

Cumulative Impact Analysis in Air Permits

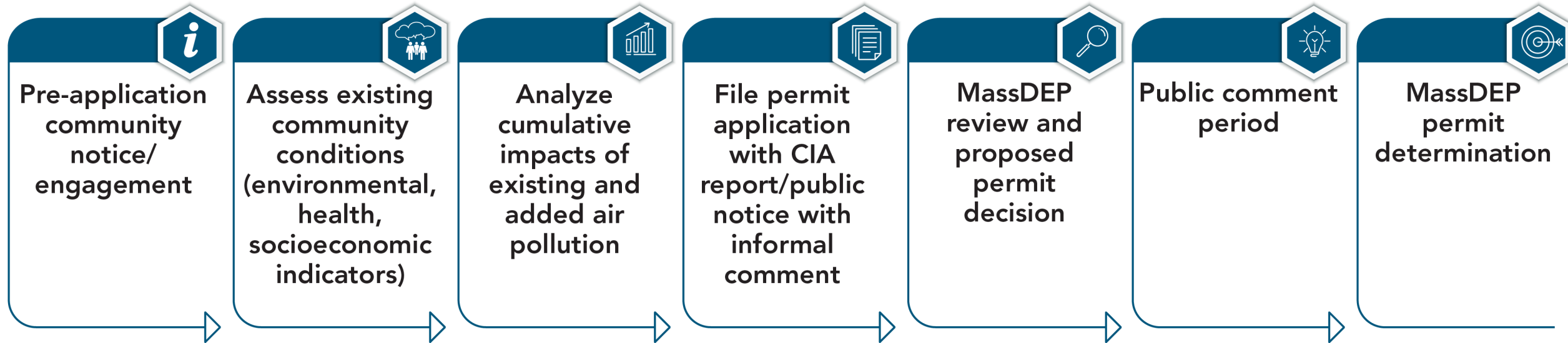
Massachusetts Chemistry & Technology Alliance
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Applicability

- 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, 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 new pre-filing EJ community engagement.

Assess Existing Community Conditions

- Applicants would collect data on 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

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

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 *

* Under consideration



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)
- Young (< 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)

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 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

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