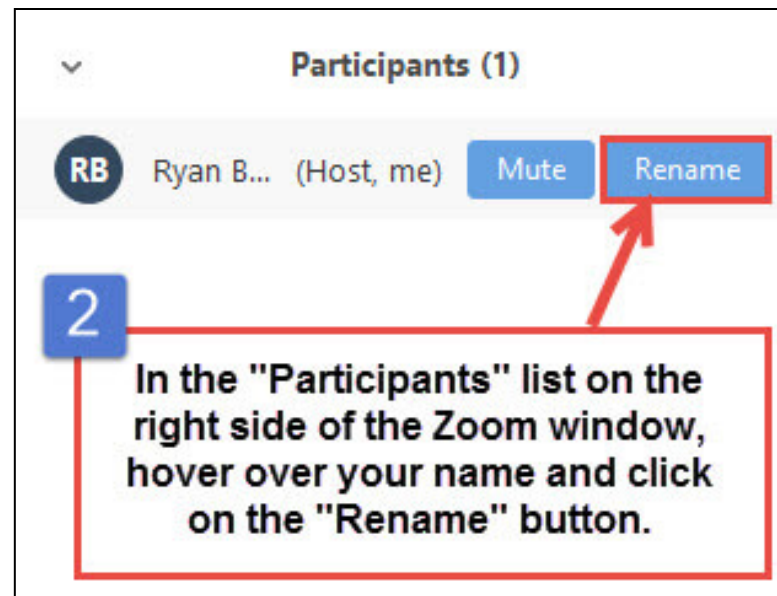
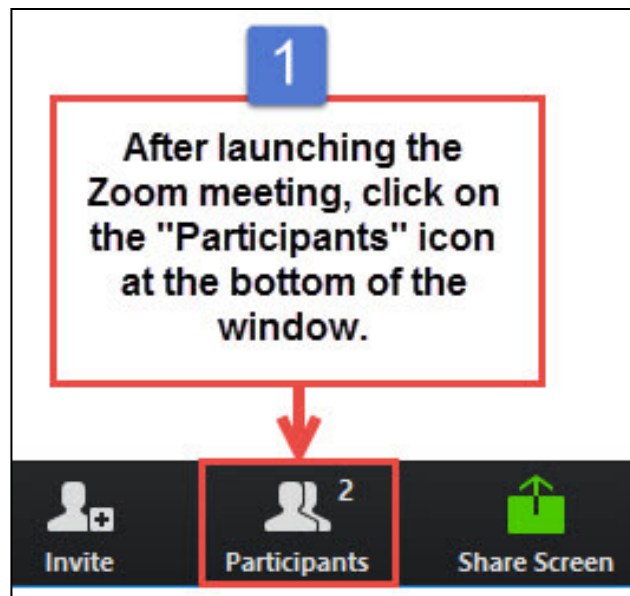


Zoom Meeting Logistics

This meeting is being recorded.

To minimize background noise, attendees are on mute.

Please enter your full name in the Participants panel.

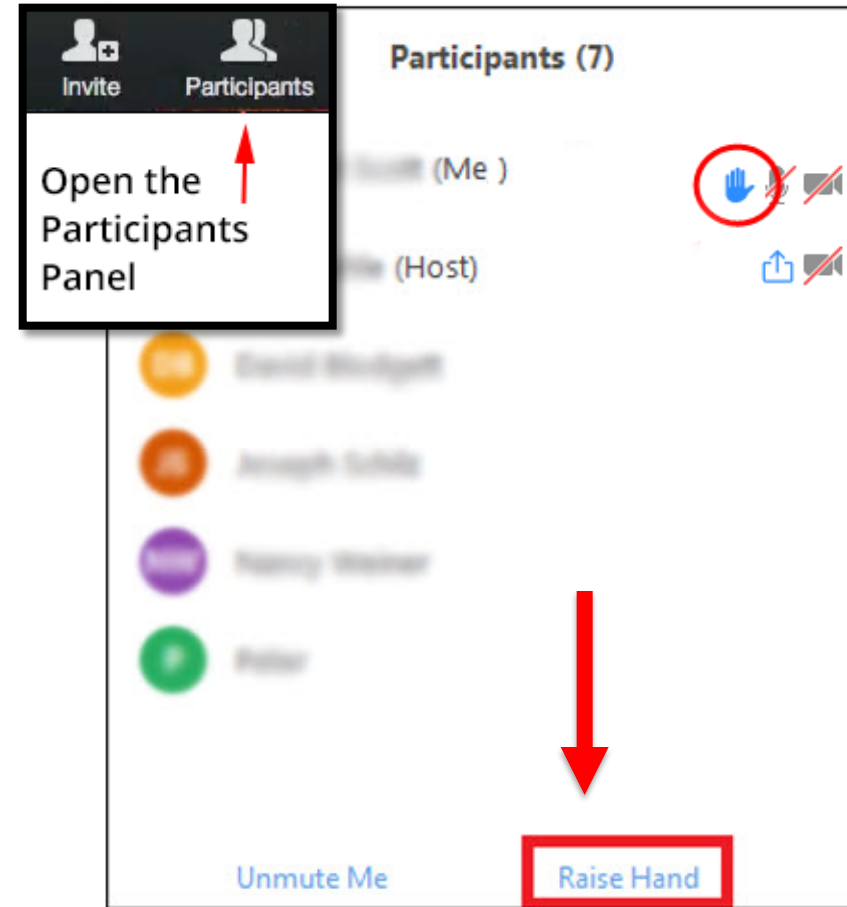


How to Participate via Zoom

Raise your virtual hand.

When it's your turn we will:

1. Notify you by chat.
2. Announce your name.
3. Unmute you and lower your raised hand.



CUMULATIVE IMPACT ANALYSIS

Stakeholder Meeting
October 26 & 27, 2021



Welcome

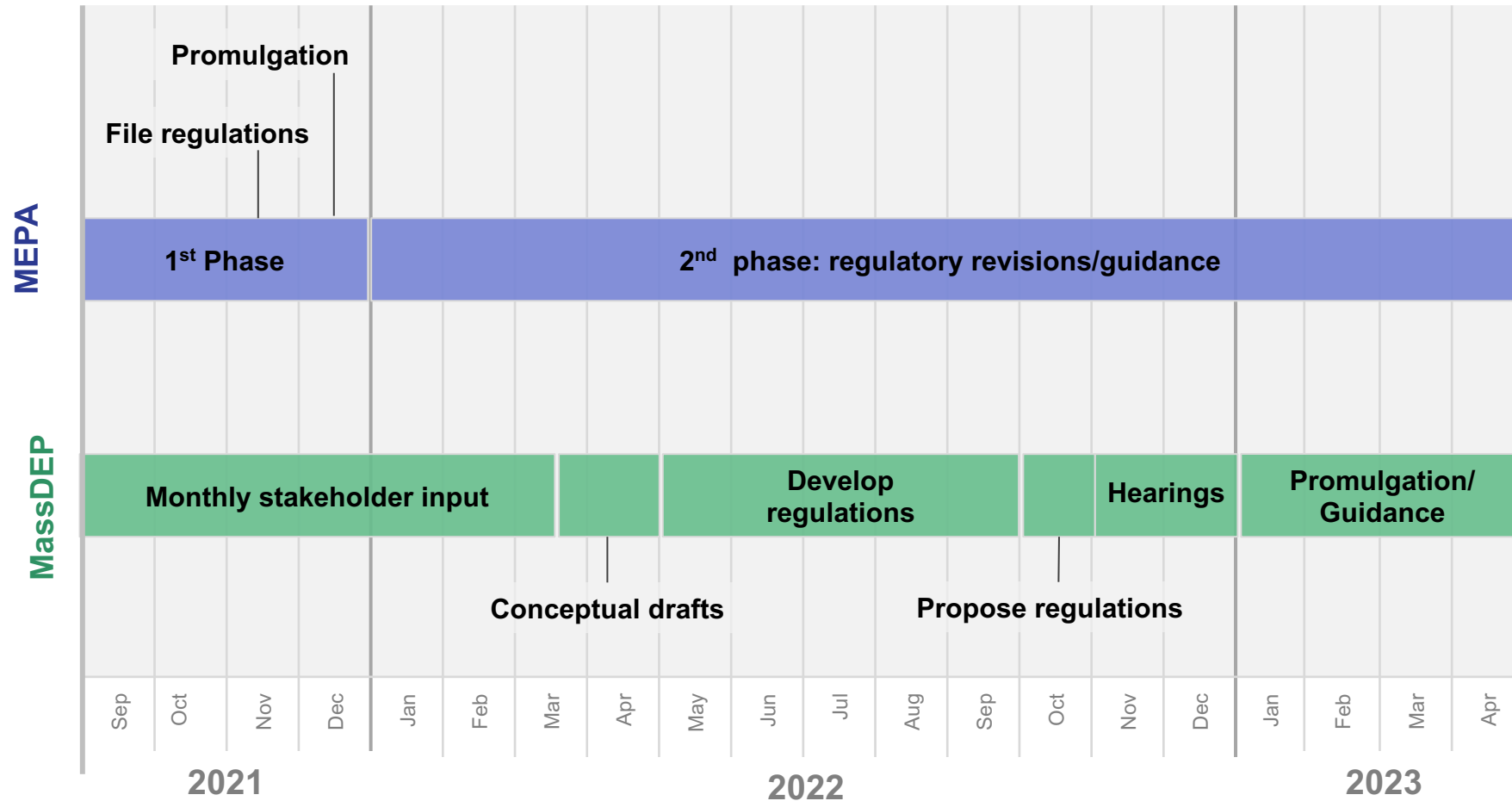
Assistant
Commissioner
Christine Kirby



Agenda

- Federal and State Regulations
- Permit Types
- Plan Approval Process
- Other Permits
- Examples
- Discussion – What Permits Should Require CIA
- MEPA Interim Proposal
- Next steps

Where we are



Purpose of Today's Meeting - Stakeholder Input on:

Which Air Permits Should Require CIA?

MassDEP “*shall propose regulations to include cumulative impact analyses for defined categories of air quality permits identified through the evaluation and public comment process.*”

Questions for discussion

- What types of air quality permits should require a cumulative impact analysis (CIA)?
- Should a cumulative impact analysis be required only for air permits in or near environmental justice communities?
- Should a cumulative impact analysis be required if the air permit will reduce emissions?

Permitting.....

.....Is Complicated!

- Federal and State regulations
- Factors that determine the permitting process
 - Type of operation/facility?
 - Where the facility is located?
 - What will be emitted?
 - How much will be emitted?
 - How emissions will be controlled?

Federal and State Regulations



Federal Air Permitting Regulations

- U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (**NAAQS**) for six criteria pollutants
 - Ozone, particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, lead
- EPA established major source permit program to meet air quality standards
- States required to develop State Implementation Plans (SIPs) to meet NAAQS, including **state permitting programs** (major and minor source permitting)
- EPA established hazardous air pollutant (“**air toxics**”) regulations that set emissions standards and pollution control technology requirements for major and minor sources
- EPA requires **Operating Permits** for major sources which is a compilation of all permitting requirements for a source

MassDEP Air Quality Regulations

- Developed in response to federal clean air requirements but also based on state law and needs
- MassDEP protects air quality many ways
 - Stationary source standards and permits
 - Nuisance prohibitions (e.g., noise, dust, odor)
 - Vehicle programs
 - Grants for electric vehicles, charging stations, cleaner vehicles & engines
 - Air quality monitoring
 - Greenhouse gas reduction programs

Permit Types



Stationary Source Air Permits

- Apply to a source (facility or project) that has the potential to emit air pollutants above certain thresholds
- Not all stationary sources of air pollutants require a permit
 - Emissions below thresholds
 - Emissions meet emissions caps and other operational requirements (“permit-by-rule”)
- Some “permits” do not require upfront approval (e.g., compliance certifications)
- A source may have several different pieces of equipment that emit pollutants, with different permits, compliance certifications, or no permit
- All sources subject to air regulations, whether requiring a permit or not, are subject to MassDEP inspection and enforcement

“Permit by Rule”

- Regulations specify emissions caps and use limitations, record keeping, and monitoring for specific types of equipment (no physical permit or MassDEP approval required)
- Examples include:
 - Paint spray booths
 - Rock crushing equipment replacement
 - Biotech surface disinfection processes
 - Temporary boilers
 - Small solvent degreasers
 - Fuel cells

Compliance Certifications

- Regulations specify air pollution control equipment/performance standards, operating requirements, testing, record-keeping and submission of compliance certification (no MassDEP approval required)
- Environmental Results Program (ERP)
 - Dry cleaning (if using perchloroethylene) – annual certification
 - Commercial Printing (if using inks/solutions with volatile organic compounds) – annual certification
 - Emergency and non-emergency engines and turbines – one-time certification
 - Small boilers – one-time certification
- Fuel dispensing facilities (e.g., gasoline stations) – annual certifications

Types of Stationary Source Permits

- Plan Approval (majority of permits)
 - Limited Plan Approval (LPA) – for smaller, simpler sources
 - Comprehensive Plan Approval (CPA) – for larger, more complex sources
- Federal Major Sources
 - Non-Attainment Review
 - Prevention of Significant Deterioration – federal regulation
- Operating Permits – major sources (and certain other sources)
- Emission Control Plans – certain major sources
- Restricted Emissions Status – voluntary cap of emissions to avoid major source designation

Plan Approval Process



Federal and MA Permit Thresholds

- Federal Major Source thresholds applicable in MA
 - VOCs 50 tons per year
 - NO_x 50 tons per year
 - Any other criteria pollutant 100 tons per year
 - Individual hazardous air pollutant 10 tons per year
 - Combined hazardous air pollutants 25 tons per year
- MA Permit thresholds
 - CPA ≥ 10 tons per year
 - LPA ≥ 1 ton per year < 10 tons per year

Comprehensive Plan Approvals

- For larger, more complex projects
- Thresholds
 - Fuel utilization – thresholds based on heat input of fuel combusted (e.g., natural gas or distillate oil); includes large boilers, furnaces, power plants, waste combustors, etc.
 - Process – a process that has potential emissions of ≥ 10 tons or more per year
 - Non-emergency engines and turbines that cannot comply with compliance certification option
- Requires Best Available Control Technology (BACT)
- Must meet all state and federal requirements
- Must not create nuisance (e.g., noise, dust, odor)
- Enhanced outreach to EJ communities upon submission of application
- Requires public comment period
- Generally requires air quality / sound modeling

Comprehensive Plan Approval (cont.)

- Two types of Comprehensive Plan Approvals
 - **Non-major** if below federal major source thresholds (i.e., minor source)
 - **Major** if above federal major source thresholds
- Air Dispersion Modeling to demonstrate
 - Impacts from criteria pollutant emissions do not exceed NAAQS
 - Toxic emissions impacts from project below air guidelines
- Sound Modeling to identify impacts and demonstrate mitigation of suppressible sound
- Comprehensive Plan Approval for a simple project may not require air dispersion or sound modeling (e.g., no emissions increase)

Limited Plan Approvals

- For smaller, simpler projects
- Thresholds
 - Fuel utilization – based on heat input/hour of fuel combusted (e.g., boiler rated at 30 million British thermal unit/hour natural gas)
 - Process – potential emissions of > 1 Ton to <10 tons tons per year (e.g., coating operation emitting 8 tons of volatile organic compounds per year)
- Requires best available control technology
- Must meet all state and federal requirements
- Must not create nuisance (e.g., noise, dust, odor)
- Rarely requires air quality modeling
- Does not require public comment period

Plan Approvals Comparison

Criteria/Requirements	Limited Plan Approvals	Comprehensive Plan Approvals
Source type	For smaller, simpler projects	For larger, complex projects
Threshold	<p>Fuel utilization based on heat input/hour of fuel combusted (e.g., boiler rated at 30 million British thermal unit/hour natural gas)</p> <p>Process that has potential emissions of > 1 Ton to <10 tons per year (e.g., coating operation emitting 8 tons of VOCs)</p>	<p>Fuel utilization based on heat input of fuel combusted (e.g., natural gas or distillate oil); includes large boilers, furnaces, power plants, waste combustors, etc.</p> <p>Process that has potential emissions of ≥ 10 tons or more per year</p> <p>Non-emergency engines and turbines that do not use compliance certification option</p>
Best available control technology	☑ Required	☑ Required
Meets all federal and state requirements	☑ Required	☑ Required
Requires air quality/sound modelling	☒ Rarely Required	☑ Required (most times)
Must not create nuisance (noise, dust, odor)	☑ Required	☑ Required
Requires public comment period	☒ Not required	☑ Required
EJ Enhanced Public Outreach	☒ Not required	☑ Required

Other Permits

MassDEP



Emission Control Plans

- Emission Control Plans document how a source will use pollution control technologies or operational strategies to reduce emissions
- Required for certain facilities that must meet new more stringent emissions requirements
 - Municipal waste combustors
 - Existing major sources of nitrogen oxides and sources of volatile organic compound
- Required to establish monitoring plan for CO₂ power plant trading program

Operating Permits

- Required for major sources and certain other sources
- Operating Permit **does not establish substantive requirements** but is a compilation of all requirements that apply to the source that are established in permits and applicable regulations
- New facility must apply for initial Operating Permit within 1 year of starting operation - good for five years
- Existing facility must apply for Renewal of Operating Permit at least six months prior to expiration of existing permit

Permit EJ Community Engagement

- MassDEP requires enhanced EJ community engagement for
 - Comprehensive plan approvals
 - Emission Control Plans
- Engagement includes early outreach to potentially affected EJ communities and preparation of Permit fact sheet in permit application

Examples



Number of Compliance Certifications

1,315	Emergency engines
78	Non-emergency engines
198	Boilers
398	Printers
171	Dry Cleaners
3,204	Fuel dispensing facilities

Number of Stationary Sources

466	Facilities with LPA permits only
492	Facilities with CPA permits only
<u>233</u>	Facilities with a combination of LPA/CPA permits
1,191	Total

Permits Issued over the Past 5 Years

Permit Type	2016	2017	2018	2019	2020	Total
LPA	34	39	30	31	21	155
Non-major CPA	29	22	23	45	31	150
Major CPA	2	2	1			5
Emission Control Plan		2	4	4	5	15
Operating Permit Renewal	4	3	9	7	11	34
Initial Operating Permit	1	3				4

Examples of LPAs

Precious Metals Processing – operation of a new silver refining line; use of existing wet scrubber to limit nitrogen oxides emissions to 1.34 tons per year (TPY)

Commercial Laundry – replacement and addition of 3 new dryers to launder uniforms and shop towels with requirements for pollution prevention; limit VOC emission < 6.18 TPY and HAPs to < 0.43 TPY

Medical device manufacturer – increased use of iso-propyl alcohol for cleaning to meet production needs; increase of VOCs from 6.8 to 11.3 TPY

New Pharmaceutical Manufacturer – new state-of-the-art facility; limit to 35 production batches per year with emissions < 8.16 TPY VOCs, <0.02 TPY ammonia, < 2.12 TPY HAPs

Meat Processing Facility – existing ovens controlled with a thermal oxidizer - install 2 new batch smoker ovens 2.94 TPY PM, 2.51 TPY VOC, 0.12 HAPs

Materials Engineering – replacement of a caustic scrubber for an acid wash process

Examples of CPAs

Manufacturer - status change of existing emergency engine to non-emergency engine

University – new natural gas fired boiler at existing combined heat and power plant

Cemetery – four additional cremation units

Farm – new biogas to energy system (i.e., anerobic digester and engine to produce electricity)

Municipal waste combustor – new fabric filter/baghouse to control particulate emissions

Examples of CPAs cont.

Abrasive Manufacturer – new combined heat and power plant

Landfill – new flare to control methane emissions from landfill

Golf ball Manufacturer – new spray booth for new solvent-based coating and associated operational changes

Aviation Manufacturer – modification of three existing jet engine test cells to meet production changes

Power Plant – new 350 mega-watt natural gas fired simple cycle turbine at existing power plant



Engine housing
for a landfill gas to
energy facility



Anerobic digester
at a farm can be used
to produce electricity



Combined heat
and power plant
at a hospital





An electric
generating
power plant

Which Air Permits Should Require CIA?

MassDEP “*shall propose regulations to include cumulative impact analyses for defined categories of air quality permits identified through the evaluation and public comment process.*”

Questions for discussion

- What types of air quality permits should require a cumulative impact analysis (CIA)?
- Should a cumulative impact analysis be required only for air permits in or near environmental justice communities?
- Should a cumulative impact analysis be required if the air permit will reduce emissions?

Which Permits Should Require a CIA?

Permit	Factors to Consider	Cumulative Impact Analysis Required?
Limited Plan Approvals	<ul style="list-style-type: none">▪ Smaller, simpler sources▪ Air modeling rarely required▪ No public comment required	
Non-major Comprehensive Plan Approvals	<ul style="list-style-type: none">▪ Larger, more complex sources▪ Air modeling analysis required▪ Public comment required	
Major Comprehensive Plan Approvals	<ul style="list-style-type: none">▪ Largest, most complex sources▪ Air modeling analysis required▪ Public comment required	
Emission Control Plans	<ul style="list-style-type: none">▪ Limited to existing major sources▪ Plans for reducing or monitoring emissions▪ Air modeling not required▪ Public comment required	

Opportunity for Further Input

- Link below provides the questions in a survey format for further input
- <https://www.surveymonkey.com/r/BXQSKF2>
- Will be posted on Air Quality website <https://www.mass.gov/info-details/cumulative-impact-analysis-in-air-quality-permitting>

MEPA Program

Interim Framework for
Analysis of EJ Impacts



Modeled on National Environmental Policy Act (NEPA)

- NEPA (1970) premised on federal actions
- MEPA (1972) premised on state actions
- About 16 states have “little NEPA” programs (CA, NY, WA, MN, CT, HI consider GHG/climate in reviews)

Key principles

- Comprehensive environmental review before permitting
- Alternatives analysis
- Public participation and transparency



MEPA Statistics

Project types

- Real estate; transportation; coastal/resiliency; energy; water/wastewater; solid waste; airport; parks

Jan. 2000-Feb. 2020 (20 years)

- Avg. of 220 filings (not projects) per year
- 60% of filings were in municipalities containing at least one EJ census block

2020-21

- Appx. 250+ filings per year
- Appx. 80% of new projects only required ENF (environmental notification form) review

MEPA Program Overview

Basic rule

- MEPA review needed if there is Agency Action and “review thresholds” are exceeded

MEPA statute (M.G.L. c. 30, s. 61 et seq.)

- **NEW: 2021 climate legislation (St. 2021, c. 8, ss. 55-60) requires consideration of environmental justice**

MEPA regulations (301 CMR 11.00)

- Review thresholds define impacts that are “**likely to cause Damage to the Environment**”
 - “**ENF**” (environmental notification form) thresholds require filing of ENF
 - “**EIR**” (environmental impact report) thresholds require filing of ENF followed by draft and final EIRs

Key Existing Thresholds (Impacts)

- **Land**
 - Land alteration (25-50 acres); impervious area (5-10 acres)
- **Traffic**
 - 2-3,000 new average daily vehicle trips; 300-1,000 parking spaces
- **Wetlands and Waterways**
 - ½ to 10 acres of wetlands; public tidelands
- **Rare Species**
 - >2 acres disturbance resulting in “take” of mapped rare species
- **Water/wastewater**
 - New/expanded withdrawals or discharges; interbasin transfers
- **Others**
 - Energy, solid waste, **air emissions**, historic resources, ACEC

Climate Legislation (Section 57)

Modified existing provisions for Environmental Impact Reports (EIRs) submitted to the MEPA Office

New requirements:

- A description of the **public health impact** of the proposed project
- Include measures to minimize **public health damage**
- Include adverse **public health consequences** that cannot be avoided

Climate Legislation (Section 58)

Added new requirements for EIRs to contain analysis of impacts on Environmental Justice (EJ) populations:

- EIR for projects that are **likely to cause Damage to the Environment** and are located **within 1 mile of an EJ population or within 5 miles if the project that impacts air quality**
- Assessment of any **existing unfair or inequitable environmental burden and related public health consequences** from any prior or current project
- If EJ population is subject to an existing burden, the report shall identify any: (i) environmental and public health impact from the proposed project that would **likely result in a disproportionate adverse effect**; and (ii) potential impact or consequence from the proposed project that would **increase or reduce the effects of climate change** on the EJ population

Climate Legislation (Section 60)

Added new requirements for public involvement by EJ populations:

- Environmental notification form shall indicate if an EJ population that lacks English language proficiency within a designated geographical area is **reasonably likely to be affected negatively by the project.**
- If a proposed project affects an EJ population, the **secretary shall require additional measures to improve public participation** by the EJ population.
- The term **designated geographic area** shall mean an EJ population located within a distance of 1 mile of a project, unless the project affects air quality then the distance from such project shall be increased to 5 miles.

Proposed MEPA Regulations

- 1. “EIR shall be required” for any project subject to MEPA and within 1 mile of EJ population [5 miles would be based on air quality impact, as defined in regulation].**
- 2. Define in regulation what EIR scope would contain if EIR were required based on EJ impacts, including:**
 - Assessment of “existing environmental burden”
 - Assessment of “disproportionate adverse effects” on EJ population and climate change effects
 - Mitigation and Sec. 61 findings as related to EJ impacts
- 3. Apply existing flexibility in review procedures.**
- 4. Incorporate public health into EIR scope.**

Key Questions for MEPA Process (8/31/21)

- What types of factors should be considered to assess “**existing unfair or inequitable environmental burdens**” for EJ populations and how should this assessment be conducted?
- How should the MEPA process analyze whether a project will have a “**disproportionate adverse effect**” on an environmental justice population, or increase or reduce **climate change effects**?
- What **interim** approaches should MEPA adopt in 2021 while the MassDEP CIA stakeholder effort is ongoing?



MEPA Public Involvement Protocol

❖ Draft MEPA Public Involvement Protocol issued in June

- Accepted public comments until August 9
- Will be incorporated into M.G.L. c. 30A rulemaking effort

❖ Key Components Under Consideration

- Early notification to EEA EJ Director and local EJ groups and tribes prior to filing with the MEPA office
- Meaningful engagement with EJ communities through community meetings, alternative language media, etc.
- Language services to be provided based on languages identified through the EEA [EJ Map Viewer](#) or local data

Potential Interim Framework - Step 1

Step 1: Assess Existing Environmental Burden

Key Metrics Under Consideration

1. [DPH EJ View](#): “vulnerable health criteria” for EJ populations
2. [DPH EJ View](#): additional mapping layers that could indicate existing burden (e.g., major MassDEP permitted facilities)
3. [RMAT climate tool](#): climate risks for sea level rise, precipitation (urban and riverine), and extreme heat
4. [EPA EJ Screen](#): environmental indicators or EJ indices
5. Any other factors identified during community engagement

Potential Interim Framework - Step 2

Step 2: Assess Project Impacts

Key Factors Under Consideration

1. Consider **nature** and **severity** of project impacts to determine disproportionate adverse effect
2. Compare impacts on **EJ vs. non-EJ populations**
3. Consider **project benefits** that will reduce existing environmental burden
4. Consider **climate change effects** (e.g., flooding)

Potential Interim Framework - Step 3

Step 3: Determine Alternatives and Mitigation

- Consider alternatives to avoid or minimize any identified disproportionate adverse effects
- Determine mitigation specifically for EJ impacts beyond those proposed for the project generally
- Incorporate mitigation commitments into findings made by the Agency taking action on the project

Appendix - Available Mapping Layers

EPA EJ Screen

NATA air toxics cancer risk
NATA respiratory hazard index
NATA diesel PM
Particulate matter (PM2.5)
Ozone
Traffic proximity and volume
Lead paint indicator
Proximity to RMP sites (Risk Management Plan)
Proximity to TSDFs (Hazardous waste Treatment, Storage, and Disposal Facilities)
Proximity to NPL sites (National Priority List / Superfund sites)
Wastewater discharge (based on proximity to NPDES permitted discharge locations and toxicity)

DPH EJ Tool -- Available Layers

Vulnerable health data by municipality or census tract
Redlining maps
MassDEP major air and waste facilities
M.G.L. c. 21E sites
"Tier II" toxics use reporting facilities
MassDEP sites with AULs
MassDEP groundwater discharge permits
Wastewater treatment plants
MassDEP public water suppliers
Underground storage tanks
EPA facilities
Federal flood hazards and sea level rise
Municipal buildings and healthcare facilities
Road infrastructure
MBTA bus and rapid transit
Other transportation infrastructure
Regional transit agencies
Energy generation and supply

Current Schedule - MEPA Process

Early September 2021	<ul style="list-style-type: none">• Formed MEPA advisory committee for 2021-22 regulatory review effort
September 17, 2021	<ul style="list-style-type: none">• Filed draft regulations with Secretary of State's Office<ul style="list-style-type: none">○ Oct. 20 end of comment period
November 1-22, 2021 (tentative)	<ul style="list-style-type: none">• Comment period for guidance documents
December 2021	<ul style="list-style-type: none">• Official promulgation
2022	<ul style="list-style-type: none">• Consider second phase regulatory revisions following MassDEP's CIA stakeholder effort

Ways to Participate in MEPA Process

Dedicated email box for regulatory review effort at MEPA-regs@mass.gov.

Send blank email to subscribe-mepa_reg_review@listserv.state.ma.us to receive ongoing alerts.

Ongoing updates (including public comments received by the MEPA Office) will be posted at MEPA website at <http://mass.gov/service-details/information-about-upcoming-regulatory-updates>.

Further Information

	MassDEP CIA	MEPA Regulation Changes
Comments/ input	massdep.impact@mass.gov	MEPA-regs@mass.gov
Distribution list	Please enter your information at this link: https://massgov.formstack.com/forms/subscribe_cia	Send <u>blank</u> email to subscribe-mepa_reg_review@listserv.state.ma.us to receive ongoing alerts
Website	https://www.mass.gov/info-details/cumulative-impact-analysis-in-air-quality-permitting	http://mass.gov/service-details/information-about-upcoming-regulatory-updates
Survey	https://www.surveymonkey.com/r/BXQSKF2	

Questions

MassDEP



Please Take A Few Minutes After the Meeting...

- When you exit the meeting, Zoom will automatically direct you to a short survey.
- The survey contains 4 questions about the stakeholder meeting.
- All responses are anonymous unless you choose to provide your contact information.
- We look forward to receiving your feedback!