Air Quality Advisory Committee

July 27, 2022

AGENDA

1:00 – 1:10	Welcome/Meeting logistics *Christine Kirby (DEP)* *Joanne Morin (DEP)*
1:10 – 1:30	MassDEP Update *Glenn Keith (DEP)*
1:30 – 2:00	EPA Update *Patrick Bird (US EPA Region I)*
2:00 – 2:45	Proposal to Increase Title V Operating Permit Fees *Joanne Morin (DEP)*
2:45 – 3:30	Cumulative Impact Analysis (CIA) Draft Framework *Glenn Keith (DEP)*
3:30 – 3:45	Future Meetings/Topics *Joanne Morin (DEP)*

MassDEP Update

- Air Quality Advisory Committee Overview
- New Staff
- Ambient Air Monitoring Update
- Regional Haze SIP Status
- Mobile Source Activities

Update on Permitting and Environmental Justice in Clean Air Act Programs

MassDEP Air Quality Advisory Committee

July 27, 2022

Patrick Bird
Air Permits, Toxics, and Indoor Programs
US EPA Region 1

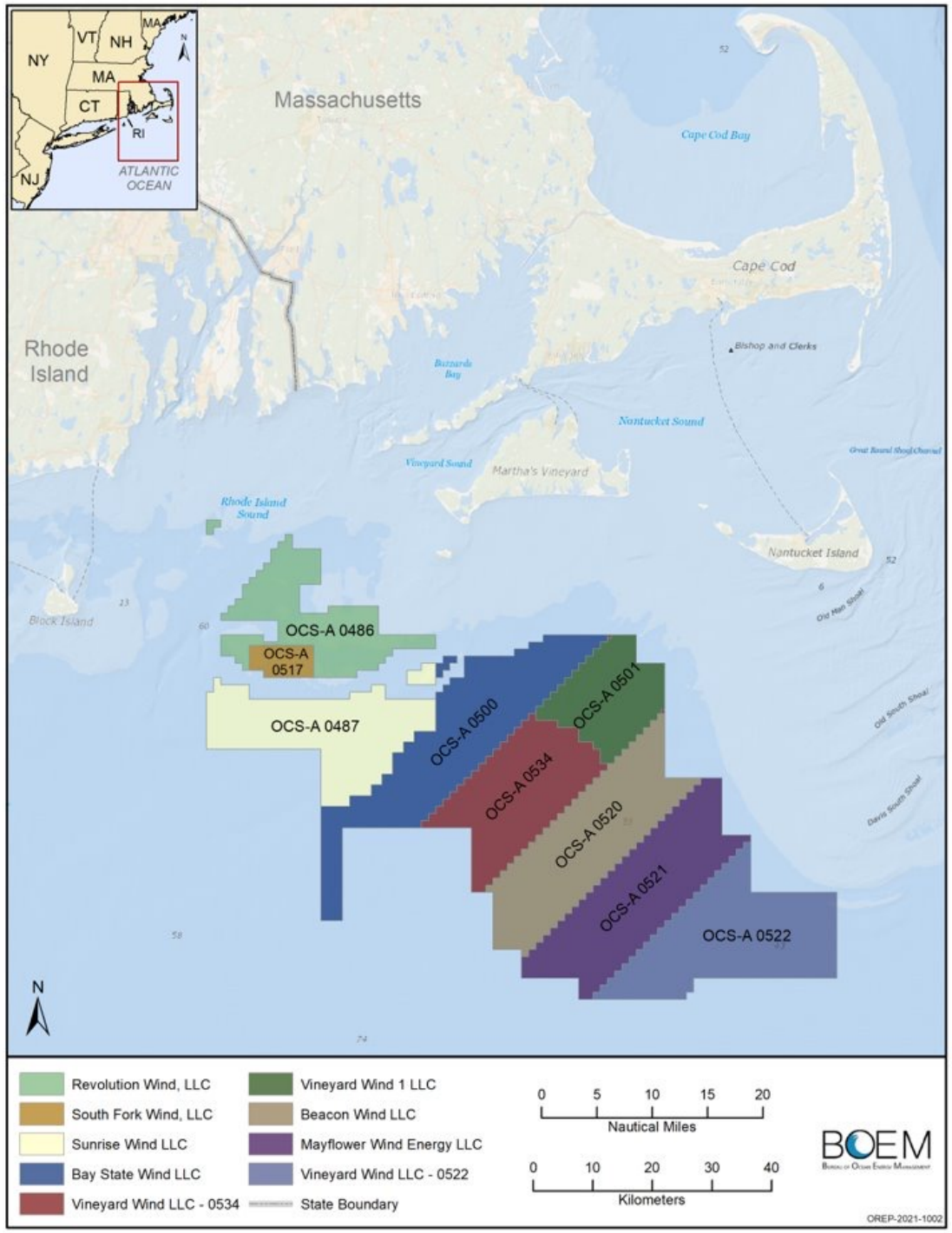
Overview

- Region 1 Updates
- NSR Actual-to-Projected-Actual Applicability Test Memo
- Fugitive Emissions Rule
- Project Emissions Accounting Rule
- Minor NSR Program Provisions
- MM2A & Potential to Emit
- NSPS and NESHAP Rulemakings
- EJ in Clean Air Act permitting and other resources

Region 1 Updates

- Regional Administrator David Cash became our RA in February 2022
- Tremendous amount of ramp up for programs related to American Rescue Plan and the Bipartisan Infrastructure Law
- Dual focus of permitting group on federal oversight of state programs and direct implementation of Outer Continental Shelf permitting

Offshore Wind Projects in Region 1



NSR Actual-to-Projected-Actual Applicability Test Memo

- Memo issued December 7, 2017
- Communicated EPA's intent to implement the regulations and exercise its enforcement authority with respect to the use of the actual-to-projected-actual applicability test
- Four main messages:
  - EPA review of pre-project applicability analyses
  - The role of post-project actual emissions in major modification applicability
  - Consideration of a source's intent to manage post-project emissions in the pre-project projection
  - Determining Excludable emissions
- EPA is reviewing this memorandum under EO 13990

Fugitive Emissions Rule

- 2008 Rule exempted non-listed source categories from considering fugitive emissions in determining major modification applicability
- In 2009, EPA granted an NRDC petition for reconsideration of the 2008 Rule and stayed its effectiveness (76 FR 17548; March 30, 2011)
- Litigation held in abeyance
- EPA is working on a proposal that will address whether all sources, or only sources in listed source categories, must include fugitive emissions towards major modification thresholds
- Target proposal date: summer 2022

Project Emissions Accounting Rule

- Guidance issued March 13, 2018, interpreted the existing NSR regulations to provide for the accounting of both emissions increases and decreases in step 1 of the NSR applicability process (83 FR 13745)
- Final rule codifying PEA effective Dec. 24, 2020 (85 FR 74890; Nov. 24, 2020)
- Received petitions for reconsideration and separate petitions for review in D.C. Circuit filed by NGOs and jointly by several states
- Letter dated October 12, 2021
  - EPA denied the petition for reconsideration on the grounds that the petitioners did not satisfy the requirements of CAA section 307(d)(7)(B)
  - EPA is taking no action at this time on petitioners' request that EPA withdraw the March 2018 memorandum
  - EPA plans to initiate a discretionary rulemaking to address the concerns raised by petitioners
- Litigation held in abeyance
- Target proposal date: Spring 2023

Evaluating Sufficiency of Minor NSR Program Provisions

- EPA is considering a rulemaking to add specificity to the public participation provisions for minor NSR programs, while maintaining flexibility, with the intent to improve the effectiveness and nationwide consistency of minor source permit programs
  - Proposal tentatively planned 2023
- July 8, 2021, OIG Report: EPA Should Conduct More Oversight of Synthetic Minor-Source Permitting to Assure Permits Adhere to EPA Guidance
  - Update Agency guidance on practical enforceability of PTE limits
    - Develop and implement a synthetic minor permitting oversight plan
    - Revise the Agency's guidance to communicate its key expectations for synthetic-minor-source permitting to state and local agencies
  - Identify state/local/tribal agencies in which state CAA permit program implementation fails to adhere to the public participation requirements for synthetic-minor-source permit issuance and take appropriate steps

MM2A and Potential to Emit

- Part of the reconsideration of Reclassification of Major Sources as Area Sources under Section 112 Rule (MM2A) promulgated November 19, 2020 (see 85 FR 73854); effective January 19, 2021
  - Final rule changed “federally enforceable” to “enforceable” but did not finalize proposed amendment to PTE definition in 40 CFR Part 63
  - EPA proposed, but did not take final action on the definition of PTE, to define “legally and practicably enforceable” PTE limits, or to establish effectiveness criteria for those limits, deferring that to a separate future action
  - EPA received comments from stakeholders on the proposed effectiveness criteria and proposed amendments to 40 CFR 63.2, including the interactions and effects of the proposed amendments with other CAA programs, including NSR and title V
- EPA is reconsidering the MM2A final rule under EO 13990
- Target proposal date: early 2023

NSPS and NESHAP Rulemaking

- Pre-proposal
  - Ethylene Oxide Commercial Sterilizer NESHAP
- Proposed Rules
  - Gasoline Distribution major source and area sources NESHAP (87 FR 35608)
  - Bulk Gasoline Terminals NSPS (87 FR 35608)
- Final Rules
  - Major Source Boiler MACT NESHAP (signed but not published)
  - Stationary Combustion Turbine NESHAP - stay lifted (87 FR 13183)
  - Landfill NESHAP, NSPS, EG, Federal Plan (87 FR 8197)
  - 1-BP added as a HAP (87 FR 393)

Environmental Justice

- EPA has made it a priority to infuse equity and environmental justice principles and priorities into all EPA practices, policies, and programs
  - EPA has defined environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies”
  - EPA is assessing how to address potential environmental justice concerns in rulemakings, SIP reviews, and permitting
- Relevant Directives and Memoranda
  - EO 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government
  - EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis
  - EO 14008, Tackling the Climate Crisis at Home and Abroad
  - April 7, 2021, Message from Admin. Regan to all EPA offices
  - May 5, 2022, Memorandum from Asst. Attorney General: Comprehensive Environmental Justice Enforcement Strategy
  - June 13, 2022, Memorandum from Admin. Regan: Holding Ourselves Accountable for Implementation of the FY2022-2026 EPA Strategic Plan and EPA’s Equity Action Plan

EJ in Clean Air Act Permitting

- Identifying best practices for promoting meaningful engagement with communities
- Identifying communities of concern, developing appropriate analytical tools and safeguards
- EPA Regions have been commenting on selected permits to recommend that the permitting authority undertake discretionary consideration of EJ consistent with these principles
- Example EPA comment letters
  - Ajax Materials Corp. (MI)
  - Fulcrum Centerpoint (IN)
  - Becton, Dickinson and Co. (AZ)
  - Suncor Energy, Inc. (CO)

Other Resources

- EPA Legal Tools to Advance Environmental Justice
  - https://www.epa.gov/ogc/epa-legal-tools-advance-environmental-justice
- EJScreen 2.0
  - https://www.epa.gov/ejscreen
- Office of Research and Development – cumulative impacts research
  - https://www.epa.gov/healthresearch/cumulative-impacts-research
- Grants opportunities

Questions and Comments?

Patrick Bird
bird.patrick@epa.gov
617-918-1287
Air Permits, Toxics, and Indoor Programs
US EPA Region 1

Proposal to Increase Title V Operating Permit Fees

Proposed Increase in OP Fees Overview

- Amend 310 CMR 4.00 Timely action Schedule and Fee Provisions
- Fully fund MassDEP OP Program, as required by federal Clean Air Act (CAA), by collecting $3.1 million in annual revenue
- OP fee include base fee and emissions fee
- Include state and municipal OP facilities
- Eliminate initial OP application fee

Federal Clean Air Act Title V

- Title V of 1990 CAA amendments established the OP Program and EPA adopted the OP Program regulations at 40 CFR Part 70 for states to implement
- State OP program required for major sources of air pollution
- OP facility fees required to fully fund program costs
- OP is compilation of all air quality requirements for a facility, including monitoring, reporting and recordkeeping

  - Enables facility, regulators, and public to know all air requirements facility must meet to comply with CAA

- EPA approved MassDEP OP program in 2001, including permit regulations (310 CMR 7.00: Appendix C) and fees (310 CMR 4.00)
- MassDEP last updated OP fees in July 2000

OP Fee Funding a National EPA Concern

- 2014 - EPA Office of Inspector General (OIG) issued report raising concerns about states declining OP fee revenue and use of non-Title V revenue to fund programs
- 2022 – EPA OIG issued report raising same concerns
- EPA Region 1 has asked MassDEP to address insufficient OP fee revenue and OP renewal backlog

Title V Funding Requirements

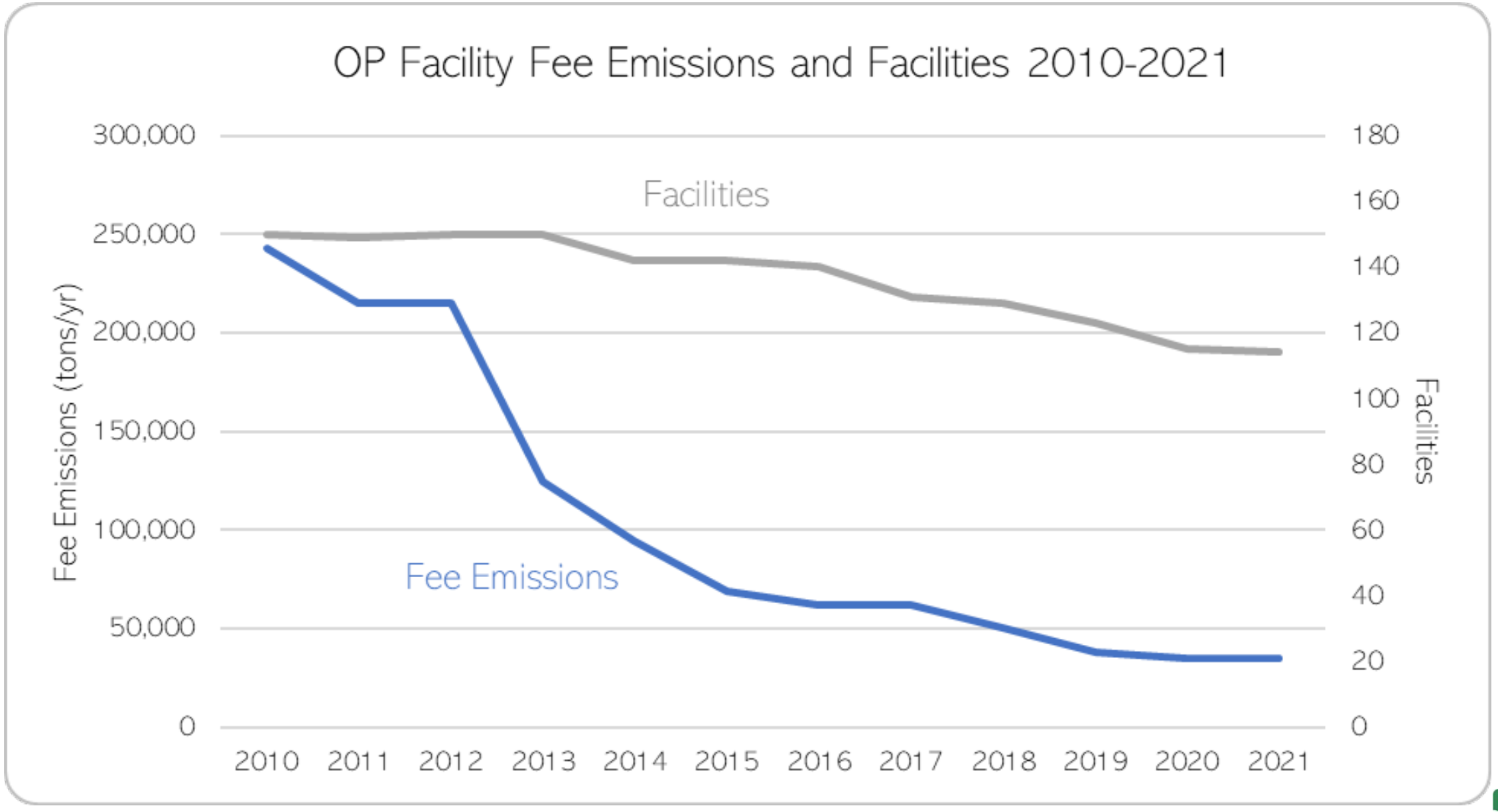
- All OP facilities required to pay annual fees
- Fees used solely to fund OP program costs
- Fees high enough to cover full OP program costs, which include
  - development of regulations and guidance, permit application review, semi-annual and annual report review, compliance and enforcement, emissions and ambient monitoring, modeling and analyses, inventory development and emission tracking, and general administration of OP program

MA OP Fee Revenue Below Most Other NE States

New England State OP Fee Revenue / Estimated $/Ton			
State	OP Sources in 2020	2020 Revenue	$/Ton for 2020
MA	112	$575,000	$47.89
CT	64	$3,010,000	$418.00
RI	37	$769,976	$376.45
VT	14	$164,961	$72.26
NH	35	$1,889,050	$346.31
ME	49	$1,820,010	>$51.06

MassDEP Air Operating Permit Program 2001 - 2021

	2001	2021	Delta
Cost of an average FTE	$91,316	$181,062	98% increase
# of OP Facilities	206	107	48% decrease
Revenue collected Annual Fee	$2,943,000	$569,500	81% decrease
Tons of Fee Emissions	110,152	34,925	68% decrease
Workload/Applicable Requirements	Over 300 new federal standards promulgated as a result of the 1990 CAA		


OP Facility Fee Emissions and Facilities 2010-2021
Fee Emissions (tons/yr)
300,000
250,000
200,000
150,000
100,000
50,000
0
Facilities
180
160
140
120
100
80
60
40
20
0
Facilities
Fee Emissions
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021


Annual OP Fees 2001-2021
Fees ($/yr)
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
$2,943,000
$569,500
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021

Funding Estimate

- 9 FTEs implementing current program (6.5 FTEs in Regions and 2.5 FTEs in Boston)
- 17 FTEs needed to fully implement program (13.5 FTEs in Regions and 3.5 FTEs in Boston)
  - 17 FTEs x $181,062* = $3.1 million in annual fee revenue
- Equals 0.16 FTE / OP Facility (17 FTEs / 105 OPs)

* 2021 average fully loaded FTE (includes direct and indirect costs)

OP Fee Formula

- Based on initially collecting program cost of $3.1 million annually
- Base Fee = 25% of program cost ($775,000 initially) divided by number of OP facilities (105)
- Emissions Fee = % each OP facility's 3-year average emissions relative to all OP facility emissions multiplied by 75% of program cost (initially $2,325,000)
- Program cost reduced as OP facilities exit program (by amount exiting OP facility most recently paid)
- Review regulation every 3 years

Estimated Increases by Current Fee Categories

Facility Category	Range Of Fee Increase per Facility	Total Fee Increase for Category
Categorical Emitters	$781 - $383,334	$1,476,140
Emissions >5000 tons	NA	NA
Emissions 250-5000 tons	NA	NA
Emissions 100-250 tons	$26,447-$48,839	$330,051
Emissions <100 tons	$4,831-$22,375	$638,570
State and Municipal Facilities*	$7,381- $20,426	$155,740
Total		**$2,600,500**

* Not included in current regulation

Estimated Fee Increases by Emissions

Facility Emissions (3 year average)	Range of Fee Increase per Facility	Total Fee Increase for Category	% of Total Increase
250 - 5000 tons (6 facilities)	$74,328- $383,334	$1,220,346	47%
Emissions 100 - 250 tons (13 facilities)	$26,447- $48,839	$436,304	17%
Emissions <100 tons (88 facilities)	$781 - $21,648	$943,851	36%
Total		**$2,600,500**	

Municipal and State Facility Fee Applicability

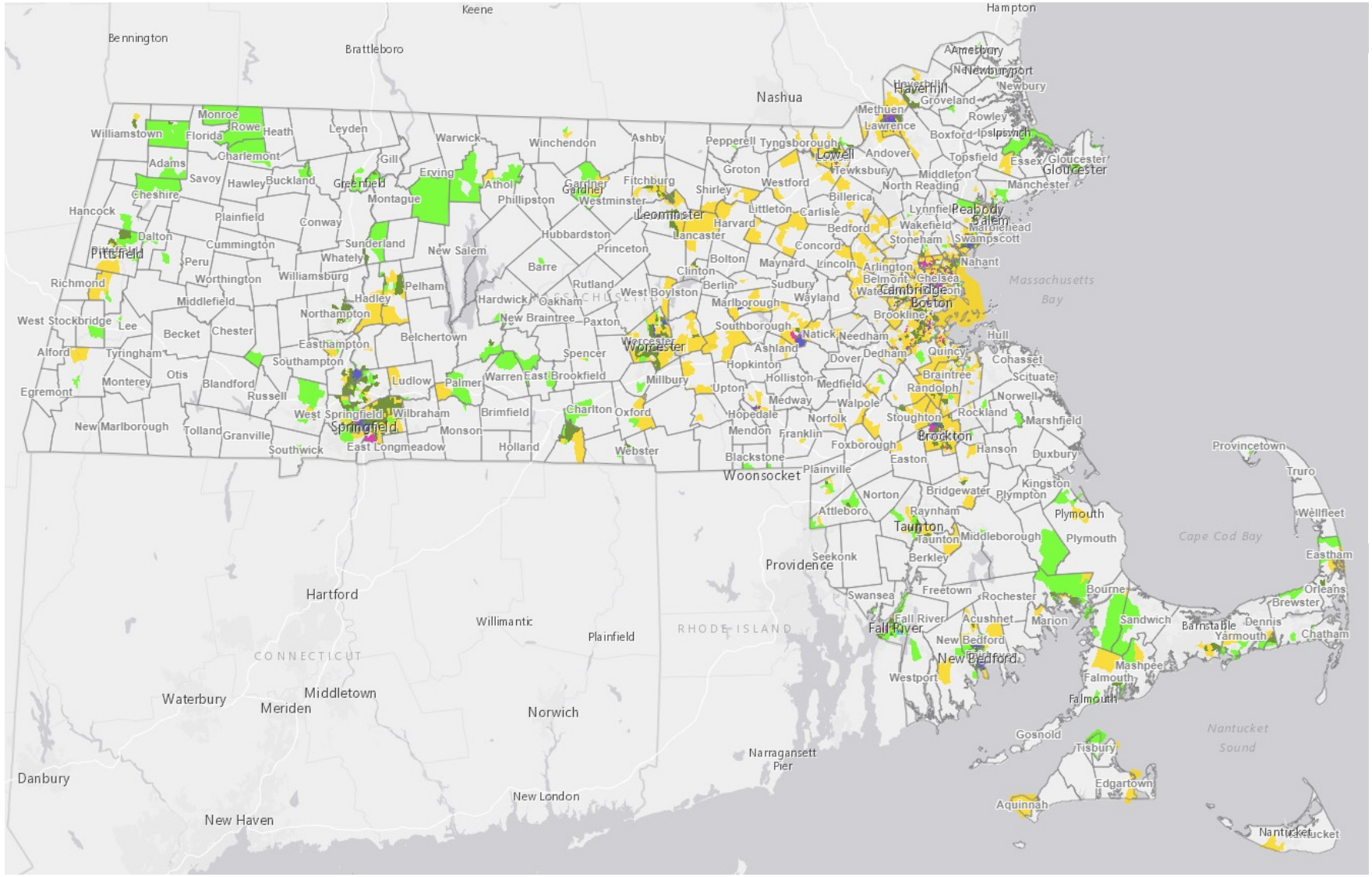
- CAA requires OP Program be fully supported by fees to be paid by all facilities subject to the Act
- M.G.L. Chapter 21A Section 18 exempts municipalities and state agencies from paying annual compliance fees
- M.G.L. Chapter 21A Section 18(n) states that federal requirements take precedence
- Propose to eliminate fee exemption for municipal and state OP facilities to comply with federal CAA so these facilities would share the cost of the OP program

Cumulative Impact Analysis (CIA) Draft Framework

Climate Roadmap Law

- Directs MassDEP to evaluate and seek public comment on incorporating cumulative impact analyses into certain permits, and to propose regulations within 18 months requiring cumulative impact analysis in certain air permits.
- Directs MEPA to require an environmental impact report for any project located near environmental justice (EJ) populations to assess whether there is an existing unfair or inequitable environmental burden and related public health consequences, and how the proposed project might result in a disproportionate adverse effect on the EJ population.

EJ Populations by Census Tract



- Minority: the block group minority population is >= 40%, or the block group minority population is >= 25% and the median household income of the municipality the block group is in is < 150% of the Massachusetts median household income
- Income: at least 25% of households have a median household income 65% or less than the state median household income
- Language isolation: 25% or more of households do not include anyone older than 14 who speaks English very well
- Minority and income
- Minority and English isolation
- Income and English isolation
- Minority, income and English isolation

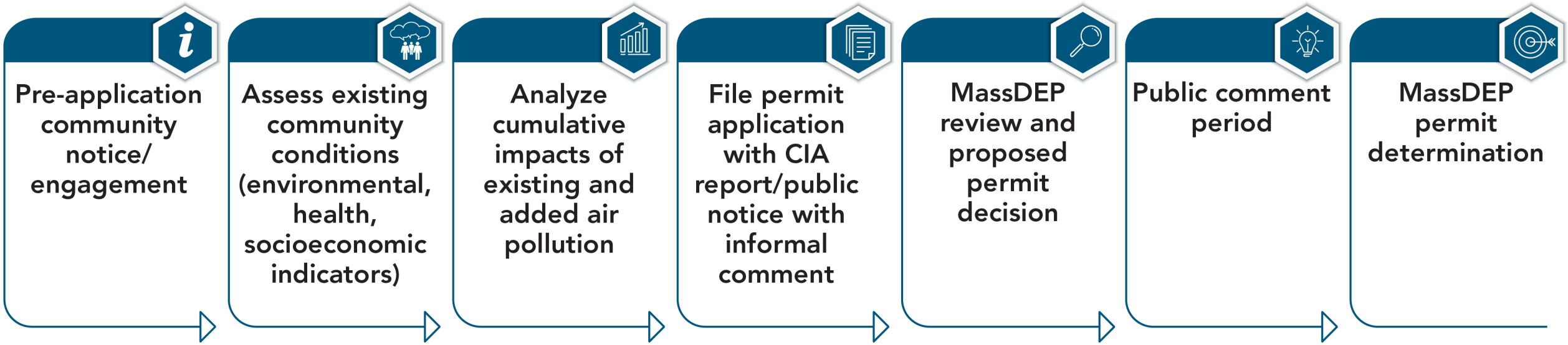
Stakeholder Process to Date

- Held six sets of public stakeholder meetings
  - What types of air permits should require a CIA?
  - What types of impacts should be included in a CIA and how should a CIA be conducted?
  - What criteria should MassDEP use to make permit decisions? Should criteria be quantitative or qualitative (or both)?
- At April stakeholder meetings presented draft CIA framework
- Materials posted on MassDEP website: https://www.mass.gov/info-details/cumulative-impact-analysis-in-air-quality-permitting
- Hired Abt Associates to provide technical support and ERG to provide public involvement support

Applicability

- New facility that requires a comprehensive plan application (CPA) in or near Environmental Justice (EJ) Populations
  - Non-major CPAs in or within 1 mile of EJ population
  - Major CPAs in or within 5 miles of EJ population
- Existing facility with an approved CPA that requires new or modified CPA if emissions would increase above de minimis plan approval threshold (i.e., ≥ 1 ton/year)

Cumulative Impact Analysis Steps



Future Program Review

Pre-Application Community Notice / Engagement

- 60 days prior to submitting a permit application, applicant would notify MassDEP Regional Office, MassDEP EJ Director, local officials and affected community about proposed project.
- Applicant would prepare fact sheet and conduct outreach to the affected community.
- Similar to MEPA's pre-filing commence engagement with affected EJ community.

Assess Existing Community Conditions

- Applicant would collect data on available environmental, health, and socioeconomic indicators to characterize the affected community
- Community assessment would include data tables, maps of indicators, and include a narrative of community conditions
- Community input would inform the community assessment

Assess Existing Indicators

Pollution Burden	
Air Quality Indicators (EJScreen) ▪ PM2.5 ▪ Ozone ▪ Diesel PM ▪ Air Toxics Cancer Risk ▪ Air Toxics Respiratory Hazard Index ▪ Traffic Volume and Proximity * Under consideration	**Regulated Site Proximity (DPH EJ Tool/EJScreen)** ▪ Air permitted sites ▪ Solid waste facilities ▪ Large quantity hazardous waste generators ▪ Large quantity toxic users ▪ Toxics Release Inventory sites ▪ Hazardous waste treatment, storage, and disposal facilities ▪ Wastewater Treatment Plants ▪ Energy generation and supply ▪ Large fuel depots ▪ Ports, airports, rail infrastructure **Climate Indicators (RMAT)** ▪ Impervious surfaces * ▪ Tree canopy *

Assess Existing Indicators

Population Characteristics / Vulnerabilities

Health Indicators (MDPH EJ Tool)

- Asthma – pediatric emergency department visits
- Heart attack (myocardial infarction) – hospitalizations
- Elevated blood lead – elevated BLLs for ages 9-47 months
- Low birth weight – full term singleton births <2500 g
- Elementary school asthma prevalence
- Low life expectancy* (EJScreen)

* Under consideration

Socioeconomic Indicators (MDPH EJ Tool)

- Poverty/low-income
- Community of Color
- English language isolation
- Unemployment* (EJScreen)
- Younger (< 5 years old)* (EJScreen)
- Older (>65 years old)* (EJScreen)
- Renter occupied housing* (EJScreen)

Sensitive Receptor Locations (MDPH EJ Tool)

- Schools (k-12)
- Child/Day care and pre-schools
- Long-term care residences
- Public housing* (EJScreen)
- Prisons* (EJScreen)

MassDEP

Conduct Cumulative Air Quality Analysis

- Air Quality Analysis would include:
  - Cumulative impacts of existing and added air pollution through air dispersion modeling and evaluation of significant local traffic/transportation emissions
  - Comparison to standards and risk management criteria
  - Display modeling results to graphically show concentrations of pollutants at specific distances from the facility
  - Describe effect of project on existing community
- Considering lower air standards and risk management criteria for certain more vulnerable EJ populations

Criteria Pollutant Air Dispersion Modeling

- Include emissions from facility
- Include emissions from nearby permitted air sources
- Include background data from MassDEP air monitoring network
- Compare to National Ambient Air Quality Standards (NAAQS) (or lower standards in certain EJ communities to be determined)

Air Toxics Modeling and Risk Characterization

- Include all emissions from facility
- Include emissions from nearby permitted air sources
- Analyze cumulative risk of air toxics
  - Initial screening for combined toxics to ensure below cumulative risk management criteria of < 10 in 1 Million excess lifetime cancer risk and hazard index of 1 (or lower risk management criteria for certain EJ populations to be determined)
  - Conduct detailed risk characterization if screening does not meet risk management criteria

Evaluate Traffic / Transportation Emissions

- Conduct evaluation of significant local traffic / transportation emissions which could include:
  - US Department of Transportation traffic volume and proximity
  - National modeled concentrations of traffic / transportation emissions
- On-going research is needed for methods and approaches for community-level traffic / transportation emissions

Impacts of Project on Community Conditions

- Description of potential impact of emissions on existing conditions in the community based on the indicators
- If applicable, consideration of any relevant analyses or findings made during the MEPA review process, including any finding of disproportionate adverse effect
- Description of potential impacts would be a qualitative analysis

Permit Application with CIA Report

- After conducting the CIA, the Applicant would file the air permit application, including CIA, with MassDEP
- MassDEP would notify the affected community of the availability of the application and begin its review
  - Community can submit comments for MassDEP to consider during its review
- After its review, MassDEP would issue a proposed permit decision for formal 60-day public comment period
- After the public comment period, MassDEP would issue a final permit decision – approve, approve with conditions, or deny

What is New in CIA Permit Process

- Pre-application community notice and stakeholder engagement
- Assessment of existing community conditions
- Double the current the number of air toxics evaluated
- Cumulative air toxics air dispersion modeling and risk characterization
- Consideration of significant traffic and other transportation emissions
- More detailed air dispersion modeling results to increase transparency and understanding of potential risks
- Description of potential impacts on community conditions and possible mitigation actions
- Opportunity to comment on CIA / permit application during MassDEP review
- Extension of formal public period from 30 to 60 days

Steps Needed to Operationalize

- Develop risk screening tool and update toxicity data
- Develop CIA implementation guidance (community engagement, use of risk screening tool, air dispersion modeling, evaluation of transportation emissions, overall CIA process)
- Update data systems to ensure data needed to conduct CIA is accessible to permit applicants, consultants, and public
- Develop training for private sector and for MassDEP air permit staff