Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

100 Cambridge Street Suite 900 Boston, MA 02114 • 617-292-5500

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

RESPONSE TO COMMENTS ON PROPOSED AMENDMENTS TO 310 CMR 7.00 CUMULATIVE IMPACT ANALYSIS IN COMPREHENSIVE PLAN APPROVALS

March 28, 2024

REGULATORY AUTHORITY:
Chapter 8 of the Acts of 2021, Sections 56, 58, 60 and 102C
M.G.L. c. 21A, Sections 2 and 8,
M.G.L. c. 111, Sections 2C and 142A through 142E

On December 29, 2022, the Massachusetts Department of Environmental Protection (MassDEP) filed with the Massachusetts Secretary of the Commonwealth proposed amendments to 310 CMR 7.00 *Air Pollution Control* that would require a cumulative impact analysis (CIA) for Comprehensive Plan Applications (CPA) for facilities located in or near an environmental justice (EJ) population. The amendments were proposed in accordance with Section 102C of Chapter 8 of the Acts of 2021- "An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy," hereafter referred to as the "Climate Roadmap Act" or "CRA." The proposed amendments established in a new section, 310 CMR 7.02(14) *Cumulative Impact Analysis* with requirements for enhanced public outreach to, and involvement of, EJ populations, assessment of existing community conditions, and analysis of cumulative impacts of a proposed project. In accordance with M.G.L. Chapter 30A, MassDEP held four public hearings on the proposed amendments on March 7, 2023 (10:00 am and 6:00 pm) and March 9, 2023 (1:00 pm and 6:00 pm) and accepted public comments until April 7, 2023. MassDEP received 19 sets of comments from the organizations and individuals listed below.

1. American Chemistry Council (ACC)
2. Berkshire Environmental Action Team (BEAT)
3. Boston Residents Group (BRG)
4. City of Braintree, Office of the Mayor (Mayor Charles C. Kokoros)
5. Conservation Law Foundation (CLF)
6. Eliot Smith
7. U.S. Environmental Protection Agency (EPA)
8. Epsilon Associates Inc. (Epsilon)
9. Fore River Residents Against the Compressor Station (FRRACS)
10. Jonathan Levy (Levy)
11. Massachusetts Aggregate and Asphalt Pavement Association (MAAPA)
12. Massachusetts Chemistry & Technology Alliance/Associated Industries of Massachusetts (MCTA/AIM)
13. Massachusetts Environmental Justice Table (MEJT)
14. Massport Community Advisory Committee (MCAC)
15. Rick Reibstein
16. Madeleine Scammell
17. Salem Alliance for the Environment (SAFE)
18. Vote Solar
19. Wig Zamore

MassDEP has summarized and responded to the comments below.

General Comments

1. Comment: The regulations should be explicit about their goal: to protect EJ communities from being further burdened by hazards resulting from air pollution. DEP limits the scope of these procedural regulations to EJ Populations in order to acknowledge "the importance of focusing on environmental justice by requiring an enhanced analysis of the cumulative impacts a new or modified source of air pollution may have on EJ Populations, especially EJ Populations

that may already be overburdened from past pollution." However, this stated focus of the CIA regulations is not explicitly mentioned in the regulations. Given that these amendments change procedural, not substantive, policy, we are concerned that the lack of a stated purpose could lead future administrations to neglect the spirit of the regulations. DEP must explicitly include its purpose in promulgating these CIA regulations, to more fully control their future interpretation by state officials and the courts. Additionally, the stated purpose of these regulations should be more than "acknowledgment" of an analysis. Through these regulations, DEP should strive to actively protect EJ communities from being further disproportionately burdened by hazardous air pollution. Environmental justice needs to be more than a buzzword – it must be meaningfully incorporated in regulation. That means DEP should be explicit about its goal of using these CIA procedures to prevent worsening conditions for EJ populations. (MEJT)

Response: MassDEP is committed to protecting EJ populations through the CIA regulations and its other environmental programs. To reflect this commitment, MassDEP has added the following purpose statement in the final regulations at 310 CMR 7.012(14)(a)1. "The purpose of 310 CMR 7.02(14) is to protect environmental justice populations from the harms of air pollution by requiring a cumulative impact analysis that includes meaningful public involvement of environmental justice populations, assessment of existing community conditions, and analysis of cumulative impacts of new or modified sources of air pollution that may affect environmental justice populations." MassDEP notes that in addition to new procedural requirements for conducting a CIA, the regulations also contain new substantive requirements designed to protect EJ populations including the requirement to characterize cumulative air toxics risk and meet health-based cumulative air toxics risk limits (which are described in detail on page 12 of the Background Document that accompanied the draft regulations available at https://www.mass.gov/regulations/310-CMR-700-air-pollution-control#recently-promulgated-amendments) and to consider significant project-related vehicle emissions of criteria pollutants in air dispersion modeling.

2. Comment: The American Chemistry Council (ACC) and its members support the overall goals of the MassDEP to avoid disproportionately negative impacts on overburdened communities from permitted facilities. MassDEP should ensure that its proposed requirements result in a permitting process that is efficient, streamlined, transparent, based on best available science, and uses appropriate risk characterizations. In permitting contexts, ACC has long stressed the importance of an appropriately risk-based approach that is based on best available science, particularly in the review and determination of any cumulative impact from identified stressors. We strongly encourage MassDEP to prioritize these issues in the implementation of its environmental justice law to ensure that any new requirements are clear, flexible, risk-based, and refrain from duplicative or overly burdensome requirements. MassDEP should review impact analyses and permit applications using clear criteria and definitions that articulate scientifically credible risks supported by causal inference instead of "potential" stressors and associated impacts. Without these and other appropriate considerations, MassDEP faces the possibility of creating an overly burdensome permitting process that is unnecessarily onerous, inconsistent, and arbitrary in its application, while falling short of its goal to protect human health and the environment.

A requirement to assess cumulative impacts to the surrounding population necessitates

assumptions regarding impacts on a community from a wide variety of other sources outside the control of the applicant. These sources can include impacts from other potentially competing facility operations, transit authorities and shipping companies, and unaccounted for or yet unidentified sources of impact. Absent validated publicly available data and a proven cumulative impact assessment method, these assumptions and public statements about cumulative impacts are speculative at best and pose a risk of unnecessary legal and competitive claims. The process for review and evaluation of environmental stressors should be crafted so as not to require disclosure of confidential business information or create an increased risk of legal claims or business risk. These evaluations of cumulative impacts should be conducted and revisited on a regular basis prior to the submission of a permit application or initiation of the permit review process, so that the Department can expedite its permitting process and minimize unnecessary delays.

MassDEP should ensure that any cumulative impact assessment follows a predictable, well-documented, transparent, and efficient process that is scientifically supported and proven in practice. This should be based on sound science including validated, publicly available data, and recognized and validated analytical methodologies to achieve consistency in the evaluation process. As a preliminary matter, ACC recommends the development and consistent use of precise terminology to identify various risk assessment approaches that are labeled "cumulative," to foster the development of a common lexicon for "cumulative risk assessments" and avoid confusion and misuses of the concept. Although similar, each of these terms has important definitional differences that should be clarified.

ACC recognizes that human and ecological exposures are rarely, if ever, limited to a single biological, chemical, or physical stressor. Assessment of multiple exposures is a natural evolution from assessments focused on single stressors or substances and is potentially very useful in addressing questions concerning the role of the total environment (e.g., physical, chemical, psychological, and social stressors) in community health. But the tools and techniques for evaluating and characterizing such risks have not yet been fully developed. Thus, there is a great need to proceed in an objective and technically sound manner to explore how such tools can be further developed and validated. Therefore, ACC supports efforts to advance the development and evaluation of scientifically credible approaches to assess the cumulative effects of chemical and non-chemical stressors.

This lack of methodology means that it is currently not possible to 1) determine which adverse health effects observed in a community are caused by which chemical or non-chemical stressors; 2) what the magnitude of the health effects are that have been determined to be caused by different chemical/non-chemical stressors; 3) which communities have elevated health risks that could actually be mitigated by regulatory actions under MassDEP's purview; and 3) measure the magnitude of the impact of regulatory actions on improving public health. In the absence of this methodology, "overburdened communities" and "environmental or public health stressors" may be defined not by science, but arbitrarily by statute.

As ACC has highlighted in comments to EPA and other states on similar issues, further research into cumulative risk assessment approaches is needed. Regulatory and scientific communities have little experience with assessing multiple, unrelated stressors (combined non- chemical and

chemical risks) and cumulative risk assessments for chemicals and other stressors would heavily rely on assumptions due to of the paucity of scientific data and validated models/methodologies. Basing cumulative assessments on multiple assumptions creates the situation where it's highly probable that conservative default assumptions would be compounded, resulting in a significant over-estimation of risk. Thus, it is critical that sufficient data and robust models be available to inform a cumulative risk assessment. Moreover, before cumulative risk can be assessed, the individual risks from both chemical and non-chemical stressors need to be quantified in terms of a "common metric." The common metric needs to be such that the basis for each stressor is comparable (e.g., central tendency estimates of risks) so that the "addition" of risks from each stressor is scientifically supportable. A cumulative risk assessment would be skewed if it added the upper bound estimate of a chemical risk to a central tendency estimate of risk of a non-chemical stressor. Therefore, before cumulative risk is utilized for decision-making purposes, it must be further researched to become validated for use in the regulatory process. (ACC)

Response: MassDEP has made every effort to issue final CIA regulations that are clear, transparent and provide a consistent and efficient permit process. MassDEP has incorporated a risk-based approach by requiring proposed projects to meet health-based ambient air standards and cumulative air toxics risk limits. MassDEP has provided a CIA mapping tool and the underlying air quality, environmental, health, and socioeconomic data applicants can use to generate the information needed for the assessment of existing community conditions. These data serve as indicators of potential health impacts and provide important information about existing community conditions that should be considered in deciding whether and to what extent additional air emissions should be permitted that could adversely affect EJ populations that already may experience disproportionate environmental burdens. The data required for the CIA is based on public data sources provided by MassDEP, and, therefore, would not lead to disclosure of confidential business information. Evaluation of the indicator data combined with meaningful public involvement can lead to increased understanding of community conditions and concerns and better outcomes for proposed projects and nearby EJ populations. MassDEP supports efforts to advance the development and evaluation of scientific approaches for analyzing cumulative impacts. Several state and local jurisdictions and academic institutions have begun to consider how to address cumulative impacts, and EPA's Office of Research and Development has published recommendations for advancing cumulative impact research over the next several years to strengthen the scientific foundation for assessing cumulative impacts. In recognition that cumulative impact analysis is a new and evolving approach, the regulations require a future program review of the CIA regulations. As part of that process, MassDEP will work with stakeholders to review the latest scientific developments to ensure that the permitting process is efficient and protects public health and the environment, based on the best available scientific data and assessment methodologies.

3. Comment: The Town of Braintree appreciates the opportunity to comment on the proposed revisions to 310 CMR 7.00 Air Pollution Control. Particularly of interest is proposed §7.02(14), which would require a cumulative impact analysis (CIA) for Comprehensive Plan Approval (CPA) applications for facilities located in or near environmental justice populations. CIA would require that ambient air quality (among other important considerations) in and around nearby environmental justice communities be taken into account when evaluating the impact of new sources of air pollution that require a CPA. I am pleased to see that MassDEP is formally

adopting a required cumulative impact analysis. Braintree has continually advocated for MassDEP to utilize a cumulative impact analysis when evaluating permits for new sources of air pollution, and further has argued that the existing regulations permit such analysis. Nevertheless, the assessment of ambient air quality conditions, along with other important health benchmarks, and their inclusion in calculations to determine the effect a new or increased source of emissions will have is critical to truly understanding the impact on nearby neighborhoods. Additionally, the proposed requirement that the CPA applicants document municipal and community concerns will facilitate the redress of important local issues surrounding a facility. Had these proposed requirements been in place prior to the permitting of the Weymouth Compressor Station, I believe the outcome there would have been materially different. Consequently, the adoption of the cumulative impact analysis as set forth in §7.02(14) is an important step forward to protect our vulnerable populations from air pollution. (Mayor Charles C. Kokoros)

Response: MassDEP appreciates the Town of Braintree's comments.

4. Comment: The statement of new MassDEP Commissioner Bonnie Heiple (Boston Globe, 3/27/23) that she plans to encourage energy development on "properties in areas that have no other real use," such as contaminated areas, sounds good on paper. In practice, it reinforces the continued siting of polluters in and near communities whose color, income, and lack of English language proficiency have resulted in their neighborhoods becoming sacrifice zones. Well-to-do white communities are almost always going to contain the "pristine" land that gets preserved. Of course, it is inappropriate to cut forests for clean energy projects, but as long as polluters continue to be sited only where pollution already exists, there will be no environmental justice. The new CIA regulations must prevent the creation of new sacrifice zones and be a catalyst for cleaning up existing ones so that all residents of the Commonwealth are treated equitably during the clean energy transition. (FRRACS)

Response: MassDEP is committed to ensuring that proposed projects are evaluated under the CIA regulation considering existing environmental and health burdens to ensure that disproportionate impacts are not created or exacerbated and that affected communities are fully aware of and able to participate in environmental, energy, and climate change decision-making. MassDEP notes that the siting of projects is beyond the scope of these regulations.

Definitions 310 CMR 7.00

Comment: Cumulative Impacts Definition. Add a definition that states that cumulative impacts analysis is a method to assess the total burden from existing environmental and energy sources and a proposed project versus energy and environmental benefits in a community. Cumulative impacts should identify what it means to have a disproportionate exposure of a community to public health or environmental hazards from one or multiple facilities including power plants, recycling facilities, sewage plants, incinerators, landfills, and others. (CLF)

Response: MassDEP has finalized the definition of "Cumulative Impact Analysis" as proposed, which reflects the analysis required in 310 CMR 7.02(14). While the suggested definition provides more detail in what a CIA may include, at this time the CIA process in the regulation is not as broad as the suggested definition and therefore MassDEP believes it is appropriate to

define "CIA" in the regulation specifically with reference to the regulatory requirements. The CIA regulations represent a first step for assessing cumulative impacts, and, as set forth in 310 CMR 7.02(14)(i), which requires a review of the regulations by the end of 2025, MassDEP plans to work with stakeholders on the next phase of CIA regulation development and can consider revisions to the definition of cumulative impact analysis.

5. Comment: Environmental Justice Population should refer to the statute, M.G.L. c. 30, § 62, in case there is an update to the percent thresholds that occurs through Executive Office of Energy and Environmental Affairs regulations. (CLF)

Response: MassDEP has finalized the definition of "Environmental Justice Population" as proposed to maintain consistency with the definition in M.G.L. c. 30, § 62 and the definition included in the Massachusetts Environmental Policy Act (MEPA) regulations. MassDEP will amend the definition as needed if the Executive Office of Energy and Environmental Affairs or the Legislature amends the definition.

6. Comment: Prisons should be included in the definition of neighborhoods for the purposes of the DEP regulations. The definition of Neighborhood clearly excludes prisons, but prisons are listed as a sensitive subpopulation in Table 1 Indicators. As prison populations are often disproportionately people of color, they may meet the thresholds for identification of an EJ population. Ethically, prisons should be included as the terms of prisoners' sentences do not include that they should be at increased risk from environmental exposures. (CLF)

Response: MassDEP has finalized the definition of "Neighborhood" as proposed to maintain consistency with the definition of Neighborhood in M.G.L. c. 30, § 62. However, as noted in the comment, the assessment of existing community conditions must include any prisons located in EJ populations that are being assessed.

7. Comment: 310 CMR 7.00 Definitions adds a new term "Air Toxic", which is defined as "any air contaminant for which the Department has published inhalation toxicity values or that the Department has determined to be toxic or potentially toxic to human health." The location where MassDEP publishes air contaminant inhalation toxicity values is not mentioned. Similarly, the nature in which MassDEP determines an air contaminant to be toxic or potentially toxic to human health is ambiguous. We suggest adding more specific information to this definition that delineates exactly where air contaminant inhalation toxicity values are published as well as where determinations of an air contaminant to be toxic or potentially toxic to human health could be found. It may be useful to develop a specific document, referenced in the definition of "Air Toxics," that includes information on current Ambient Air Limits (AALs) and Threshold Effect Exposure Limits (TELs) as found on MassDEP Ambient Air Toxics Guidelines webpage. (EPA)

Response: MassDEP has published a document on its website listing the air toxics referenced in this definition. This list of air toxics and associated inhalation toxicity values are incorporated in the Massachusetts Air Toxics Risk Screen Tool (MATRiST) which also is published on MassDEP's website.

Applicability 310 CMR 7.02(14)(a)

8. Comment: *310 CMR 7.02(14)(a)2* The 1- and 5-mile distances to EJ populations specified in the regulations overstate the general ability of air pollutants from a specific source to travel long distances. Peak modeled air impacts usually occur at the facility fence line or within 500 meters of the source. Therefore, the intent of the CIA could be met by evaluating cumulative impacts closer than 1 and 5 miles from non-major and major sources, respectively. (Epsilon)

Response: The 1- and 5-mile distances to EJ populations are applicability criteria for when CIA is required and are used to ensure that EJ populations within the applicable distances are notified and given the opportunity for meaningful public involvement in the CIA and permitting process (note that the MEPA Office also uses the 1- and 5- mile distances, as required by M.G.L. Chapter 30, Section 62B, for determining if an environmental impact report (EIR) is required that assesses impacts on EJ populations). Independent of these distances, the air dispersion modeling and evaluation of cumulative air toxics risk will focus on those receptors that could experience the greatest impact from air pollutant emissions, which may be much closer to a proposed project.

9. Comment: Applicability - Increase Net Facility-Wide Emissions. The proposed provision at 7.02(14)(a)4 provides important short-term flexibility for longer term gain. Because of the nuance in terminology, MCTA and AIM recommend the proposed framework for determination of netting with creditable emissions within 7.02(14) for relevant air contaminants covered under CIA be included within this section to avoid confusion with the meaning of Net Emissions Increase as described in existing Appendix A. (MCTA/AIM)

Response: MassDEP has deleted the word "net" in the final regulations because it is unnecessary and deleting the term will avoid confusion with the netting procedure in 310 CMR 7.00 Appendix A. The intent of the criterion is that if a proposed project at an existing facility that holds a CPA would increase potential emissions such that the new CPA would allow an overall increase of emissions equal to or greater than one ton, a CIA would be required.

10. Comment: 1 Ton Per Year Per Each Pollutant Applicability Threshold. We support the conclusion that this is an appropriate threshold for exemption from the CIA requirements. However, following similar language at 7.02(1)(d), we recommend that the applicability of CIA be clarified relative to GHGs as follows:

> "For the air contaminant GHGs, the increase in net facility-wide emissions shall be determined based on tons per year CO2e, and 310 CMR 7.02(14) shall be applicable to GHGs only if construction, substantial reconstruction or alteration of a facility or emission unit results in an increase in potential emissions equal to or greater than 75,000 tons per year CO2e."

We also request clarification in this section that the applicability determination is made on a pollutant-by-pollutant basis and definition of which pollutants are subject to this applicability test (e.g., criteria pollutants, federal hazardous air pollutants (HAP), and/or state-defined toxic air pollutants that are neither criteria pollutants nor HAPs). (MCTA/AIM)

Response: MassDEP has added language in the final regulations to clarify that the applicability criterion applies to "…a new comprehensive plan application to increase facility-wide potential emissions of criteria pollutants, hazardous air pollutants, or air toxics, excluding CO_2e, individually or in the aggregate, by an amount equal to or greater than 1 ton per year…" MassDEP did not intend to include CO_2e in the 1-ton applicability determination because the focus of the CIA is on air pollutant emissions that directly affect public health and because 1 ton of CO_2e is an insignificant amount of GHG emissions. MassDEP also notes that the 1-ton per year threshold for non-GHG pollutants would be exceeded before the much higher CO_2e threshold of 75,000 tons per year would be exceeded.

11. Comment: Environmental Justice cannot be achieved by looking only forward at new proposals. By building the entire CIA/EIR process around new applicants, the policy amendments fail to address the current health, safety, and quality of life impacts on residents of EJ communities. Under the proposed policy, a community is only engaged when there is a new applicant, and then the only "help" for that community is the possible delay or denial of that applicant's permit. A policy that results in actual Environmental Justice will require MassDEP to perform CIA's and EIR's in all overburdened communities, and to have the authority to require corrective action by current emitters, as well as budget for the cleanup of legacy pollution (with probable federal assistance). (FRRACS)

Response: Section 102C of the CRA directed MassDEP to develop regulations for CIA "for defined categories of air quality permits," and therefore the CIA regulations apply to new or modified projects that would require comprehensive plan applications in or near EJ populations and do not apply to existing facilities (unless the facility is applying for a new CPA). Requiring a CIA for existing facilities or for communities in general is beyond the scope of the CIA regulation.

12. Comment: While the use of standard emissions thresholds for applicability of CIA requirements is understandable as an initial administrative effort to set priorities, more work needs to be done to assure that these thresholds are adequately protective for communities that, due to other sources of environmental exposure and health impact, are already overburdened. The department has appropriately set lower thresholds for facilities with EJ populations within a mile or for new emissions from existing facilities. However, each of these emissions thresholds makes the implicit judgment that the levels of exposures or impact that might be experienced below the thresholds are not of concern. In the absence of any analysis of baseline conditions in an EJ community, the basis for this judgment is not well supported. For example, the current National Ambient Air Quality Standards are not necessarily protective of public health for all communities. The primary National Ambient Air Quality Standard for particulate matter with aerodynamic diameter less than 2.5 microns (PM2.5) is currently under review to consider lowering the annual average of 12.0 µg/m3 to within the range of 9.0 to 10.0 µg/m3. The goal of the review is to base the standard on the latest health data and scientific evidence and to protect communities most overburdened by pollution. Further, the Commonwealth's Air Quality Monitoring Plan of 23 monitors across the state does not adequately measure local pollutants in locations that are likely to experience poor air quality such as locations adjacent to congested roadways, ports, and airports or industrial activities or currently unregulated pollutants such as

ultrafine particulate matter (though CLF notes MassDEP's plans to add such monitoring in Chelmsford, Boston, Springfield, and Chinatown if federal funding is available). As part of the program evaluation, the DEP should carefully assess whether the applicability thresholds are adequately protective of EJ communities. (CLF)

Response: MassDEP agrees that the CIA program evaluation should include review of applicability criteria and emissions thresholds and standards to ensure they are adequately protective of communities that may experience disproportionate effects of air pollution due to other sources of environmental exposure and health impacts. MassDEP plans to work with stakeholders on the next phase of CIA regulation development and can consider the issues raised in this comment during the future stakeholder process.

13. Comment: It is great that the state is considering cumulative impacts. As a resident of Lynn, I have seen how our community is overburdened by the state's pollution, both historically and currently. In nearby Saugus we have the oldest trash incinerator in the country, WIN Waste Saugus (formerly, Wheelabrator Saugus) and adjacent to this facility there is an ash dump in the middle of an Area of Critical Environmental Concern. I ask MassDEP to please maintain their commitment to closing and capping this dangerous dump which represents a threat to human health and the environment in already overburdened communities such as Lynn. Furthermore, the facility should not be allowed to buy credits to offset their excessive nitrogen oxides emissions from the incinerator. This is unacceptable given the long history of pollution that our communities have suffered and continues to suffer. (Eliot Smith)

Response: MassDEP acknowledges the concerns regarding the current operations of the WIN Waste incinerator and ash landfill, which are beyond the scope of the CIA regulations.

14. Comment: MassDEP must extend its implementation of the Roadmap Act beyond Air Pollution regulations to include all categories of project review within MassDEP jurisdiction, such as enforcement of the Wetlands Protection Act and Chapter 91. (BRG)

Response: Section 102C of the CRA specifically directed MassDEP to propose regulations that include CIA "for defined categories of air quality permits" by the end of 2022. At this time, MassDEP is only considering comments on the proposed amendments.

15. Comment: The impact on EJ communities should be assessed for any project happening anywhere in the Commonwealth. If a project is not happening near one, then it will take them a very short time to evaluate and will not be a burden. But if you keep it the way you have it, that the analysis of impact on any nearby EJ community is only triggered if there is a nearby community, you will draw a line equivalent to a Red-line as banks used to use, around such communities. It is possible that the result will be that the first thing any developer would do is simply stay out of that area. The result could be to deter any industrial activity when what you really want is to reduce impacts from it. On the other hand, if you make the analysis of impact on EJ communities universal throughout the state, you will not be sending that don't develop here message. (Rick Reibstein)

Response: The CIA regulations apply to proposed projects located in or near EJ populations to

better ensure protection of EJ populations that may already suffer disproportionate exposure to air pollutants and other environmental harms, resulting in adverse health consequences. Numerous studies have shown that EJ populations face disproportionately higher exposure to pollution (including air pollution) and attendant health consequences, as compared with other communities. The CIA regulations require a program review to be completed by the end of 2025 and stakeholders will be provided the opportunity to comment on all aspects of the regulations, including applicability, in that process.

Public Notice and Involvement 310 CMR 7.02(14)(b)

16. Comment: Sequence for Public Notice and Involvement. We request that the Department clarify whether the required meeting mentioned at 7.02(14)(b)3 is to occur prior to, or after, submittal of the 60-day notice to MassDEP. (MCTA/AIM)

Response: MassDEP has clarified in the final regulations that the required meeting (which may be virtual) should occur after the submittal of the 60-day notice to MassDEP. Note that the applicant may choose to meet with MassDEP more than once, including prior to providing the 60-day notice. The meeting after providing the 60-day notice is a minimum requirement.

17. Comment: While we support the Environmental Justice (EJ) goals as defined in Chapter 8 of the Acts of 2021 - An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy, we continue to be concerned that certain provisions in the proposed regulations will have a chilling effect on our members' ability to meet the demand for the materials our Commonwealth needs to maintain and enhance our transportation infrastructure.

Application Process- Extended and Undefined Deadlines Lead to Undue and Costly Delay- 7.02(3) (i) Public Comment Procedures and 7.02 (14) (b) Public Notice and Involvement - In order for our members to properly plan and allocate resources to expand or upgrade a facility, it is imperative that there is a level of certainty in the application and decision-making timeline, as well as the standards for review. Under the proposed regulations, community outreach work must begin no less than 60 days prior to filing a CIA application, the public comment period is doubled from 30 to 60 days, and there is no set deadline for MassDEP to review public comments and issue a decision on an application. In a best-case scenario, this will add three months to an already extensive permitting process. With DEP under no obligation to conduct a timely review, it is possible that our members could wait an additional year or more for a decision. Simply put, this will drive up costs, reduce confidence in the process, have a chilling effect on potential new developments, and put at risk the ability of our members to continue providing the essential materials and services that keep our Commonwealth running. We are requesting that MassDEP reduce the 60-day notice period before the permit application is made to 30 days and set a timeline to render a decision. Thirty days is more than adequate time for applicants to notify the public of a proposed project and gather public input in preparation for the permit application. The additional 30-days now provided for public comment after the application has been submitted should allow sufficient public scrutiny of the specific details of the application. We are also seeking clarity on how public input will be used within the MassDEP decision-making process. Can a permit be denied solely on objective indicator and emissions data thresholds, or will MassDEP be able to use any opposition from an

Environmental Justice Community as a reason to deny a permit? There is uncertainty around the proposed evaluation criteria that our members would need clarified before even considering moving ahead with a potential project. (MAAPA)

Response: MassDEP has kept the 60-day advanced notice requirement in the final regulations. MassDEP believes it would be difficult for applicants to conduct meaningful public involvement and develop a CIA in only 30 days. Ensuring public notice and involvement for a proposed project before a permit application is filed is important so that EJ populations can learn about the proposed project early in the process and provide early input to the applicant and MassDEP. MassDEP believes the 60-day notice will encourage improved communication with MassDEP and communities, allow sufficient time for an applicant to conduct the CIA, and allow for potential changes to the comprehensive plan application at a more flexible stage in the process. In addition, upfront public involvement can potentially shorten the overall time to receive a plan approval by providing time to address community concerns early in the process rather than during the formal public comment period. While MassDEP will consider informal and formal public input and comments in its decision-making throughout the review process, the decision to grant or deny a permit will be based on whether the application meets all regulatory requirements. MassDEP notes that 310 CMR 4.00 *Timely Action Schedule and Fees* contains timelines for MassDEP review of CPAs, including timelines for completing administrative, technical, and public comment reviews, and issuing a final decision. As noted in the Background Document for the proposed regulations, MassDEP is planning to develop proposed amendments to these regulations to increase the technical review period for CPAs with CIAs to account for review of the CIA and public comments received.

18. Comment: Timely Review and Public Comment. During the Stakeholder process, MCTA, AIM and our members raised concerns about the impact of the expanded permit application and extended public involvement period on facility expansion, renovations and siting in the Commonwealth. We also expressed concern about the Department's capacity to review and issue a decision on permit applications in a timely fashion, and the lack of a time frame by which the Department must act. While we recognize the importance of public input on project review, the requirement for a 60-day notice period before the permit application is made, an as yet undefined extension of time for Department review and response to public comments (proposed change to 310 CMR 4.00 permit timelines mentioned in Background Document), and the extension of the public comment period from 30 to 60 days collectively add at least 90 days to the permitting process beyond current requirements. The extended timing increases exposure for out-of-state competitors to exploit publicly available announcements of expansion by companies in Massachusetts; and it inhibits flexibility from corporations which typically choose a site only when plans are developed and funding in place. As written, this process denies industry the ability to be nimble if considering Massachusetts' sites when considering locations for new plants or product lines. MCTA and AIM request that the requirement for a 60-day notice period before the permit application is made be reduced to 30 days. This should provide adequate time for applicants to conduct public outreach and gather public input in preparation for the permit application. The additional 30-days now provided for public comment after the application has been submitted should allow sufficient public scrutiny of the specific details of the application. This approach will still collectively add 60 days to the permitting process beyond current requirements. (MCTA/AIM)

Response: MassDEP has kept the 60-day advanced notice provision in the final regulations. MassDEP believes it would be difficult for applicants to conduct meaningful public involvement and develop a CIA in only 30 days. See also Response to Comment #17.

19. Comment: The requirement for extended (60 days) advanced notice to EJ communities prior to the filing of a comprehensive plan application requiring a cumulative impact analysis is important and should be retained. Public outreach is important at this stage to solicit input from the community on concerns that should be addressed in the CIA so should be completed well before the final CIA is completed. However, we note that this section appears to apply only to the fact sheet provided as part of this preliminary notification. Information on the proposed facility and its potential impacts at that stage is quite limited. Comparable outreach must be required for the 60-day review under Section 7.02(3)(i) (Public Comment Procedures) upon submission of the comprehensive plan application and the cumulative impact analysis. (CLF)

Response: The initial 60-day advance notice with the Fact Sheet on the proposed project begins the public involvement process for the CIA and permit application. As described in the CIA guidance, prior to sending the notice, the applicant will contact MassDEP's Environmental Justice Director and the relevant Regional Office to identify appropriate community organizations the applicant should notify and engage in public involvement activities. The regulations require the applicant to conduct meaningful public involvement, and the CIA guidance provides a broad range of public involvement measures that should be considered at this stage, depending on community interest and needs, to ensure public input on the CIA and permit application. MassDEP may require the applicant to implement specific measures to ensure meaningful public involvement for environmental justice populations. After the CIA and permit application is submitted to MassDEP, the applicant will notify the community, including those who expressed interest during the initial public involvement phase, that the CIA and permit application have been submitted to MassDEP and are available for public review. While MassDEP reviews the CIA and permit application, community members can submit questions and informal comments to the applicant and MassDEP. After reviewing the CIA and permit application, MassDEP will issue a proposed decision and hold a formal 60-day comment period on the proposed decision. Notice of the 60-day comment period will be sent to all community members and organizations who have expressed interest in the CIA and proposed project during the initial public involvement process and during the MassDEP review period to ensure all community members have the opportunity to provide comments.

20. Comment: The requirement of at least 60 days notice to department officials, municipal officials and environmental justice neighborhood representatives is a welcome minimum stipulation. The use of standardized templates for providing project information and project proponent contact information is another welcome development. We highly recommend that the Department of Environmental Protection (DEP) regularly solicit feedback from affected communities on the efficacy of the information template to determine if the information provided was understandable and helpful, or if the template needs improvement. (BEAT)

Response: MassDEP will continue to work with communities and other stakeholders to solicit feedback on the usefulness of the template for the project Fact Sheet as the CIA program is

implemented and experience is gained.

21. Comment: For everyday community members, there is very often a long learning curve to understand the issues being considered. The work of learning about the technology involved and understanding the full impacts of a project is being conducted by community members in addition to their own jobs and careers, in their spare time, and most often without access to technical or legal consultants. Clear and thorough communication of the nature of the project will be crucial. Historically, hearings for public comment periods are held with little to no explanation of the policies or proposals at issue. Basic project information should be presented before public comments, and Q&A with the project proponent and DEP officials fielding questions from the public should be standard procedure. If this needs to be separate from accepting public comments, then both formats should be held by the DEP for every project proposal. All comment periods should, at the very least, include a recorded webinar or print synopses of proposals, in everyday language that people of diverse skill sets can understand, and in multiple languages to help people grasp the issue at hand. These should be provided to community advocacy and other civic groups for easy distribution among grassroots stakeholders. DEP staff members working on these project proposal reviews should hold regional meetings in person in the affected communities, where a presentation of this proposal is made followed by public, interactive Q&A sessions. These meetings should always contain a hybrid-online option through a platform that allows phone-in so participants with COVID concerns but no or slow internet can also participate. While a project proponent may choose to hold "open house" style events where one to one conversations between proponent company staff and the public can happen, this should not ever be considered a substitute for a fully public presentation with Q&A, where questions asked and answers provided can be heard by all and are on public record. (BEAT)

Response: The final regulations require applicants to provide public notice and a project Fact Sheet to EJ populations at least 60 days before they submit a permit application. The applicant also must provide meaningful public involvement opportunities during the 60 days. These requirements are intended to provide affected EJ populations with the time and information needed to understand a proposed project before the project application and CIA is submitted to MassDEP. The Fact Sheet must describe the project in lay-friendly language and should be translated into non-English languages as needed (see Attachment 1 in MassDEP's CIA Guidance for more information on the Fact Sheet template). As described in the final regulations and the CIA guidance, meaningful public involvement should be tailored based on community input and may include a public meeting where specific project information can be presented followed by a Q&A. Applicants are required to document the public involvement measures implemented in the CIA Report, including a summary of public comments received and the applicant's written responses to the public comments. Another way the CIA regulations enhance public involvement is that the formal comment period on the proposed permit and CIA is 60 days, which is longer than the typical 30-day comment period for a proposed comprehensive plan application (CPA), thereby allowing more time for EJ populations to review and comment on the CIA and proposed CPA. The CIA guidance provides additional detail on a broad range of public involvement measures that should be considered, including holding community meetings during weekend or evening hours, at accessible locations near public transportation, and/or through web-based conferencing applications if requested or determined to be more effective for reaching

EJ populations. Translation services should be available at all public meetings whether in-person or by remote platforms upon request. Detailed public involvement measures are contained in guidance because the details of each proposed project and the needs of each community will vary. MassDEP staff may attend public meetings.

22. Comment: Further required outreach methods should include a mandatory mailing to all impacted neighborhoods. The US Postal Service has the "Every Door Direct" program that allows a mailing to go out to every postal customer in a zip code, or chosen mail routes. It's a simple way to get word out directly to every resident and business in the area. Such a mailing should include the basic information about the proposed project, a link to the informational website recommended by the DEP, contact information for the project proponent and project hearing officer, and any upcoming opportunities for public engagement. Project proponents should also be required to directly notify and offer review meetings with "Nearby Sensitive Receptors", as noted in Table 1 of the Amendments: K-12 schools, long-term care residences, public housing, childcare facilities, and prisons. (BEAT)

Response: The regulations require at a minimum notice of the proposed project to the appropriate MassDEP Regional Office that will review the CPA, MassDEP's EJ Director, nearby EJ populations and organizations, and local officials. MassDEP has not mandated additional notifications in the final regulations, including providing notice via the USPS. However, applicants must engage in meaningful public involvement, and the community can request notifications to additional parties through the public involvement process.

23. Comment: EPA recommends strengthening the community engagement aspect of the CIA by requiring applicants to demonstrate, through an application submittal, that all specific measures concerning community engagement have been met and how the applicant is addressing concerns raised during community outreach efforts. This can be achieved by revising the proposed 310 CMR 7.02(14)(b)(4) to include a requirement that applicants submit to the Department a report demonstrating the completion of all community engagement activities and require a discussion on how the applicant incorporated community feedback into their development plans. Such measures will increase transparency and accountability in the decision-making process. (EPA)

Response: The final regulations at 310 CMR 7.02(14)(g) require the applicant to include in the CIA Report a description of the notice and public involvement measures conducted pursuant to 310 CMR 7.02(14)(b), including supporting documentation, a summary of public comments received, and the applicant's written responses to the public comments.

24. Comment: The regulations need to clarify that the public has an opportunity for public input during the 60 days' notice given in advance of a comprehensive plan application and cumulative impact analysis in 7.02(14)(b). (CLF)

Response: MassDEP has added language in the final regulations to make clear that the public has an opportunity for public comment during the 60 days' notice given in advance of a comprehensive plan application and cumulative impact analysis.

25. Comment: We recommend that the final rule include more specific information about the community engagement process. We encourage the DEP to adopt the process recommended by the EJ Table in their submitted comments. (Vote Solar)

Response: MassDEP has included additional details about the public involvement process in the final regulations.

26. Comment: The regulations must be more explicit about community engagement requirements. The requirement for community engagement in 310 CMR 7.02(14)(b) is a significant step towards an inclusive and equitable process. However, this requirement could be strengthened with explicit requirements and/or guidance for robust community outreach practices. For example, requirements could include the provision of childcare, food, and translation services at all meetings. We appreciate DEP's commitment to working with applicants to establish a meaningful community outreach strategy. Transparency about the elements of that strategy will be important to community trust. (MEJT)

Response: MassDEP's final regulations mandate meaningful public comment, as well as allow MassDEP to require specific public involvement measures, if necessary. MassDEP's CIA Guidance includes additional guidance on measures for conducting meaningful community outreach and involvement. Because each community has different needs, details regarding meaningful public involvement were put in guidance so that public involvement activities can be tailored to each affected community.

27. Comment: The envisioned outreach and analysis should be based on a defined "impact analysis area" which implements the language and purposes of the Roadmap Act. (BRG)

Response: The CIA regulations require that the public notice and involvement and cumulative impact analysis be for "Nearby Environmental Justice Populations," which are defined as EJ block groups within 1 mile or 5 miles of the proposed project. These EJ block groups would be equivalent to an "impact analysis area" as MassDEP understands the comment.

Assessment of Existing Community Conditions 310 CMR 7.02(14)(c)

28. Comment: Assessment of the existing community conditions is a critical foundation for the cumulative impact analysis. The section's approach to using: 1) a set of consistent indicators, 2) input from the community, and 3) providing some guidance on how to characterize and display existing community conditions is a reasonable first step. Given the time constraints, the DEP consultants have taken a reasonable first step in winnowing down the list of indicators to those in Table 1 and the list is broadly similar to those adopted by other states, such as New Jersey and California. However, a number of the indicators would benefit from better support for their use in impact assessment as discussed further below. As an initial step, Table 1 would be more immediately understandable and transparent if it were to consistently identify the metric and units for each of the indicators, not just reference to the data sources. (CLF)

Response: Table 1 of the proposed regulations provided units and metrics and the point of comparison (e.g., state percentile) for climate and pollution indicators. MassDEP has added

"percent of state rate" in Table 1 as the point of comparison for the health indicators. The CIA guidance contains additional detail on how the indicators should be reported, including the units and metrics and point of comparison to be used.

29. Comment: It is not clear how DEP would use these indicators, with or without air quality modeling, to identify conditions in a community as "unfair", "inequitable", or "disproportionate" – determinations that appear to be required only as part of an environmental impact report if such a report is required pursuant to 301 CMR 11.06(7)(b). California and New Jersey, for better or worse, have each provided more explicit methods for using similar indicators to rank communities and identifying communities most at risk. California's approach orders from highest to lowest the indicator values for the census tracts for the entire state. A percentile is calculated from the ordered values for all areas that have a score. Thus each area's percentile rank for a specific indicator is relative to the ranks for that indicator in the rest of the places in the state. California uses this screening level approach to identify "disadvantaged communities" for the purpose of targeting funding levels for cap-and-trade fund distributions, not for permitting decisions as is planned for Massachusetts. New Jersey uses a set of 26 different stressors to develop cumulative scores with which to rank and compare communities. In combination with the expected contributions from a proposed facility, these scores are used to characterize a "disproportionate" impact on communities relative to the "geographic point of comparison" defined as the State or county's 50th percentile for total environmental and public health stressors, whichever is lowest. In New Jersey, the Environmental Justice Rules (N.J.A.C. 7:1C)7 give the New Jersey Department of Environmental Protection the clear authority to use information from the cumulative impact assessment to deny a permit. Specifically, under section 7:1C-5.2, Avoidance of disproportionate impact, the rules state:

(b) Where the control measures proposed by the applicant cannot avoid a disproportionate impact, the Department shall deny the subject application pursuant to N.J.A.C. 7:1C-9.2(b)1, unless the applicant demonstrates that the proposed facility will serve a compelling public interest in the overburdened community, in accordance with N.J.A.C. 7:1C-5.3.

Notably, the New Jersey rules have clear methods for determining what it means for a proposed facility to have a "disproportionate impact." Massachusetts regulations and guidance would benefit from greater clarity on how the cumulative impact assessments, including all indicators, would be used to determine "disproportionate impacts" and would therefore be taken into account by DEP in permitting decisions. (CLF)

Response: MassDEP's approach for evaluating indicators in the assessment of existing community conditions in the CIA regulations is different than New Jersey's approach, which was implemented pursuant to a more prescriptive statute. Specifically, New Jersey's Environmental Justice Law gives explicit direction to the New Jersey Department of Environmental Protection (NJDEP) for developing regulations that identify disproportionate impacts by comparing stressor totals in overburdened communities with stressor totals in non-overburdened communities for certain types of projects. NJDEP's final regulations require a permit applicant to numerically calculate and compare cumulative stressor totals between the overburdened community where the proposed project is located and cumulative stressor totals in a non-overburdened geographic

point of comparison. The Climate Roadmap Act did not provide explicit direction to MassDEP to take such a comparative approach or to identify disproportionate impacts as part of the CIA regulations. While the CIA regulations do not include a comparative numerical ranking system based on indicators, the assessment of existing community conditions can be used to identify disproportionate impacts and some of the indicators include a comparison to statewide rates or percentiles. In addition, the assessment is not limited to the indicators in Table 1, but also must address other concerns raised by EJ populations through the public involvement process. MassDEP plans to work with stakeholders on the next phase of the CIA regulations and can consider the issues raised in this comment.

30. Comment: DEP should provide the public with a more rigorous assessment of the indicators, relationships or correlation structures between them and how individual indicators may modify or not the impact of exposures to different air pollutants. To support both streamlining of the CIA development process and to provide a solid basis for the DEP's own assessment of the CIAs produced, DEP should conduct a rigorous assessment of the health indicators, of any correlation structures between them (e.g., socioeconomic indicators and PM exposures) to clarify how individual indicators may modify or contribute to the impact of exposures to different air pollutants. To support decisions on requiring additional modeling and ultimately, its decisions on the potential cumulative impacts of an application, DEP will need to understand strength of evidence for the direction and magnitude of these indicators' interactions with air quality. Such an assessment would support also a more informative and transparent communication to communities and applicants of how these indicators may be used in assessing cumulative impacts. (CLF)

Response: To develop the CIA regulations, MassDEP engaged in a robust stakeholder process and devoted considerable resources to documenting and evaluating numerous indicators, as described in the *Technical Memorandum: Cumulative Impact Analysis Indicators for Existing Community Conditions Assessment* that accompanied the proposed regulations. This included a literature review to determine the appropriateness and relevance of indicators for inclusion in the CIA to assess a community's background exposures, sensitivity, and vulnerability to air pollution. MassDEP plans to work with stakeholders to further assess relevant indicators in the next phase of the CIA regulation development.

31. Comment: The consultant's review of the evidence on PM indicators – and any review of their interactions with other proposed indicators/stressors -- would be strengthened by review and citation of the 2019 USEPA Integrated Science Assessment for Particulate Matter and its more recent update, the most systematic and comprehensive review of the strength of evidence for the causal relationships between PM and adverse health outcomes. It is the Agency's basis for the primary and secondary NAAQS for particulate matter. The PM assessment also reviews the evidence on the influence of modifying factors like race, age, temperatures, and greenspace among others which could be very useful for guiding cumulative impact assessments. While it is understandable that the consultant could not conduct an extensive review, not to have cited the EPA science assessments for PM and other criteria pollutants like ozone, is a missed opportunity. In general, the guidance for all indicators should rely on systematic reviews rather than selected individual studies. (CLF)

Response: MassDEP considered EPA's most recent PM2.5 science assessment in developing the regulations, which supported the inclusion of PM2.5 as an air quality indicator. MassDEP will continue to consider additional scientific assessments of PM2.5 in the next phase of CIA regulation development and will cite to these assessments as appropriate.

32. Comment: Impervious surfaces are important contributors to urban heat islands and potential flooding, among other impacts on the environment. While temperature is a modifier of air pollution health effects, impervious surfaces are not a metric that is directly used in epidemiologic studies so interpretation of the impact of impervious surfaces on health will be difficult. From a health standpoint, DEP should consider inclusion of a measure of "greenspace" in either the Air Quality and Climate section or Health section. Substantial research over the last decade, has focused on the role of "greenspace," measured as a function of vegetative cover using satellite data (among other methods), in influencing human health either directly or by modifying the effects of air pollution. This evidence makes it more directly useful and interpretable as an indicator of another important stressor on health in communities. (CLF)

Response: MassDEP did not include a greenspace indicator in the final regulations. As noted in Attachment 1 of the Background Document for the proposed CIA regulations, while there are co-benefits of parks and open spaces, impervious surfaces was selected as an indicator and is a proxy for lack of tree canopy and available at the census tract level. MassDEP will consider a greenspace indicator in the next phase of CIA regulation development. While not an indicator in the current regulations, community members can raise the lack of green spaces in the public involvement process so that it is addressed in the assessment of existing community conditions.

33. Comment: All of the health indicators in Table 1 of the regulations should include an assessment of what percentile each health indicator value is relative to the state distribution, as is included in many of the other indicators (e.g., air quality and climate; socioeconomic). The worked example in the DEP Draft Guidance Document does indicate that all of the health statistics would be compared to a state average, but this requirement is not clear in the regulations themselves. (CLF)

Response: MassDEP has added the comparison to state rates to Table 1 in the final regulations.

34. Comment: Flood risk should be included in the list of indicators at 310 CMR 7.02(14)(c)4. Table 1 at 310 CMR 7.02(14)(c)4 lists several indicators publicly accessible on EPA's EJScreen tool. We encourage the DEP to include additional climate data in the list of assessment indicators. EJScreen includes data on Flood Risk and Coastal Flood Hazard that would be useful in determining the overall cumulative impact of a proposed project on an area population. Flooding can affect the structural integrity of a facility, which could present a future hazard to nearby communities. (MEJT)

Response: MassDEP did not include a flood indicator in the final regulations. As noted in Attachment 1 of the Background Document for the proposed CIA regulations, siting or approving continued operations of a facility in a flood hazard zone would not be in the purview of MassDEP air permitting. Safety risks associated with the facility/development in a flood hazard zone would be overseen by local zoning authorities (and MEPA). Note that if an area is

experiencing regular flooding that is affecting the health of residents, this issue could be raised by the community during the public involvement process and be included in the CIA report.

35. Comment: We encourage the use of currently available tools in a qualitative manner when assessing whether existing conditions are disproportionately adverse. Many of the CIA elements appear to be descriptive in nature, utilizing maps to identify EJ areas and providing data associated with different indicators. Available data have significant limitations. We also encourage coordination with the MEPA office, to allow a streamlined review of existing environmental conditions for projects subject to both programs.

While in general the environmental and social indicators can provide some useful context, there are limitations and some are redundant with the air quality analyses that would be part of the CIA (e.g., criteria pollutant indicators). As noted by US EPA, the indicators that are based on EJScreen are not useful for evaluating local health impacts because the methodology is based on a ranking against other areas and not on a comparison with health-based standards. For example, measured air pollution concentrations at nearby monitoring stations might show that levels are well below health-based NAAQS and that concentrations are trending down. In contrast, EJ indicators might show that the same area exceeds the 80th percentile for those air pollutant indicators or traffic, a threshold that US EPA has identified as meaningfully greater but still not necessarily adverse or disproportionate. A comparison of project impacts with health-based NAAQS, when added to relevant background concentrations (which would be part of a CIA) is a more useful way to assess impacts than the EJScreen indicator.

In addition, there is a large amount of uncertainty in the underlying data for many of the EJ indicators. For example, the indicator for cancer and noncancer risks from air toxics is based on data from US EPA's AirToxScreen. As noted by US EPA, the AirToxScreen estimates should not be used to compare risks at local levels (i.e., at the Block Group level) because both demographic and environmental estimates underlying these data are associated with a large degree of uncertainty.1 The uncertainty stems from the lack of information at the Census Block Group level. Because of little information at that level, available data, for example at the Census Block level, would be assumed to be the same for all the Block Groups in the Census Tract, even if there may be important differences. This approach is used for many of the indicators including the air pollution and NATA indicators. Lastly, as noted by US EPA, many of the indicators are screening-level proxies of potential health impacts, and do not represent actual health impacts. This is especially true for the "proximity" indicators such as the indicator for traffic. These uncertainties limit the use of these indicators for anything other than a screening level/qualitative assessment. (Epsilon)

Response: MassDEP recognizes there are limitations to the data underlying the indicators used in the CIA, while at the same time providing useful context and information regarding existing community conditions and potential health impacts. As noted in the Background Document for the proposed regulations, evaluation of the indicators in the community assessment will create greater public awareness of existing conditions and health burdens and could result in an applicant modifying the proposed project and/or proposing measures to mitigate impacts based on community comments. MassDEP will continue to coordinate with the MEPA Office on the implementation of the CIA regulations to ensure an efficient review of existing environmental

conditions for projects subject to both programs.

36. Comment: Assess Community Conditions – Inconsistent Indicator Data Leads to Inconsistent Results- 7.02 (14) (c) Assessment of Existing Community Conditions
Putting the onus on CIA applicants to identify and collect indicator data for existing community conditions will create significant burdens and lead to inconsistent usage and results for CIA applicants. The proposed indicators are wide and varied in scope, including such population characteristics as asthma rates, heart attacks, low birth weight, elevated blood lead levels in children, poverty levels, and English language isolation. Many of these proposed indicators lack clearly defined and uniform data sets or sources, which will result in different consultants utilizing different data sources and collection methods to arrive at different conclusions for the same indicators. Data should not be subjective. MassDEP should only permit for consideration those indicators that have data sources that have been vetted and approved by the Department and made readily available to all applicants on the MassDEP website. (MAAPA)

Response: MassDEP selected the 33 indictors in the final regulations based on data availability and quality, the ability to extrapolate data to an appropriate geographic scale, relevance to air quality and the air permitting context, and the unique value of each indicator. Data for the indicators is publicly available and MassDEP has compiled the data needed for the 33 indicators for all EJ block groups and tracts in Massachusetts in a file on MassDEP's CIA website and has developed a CIA mapping tool that can map the indicators by customizable geographic area. The CIA guidance directs applicants to use the data MassDEP has posted online in the CIA reports, and MassDEP will update the data regularly.

37. Comment: It's important that the DEP takes into account all of the hazards affecting public health and safety in any community, and not limit their calculations to just air quality. While the determination of an investigation of a specific proposed project would be what levels of air pollution would be deemed acceptable for a given community, that value can shift when other local harms are taken into account. A community that is already susceptible to illness from sources other than air pollution would be more deeply affected, even by lower levels that are usually seen as acceptable. Aside from preparing data for individual project proposals, a study of all public health risks in at-risk communities should be done by DEP, building a catalog of pre-existing harms to these vulnerable communities. It should also include not just historical pollution from existing sources, but be calculated on the "nameplate" maximum that could occur if said facilities were to operate at their full permitted capacity. Such a database could be overlaid with available public health information from the DEP of Public Health's "Vulnerable Health EJ Criteria" to help identify any areas already experiencing concentrations of health concerns likely to be caused by environmental factors. Having this database available, in a similar format to the state's Environmental Justice Populations Map would help inform the decision-making process in critical ways, and would be a helpful resource for community members as well. Since a deepened outreach to Environmental Justice communities is a relatively new policy, many community members have not had access to data that shows a comprehensive picture of the impacts they're dealing with or where those impacts are coming from. (BEAT)

Response: The final regulations require the CIA to include an assessment of existing

community conditions that includes data on 33 air quality, environmental, health, and socioeconomic indicators that characterize existing pollution sources, health vulnerabilities, and other stressors experienced by an EJ population. MassDEP has compiled the data for the 33 indicators for all EJ block groups and tracts in Massachusetts in a file on MassDEP's CIA website and has developed a CIA mapping tool that can map the indicators. While these data and the mapping tool will be used in CIAs that are required as part of a permit application, they also can be used outside of a required CIA to document existing hazards and vulnerabilities faced by EJ populations, and therefore may be a useful resource for communities interested in understanding stressors affecting them. MassDEP recognizes that the current regulations and data tools represent a first step to assessing cumulative impacts, and MassDEP is committed to using the experience it gains implementing the CIA regulations to work with stakeholders to develop the science and application of CIAs.

38. Comment: *310 CMR 7.02(14)(d)3* The provided tools, such as the Draft Cumulative Impact Analysis Mapping and Data Application, do not include the necessary details and data required for conducting the CIA based on the current draft regulations. Relevant parameters include stack height, release height, stack diameter, temperature, exhaust velocity, emission rates, and stack latitude/longitude location, as well as influential buildings. Similarly, in cases in which the Department requires air quality dispersion modeling of air toxics as described in 310 CMR 7.02(14)(d)1, we note that accurate information regarding nearby facility emissions of these air pollutants will be very limited (and that air toxics background concentrations are generally unavailable). To allow for a reasonable analysis while protecting public health, we encourage MassDEP to keep the scope of nearby sources for any particular project limited to only those that truly could meaningfully contribute to a combined adverse impact. We support the existing approach of evaluating those context-specific details as part of the modeling protocol. (Epsilon)

Response: The CIA mapping tool is for use in the assessment of existing community conditions and is not intended to provide data to be used in air dispersion modeling or the air toxics risk characterization. Data inputs for modeling and risk characterization would come from design and engineering calculations for the proposed project and available emissions data and associated parameters from nearby significant sources (e.g., from Source Registration emissions reports data). The identification of nearby significant sources will be determined on a case-by-case basis in consultation with MassDEP based on available data and potential impacts to EJ populations. HAP values for nearby sources can be estimated from Source Registration data and EPA emission factors. Applicants can substitute more precise site-specific data where HAP emissions have been reported or other site-specific information is available. As is current practice, applicants may request Source Registration emissions data for nearby sources from MassDEP.

39. Comment: *310 CMR 7.02(14)(c)4* MassDPH and EEA can and should update the maps that are represented in tools such as EEA EJ Viewer. The November 12, 2022 update of Environmental Justice Areas included several areas where residents live in group housing quarters, such as college and university dorms. As we understand it, the *Act Creating a Next Generation roadmap for MA Climate Policy,* requires the exclusion of university and college student demographic groups from EJ designation. Block Group 4 in Census Tract 4044, which effectively outlines Wellesley College, is one example of a newly declared EJ population which may not represent the populations that the EJ regulations intend to protect. While it is

documented in the EJ Maps Update 2022 FAQ that this is an ongoing topic of discussion for the Environmental Justice Council, we urge MassDEP to consider removing EJ designations from university and college dorm block groups in order to avoid having to conduct CIAs for projects near those areas. Furthermore, MassDPH and MassDEP should have the authority to exclude block groups from EJ designation if other indicators, like household income, near new projects, or public health data, show no disproportionate impacts to the population. Reducing the number of CIAs submitted for projects near such areas will allow MassDEP to focus time and resources on the EJ areas that do have a history of disproportionate environmental impacts. (Epsilon)

Response: EJ block group designations are beyond the scope of the CIA regulations. Under the Climate Roadmap Act and Executive Office of Energy and Environmental Affairs (EEA) EJ Policy, EEA is responsible for designation and de-designation of areas as EJ Populations. Therefore, no change has been made to the final regulations regarding authority to designate or de-designate block groups as EJ Populations.

40. Comment: Availability of Table 1 Indicators. The Table 1 Indicators should each be pertinent, and from readily available information that can be assembled from specific, credible sources. This will make the process more efficient as applicants assemble information for review by the Department. Given the large number of indicators that were proposed in the stakeholder process, we commend MassDEP for carefully determining the indicators and specific risk criterion to ensure trustworthy quantitative comparisons. We request that in the future, any additional indicators considered continue to meet the criteria mentioned above, in that they be pertinent, readily available, specific, credible, and allow for quantitative comparisons. (MCTA/AIM)

Response: MassDEP selected the 33 indictors in the final regulations based on data availability and quality, the ability to extrapolate data to an appropriate geographic scale, relevance to air quality and the air permitting context, and the unique value of each indicator. Data for the indicators is publicly available and MassDEP has provided a mapping tool and spreadsheet with indicator data for permit applicants and the public to use in the CIA. In future updates to the CIA program, MassDEP will continue to ensure that indicators are based on data that are pertinent, readily available, specific, credible, and allow for quantitative comparisons.

41. Comment: Critical to the success of these proposed regulations is a complete identification and analysis of the existing pollution burden in EJ populations. In our member communities, some of which are proximate to the airport, aircraft overflights and ground-related emissions related to Logan Airport are particularly burdensome. Unfortunately, we are unable to see how the proposed use of the Massachusetts Department of Public Health's Environmental Justice Tool will provide the necessary information to quantify impacts from the airport. Instead, we need well-placed air quality monitors capable of measuring ultra-fine particles or otherwise verifiable emissions data on which to establish baseline conditions. MassDEP has indicated that proximity to an airport may be used as an indicator to qualitatively assess the applicant's proximity to additional sources of mobile air pollution. Transportation hubs are a source of elevated air pollution, and proximity to transportation hubs such as airports increases exposure to air pollution and, therefore, increases risk of air pollution-related health impacts. For example, studies show that concentrations of ultrafine particulate matter, PM2.5, black carbon, criteria

pollutants, and PAHs are elevated around airports and CO, NO2, PM2.5, and black carbon can be emitted from seaports. This is certainly grounds for more robust and accurate measurements of pollution around Logan Airport.

Air quality and noise from aircraft departures and landings are of significant and justifiable concern to residents of East Boston and other communities exposed to Logan's low overflights, vehicular traffic, and ground operations. Many of these communities are also subjected to other air quality-related burdens that may not be presently measured. For example, monitors of criteria pollutants are not located in East Boston, South Boston, Winthrop, Revere, or Somerville and there is only one in the City of Chelsea. There is no airport fence-line monitoring. We strongly urge the Commonwealth to not miss this opportunity to begin the important discussion of precisely quantifying the air quality and health impacts of Logan's air and ground operations on surrounding communities. A meaningful discussion of cumulative impacts would seem to require such a discussion. (MACAC)

Response: The CIA regulations only apply to a proposed project that would require an air quality CPA based on potential air pollutant emissions and do not apply to existing operations, including Logan Airport activities. However, if a proposed project in or near an EJ population in a community surrounding Logan Airport is subject to the CIA regulations, the applicant would be required to conduct meaningful public involvement and nearby EJ populations could raise concerns regarding existing air pollution sources and noise, including from Logan Airport operations, during the CIA process. These concerns would have to be included in the assessment of existing community conditions and considered in the CIA.

42. Comment: The current proposal requires the project applicant to conduct the CIA - including providing data on its own projected emissions, doing the air quality analysis, and assessing the community for health and social factors. This creates obvious conflicts of interest, as does the conducting of the analyses by private contractors paid for by the applicant.

- These studies must be done by MassDEP staff. We understand that MassDEP's budget has been gutted in recent years, with many of its functions delegated to private contractors who often have business connections to the companies being vetted. Budget increases for MassDEP, combined with fees for services to applicants need to return these functions to the agency to eliminate these conflicts of interest.
- In the meantime, data collected by project proponents needs to be independently compared with available data from independent sources, and
- MassDEP should be required to compile a database of all health threats in each already-overburdened community, one that is updated and available when new projects are proposed. Businesses seeking siting in those communities would not then have to each start from scratch with their CIA applications, and CIA data would be independently verifiable. (FRRACS)

Response: While the regulations require project proponents to conduct the CIA and to prepare permit applications, MassDEP will review all the information submitted. For the CIA, MassDEP has compiled and made available on its website all of the data for the 33 air quality, environmental, health, and socioeconomic indicators that must be assessed in the CIA. These data are independently generated by government agencies (e.g., MassDEP, Massachusetts

Department of Public Health, U.S. Census Bureau) and are not generated by the applicant. MassDEP will update these data on a regular basis. In addition, the applicant is required to conduct meaningful public involvement measures and document and respond to additional environmental and health concerns raised by the public. MassDEP will review the CIA prepared by the applicant and will verify that the correct indicator data was used. Once the CIA is submitted to MassDEP, the applicant must notify the public that the CIA is made available for public review through the EEA ePlace Public Access Portal concurrent with MassDEP's review. During this public review, interested parties can review and verify that the data and information included in the CIA is accurate and reflective of their community, and provide comments on the CIA to the applicant and MassDEP. For the permit application, the applicant must provide detailed information regarding the proposed project, including planned air pollutant emission sources, control technologies, emissions estimates, air dispersion modeling, and risk screening analysis. MassDEP will review the information and data submitted in the permit application and apply its technical expertise to ensure that appropriate data is used. All the data and information in the CIA and permit application will be made available for public review concurrent with MassDEP review and also will be subject to a formal 60-day public comment period when MassDEP issues a proposed decision.

43. Comment: The proposed regulations require mandatory use of EPA's EJScreen tool via 310 CMR 7.02(14)(c)2 Table 1 for obtaining air quality, nearby sensitive receptors, and socioeconomic indicators data. EPA supports this method; however, it may be useful to provide plain language guidance in accompanying CIA guidance documents on how to access these data. For instance, pollutant concentration values (e.g., PM2.5 concentrations, measured in μg/m3) and state percentiles of pollution are currently not included on the main EJScreen mapping tool. In order to obtain these data, the applicant must generate a "standard report." Additional guidance on how to obtain these data may be beneficial to industry and citizens interested obtaining these values, and this additional discussion could be included in the *Guidance for Conducting Cumulative Impact Analysis for Air Quality Comprehensive Plan Applications*, when finalized. (EPA)

Response: MassDEP has posted on its CIA webpage all the EJScreen and AirToxScreen data for Massachusetts for applicants and the public to use. MassDEP retrieved the data from the bulk data downloads of EJScreen and AirToxScreen data to make the relevant data more readily accessible. MassDEP has stated in the final regulations that data for CIA reports are available for applicants and the public on MassDEP's website and for clarity removed from Table 1 references to original data sources. MassDEP also has included notes in the CIA Guidance and in the Indicator Data Notes about where to retrieve these data directly from EPA sources, although using those sources directly is not required.

44. Comment: In Step 3, it is proposed that the applicant gather data on 33 air quality, environmental, health, and socioeconomic indicators. These indicators broadly include measures of pollution exposure or exposure/risk surrogates, measures of proximity to regulated facilities, prevalence or incidence of various health outcomes, sociodemographic indicators, and nearby sensitive receptors. While this is consistent with other EJ indicator tools, these indicators have widely different meanings, and it is unclear precisely what the applicant should or could do with this information. In other words, is it intended that the applicant compare these indicators for the

census tract surrounding the proposed site with other tracts in the vicinity, with other tracts across the state, or with tracts surrounding other viable sites? Should this instead be done in concert with dispersion modeling to characterize attributes of downwind populations? Should a subset of these indicators be used that are relevant to the particular type of facility, or should they all be used in all cases? What combination of values or percentiles, relative to other communities, would trigger the need for modification or mitigation?

These questions are difficult to answer because the underlying meaning of each indicator is quite different. Some proximity-based indicators are more reflective of historical inequities in siting processes but may or may not be relevant to understanding baseline levels of risk in the community. Some health outcomes or sensitive receptors may be directly relevant to the pollutants emitted by the facility in question, and others may not be. Sociodemographics speak to the potential for environmental injustice but may or may connect to exposure or risk.

Absent an overarching analytical strategy, it is likely that the applicant would simply generate a table or map of the 33 indicators, perhaps with some sense of how they compare among a few geographic locations, but that this would have no bearing on any decision. It appears that the primary goal of this step is to "create greater public awareness of existing conditions and health burdens", but it is more likely to engender confusion and exacerbate conflict, as community members and applicants point to different indicators and argue about their meaning. It is also clear that most overburdened communities are aware that they are overburdened, even if they don't have all of the data systems at hand. The real question is how the magnitude and nature of that overburden should be formally incorporated into the decision process for proposed projects.

While the assessment of existing community conditions will by necessity vary across settings and applications, the vagueness will make it difficult for this step to have any impact. I would recommend an approach similar to that of health impact assessment (as described, for example, in the National Academy of Sciences report "Improving Health in the United States: The Role of Health Impact Assessment). In this approach, a baseline profile of the affected community "focuses on health issues and health determinants that may be affected by the proposal rather than on attempting to provide a complete assessment of community health", with explicit inclusion of vulnerability attributes and related environmental justice concerns. This could be coupled with greater specificity on the nature of comparisons that should be included. Drawing from the broader set of available data and indicators is logical, but refinement and focus are needed to ensure applicability and interpretability. (Jonathan Levy)

Response: MassDEP recognizes that the approach in the regulations represents a first step to assessing cumulative impacts. MassDEP is committed to gaining experience implementing the CIA regulations and working with stakeholders to develop the science and application of CIA. MassDEP plans to work with stakeholders on the next phase of CIA regulation development and can consider the issues raised in this comment.

45. Comment: The assessment of existing community conditions within the "impact analysis area" should consist of a comprehensive baseline analysis of all existing environmental impacts and not be limited to air pollution impacts. The reason for this is that multiple factors contribute to the adverse, disparate environmental impacts in environmental justice communities. Accurate

evaluation of individual proposed projects must take into account the cumulative, existing baseline conditions within the "impact analysis area." (BRG)

Response: The CIA regulations require a baseline assessment of existing community conditions in nearby EJ populations that includes data on 33 indicators listed in Table 1 of the regulations. These indicators are not limited to air pollution but also include environmental, health, and socioeconomic indicators. Note that nearby EJ populations are defined as block groups meeting EJ criteria within 1 mile or 5 miles of the proposed project. These EJ block groups would be equivalent to an "impact analysis area" as MassDEP understands the comment.

46. Comment: The amended regulations should clearly set out - or clearly refer to - levels of significance for air pollution impacts, such as PM10 measurements within meaningful distances from the proposed project site and within the impact analysis area. These levels of significance should clearly and accurately show whether a public health risk exists in the baseline condition and allow for independent determination as to whether a proposed project will add to a baseline level already beyond a public health threshold, or whether the project would result exceeding of a public health level of significance. These levels of significance themselves should be subject to independent, expert-informed evaluation. (BRG)

Response: EPA has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants, such as PM10. MassDEP monitors criteria pollutants statewide and ambient concentrations for all criteria pollutants are below the NAAQS. Since all background concentrations are below the health-based NAAQS, an unacceptable public health risk due to PM10 would not be expected in any baseline condition in any EJ population. For a proposed project, the CIA regulations require air dispersion modeling of criteria pollutants that considers background concentrations to ensure that added pollution does not increase levels above the NAAQS. The regulations at 310 CMR 7.02(14)(h)2. cite to requirements that criteria air pollutant limits (i.e., NAAQS) and cumulative air toxics risk limits must not be exceeded as a result of emissions from a proposed project. These are further defined at 310 CMR 7.02(14)(d)4., (e)5. and (e)6. MassDEP selected these levels to ensure protection of public health.

47. Comment: It is important to consider information and scientific studies that have been conducted in the greater Boston area regarding exposure to ultra fine particles (UFP) from transportation sources such as roadways, airports, ports, and rail infrastructure. and to consider measures to protect health such as building air filtration. (Wig Zamore)

Response: MassDEP recognizes that UFP emissions and formation is an important area of research and studies regarding potential adverse effects on human health. MassDEP is planning to add UFP monitors at four of its existing monitoring stations to enhance particle pollution monitoring in or near urban EJ population areas near high traffic roadways (as described in its 2023 Ambient Air Monitoring Network Plan). MassDEP may consider UFP issues in the next phase of CIA regulation development.

48. Comment: It is important to recognize how noise from busy roadways, airports, ports and rail affects environmental justice populations and to consider measures to protect health such as

highly insulated buildings with triple-glazed windows. (Wig Zamore)

Response: MassDEP recognizes that noise can have adverse effects on EJ populations. Though the CIA regulations do not list noise as an indicator, concerns about noise can be raised by affected EJ populations during the public involvement process and addressed in the CIA. In addition, noise from proposed projects is addressed by MassDEP in the comprehensive plan application review.

49. Comment: Mapping of EJ Populations and near source air and noise pollution data should begin as soon as possible. U.S. urban areas, including the Boston region, should immediately begin to map both population characteristics, especially socioeconomic status (SES), and primary transportation related air pollution and noise by Census Block Group (CBG), using the best available data and conduct a longitudinal analysis of transportation-related air pollution and noise over the last several decades. (Wig Zamore)

Response: The CIA regulations include air pollution indicators by EJ Block Group but do not include data that would enable gradient mapping near transportation sources, and noise data is not currently available. Mapping of air and noise pollution data relative to EJ populations in urban areas is beyond the scope of the CIA regulations. However, concerns about transportation-related air pollution and noise can be raised by affected EJ populations during the public involvement process and addressed in the CIA. If data on noise becomes available MassDEP can consider it as an indicator in the next phase of CIA regulation development.

50. Comment: Longer term, we need to engage the best immune system and air pollution scientists in the world to remedy of the health disparities due to differential health effects of near source exposures to transportation related UFP and noise and the connection between inflammasome biology and the environmental epidemiology. (Wig Zamore)

Response: MassDEP agrees additional research is needed in these areas and can consider the issues raised in this comment in the next phase of CIA regulation development.

Air Quality Dispersion Modeling 310 CMR 7.02(14)(d)

51. Comment: We request that the Department allow use of the risk characterization spreadsheet tool to apply default air dispersion factors to criteria air pollutants for compliance with 7.02(14)(d). (MCTA/AIM)

Response: The risk characterization spreadsheet tool was developed specifically for air toxics and MassDEP would need to create a separate spreadsheet tool for criteria pollutants that addresses the specific requirements of the National Ambient Air Quality Standards (NAAQS), including 8-hour averages for carbon monoxide, the specific form of the NAAQS for each criteria pollutant, etc. A spreadsheet screening tool for criteria pollutants could be useful to permit applicants and the public, and MassDEP can consider developing such a tool in the next phase of CIA regulation development.

52. Comment: DEP should clarify why it requires air quality modeling for criteria pollutants in 310 CMR 7.02(14)(d)(1) but only "may" require them for air toxics. Also, Section 7.02(14)(e)

appears to give the decision about whether to conduct air dispersion modelling to the applicant rather than to DEP. Please require it. (CLF)

Response: 310 CMR 7.02(14)(d)1. does not require air toxics dispersion modeling because 310 CMR 7.02(14)(e) allows the use of MassDEP's risk characterization screening tool to calculate cumulative air toxics risk instead of using air dispersion modeling. This screening tool uses default dispersion factor values to derive a conservative estimate of cumulative air toxics risks. Because the spreadsheet tool produces conservative estimates, 310 CMR 7.012(14)(e) allows an applicant to alternatively input site-specific dispersion factors or to use air dispersion modeling instead of the risk screening tool. In the final regulations MassDEP moved the statement that MassDEP may require air dispersion modeling of air toxics emissions from 310 CMR7.02(14)(d)1. to 310 CMR 7.02(14)(e)3. to make the regulations clearer and added that MassDEP may require a refined risk characterization.

53. Comment: The DEP needs to clarify how it would deal with differences in PM2.5 and other criteria pollutants that may exist between an EJ population and the State as a whole, but that are below the existing Federal or State Ambient Air Quality Standards. For example, the Massachusetts 2021 Air Quality Report (October 2022) indicates that PM2.5 levels handily meet current federal annual average as well as 24-hour PM2.5 standards based on monitoring stations in the urban areas of Boston, Greenfield, Pittsfield, and Springfield. EJ Screen indicates that PM2.5 levels in Boston are at about the 25th percentile of national levels. Concentrations are likely to vary more at local scales with greater disparities appearing in communities of color. Based on several recent studies, the USEPA has signaled that it may lower the PM2.5 standard but in the meantime, it is possible that simple comparisons to the Federal and state standards will allow inequalities in exposure to continue. Regulatory and other impact assessments that rely on estimation of increased morbidity and mortality associated with PM2.5 do predict impacts below the current standards (it is estimated for example that half the projected benefits of the current PM2.5 annual standard are associated with exposures below the standard), impacts that can vary by community and race (see for example, Lane et all 2021). This issue goes to the question of how questions of "unfair", "inequitable", or "disproportionate" impacts will be decided ultimately in Section 7.02(14)(f). (CLF)

Response: As noted in the comment, concentrations of PM2.5 are below the Massachusetts and National Ambient Air Quality Standards (NAAQS) at all monitoring stations statewide. Massachusetts has a growing network of low-cost PM2.5 sensors that also show levels below the PM2.5 NAAQS. In general, the monitoring and sensor data do not show large differences in concentrations across the state. However, MassDEP recognizes that scientific assessments show health effects below existing NAAQS and that even slightly higher PM2.5 concentrations in EJ populations with greater incidence of health effects may make a difference in health outcomes. MassDEP plans to work with stakeholders to explore how to address pollution levels below NAAQS in at-risk EJ populations in the next phase of the CIA regulations. As noted in MassDEP's April 2022 draft CIA Framework, MassDEP is considering the possibility of more protective air pollution limits for certain EJ populations.

54. Comment: In Step 4, it is proposed that MassDEP conduct air dispersion modeling in a generally similar fashion to current practice, but with inclusion of significant new vehicle

emissions if warranted. This approach is not responsive to concerns about cumulative impacts and is disconnected with some of the information available from Step 3. The epidemiological evidence continues to demonstrate that health effects from criteria air pollutants such as PM2.5 exist below the NAAQS, and it is widely recognized that the NAAQS is not intended as a zero-risk level. In the context of cumulative impacts, this insight is even more important, since it is more likely that a non-threshold response would be seen in the presence of multiple other stressors that influence a common health outcome. As such, the health impact from a proposed project would depend on not only the background concentrations and potential emissions of the proposed project, but also population characteristics and other key factors. Stated another way, suppose that Community A has three times the asthma prevalence as Community B (per the indicators utilized in Step 3), with numerous stressors (including indoor air pollution) in that community that can exacerbate asthma. A proposed project that added to concentrations of criteria air pollutants known to exacerbate asthma would be expected to have a greater public health burden in Community A, all else being equal. The process in Step 4 would not acknowledge these differences and simply use the presence/absence of NAAQS violations. While I appreciate the fact that addressing NAAQS violations or SILs is what is required of MassDEP per the Clean Air Act, this approach is not responsive to the objective of cumulative impact analysis. I would recommend that MassDEP utilize existing tools such as BenMAP-CE to quickly estimate the criteria air pollutant health implications of a proposed project, with the AERMOD outputs and population data from Step 3 providing all of the necessary information. The outputs could be used in a relative sense – i.e., if asthma prevalence were at the state average in downwind communities, or if the applicant included a mitigation measure, how many times more or less would the health impacts be? With a pre-populated template this could be analyzed very rapidly and would be responsive to the broader cumulative impact analysis framework. (Jonathan Levy)

Response: While the NAAQS are set at levels considered to be protective of people's health with an adequate margin of safety, MassDEP recognizes that scientific data indicates there can be adverse effects at levels below the NAAQS and that some EJ populations may be more vulnerable to the effects of added air pollution. EPA's Environmental Benefits Mapping and Analysis Program – Community Edition (BenMAP-CE) tool estimates the number and economic value of health impacts resulting from changes in air quality – specifically, ozone and fine particles – and generally is not used in facility-specific permit review. MassDEP would need to evaluate use of the BenMAP-CE tool in this context at a smaller scale neighborhood grid size level. The final CIA regulations are an initial phase of the CIA program and MassDEP plans to work with stakeholders on the next phase of CIA regulation and can consider the issues raised in this comment. As noted in MassDEP's April 2022 draft CIA Framework, MassDEP is considering the possibility of more protective air pollution limits for certain EJ populations.

55. Comment: The Air Quality Dispersion Modeling section of the *Draft Guidance for Conducting Cumulative Impact Analysis for Air Quality Comprehensive Plan Applications*, which guidance is being finalized with the regulation, states that if a proposed projects includes significant new vehicle emissions, those emissions should also be included in the modeling. EPA recommends that Massachusetts consider EPA's 40 CFR part 51 Appendix W - Guideline on Air Quality Models, to account for mobile vehicle emissions. Section 8.2.1. of Appendix W provides discussion on how to model mobile emissions from streets and highways, and what dataset

should be considered. (EPA)

Response: MassDEP has added a reference in its CIA guidance to EPA's 40 CFR part 51 Appendix W - Guideline on Air Quality Models to account for mobile vehicle emissions.

Risk Characterization of Air Toxics 310 CMR 7.01(14)(e)

Comment. We encourage flexibility in the application of existing toxicity values, and a simplified path to request changes to those values. Depending on the source of the toxicity values, the information may have been developed with multiple layers of conservatism and may have been envisioned to be protective of public health across a broad range of existing background conditions and to be used to establish risks based on exposures to a single air toxic. Using them as "bright line" standards in the context of a cumulative impact assessment may create an artificial result where an adverse impact is predicted, but no real potential for any adverse impact exists. (Epsilon)

Response: MassDEP's Office of Research and Standards (ORS) developed toxicity information for 239 air toxics and incorporated this information into the Massachusetts Air Toxics Risk Screening Tool (MATRiST). The final regulations provide flexibility in applying the toxicity information by giving facility owners the options to use the MATRiST spreadsheet tool, modify the tool with project-specific air dispersion factor values, or not use the tool and instead conduct air dispersion modeling and a refined risk characterization using more facility-specific information. Along with the final regulations ORS has published documentation on the derivation of the toxicity information to be used in the CIA. ORS will continue to evaluate and update the toxicity information based on the latest available scientific data.

56. Comment: We note challenges in identifying model input parameters for sources not controlled by the applicant. It is foreseeable that an applicant could show an artificially high overall impact, because of the lack of good information regarding neighboring facilities' operations. We encourage MassDEP to limit this problem by focusing the cumulative analysis only on nearby sources that could create a significant cumulative impact. (Epsilon)

Response: Applicants should consult with MassDEP regional staff about including emissions from nearby significant sources. For these sources MassDEP generally can provide the emissions to the applicant based on reported emissions from the sources. For cumulative air toxics risk characterization, the regulations require consideration of "nearby significant sources as appropriate and where information is available" and the CIA guidance directs applicants to consult with MassDEP regional staff about including emissions from these sources in the risk characterization. MassDEP will determine how to address air toxics emissions from nearby significant sources on a case-by-case basis based on available data and potential impacts on EJ populations.

57. Comment: We note that the question of what constitutes a "significant" amount of motor vehicle emissions will be very context-specific, and we support the current approach to address those details in the review of the specific project's modeling protocol. (Epsilon)

Response: MassDEP will determine how to address motor vehicle emissions on a case-by-case

basis, considering the proposed project and potential impacts on EJ populations.

58. Comment: *310 CMR 7.02(14)(e)* As 310 CMR 7.02(14)(e)3 permits the use of air dispersion modeling to meet Risk Characterization requirements, and 310 CMR 7.02(14)(d) requires air quality dispersion modeling [for criteria pollutants], it is unlikely that an applicant will choose to use the provided risk characterization spreadsheet tool because the default air dispersion factors are too conservative. The Emissions Factor Guidance provided in the risk characterization spreadsheet tool suggests a hierarchy of emissions estimations methods that is not equally appropriate for all types of emissions sources. For standard combustion of commercial fuels in boilers, engines, and turbines, it is difficult to determine which pollutants to include in the assessment, especially since some pollutants, such as acrolein, cannot be tested with low enough detection limits to yield scientifically sound results. Further, air toxics emission factors from AP-42 and EPA's FIRE database are known to be outdated and of generally poor quality, and modeling multiple individual compounds increases the chance of error. Increased accuracy could be achieved by focusing on specific, relevant pollutants as informed by EPA rulemaking for NESHAPs from boilers, engines, and turbines.

A similar approach could be taken to simplify and reduce the risk of error in emissions calculations and modeling from surface coating and other well-understood solvent uses. The Risk Characterization could focus on fewer specific compounds that have high use and high toxicity, rather than bulk carrier solvents and other compounds that present little risk or compounds that are present in such small concentrations that SDS information may not be accurate.

Based on case study results, the MATRiST tool may be too conservative to allow most facilities to "pass" depending on the facility configurations. As the data shows, the higher emission and lower stack configurations appear to yield the largest differences and would result in an exceedance of risk thresholds for this single air pollutant using the screening spreadsheet. This tool also has some limitations that could be addressed in future revisions and would serve to enhance its effectiveness as a screening tool. First, stack heights are selectable in 3 m increments or nearly 10 ft increments. A deciding factor in air dispersion modeling is stack height. For applicants whose stacks are between a 3 m increment, choosing the lower stack may result in an exceedance, while selection of the higher stack increment may be inappropriate due to the need for conservatism. MADEP could consider stack height increments such as 1-1.5 m. Alternatively, a wider selection of stack heights for a subset of common stack height ranges in Massachusetts, such as 15- 30 m., could be made available.

It was noted that the underlying data for the MATRiST tool were based off 32,900 AERMOD runs that used the "rural" dispersion classification. While we are in agreement that rural dispersion gives higher concentrations (and therefore is more conservative), it may be appropriate to have two "versions" of the tool for urban settings and rural settings given that the rural/urban terrain selection greatly influences final concentrations. Most projects subject to CIA are likely to be in urban areas. Therefore, it may more accurately represent actual conditions of project locations to use the urban dispersion classification. (Epsilon)

Response: MassDEP has updated MATRiST to include stack height increments of 1 meter

(instead of 3 meters) and added a choice of rural vs urban. MATRiST is meant to be a conservative screening tool and applicants can always choose to conduct air dispersion modeling to generate facility-specific dispersion factor values or to completely rely on air dispersion modeling. In this case the applicant should submit an air dispersion modeling protocol to MassDEP for review and approval prior to completing the air dispersion modeling. Regarding pollutants to include for standard combustion of commercial fuels in boilers, engines, and turbines, the applicant should discuss with MassDEP the appropriate air pollutants to evaluate and emission factors to use. MassDEP will consider developing guidance for a required list of compounds for standard fuel combustion sources in the next phase of CIA program development.

59. Comment: We request that MassDEP consider simplifying the analysis requirements for facilities using commercial fuels. Repeating the analysis for products of incomplete combustion, and for trace fuel elements, adds to the complexity (and the potential for errors) without providing significant insight. For standard fuel combustion sources such as boilers and engines, consider the use of representative compounds as indicative of overall effects. (Epsilon)

Response: MassDEP will consider developing guidance for a required list of compounds for standard fuel combustion sources in the next phase of CIA program development. Until then, during the required meeting with MassDEP's regional office before the CIA and air permit application is submitted, the applicant should discuss with MassDEP the appropriate air pollutants to evaluate and emission factors to use.

60. Comment: To facilitate compliance and uniformity, we recommend that the Department develop and maintain an updated list of substances determined to be toxic or potentially toxic to human health by inhalation. (MCTA/AIM)

Response: MassDEP has published a list of air toxics with the final CIA regulations on its website.

61. Comment: Risk Characterization of Air Toxics. MCTA and AIM request clarification on whether existing actual or existing potential air toxics emissions are to be used in the risk characterization spreadsheet tool. (MCTA/AIM)

Response: MassDEP has clarified in the final regulations that potential air toxics emission should be used for the proposed project (i.e., potential emissions for proposed project and potential emissions for any existing emissions units) and actual emissions are to be used for any significant nearby sources where information is available. MassDEP also clarified that for modeling of criteria pollutants potential emissions should be used for the proposed project and for any existing emissions units.

62. Comment: The cancer and non-cancer risk characterization is standard risk assessment methodology for estimation of potential individual risk but is not designed for public health impact analysis. In particular, these methods are intended only to examine the joint risk from multiple exposures. They do not reflect any influence of non-chemical stressors. The DEP should consider inclusion of an indicator for age adjusted cancer rates as part of the health indicators or explain why one is not included. For example, could the Massachusetts

Environmental Public Health Tracking system be used? Strong evidence links increased risks of lung and other cancers to long term exposures to PM2.5. (CLF)

Response: MassDEP evaluated the use of cancer data in the development of the CIA regulations and concluded that because the currently available published DPH cancer data are at the level of the municipality, rather than the neighborhood, the data are too coarse for use in a local air permitting context. MassDEP plans to further assess availability and potential inclusion of cancer rates in the next phase of the CIA regulations.

63. Comment: In Step 5, a cumulative air toxics risk characterization must be conducted. It appears that the spreadsheet tool that was developed focuses entirely on the emissions from the proposed project and other nearby facilities, with an assessment of whether the cumulative cancer and non-cancer risks exceed standard regulatory thresholds. Standard practice in cumulative risk assessment for air toxics, especially for non-cancer endpoints, would involve characterization of background concentrations (i.e., through tools such as AirToxScreen) and subsequent evaluation of whether the cumulative hazard quotient for specified endpoints (e.g., respiratory, neurological, liver, kidney, immunological) exceeded 1. It is not clear why the proposed approach neglects current ambient concentrations and has a hazard index determination only based on a subset of emitting facilities.

More broadly, it would be in the spirit of cumulative impact analysis and following recommended scientific practice to move toward a formal quantification of non-cancer risks that avoided “bright line” comparisons with RfC or RfD values (e.g., as proposed at https://ehjournal.biomedcentral.com/articles/10.1186/s12940-022-00918-z). I appreciate that this shift would take some time and should not necessarily be proposed in the near term, but incorporation of background concentrations is standard risk assessment practice for non-cancer endpoints. (Jonathan Levy)

Response: It has not been standard practice for air toxics modeling for evaluations to include background concentrations because ambient air toxics concentrations are not well characterized. While the modeling methods, inputs and assumptions used in EPA's AirToxScreen to estimate air toxics concentrations have improved over time, they have limitations and the concentrations estimated by AirToxScreen are better indicators of relative concentrations over large areas rather than precise concentrations that could be incorporated into a risk estimate at a specific location. MATRiST is a screening tool and it would not be appropriate to separate the Hazard Index (HI) into target organ specific HIs. The regulations specify that the total HI must not exceed 1, which is more conservative than separating the effects attributed to chemicals by target organ and limiting each target organ HI to 1. The reference concentration (RfC) value for a chemical is derived using the most sensitive effect and is intended to be protective for that effect (target organ effect) as well as effects in other target organs that require higher exposures. As a screening model, the HI is calculated using maximum modeled exposure concentrations compared to the RfC. The use of probabilistic approaches to move toward a formal quantification of non-cancer risks that avoid "bright line" comparisons to RfC or reference dose (RfD) values has been developed at an individual case study level for several chemicals of high interest. However, currently only deterministic RfC and RfD values are readily available for use in estimating noncancer hazard. When risk-specific or probabilistic values are more widely

available for the chemicals of regulatory interest and approaches for combining across multiple chemicals with different endpoints are available and vetted, MassDEP will consider these values in the context of the CIA regulation. MassDEP plans to work with stakeholders on the next phase of CIA regulation and can consider the issues raised in this comment.

Evaluation of Proposed Project Cumulative Impacts 310 CMR 7.02(14)(f)

64. Comment: We suggest that consistent with 7.01(1)(e), the Department's review be focused upon matters that may cause or contribute to a condition of air pollution and the wording of 7.02(14)(f) be clarified as follows:

7.02(14)(f)1. As part of the cumulative impact analysis, the applicant shall evaluate and describe ~~how~~whether criteria air pollutant and air toxics emissions from the proposed project could affect existing environmental and public health conditions and create a condition of air pollution in nearby environmental justice populations. (MCTA/AIM)

Response: MassDEP has revised 310 CMR 7.02(14)(f)1. to add reference to air toxics emissions but has not added a reference to causing a condition of air pollution in this provision. The requirements in 310 CMR 7.02(14)(h)2. that prohibit criteria pollutant emissions from violating the NAAQS [via reference to 310 CMR 7.02(3)(j)] and cumulative cancer and non-cancer risks from exceeding the applicable risk limits are designed to ensure that the proposed project does not create a condition of air pollution as defined in 310 CMR 7.00: Definitions. The purpose of 310 CMR 7.02(14)(f)1. is to describe how criteria pollutant and air toxics emissions, even those that meet NAAQS and risk limits, could affect existing environmental and public health conditions in nearby EJ populations.

65. Comment: The case example in the DEP Draft Guidance is a useful start for outlining DEP's decision making. However, additional worked examples would help clarify some of the issues likely to be encountered in defining, conducting, and evaluating the cumulative impacts of existing and proposed projects on a community and how DEP would plan to address them. What are the department expectations for how indicator data would be used qualitatively or quantitatively to characterize how projected criteria pollutant levels might plausibly exacerbate or otherwise contribute to existing health issues (e.g., asthma, COPD, CVD, low birth weight) in a community? What evidence will the DEP require to be brought to bear on the likelihood and magnitude of these impacts? Ideally, DEP will set the standard here. (CLF)

Response: MassDEP agrees that additional guidance is needed on how cumulative impacts should be evaluated in the air permit decision-making context. Currently the CIA guidance poses several questions that applicants should address as part of the overall evaluation of how potential air emissions could affect existing health conditions, air quality, and related health outcomes in EJ populations. The answers to these questions will necessarily be facility- and community-specific. MassDEP expects that more specific guidance can be developed as experience is gained through implementing the regulations, and as CIAs are developed by applicants and reviewed by communities and MassDEP. MassDEP received very useful comments on the draft regulations and has made some improvements in the final regulations based on these comments. However, MassDEP has not been able to fully address all the comments through regulatory revisions. The ability to adequately characterize the combined

effects from exposures to both chemical and non-chemical stressors that affect a community remains a significant challenge that government agencies, communities, and the scientific community continue to wrestle with. The final CIA regulations and supporting guidance and tools are a first step in addressing cumulative impacts and MassDEP plans to continue discussions with stakeholders on the next phase of CIA regulatory development and will consider the issues raised in this comment.

66. Comment: Regarding mitigation measures, if indicators suggest that the health of a community is stressed for all kinds of reasons besides air quality – the focus of the DEP decision – are air emissions the sole "lever" for mitigating cumulative impacts? Could other measures to improve underlying health conditions be proposed? What might be some examples? (CLF)

Response: The regulations require the applicant to "describe any mitigation measures that it will implement to reduce or minimize the cumulative impacts of the proposed project." For example, mitigation measures could include measures to reduce exposure to air pollutants but are not limited to air quality and could include other measures. Mitigation measures for reducing exposure to air pollutants include electrifying vehicles, installing air filtration in buildings, and adding vegetative barriers to reduce sound impacts. Other types of mitigation measures or community benefits could include providing additional greenspaces, improving drainage, or providing resources for community wellness programs that may ameliorate existing environmental and health burdens in the community. While the CIA regulations do not mandate mitigation measures, the CIA provides the information (via assessment of existing conditions and evaluation of impacts) and the process (meaningful public involvement of EJ populations, local officials, and other stakeholders) that can lead the applicant to agree to implement mitigation measures to reduce health and environmental hazards and impacts. The CIA could document any mitigation measures or agreements to address community impacts.

67. Comment: 310 CMR 7.02(14)(f)3. is the only section that refers to any language regarding some kind of comparative assessment and determination that environmental and public health impacts might be "unfair", "inequitable" or "disproportionate." However, it refers to an environmental impact report that might have been required under 301 CMR 11.06(7)(b). DEP should provide guidance on how such a determination might be made on the basis of any cumulative impact analysis conducted, and that would then be used as input to their decision in 310 CMR 7.02(14)(h). (CLF)

Response: The CIA regulations do not explicitly require a determination of whether impacts from a proposed project are "unfair," "inequitable," or "disproportionate," whereas the MEPA regulations do require such a determination based on the MEPA regulations' enabling statutory language. In the CIA air permit context, if a proposed project requires an Environmental Impact Report (EIR) under MEPA, the CIA regulations require the results of the EIR to be summarized, including conclusions regarding any disproportionate impacts and any mitigation measures to be taken. Whether a MEPA EIR was required or not, the assessment of existing community conditions and evaluation of impacts can be used to assess disproportionate impacts, and the CIA must address concerns raised by EJ populations through the meaningful public involvement process.

68. Comment: DEP must include a stringent alternatives review requirement. While we understand that these regulations concern the addition of new pollution burdens to existing conditions, we emphasize that part of DEP's goal should be phasing out exposure to air pollution in the first place. No community should have to deal with excess pollution if there are alternatives. Therefore, DEP should include an alternatives review provision, requiring applicants to assess whether alternative locations or processes could achieve their aims without disproportionately burdening EJ populations. (MEJT)

Response: MassDEP did not propose to require applicants to conduct an alternatives analysis regarding other locations for their proposed project and therefore it is outside the scope of this rulemaking and cannot be included in the final regulations. However, applicants do have to consider alternative processes to minimize pollutant emissions as part of the Best Available Control Technology analysis in the permit application.

69. Comment: The existing community conditions baseline analysis should be the basis for enhanced analysis for all "with-project" impacts, including direct air pollution impacts, and indirect, contributing impacts from a proposed facility - encompassing such elements as water quality, groundwater and stormwater, historic and cultural resources, waterfront access, urban heat island, natural resources and wildlife habitat, and energy uses. (BRG)

Response: MassDEP engaged in a robust stakeholder process to review indicators for the existing community conditions analysis and included those that could best represent a community's background exposures, sensitivity, and vulnerability to air pollution. MassDEP plans to work with stakeholders to further assess relevant indicators in the next phase of the CIA regulation development. MassDEP's role in reviewing air plan applications is to ensure that proposed air emissions do not pose unacceptable risks, and potential impacts of a proposed project unrelated to air emissions (e.g., waterfront access) are beyond the scope of an air permit. However, other MassDEP and local regulatory programs that address these types of impacts may apply to construction of the proposed project (e.g., wetlands, historic commission rules, etc.), and community members can raise concerns about these impacts in the public involvement process required by the CIA.

70. Comment: The regulations rely on the applicant to "summarize and tie together the CIA components and highlight results and conclusions." The proposed amendments leave all responsibility to conduct and assess the cumulative impact assessment with the applicant. This is problematic for two reasons. The first problem is the disincentive of any applicant to conclude that their proposal will increase cumulative burden. Consequently, the data may indicate an increase in burden and the applicant could conclude it is negligible or insignificant. Their conclusion, it appears, may have as much if not more weight than the data. (Madeleine Scammell)

Response: MassDEP believes the responsibility for conducting the CIA should be on the applicant. MassDEP will review the CIA prepared by the applicant to verify that the appropriate indicator data was used and will evaluate the applicant's conclusions. The CIA will be made available for public review concurrent with MassDEP's review so the public can comment on the applicant's analysis and conclusions. MassDEP will consider the public's comments during its

review of the CIA Report and air permit application. MassDEP also will review the information and data submitted in the permit application and apply its technical expertise to ensure that all regulatory requirements are met. The CIA and MassDEP's proposed permit decision then will be made available for a formal 60-day public comment period. The CIA regulations represent a first step for assessing cumulative impacts and MassDEP is committed to gaining experience implementing the regulations and plans to work with stakeholders on the next phase of CIA regulation development and can consider the issues raised in this comment.

Department Review and Decision 310 CMR 7.02(14)(h)

71. Comment: First, and most important, the CIA must include the authority, and in clearly defined circumstances the requirement, to deny a permit application. Without it, the CIA process is simply a box-checking exercise. The current language of "analyze and address" air quality issues, and of simply attaching a CIA to the air permit request, is not reassuring. Our experience in the Fore River Basin with the permit for Enbridge's compressor station is that alarming levels of benzene, toluene, 1,3 butadiene, and more were documented, but there was no regulatory requirement that an air permit be denied because of them, and the permit was approved. The new CIA needs to fix that problem in order to comply with the intent of the Next Generation Climate Law. (FRRACS)

Response: The CIA regulations in 310 CMR 7.02(14)(h) have specific criteria that a permit application must meet for MassDEP to approve the permit; otherwise MassDEP "shall not propose to approve" the application. The criteria include those listed in 310 CMR 7.02(3)(j) that apply to all plan applications (including a requirement that emissions do not result in air quality exceeding either the Massachusetts or National Ambient Air Quality Standards), the requirements in 310 CMR 7.02(14)(b)-(g) regarding the CIA itself, and a requirement that air toxics cumulative cancer and non-cancer risks meet the new cumulative risk limits in 310 CMR 7.02(14)(e). As stated in 310 CMR 7.02(4)(h)3. and (h)4., if these criteria are not met, MassDEP will deny the permit. MassDEP recognizes that in this initial phase of the CIA air permit program the regulations do not contain criteria for denying a permit application specifically tied to the air quality, environmental, health, and socioeconomic indicators that are assessed in the CIA, in part because scientifically acceptable methods for evaluating these impacts have not yet been established. However, the regulations represent a significant step forward in taking into consideration existing impacts on EJ populations in a permit context. MassDEP plans to work with stakeholders on the next phase of CIA regulation development and can consider the issues raised in this comment.

72. Comment: Environmental Justice must be a primary driver of the policy: The policy must make it off-limits to proponents of emitting projects to seek siting in already-overburdened communities until existing pollution is within safe limits. The MassDEP database recommended above would be the basis for protecting communities from further damage. Again, adequate budget and staffing will be required, but it will be necessary to correct the toxic legacy of environmental racism. (FRRACS)

Response: MassDEP did not propose in its draft regulation to prohibit the siting of facilities based upon air pollution emissions, and, therefore, it is outside of the scope of this rulemaking to address this comment.

73. Comment: Once baseline environmental safety has been established, we affirm the requirement of an EIR for projects in or near EJ communities. However, as with the CIA, there must be clearly defined circumstance in which the EIR results require the denial of a permit. (FRRACS)

Response: An Environmental Impact Report (EIR) is a component of the Massachusetts Environmental Policy Act (MEPA) regulations at 310 CMR 11.00 implemented by the MEPA Office, and the MEPA Office is the only agency that has the authority to establish criteria for which projects require an EIR. The Climate Roadmap Act directed MEPA to promulgate regulations that require an EIR for certain projects in or near EJ populations, including projects that impact air quality. MassDEP will continue to coordinate with the MEPA Office as the two programs are implemented and on future program changes.

74. Comment: 310 CMR 7.02(14)(h) Department Review and Decision provides for approval of a comprehensive plan application for which a cumulative impact analysis meets the requirements of 310 CMR 7.02(3)(j) and of the 310 CMR 7.02(14)(b)-(g). However, it appears that, from an air quality and health assessment standpoint, the only specific quantifiable requirements that need be met are ambient air quality standards and the cumulative cancer and non-cancer risk limits. It is unclear how existing vulnerabilities or inequities in communities, identified by compilation and evaluation of the indicators listed in Table 1, could be used to determine that additional exposures, even those meeting existing standards, would sustain or impose further inequities, and thus should be denied. As part of their evaluation and decision DEP should be asking, for example:

- How well do the indicators in Table 1 identify communities that are already overburdened and so should not be subject to additional exposures from a proposed project? At what point should those communities be prevented from any additional exposure from a proposed project?
- Would any mitigation proposed address the highest priority needs of the community(ies) within the DEP's purview, with priority needs identified by the community?
- Would an approval increase or decrease identified racial/ethnic and income gaps in health and environmental impacts/risks? If so, by how much?
- What important sources, exposures, stressors, or impacts cannot be addressed through the proposed mitigation(s)?

Again, DEP should look to the approaches laid out in NJ Environmental Justice Rules for clearer language on evaluation of cumulative impacts and their use in permitting decisions. CLF recommends setting a baseline that any project that increases risk of any air quality/ health or health indicator should be denied. If there is no increased risk, then mitigation should be considered to reduce the overall cumulative impacts in an environmental justice population. (CLF)

Response: The ambient air quality standards and cumulative cancer and non-cancer risk limits are the primary quantifiable standards that must be met for MassDEP to approve a plan application (additional requirements include using Best Available Control Technology and

preventing noise and odor nuisances). It should be noted that assessing *cumulative* air toxics risk is a new requirement and has not been required for proposed projects in the past. Additionally, the final regulations contain a new requirement that the criteria pollutant modeling and air toxics risk characterization include other significant air pollution sources, providing added protection of EJ populations. Together with the assessment of existing community conditions and meaningful public involvement, CIA regulations are intended to result in more protective outcomes that take into account disproportionate impacts affecting EJ populations. The CIA regulations are a first step assessing cumulative impacts and MassDEP plans to work with stakeholders on the next phase of CIA regulation development and can consider the issues raised in this comment. Furthermore, NJ DEP had a very specific and express statutory mandate from its Legislature to implement its regulations.

75. Comment: DEP needs to move away from risk-based assessments and towards hazards-based assessments. The new CIA process will require permit applicants to "characterize the risk of harm to health from air toxics emissions using a risk characterization spreadsheet tool made available by the Department and in accordance with Department guidance." We encourage DEP to end its reliance on risk-based approaches to assessments of harm, which are inherently flawed. Risk-based approaches are based on outdated science and they do not take into account the underlying health conditions disproportionately present in BIPOC populations, e.g., high rates of diabetes and asthma. "Risk assessments are often completed by experts far removed from the communities that they are assessing. This may lead to ignoring critical exposure or other information from workers, communities, or other 'experts' potentially inhibiting the evaluation process." Under the proposed regulations, the "experts" completing the risk assessment will be representatives of the permit applicant. This delegation of responsibility could lead to implicitly or explicitly biased evaluations. This paradigm benefits polluters by allowing for weak regulation at the expense of community health. Risk assessments assume "that a 'safe' or 'acceptable' level of exposure can be established, particularly where there are gaps in knowledge about hazards, uses, or exposures. Evolving understanding of the toxicity of chemicals such as lead, mercury, bisphenol-a, phthalates, and now PFAS often reveal that 'safe' exposures set by governments were vastly underestimated. Risk assessments also assume that particular chemicals and their applications and the risks they pose are inevitable. In essence, the necessity of risk is rarely considered." Hazard-based approaches instead focus on the evidence linking exposure to particular pollutants to cancer incidence, for example, flagging research by reputable sources such as the World Health Organization's International Agency for Research on Cancer (IARC). If safer alternatives are available, a hazard-based approach would instead focus on shifting away from the pollutant or practice altogether. (MEJT)

Response: MassDEP recognizes the importance of ongoing research and discussions within the scientific and public health communities regarding different methods for protecting vulnerable communities, including hazard-based approaches that apply precautionary principles to avoid harms. Regulatory programs seek to balance societal activities that result in some amounts of pollution or alteration of the environment with protection of public health and the environment, and there are many complex and interrelated issues to consider. The CIA regulations are a first step in assessing cumulative impacts and MassDEP plans to work with stakeholders on the next phase of CIA regulation development and can consider the issues raised in this comment.

76. Comment: The CIA assessment must include clear metrics for permit denial on grounds in addition to pollution risk. Section 310 CMR 7.02(14)(c) ("Assessment of Existing Community Conditions") requires applicants to collect and analyze the data on the 33 environmental, public health, and socioeconomic indicators listed in 310 CMR 7.02(14)(c)4. While this list of indicators is encouraging, there is no clear explanation or guidance as to how the issues of asthma levels, EJ community characteristics, potential threat to exposure to schools, and other quantitative factors affect DEP's overall determination of whether to approve the permit. These qualitative conditions need to have a meaningful impact on the decision-making process, or these CIA assessments will be little more than another procedural hurdle requiring a rubber stamp. As members and allies of EJ communities, we need DEP to be empowered and emboldened to halt projects that threaten vulnerable communities. The regulations should include clear metrics for permit denial on grounds other than pollution risk. (MEJT)

Response: MassDEP recognizes that in this initial phase of the CIA air permit program the regulations do not have criteria for denying a permit application specifically tied to the air quality, environmental, health, and socioeconomic indicators that are assessed in the CIA, in part because scientifically acceptable methods for evaluating these impacts have not yet been established. However, the regulations represent a significant step forward in taking into consideration existing impacts on EJ populations in a permit context and MassDEP plans to engage in a stakeholder process to develop the next phase of CIA regulations and can consider the issues raised in this comment.

77. Comment: We encourage DEP to move away from a risk-based approach and towards a hazard-based approach, which requires preventing harm through improving environmental and public health conditions, rather than assessing the risk of harm as in the current proposal. We recommend that the DEP's final rule consider data including poverty levels, housing insecurity, chronic disease patterns, and other indicators that more fully capture equity issues and complex health burdens borne by EJ populations. Such information includes asthma rates, socioeconomic conditions, and threat to vulnerable populations such as schools and senior living facilities. The final rule should also be explicitly clear about when a permit should be denied based on this information gathered through the Cumulative Impact Assessment. The DEP should maintain a firm and non-negotiable threshold for permit denial based on the results. (Vote Solar)

Response: In this initial phase of the CIA air permit program, the regulations do not have criteria for denying a permit application specifically tied to qualitative information, such as the indicators assessed in the CIA, in part because scientifically acceptable methods for evaluating these impacts have not yet been established. MassDEP plans to work with stakeholders on the next phase of CIA regulation development and can consider the issues raised in this comment.

78. Comment: I want to call to your attention to what I call the MA Trifecta of Environmental Injustice in siting: the Weymouth Compressor, the Peabody Peaker Plant, and the East Boston Substation. DEP can do better. You can help to right the injustice of the misguided decisions that made these polluting operations possible in Environmental Justice neighborhoods. I want to encourage the Department of Environmental Protection to include in its final rule "qualitative" information like poverty levels, housing insecurity, chronic disease patterns and to expressly include clear metrics to determine when a permit should be denied based on the qualitative

information found in the Cumulative Impact Assessment. Such information includes existing asthma levels, potential threats to pollution exposure to particularly vulnerable populations (e.g., schools, senior facilities), socioeconomic conditions, and other factors. There are some communities that already shoulder too high a burden and should be protected from any level of new harm. Weymouth, Peabody, and East Boston are examples of three communities that could have benefited from a scientific and humane Cumulative Impact Analysis. (SAFE)

Response: In this initial phase of the CIA air permit program, the regulations do not contain criteria for denying a permit application specifically tied to qualitative information, such as the indicators assessed in the CIA, in part because scientifically acceptable methods for evaluating these impacts have not yet been established. MassDEP plans to work with stakeholders on the next phase of CIA regulation development and can consider the issues raised in this comment.

79. Comment: There is no indication of any threshold or values that would "tip the scale" to deny a permit. Rather, there are no scales at all. The proposed components of the cumulative impact assessment are a list of tasks with no value assigned to any task nor metric for evaluating their results. Unlike the NJ regulations cited in the Background, there appears to be no basis of decision making or comparison during the decision-making process either for the applicant or the regulator. (Madeleine Scammell)

Response: The New Jersey Environmental Justice Statute gives explicit direction to NJDEP to develop regulations that identify disproportionate impacts by comparing stressor totals in overburdened communities with stressor totals in non-overburdened communities for certain types of projects. The Climate Roadmap Act did not direct MassDEP to take such an approach. The regulations at 310 CMR 7.02(14)(h)2. cite to requirements that criteria air pollutant limits (i.e., NAAQS) and cumulative air toxics risk limits must not be exceeded as a result of emissions from a proposed project. These are further defined at 310 CMR 7.02(14)(d)4., (e)5. and (e)6. MassDEP selected these levels to ensure protection of public health. The air pollution control regulations give MassDEP the authority to deny a permit application if it does not meet regulatory requirements. The CIA regulations in 310 CMR 7.02(14)(h) have specific criteria that a permit application must meet for MassDEP to approve the permit; otherwise MassDEP "shall not propose to approve" the application. The criteria include those listed in 310 CMR 7.02(3)(j) that apply to all plan applications (including a requirement that emissions do not result in air quality exceeding either the Massachusetts or National Ambient Air Quality Standards), the requirements in 310 CMR 7.02(14)(b)-(g) regarding the CIA itself, and a requirement that cumulative cancer and non-cancer risks meet the new cumulative risk limits in 310 CMR 7.02(14)(e). If these criteria are not met MassDEP will deny the permit.

80. Comment: The proposed amendments require the applicant to characterize health risks using a risk screening tool for air toxics. The tool is designed to assess cumulative risk to air toxics, not cumulative impact. Cumulative risk is a numeric value derived from variables and equations in a spreadsheet. Calculations of risk do not consider non-numeric variables, or any variables unrelated to air toxics. Cumulative risk is not the same as cumulative impact. The Climate Roadmap Act (CRA) requires an assessment of cumulative impact. The proposed amendments include zero guidance on how the conclusion formed by the applicant should incorporate the findings of risk assessment into their impact analysis. Nor is there any

acknowledgment of this distinction. The proposed amendments leave too much of the opportunity and obligation presented by the CRA to permit applicants, and not to regulators. I think the current draft will result in very similar decisions to those made prior to the CRA, an overemphasis on cumulative risk, and performative evaluation of cumulative impact. (Madeleine Scammel)

Response: While the CIA regulations use a risk-based approach that requires air pollutant emissions to meet numeric health-based ambient air standards and cumulative air toxics risk limits, the regulations also require assessment of cumulative impacts affecting EJ populations in the form of assessment of existing community conditions (i.e., indicators) and qualitative evaluation of these impacts, all with expanded public involvement. Assessment of cumulative impacts combined with meaningful public involvement can lead to increased understanding of community conditions and concerns and better outcomes for proposed projects and nearby EJ populations. The regulations do not have criteria for denying a permit application based on the indicators assessed in the CIA (which represent cumulative impacts) in part because scientifically acceptable methods for evaluating these impacts have not yet been established. MassDEP is committed to gaining experience implementing the regulations and plans to work with stakeholders on the next phase of CIA regulation development and can consider the issues raised in this comment.

81. Comment: The Cumulative Impact Analysis requirements should include a strict analysis of alternatives to polluting activities so that the DEP can focus on phasing out existing polluting sources, not only preventing new ones. We recommend including "sunset clauses" into permits, so that project proponents who are granted permits can plan to cease operations unless they receive a permit renewal. We have effective and clean technologies to power the Commonwealth, and this will help facilitate our shift into a renewable future. (Vote Solar)

Response: The Plan Approval regulations (310 CMR 7.02) do not currently require permits to include an expiration date. MassDEP did not propose permit term limits in the draft regulations and therefore such limits are outside the scope of this rulemaking. However, Massachusetts is making efforts to require and incentivize cleaner technologies for businesses to meet climate goals and protect public health and the environment.

Cumulative Impact Analysis Regulation Review 310 CMR 7.02(14)(i)

82. Comment: The Cumulative Impact Analysis Regulation Review required by 310 CMR 7.02(14)(i) is an important component of the regulation. DEP should lay out at the beginning of the program the objectives, hypotheses, and analytic framework for its evaluation to ensure that the necessary data and information is collected along the way to inform a rigorous and informative analysis in 2 years' time. To provide an effective and informative review, DEP should define a priori the key questions and hypotheses to be evaluated, the analytical framework(s) and the data that must be collected from each project to conduct any analysis. Too often such reviews are post hoc and lack the data and rigor to be informative. Some important questions other than those listed, include:

- How effective is the suite of indicators – and the use of a state average as a geographic

point of comparison -- at identifying communities that are most at risk? How sensitive are rankings to these choices?

- What have been the impacts (positive, negative, or neutral) of the decisions made under the regulation?
- How have the regulations (and the interventions or mitigations proposed) improved health conditions in disproportionately affected populations?

California, for example, conducted and published a sensitivity analysis of its indicators and scoring system. (CLF)

Response: MassDEP will gain experience implanting the CIA regulations and plans to continue a stakeholder process to seek input and recommendations on key questions and an analytical framework to inform the program review.