	71
GT Craig NCore	39-035-0060	Cuyahoga	66	63	63	61	63	66	84	66	65
Berea BOE	39-035-0064	Cuyahoga	59	66	68	64	66	63	84	66	65
Mayfield	39-035-5002	Cuyahoga	61	72	70	68	75	70	68	68	71
Notre Dame	39-055-0004	Geauga	65	73	74	71	73	68	72	65	68
Eastlake	39-085-0003	Lake	75	74	74	73	76	71	66	75	74
Painesville	39-085-0007	Lake	62	70	69	72	69	69	75	68	68
Sheffield	39-093-0018	Lorain	67	62	68	65	69	58	86	59	62
Chippewa	39-103-0004	Medina	64	63	66	64	66	54	93	64	61
Lake Rockwell	39-133-1001	Portage	61	64	59	65	66	58	89	63	62
Patterson Park	39-153-0020	Summit	58	65	61	66	69	66	78	62	65

Ozone 3-Year Design Value Trends



“Bump-up” Anticipated Timeline

- 8/3/21: Attainment date (marginal)
- ~2/3/22: Bump-up to moderate
 - Required 6 months after attainment date (i.e. 2/3/22)
 - In recent actions for the 2008 standard (going from moderate to serious), U.S. EPA took ~ 1 year to finalize the bump-up
- ~2/3/23: Attainment demonstration due
 - Already past due at time of bump-up (original deadline 8/3/21)
 - U.S. EPA can adjust some deadlines as part of bump-up
 - In recent action extended some SIP deadlines to ~ 1 year after bump-up
- 8/3/24: New (moderate) attainment date (cannot be extended)
 - 2023 is last ozone season before new attainment date

Overview of CAA Ozone Nonattainment Area Planning & Control Requirements by Classification



		NSR Offset Ratio	Major Source Threshold
EXTREME (20 years to attain)	TRAFFIC CONGESTION CONTROLS (if appropriate)	1.5 : 1 Extreme	10 <u>tpy</u>
	CLEAN FUELS REQUIREMENT FOR BOILERS		
SEVERE (15/17 years to attain)	PENALTY FEE PROGRAM FOR MAJOR SOURCES	1.3 : 1 Severe	25 <u>tpy</u>
	VMT GROWTH DEMONSTRATION (& TCMs if needed)		
	VMT REPORTING		
SERIOUS (9 years to attain)	NSR REQUIREMENTS FOR EXISTING SOURCE MOODS	1.2 : 1 Serious	50 <u>tpy</u>
	CLEAN FUELS PROGRAM OR SUBSTITUTE MEASURE FOR LARGER POP. AREAS		
	MODELED DEMO OF ATTAINMENT		
	MILESTONE DEMONSTRATIONS and CONTINGENCY MEASURES FOR RFP		
	3% ANNUAL RFP UNTIL ATTAINMENT		
	ENHANCED I/M for larger population areas		
	CONTINGENCY MEASURES FOR FAILURE TO ATTAIN		
ENHANCED MONITORING PLAN			
MODERATE (6 years to attain)	Stage-II Gasoline Vapor Recovery	1.15 : 1 Moderate	100 <u>tpy</u>
	BASIC VEHICLE I/M for larger population areas		
	15% VOC ROP or 15% VOC/NOx RFP (OVER 6 YEARS)		
	VOC/NOx RACT for MAJOR/CTG SOURCES		
MARGINAL (3 years to attain)	ATTAINMENT DEMONSTRATION	1.1 : 1 Marginal	100 <u>tpy</u>
	NONATTAINMENT NEW SOURCE REVIEW PROGRAM		
	EMISSIONS STATEMENTS		
	BASELINE EMISSIONS INVENTORY (EI)		PERIODIC EMISSIONS INVENTORY UPDATES

NOTE: Transportation and General Conformity apply in all ozone nonattainment areas.

Mandatory Requirements for Moderate Ozone Nonattainment Areas

“Bump-up” from marginal to moderate nonattainment triggers additional requirements under Clean Air Act (CAA):

- Most already in place in Cleveland
 - NO_x Reasonably Available Control Technology (RACT) - OAC Chapter 3745-110
 - Major stationary sources (> 100 tons per year (TPY) potential to emit (PTE))
 - Need to reassess to ensure previously established RACT is still appropriate
 - VOC RACT – OAC Chapter 3745-21
 - Control Technique Guidelines (CTGs)
 - Need to adopt 2016 Oil and Gas CTG
 - Non-CTG VOC RACT
 - Major stationary sources (> 100 TPY PTE)
 - Need to reassess to ensure previously established RACT is still appropriate
 - Emissions Inspection and Maintenance (I/M) Program (i.e. E-Check) - OAC Chapter 3745-26
- Additional challenges permitting new and modified sources
 - NSR offset ratio 1.15:1
 - Baseline year reset



Anticipated Rulemaking Timeline

- RACT revisions (OAC Chapters 3745-110 and 3745-21)
 - Anticipate implementation required by 3/1/23 (beginning of last ozone season before moderate attainment date)
 - ~1 year for rulemaking process
 - Try to provide at least 18 months implementation period
 - Anticipate start rulemaking process (Early Stakeholder Outreach) at the end of this ozone season (i.e. ~November 2020)



Evaluating Possible Control Options

- In the past, primarily relied on federal control measures to meet standards
 - No new federal control measures are planned
 - Need to evaluate additional emissions reductions (beyond mandatory RACT and I/M) to meet standard and avoid another bump-up to Serious Nonattainment

LADCO Projects

- Ongoing projects with Lake Michigan Air Directors Consortium (LADCO) – for information sharing among states
 - Ozone control options analysis
 - Regional, state and nonattainment area analysis of potential control options, including potential emissions reductions and cost effectiveness
 - Expected ~fall/winter 2020
 - NOx/VOC sensitivity analysis
 - Photochemical modeling evaluating sensitivity of ozone to reductions in NOx and/or VOC emissions
 - Expected ~end of 2020
 - NOx RACT workgroup



Summary

- Cleveland will not meet standard by end of 2020, and is not eligible for 1-year extension
 - “Bump up” to moderate expected
- RACT evaluation and rulemaking likely to begin this winter
- Also looking at other sectors for potential controls, based on information from LADCO projects
- Attainment is primary goal



Discussion/Questions

