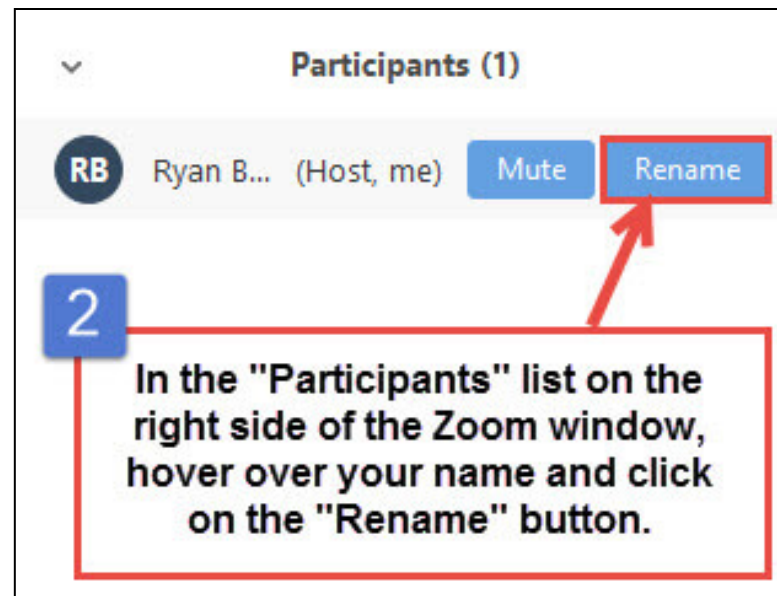
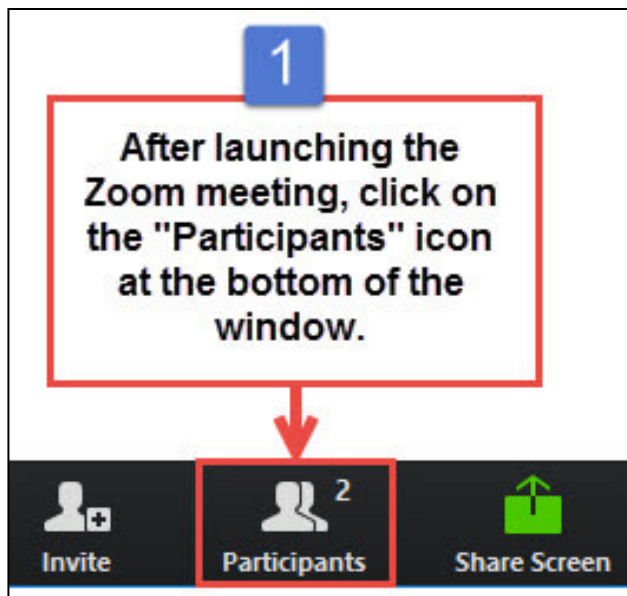


Zoom Meeting Logistics

- This meeting is being recorded.
- All attendees are muted to minimize background noise.
- Please enter your full name in the “Participants” panel.
- Audio is available via your computer’s speakers or by phone.



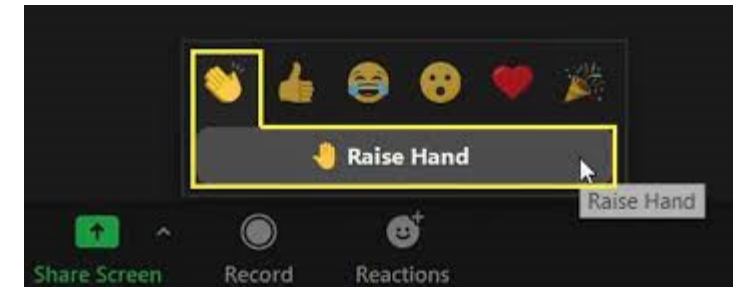
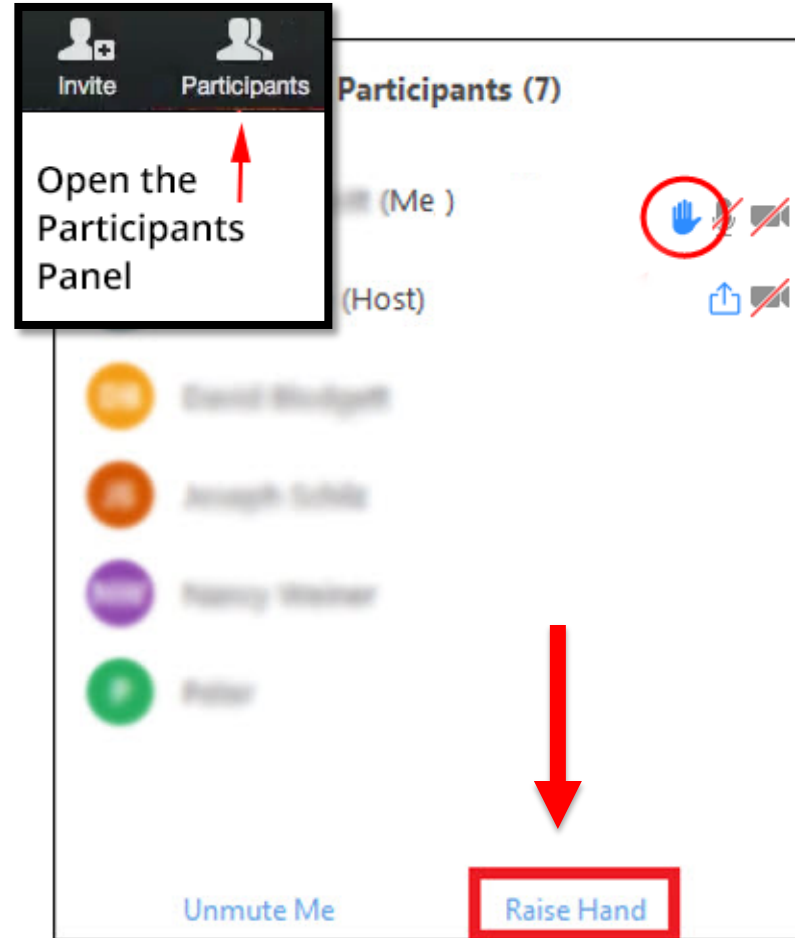
Have a Question?

Raise your virtual hand.

During the question-and-answer session, we will:

1. Announce your name.
2. Allow you to unmute.

Technical issues? Contact “Technical Support” via the chat.



INDICATORS

Stakeholder Meetings
November 16/17, 2021



Welcome

Assistant
Commissioner
Christine Kirby

MassDEP

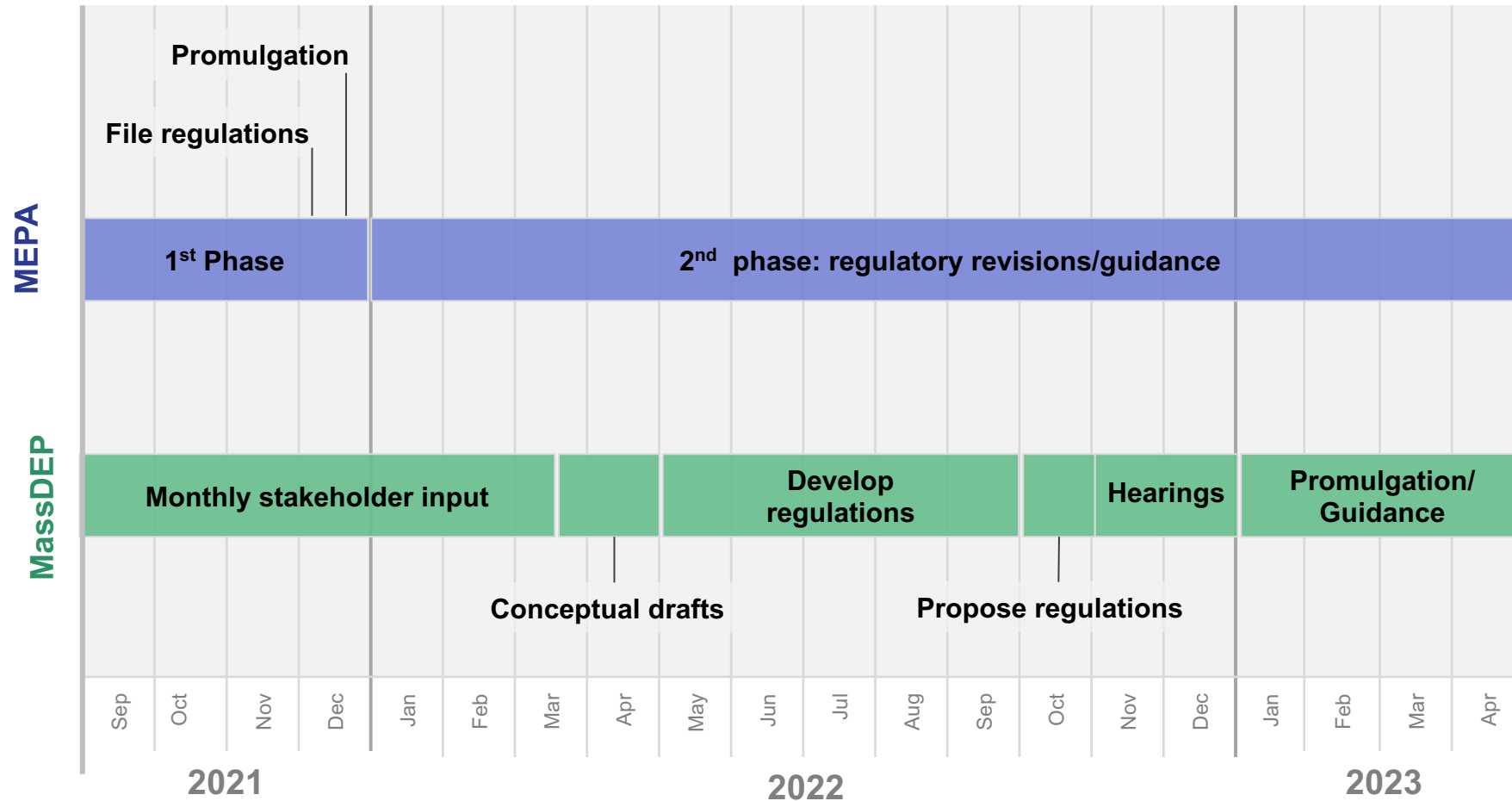


Agenda

Goal: Present Information on Indicators to Obtain Feedback and Input for Consideration in Cumulative Impact Analysis

- Categories of Indicators and Definitions
- Process for Evaluating Potential Indicators
- Discussion of Potential Indicators by Category
- Next Steps
- Opportunity for Further Input
- Questions and Answers

Where we are



Purpose of Today's Meeting - Stakeholder Input on:

Which Indicators Should be Evaluated in a Cumulative Impact Assessment?

- Brainstorm list of indicators with you.
- Stop and ask questions along the way.



Questions for Discussion

Throughout the presentation, keep in mind these three main questions:

- What indicators did we miss?
- What indicators do you think are not needed?
- Based on your experience with projects or actions in your community, what indicators do you see as being of particular importance for this effort?

Categories of Indicators and Definitions

MassDEP



Stressors

- Stressors are any chemical, physical, biological, socioeconomic, or demographic parameters that may cause adverse impacts to human health.
- Often, there are not direct measures of these stressors.
- Indicators can be used to indirectly assess stressors that may cause adverse impacts to human health.
- Today we would like to discuss indicators that will be evaluated for inclusion in the CIA and hear your suggestions for additional indicators to evaluate.

California and NJ Indicators Identifying Overburdened, Stressed, or Vulnerable Populations

- CalEnviroScreen includes 21 indicators to characterize Pollution Burden and Population Characteristics.
 - Census Tract-level
- New Jersey is considering the use of 31 stressors to evaluate impacts to Overburdened Communities.
 - Census Block Group-level
- Indicators (or combinations of indicators) are compared to the state or geographic location, showing percentiles.

CalEnviroScreen and New Jersey EJ Process

Environmental Indicator	CalEnviroScreen	New Jersey EJ Process (under development)
Ozone	•	•
PM _{2.5}	•	•
Diesel PM emissions	•	
Air toxics	•	
Permitted air sites		•
Regulated facilities under EJ Law		•
Traffic volume	•	•
Truck traffic		•
Railways		•
Warehouses and goods movement		•

CalEnviroScreen and New Jersey EJ Process

Environmental Indicator	CalEnviroScreen	New Jersey EJ Process (under development)
Hazardous waste facilities	●	●
Soil contamination		●
Contaminated sites		●
Cleanup sites	●	
Solid waste facilities	●	●
Scrap yards		●
Pesticide use	●	
Drinking water quality	●	●
Surface water quality	●	●
Combined sewer overflows		●
NJ Pollutant Discharge Elimination System Sites		●
Groundwater contamination/threats	●	●

CalEnviroScreen and New Jersey EJ Process

Health Indicator	CalEnviroScreen	New Jersey EJ Process (under development)
Asthma rate	●	
Cardiovascular disease rate	●	
Low birth weight	●	
Children’s lead risk from housing	●	
Cancer risk from diesel		●
Cancer risk excluding diesel		●
NATA non-cancer risks		●



CalEnviroScreen and New Jersey EJ Process

Socioeconomic/Demographic/Land Use Indicator	CalEnviroScreen	New Jersey EJ Process (under development)
Limited English proficiency	●	●
Poverty	●	●
Minority		●
Unemployment	●	●
Educational attainment	●	●
Housing burden	●	
Lack of tree canopy		●
Age of housing		●
Lack of recreational open space		●
Impervious land cover		●
Flooding		●

Indicators

- We have organized potential indicators into three general categories



Environmental Indicators

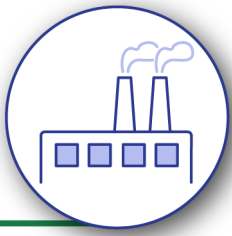


Health Indicators



Socioeconomic and
Demographic Indicators

Environmental Indicators



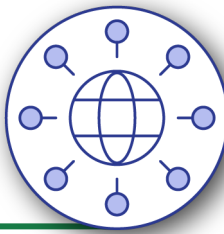
- Are measures that tell us what is happening in the environment.
- Can help assess physical, chemical, or biological stressors that may cause adverse impacts on human health.
- Examples of environmental indicators that could be included in a CIA include the number of facilities that emit air pollution in an area or traffic intensity.
- Multiple indicators may be needed to characterize all current and potential environmental stressors in the community.

Health Indicators



- Are measures of population health.
- Examples of health indicators that could be included in a CIA are measures of asthma or heart disease.
- Multiple indicators may be needed to characterize all current and potential health impacts in the community.

Socioeconomic and Demographic Indicators



- Are used to understand characteristics of the community.
- Can help assess stressors that can cause adverse impacts on a range of human health outcomes.
 - Lower socioeconomic status populations are
 - consistently shown to have a higher risk of various health problems.
 - more likely to be exposed, sensitive, and vulnerable to pollution.
- Examples that could be used in a CIA include poverty rates and percent of the population that is younger than 5 or older than 65 years old.

Process for Evaluating Indicators



Process for Evaluating Indicators

All indicators presented today and others we may learn about from you will be evaluated to determine if they will be integrated into a CIA for air permitting.

Process for Evaluating Indicators



Evaluation criteria for each indicator are used to determine if and how/when it could be included in a CIA:

- Data availability
- Appropriate geographic scale
- Appropriate timeframe
- Redundancy
- Quantitative or qualitative.

Evaluation Criterion - Data Availability

Data Availability



***Data Availability* may limit the inclusion of an indicator in the CIA.**

- Data may not be consistently available to include the indicator in a CIA.
- For example, surface water discharge is an environmental indicator that may impact human health. However, localized surface water contamination data may not be available for use in the CIA.

Evaluation Criterion - Appropriate Geographic Scale

Appropriate Geographic Scale



***Geographic Scale* may limit the use of an indicator in the CIA.**

- Data may be available at a broader geographic scale than desired.
 - For example, at Census tract level to the Census block level.
- For example, public health vulnerability data (e.g., asthma emergency visits and heart attack hospitalizations) may not be available at a granular level needed for a CIA.
- May affect how the information is used in the CIA.

Evaluation Criterion - Appropriate Timeframe

Appropriate Timeframe



The *Timeframe* covered by the data may affect whether it is useful to the CIA.

- Indicator data may be not be reflective of the current or future status of the stressor.
- For example --
 - The most recent National Air Toxics Assessment data on air toxics reflects 2014 data and may not represent current air toxic exposures.
 - While U.S. Census tract-level data is available annually, more granular U.S. Census block-level data is **only** available every 10 years.

Evaluation Criterion - Redundancy

Redundancy



***Redundancy* may impact inclusion of an indicator in the CIA.**

- If two indicators are measuring or evaluating a similar stressor, it may not be necessary to include both.
- For example, unemployment and income are both indicators of economic stress. It may not be necessary to include both in a CIA.

Evaluation Criterion - Quantitative and Qualitative

Quantitative and Qualitative



- **Quantitative** indicators could include:
 - Rates such as the number of items in an area, or number people with asthma per 10,000 people.
 - Percentages, such as percent of the population with an income above or below some amount.
- **Qualitative** indicators could include:
 - Public perception of the quality of community characteristics (public engagement).
 - The impacts of some indicators, such as the prevalence and/or proximity to green spaces and parks, which can affect quality of life and public health implications.

Discussion of Potential Indicators



Massachusetts Environmental Policy Act (MEPA)

- 2021 climate legislation requires consideration of environmental justice.
- Draft MEPA protocol has been developed for analysis of project impacts on EJ populations.
- To assess the existing unfair and inequitable environmental burden, the protocol describes the following mapping tools and data as a resource:
 - Massachusetts DPH EJ tool
 - EJSCREEN
- The indicators presented here are consistent with the indicators included in these tools
- Draft MEPA protocol can be found at MEPA website (comments due by 11/26).

[https://www.mass.gov/service-details/information-about-upcoming-regulatory-updates.](https://www.mass.gov/service-details/information-about-upcoming-regulatory-updates)

Purpose of Today's Meeting - Stakeholder Input on:

Which Indicators Should be Evaluated for Inclusion in the CIA?

- Brainstorm list of indicators with you.
- Stop and ask questions along the way.
- Indicators that are identified during today's meeting will be evaluated to determine if and how they may be included in the CIA.

Indicator Categories for Discussion Today



Environmental Indicators

- Assess existing sources and amounts of pollution



Health Indicators

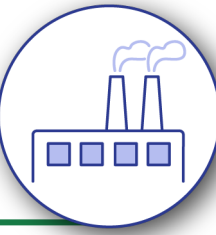
- Assess existing health of populations



Socioeconomic and Demographic Indicators

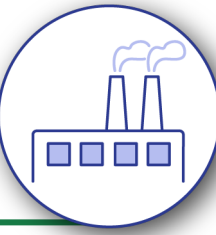
- Provide social, economic and statistical information describing the population living a community

Environmental Indicators



- Current levels of air pollution
 - Criteria air pollutants (Carbon monoxide, ground-level ozone, lead, nitrogen dioxide, particulate matter, and sulfur dioxide)
 - Hazardous Air Pollutants (HAPs) –187 toxic air pollutants
 - Diesel particulate emissions
 - Other air emission sources near facility
 - Facility-specific air emissions

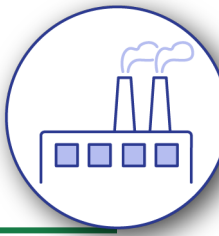
Environmental Indicators



- Mobile sources of air pollution
 - Major roads – traffic data
 - Non-major roads
 - Railways
 - Airports
 - Buses, transit stations
 - Ports, warehouses, distribution centers



Environmental Indicators



Proximity to emitting facilities / areas of environmental degradation

- Air operating permits
- Hazardous waste treatment facilities and recyclers
- Storage disposal facilities
- Solid waste sites and facilitates
- Large quantity hazardous waste generators
- Large quantity toxic use sites
- Toxic release inventory sites
- Mass DEP 21E sites
- “Tier II” toxics use reporting facilities
- Wastewater treatment plants
- Public water suppliers
- Underground storage tanks
- Energy generation and supply
- Activity Use Limitation (AUL) sites
- Superfund sites
- Brownfields sites

Environmental Indicators



- Point-sources of water pollution
 - Combined sewer overflows (CSOs)
 - Groundwater discharge
 - Surface water discharge
 - Drinking water contamination



Environmental Indicators: Questions for Discussion



- What environmental indicators did we miss?
- What environmental indicators do you think are not needed?
- Based on your experience with projects or actions in your community, what environmental indicators do you see as being of particular importance for this effort?

Health Indicators



- Indicators used to assess public health in 2021 EJ Policy
 - Asthma
 - Blood lead
 - Heart disease
 - Low birth weight



Health Indicators



- Other indicators used to assess public health
 - Chronic obstructive pulmonary disease (COPD)
 - Infant mortality
 - Cancer

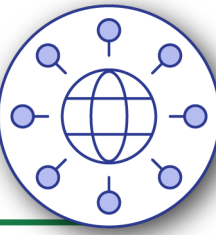


Health Indicators: Questions for Discussion



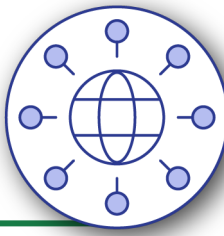
- What health indicators did we miss?
- What health indicators do you think are not needed?
- Based on your experience with projects or actions in your community, what health indicators do you see as being of particular importance for this effort?

Socioeconomic and Demographic Indicators



- Indicators used to assess EJ communities in 2021 EJ Policy to identify EJ populations
 - Low income
 - Minority/people of color
 - English language isolation

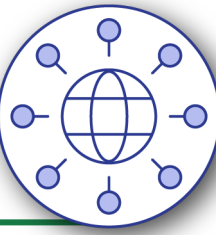
Socioeconomic and Demographic Indicators (cont)



- Other indicators that may help assess stressors and potential public health burden
 - Unemployment
 - Education
 - Age
 - Immigrant populations
 - Single head of households
 - Disabled
 - Crime rates
 - Social vulnerability index – a combination of social and economic variables that can be an indicator of social vulnerability



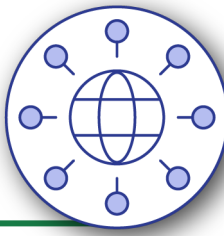
Socioeconomic and Demographic Indicators (cont)



- Additional indicators that may help assess stressors and potential public health burden
 - Lack of access to:
 - Quality housing
 - Health insurance
 - Healthcare
 - Healthy food
 - Green space and parks
 - Public transportation
 - Sensitive receptor sites (e.g., day care centers, schools)



Socioeconomic and Demographic Indicators: Questions for Discussion



- What socioeconomic and demographic indicators did we miss?
- What socioeconomic and demographic indicators do you think are not needed?
- Based on your experience with projects or actions in your community, what socioeconomic and demographic indicators do you see as being of particular importance for this effort?

Live Demo -- Tools and Data for Massachusetts



Massachusetts DPH EJ Tool:

<https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html>

Massachusetts Environmental Public Health Tracking:

<https://matracking.ehs.state.ma.us/>

MassROUTES version 1.0:

<https://www.arcgis.com/apps/webappviewer/index.html?id=d41c283b633c4d5a89c41f1f44ba66f4>

Next Steps

- Compile the list of indicators based on input from today's meeting.
- Use the evaluation criteria to determine if the indicators could be included in the CIA.
- Consider how the indicators could be used in a CIA.

Opportunity for Further Input

- Link below provides the questions in a survey format for further input.
 - <https://www.surveymonkey.com/r/TJM62H8>
- Will be posted on Air Quality website: <https://www.mass.gov/info-details/cumulative-impact-analysis-in-air-quality-permitting>

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/TJM62H8	

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!

Questions

MassDEP

