



EPA Legal Tools to Advance Environmental Justice: Cumulative Impacts Addendum

January 2023

Office of General Counsel

U.S. Environmental Protection Agency

Washington, D.C. 20460

This document discusses a variety of federal statutory and regulatory provisions but does not itself have legal effect and is not a substitute for those provisions and any legally binding requirements that they may impose. It does not expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits to any person. To the extent there is any inconsistency between this document and any statutes, regulations or guidance, the latter take precedence. EPA retains discretion to use or deviate from this document as appropriate.

Table of Contents

INTRODUCTION	1
CHAPTER ONE: CLEAN AIR ACT PROGRAMS	5
I. New Source Performance Standards	5
II. National Ambient Air Quality Standards (NAAQS) (Standards and Implementation)	6
A. NAAQS Reviews	6
B. Attainment Date Extensions	7
C. Attainment Date Extensions – Particulate Matter	8
D. Ambient Air Monitoring	9
III. Air Toxics	9
A. Hazardous Air Pollutants	9
B. Solid Waste Combustion	10
IV. Permitting	10
A. Prevention of Significant Deterioration (PSD) Permitting Program	10
B. Title V Program	11
V. Accident Prevention Authorities	12
VI. Information Collection Authority	12
VII. Imminent and Substantial Endangerment (ISE) Authority	13
CHAPTER TWO: WATER PROGRAMS	15
I. Human Health Water Quality Criteria, Maximum Contaminant Level Goals, and Health Advisories	15
II. Identifying Impaired Waters and Developing TMDLs	16
III. EPA Review of CWA Section 404 Permits	17
IV. Underground Injection Control (UIC) Area Permits	18
V. NPDES Permits for Stormwater and Pesticide Application	19
VI. Imminent and Substantial Endangerment	20
CHAPTER THREE: WASTE MANAGEMENT AND EMERGENCY RESPONSE PROGRAMS	22
I. Resource Conservation and Recovery Act	22
A. RCRA Section 3004(a) – Contingency Plans	22
B. RCRA Sections 3004(u), 3004(v), and 3008(h) – Corrective Action for Continuing Releases	23
C. RCRA Section 3013 Monitoring, Analysis and Testing	23

D.	RCRA Section 3019 – Exposure Information and Health Assessments.....	24
E.	RCRA Section 7003 – Imminent and Substantial Endangerment	24
F.	RCRA Section 9003 – Underground Storage Tanks	25
G.	State Solid Waste Management Criteria	26
H.	RCRA Section 3005(c)(3) – Omnibus Authority	26
I.	Permit Conditions and Risk Assessments to Address Cumulative Impacts	27
J.	Example of EPA RCRA Permitting Authority Addressing Cumulative Impacts.....	29
II.	Oil Pollution Act	30
III.	Emergency Planning and Community Right-to-Know Act	31
A.	EPCRA Section 312(b).....	31
B.	EPCRA Section 313(e)	31
IV.	Comprehensive Environmental Response, Compensation, and Liability Act	32
A.	CERCLA Section 105(a)(8).....	32
B.	CERCLA Sections 104, 106 and 121	33
C.	CERCLA Example.....	34
	CHAPTER FOUR: PESTICIDES AND TOXICS PROGRAMS	35
I.	Federal Insecticide, Fungicide, and Rodenticide Act and Federal Food, Drug, and Cosmetic Act	35
A.	FIFRA	35
B.	FFDCA.....	36
II.	Toxic Substances Control Act.....	37
A.	Section 4 Testing.....	38
B.	Potentially Exposed or Susceptible Subpopulations.....	38
C.	Section 6 Risk Evaluation – Aggregate Exposure and Categories of Chemical Substances.....	39
	CHAPTER FIVE: ENVIRONMENTAL REVIEW PROGRAMS	40
I.	EPA National Environmental Policy Act Compliance and CAA Section 309 Reviews.....	40
II.	EPA NEPA Compliance.....	41
III.	EPA’s CAA Section 309 Review of Federal Agency EAs and EISs	42
	CHAPTER SIX: CIVIL RIGHTS IN FEDERAL ASSISTANCE PROGRAMS	45
	GLOSSARY OF SELECTED ABBREVIATIONS AND ACRONYMS.....	47

INTRODUCTION

Advancing environmental justice and equity and protecting civil rights are fundamental principles guiding how the U.S. Environmental Protection Agency (EPA or Agency) carries out its mission to protect human health and the environment for all people, regardless of race, color, national origin, limited English proficiency, disability, sex, or income. Individuals, communities, and tribes are exposed to numerous stressors from a wide array of sources through multiple pathways.¹ These stressors can aggregate and accumulate over time, affecting health and well-being. In communities with environmental justice concerns² and other underserved populations,³ the combined exposures to these stressors (i.e., cumulative impacts) often increases their vulnerability to new or ongoing environmental hazards, which can cause, perpetuate, or exacerbate disproportionate environmental and public health harms and risks. Addressing cumulative impacts is an important tool for protecting public health in those communities and populations.

In May 2022, EPA’s Office of General Counsel issued *EPA Legal Tools to Advance Environmental Justice (EJ Legal Tools)*.⁴ This Addendum builds on the discussion of cumulative impacts in *EJ Legal Tools*, providing further detail and analysis on the Agency’s legal authority to address cumulative impacts affecting communities with environmental justice concerns. In certain contexts, such actions include directly “addressing” cumulative impacts by taking cumulative impacts into account during decision-making or taking actions to avoid or mitigate cumulative impacts. In other contexts, the Agency action may involve the foundational steps of identifying and assessing cumulative impacts related to an Agency action. This Addendum is not an exhaustive or comprehensive compilation of the Agency’s authority to address cumulative impacts in all contexts; rather it provides illustrative examples and serves as a guide for Agency attorneys examining the scope of the Agency’s authority to address cumulative impacts in specific scenarios.

EPA has a broad set of legal tools to address cumulative impacts to protect public health and the environment of communities with environmental justice concerns, but some legal

¹ EPA, CUMULATIVE IMPACTS: RECOMMENDATIONS FOR ORD RESEARCH (2022), EPA/600/R-22/014F, <https://www.epa.gov/healthresearch/cumulative-impacts-research> [hereinafter 2022 ORD CUMULATIVE IMPACTS REPORT].

² “Communities with environmental justice concerns” refers to communities overburdened by pollution as identified pursuant to Executive Order 12898. Exec. Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629, 7629 (Feb. 16, 1994) [hereinafter E.O. 12898], <https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf>. Those communities include communities of color, low-income communities, and Indigenous peoples.

³ “Underserved communities” refers to populations “sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life” as defined in Executive Order 13985. Exec. Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, 86 Fed. Reg. 7009, 7009 (Jan 25, 2021), [hereinafter E.O. 13985] <https://www.federalregister.gov/documents/2021/01/25/2021-01753/advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government>. Generally, where EPA has authority to address cumulative impacts to communities with environmental justice concerns, EPA is also likely to have authority to address impacts on underserved communities, consistent with Executive Order 13985. See EPA, EPA LEGAL TOOLS TO ADVANCE ENVIRONMENTAL JUSTICE at 4 (2022) [hereinafter EJ LEGAL TOOLS], <https://www.epa.gov/ogc/epa-legal-tools-advance-environmental-justice>.

⁴ EJ LEGAL TOOLS, *supra* note 3, at 14.

authorities may be narrower than others in the context of specific Agency actions. Under certain authorities, “cumulative impacts” and similar terms⁵ are defined to encompass impacts from a specific set of pollutants, from specific media exposure pathways (air, water, etc.), or from particular stressors.⁶ Other governing authorities give the Agency discretion to identify and consider the cumulative impact or burden of various stressors relevant to the Agency action where necessary to protect public health.

For example, EPA’s Office of Research and Development (ORD) has developed a definition of “cumulative impacts” to inform its research and identifies illustrative stressors that can impact communities with environmental justice concerns.⁷ In its report, ORD defines “cumulative impacts” as “the totality of exposures to combinations of chemical and non-chemical stressors and their effects on health, well-being, and quality of life outcomes.”⁸ ORD defines chemical stressors as “exogenous environmental compounds” released into the environment that change or damage living organisms or ecosystems.⁹ ORD explains that non-chemical stressors are “factors found in the built, natural, and social environments,” including factors such as the economy, community, home, school, demographics, safety, and welfare.¹⁰ Cumulative impacts characterize the “potential state of vulnerability or resilience” of “individuals, geographically defined communities, or definable population groups.”¹¹

As detailed in the individual chapters below, EPA’s legal authority to address cumulative impacts in communities with environmental justice concerns permeates the full breadth of the Agency’s activities—including, for example, standard-setting, permitting, cleanup, emergency response, funding, planning, state program oversight, and other decision-making; and initiating administrative or judicial action in situations where there is actual or potential for imminent and substantial endangerment. Whether and how EPA utilizes its legal authorities to address cumulative impacts will depend, among other things, on the specific statutory, regulatory, policy, scientific, and factual contexts at issue, as well as the resources available to the Agency.

⁵ Certain legal authorities use terms like “cumulative risk,” “cumulative effects,” “aggregate exposures,” and other similar terms referenced in this Addendum. These authorities address at least part of the cumulative impacts often disproportionately affecting communities with environmental justice concerns and are some of the tools that EPA can use to address the combined burden and exposure to chemical and non-chemical stressors on those communities.

⁶ Other laws and federal agencies may define “cumulative impacts” or similar terms differently. For example, the Department of Health and Human Services (HHS) released an Environmental Justice Index in August 2022, which defines “cumulative impacts” as “the total harm to human health that occurs from the combination of environmental burden such as pollution and poor environmental conditions, pre-existing health conditions, and social factors such as access to quality healthcare.” HHS, ENVIRONMENTAL JUSTICE INDEX FACT SHEET at 1, https://www.atsdr.cdc.gov/placeandhealth/eji/docs/eji_fact_sheet.pdf.

⁷ 2022 ORD CUMULATIVE IMPACTS REPORT, *supra* note 1, at 3–7.

⁸ *See id.* at 5 (explaining that “[c]umulative impacts include contemporary exposures to multiple stressors as well as exposures throughout a person’s lifetime. It is influenced by the distribution of stressors and encompasses both direct and indirect effects to people through impacts on resources and the environment.”).

⁹ *Id.* at 1 n.1.

¹⁰ *Id.* at 1 n.2, 5 n.10; *see also Social Determinants of Health: Know What Affects Health*, CENTERS FOR DISEASE CONTROL AND PREVENTION (defining “social determinants of health” as the conditions in the environments that affect a wide range of health, functioning, and quality-of-life outcomes and risks, such as access to health care, education, transportation, and healthy food), <https://www.cdc.gov/socialdeterminants/index.htm>; *What is EJSscreen?*, EPA (including demographic indicators in addition to environmental indicators), <https://www.epa.gov/ejscreen/what-ejscreen>.

¹¹ 2022 ORD CUMULATIVE IMPACTS REPORT, *supra* note 1, at 5.

Depending on these factors, how EPA addresses cumulative impacts that affect the environment and public health and welfare of communities with environmental justice concerns can vary. In certain contexts, EPA may be able to factor the combined exposures to stressors into its decision when the Agency has authority or a mandate to take public health and welfare into account. In other contexts, EPA may only be able to address a part of that combined exposure.¹² In yet others, addressing the cumulative impacts on a community may need to occur outside the context of EPA's immediate decision, through a separate, coordinated application of other authorities across program activities.

By applying authorities provided by Congress, EPA can lay the groundwork for future governmental actions and stakeholder engagement to address cumulative impacts in communities with environmental justice concerns. Cumulative impacts present health and welfare challenges that may implicate many different local, state, tribal, and federal laws and agencies. EPA has a key role in meeting those challenges. For instance, under its various information gathering, research, and other authorities, EPA may assess and document cumulative impacts in a wide range of Agency actions to inform decision-making. Such assessments can support action under other EPA authorities and spur further engagement to address cumulative impacts beyond the specific regulatory context originally at issue, including by stakeholders, such as: (1) state, local, or tribal governments (who have legal authorities to address matters such as zoning, land use, and local transportation that go beyond those provided by federal environmental laws); (2) federal agencies with authorities beyond those provided to EPA; and (3) nongovernmental stakeholders (including residents and community groups, local business, and the regulated community) who can voluntarily address cumulative impacts.

Addressing cumulative impacts is also an inextricable component of federal environmental justice and equity policy, and integral to protecting civil rights. Executive Order 12898, which lays the foundation for federal environmental justice policy, directs federal agencies to identify "multiple and cumulative exposures" in environmental human health analyses, whenever practicable and appropriate.¹³ Executive Order 14008 further directs agencies to "make achieving environmental justice part of their missions by . . . address[ing] the disproportionately high and adverse . . . climate-related and other cumulative impacts on disadvantaged communities."¹⁴ While cumulative impacts are not explicitly mentioned in Executive Order 13985, which establishes federal equity policy, understanding cumulative impacts is essential to addressing inequities in the implementation of laws, policies and programs and promoting equal opportunity for underserved communities that have been denied fair, just,

¹² In certain contexts, the term "cumulative impacts" may not encompass the combined exposures to chemical and non-chemical stressors as defined by EPA's Office of Research and Development.

¹³ E.O. 12898, *supra* note 2, § 3-3, 3-301(b).

¹⁴ See Exec. Order 14008, Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619, 7629 (Jan. 27, 2021), <https://www.federalregister.gov/documents/2021/02/01/2021-02177/tackling-the-climate-crisis-at-home-and-abroad> (directing federal agencies to "make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other *cumulative impacts* on disadvantaged communities, as well as the accompanying economic challenges of such impacts.") (emphasis added).

and impartial treatment.¹⁵ With respect to laws such as Title VI of the Civil Rights Act of 1964, as discussed in Chapter 6 below, EPA’s broad mandate to ensure that the programs and activities of recipients of federal financial assistance do not intentionally discriminate or have a discriminatory effect grants EPA the authority to consider cumulative impacts. In its *FY 2022–26 EPA Strategic Plan*¹⁶ and *E.O. 13985 Equity Action Plan*,¹⁷ EPA has established goals and priorities specifically directed at addressing cumulative impacts in its actions in order to advance these federal environmental justice, equity, and civil rights policies.

This Addendum complements *EPA Legal Tools* by providing further detail and analysis, and some illustrative examples of the Agency’s authority to advance environmental justice and equity by addressing cumulative impacts.¹⁸ This Addendum is intended as a reference for EPA staff and decision makers—together with EPA’s state, tribal, and local partners—to better understand EPA’s authorities to address cumulative impacts. It is also intended to foster sustained dialogue among EPA programs, the Regions, the Office of General Counsel, and the Offices of Regional Counsel. This dialogue should extend to state, tribal, and local partners, many of which have independent authority obligating or granting them the discretion to address cumulative impacts.¹⁹ Routine consideration of these issues should also assist efforts to ensure compliance with civil rights laws administered by EPA, where appropriate.

This Addendum is not intended to prescribe when and how the Agency should undertake specific actions, nor does it provide methodologies for how to conduct a cumulative impacts assessment.²⁰ While many of EPA’s legal authorities are clear, others may involve interpretive issues or call for further analysis and consideration of other legal issues. Without specific context, this Addendum does not attempt to characterize any such legal issues. EPA program staff should consult with EPA’s Office of General Counsel or relevant Office of Regional Counsel on legal considerations. Policy decisions about undertaking particular actions are the responsibility of the Agency’s programs, which consider a wide range of decision-making factors, including resource constraints, as they look to advance environmental protection for all.

¹⁵ Exec. Order 13985, *supra* note 3. EPA’s E.O. 13985 Equity Action Plan calls for developing and operationalizing a comprehensive framework for considering cumulative impacts in relevant EPA decisions. EPA, E.O. 13985 EQUITY ACTION PLAN: U.S. ENVIRONMENTAL PROTECTION AGENCY (2022), at 4–7 [hereinafter EQUITY ACTION PLAN], https://www.epa.gov/system/files/documents/2022-04/epa_equityactionplan_april2022_508.pdf.

¹⁶ EPA, FY 2022–26 EPA STRATEGIC PLAN (2022) [hereinafter FY 2022–26 EPA STRATEGIC PLAN], <https://www.epa.gov/system/files/documents/2022-03/fy-2022-2026-epa-strategic-plan.pdf>.

¹⁷ EQUITY ACTION PLAN, *supra* note 15.

¹⁸ EJ LEGAL TOOLS, *supra* note 3, at 4.

¹⁹ *See, e.g.*, Massachusetts Environmental Policy Act, 301 MASS. CODE REGS. § 11.07(6)(h); MASS. GEN. LAWS ch. 21N (2021); Environmental Justice Law, N.J. STAT. ANN. §§ 13:1D-157 (2020); N.Y. COMP. CODE R. & REGS. tit. 6, § 487 (2021); CAL. CODE REGS. tit. 14, § 15130; 2021 Colo. Sess. Laws 2722; 2020 Conn. Pub. Acts No. 20-6. *See also Tribal Cumulative Impact Assessment*, MINN. CHIPPEWA TRIBE, https://www.mnchippewatribe.org/impact_assessment.html; *Project Impact Analysis (PIA) Tool*, TAHOE REGIONAL PLANNING AGENCY, https://trpa.shinyapps.io/PIA_Tool.

²⁰ For examples of EPA resources for assessing cumulative impacts, see 2022 ORD CUMULATIVE IMPACTS REPORT, *supra* note 1; EPA, TECHNICAL GUIDANCE FOR ASSESSING ENVIRONMENTAL JUSTICE IN REGULATORY ANALYSIS (June 2016), https://www.epa.gov/sites/default/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf. In addition, EPA is developing a framework on operationalizing the consideration of cumulative impacts. *See* FY 2022–26 EPA STRATEGIC PLAN, *supra* note 16, at 33; EQUITY ACTION PLAN at 4–7, *supra* note 15.

CHAPTER ONE: CLEAN AIR ACT PROGRAMS

The Clean Air Act (CAA) includes various authorities that present, or may present, opportunities to address cumulative impacts as part of a regulatory or decision-making process. In certain contexts, such authorities could be used to address cumulative impacts affecting communities with environmental justice concerns. The potential for taking cumulative impacts into account varies widely across CAA provisions and programs. For many regulatory processes, Congress has made clear where public health risks, including risks presented by cumulative impacts, should be considered, and where such considerations or analyses are not required (or even appropriate) as a prerequisite for Agency actions to protect public health and the environment.

The CAA and its implementation—through the work of many actors, not just EPA—present opportunities to address cumulative impacts beyond the discrete examples of potential statutory authority discussed in this Addendum. The authorities identified herein are not intended to be exhaustive but are rather illustrative of certain ways in which cumulative impacts could be relevant in regulatory decision-making and other actions under the CAA. The highlighted examples are intended to spur further thinking about opportunities to take cumulative impacts into account in Agency decision-making. While the provisions identified in this chapter provide authority for EPA to address cumulative impacts under the CAA, many of these authorities provide opportunities for EPA to consider cumulative impacts as a matter of discretion. Discussion of such examples does not necessarily obligate EPA to take cumulative impacts into account in any particular action.

Whether and how EPA utilizes these and other authorities to address cumulative impacts will depend on the specific statutory, regulatory, policy, scientific, and factual contexts at issue, as well as the resources available to the Agency. In certain contexts, the terms “cumulative impacts” and “cumulative risk” used in this chapter may not encompass the combined exposures to stressors, but may refer instead to the cumulative, or aggregate, impacts of a specific set of pollutants or in specific media exposure pathways.²¹ EPA program and regional offices should consult with the relevant Office of General Counsel and Office of Regional Counsel attorneys regarding potential legal issues associated with whether and how to consider and address cumulative impacts to advance environmental justice through EPA’s air programs.

I. New Source Performance Standards

Under CAA section 111, EPA’s obligation to establish emission standards for a category of stationary sources is triggered where the Administrator determines that the source category “causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.”²² As CAA section 111(b)(1)(A) indicates that such listings are subject to the “judgment” of the Administrator, EPA has the discretion to prioritize the listing

²¹ See *supra* INTRODUCTION.

²² CAA § 111(b)(1)(A).

of source categories meeting the statutory standard that also contribute to cumulative impacts of multiple pollutants.²³

After listing a source category, EPA is required to promulgate standards of performance for new sources pursuant to CAA section 111(b)(1)(B) and, for certain pollutants, to promulgate regulations pursuant to section 111(d) (termed “emission guidelines”) under which states establish standards of performance for existing sources. And in prioritizing development of new source performance standards under section 111(b)(1)(B) for listed source categories, EPA has the discretion to prioritize addressing source categories that are more likely to contribute, together with air pollution from other sectors, to the endangerment of public health or welfare. For example, in determining the priorities for the promulgation of standards for listed source categories pursuant to section 111(f), EPA determined that greater priority should be given to source categories located in high population areas or areas with additional pollution contributions from other sources.²⁴ EPA has promulgated standards pursuant to section 111(b) for all currently listed source categories and is required by statute to review and, if appropriate, revise those standards at least every eight years. EPA has authority to review and revise the standards of performance more quickly if it decides that is appropriate, including when EPA determines that a source category contributes to cumulative impacts in communities with environmental justice concerns. EPA may also prioritize the issuance of emission guidelines pursuant to section 111(d) for such source categories, where authorized under the statute.

II. National Ambient Air Quality Standards (NAAQS) (Standards and Implementation)

A. NAAQS Reviews

CAA section 109(d) directs EPA to periodically review and revise, as appropriate, the NAAQS, which are designed “to protect the public health” and the public welfare. In setting the NAAQS, EPA focuses on the health effects on population groups that are at higher risk of adverse health effects. Reviews of the NAAQS offer opportunities for assessing multi-pathway exposures to a criteria pollutant,²⁵ where appropriate. For example, in reviewing the NAAQS for lead, EPA has evaluated risk from both inhalation and ingestion pathways, for both recently emitted lead and for lead that was previously emitted to the air. EPA addresses risk from lead that was emitted to air, deposited as dust and then ingested, just as it addresses risk from lead that was emitted to air and then inhaled. This assessment of multi-pathway exposure to a particular criteria pollutant allows for EPA to take into account the cumulative impacts of that pollutant in reviewing the NAAQS.

²³ See, e.g., EPA, REVISED PRIORITIZED LIST OF SOURCE CATEGORIES FOR NSPS PROMULGATION (1979), <https://go.usa.gov/xS9UF>.

²⁴ EPA, PRIORITIES FOR NEW SOURCE PERFORMANCE STANDARDS UNDER THE CLEAN AIR ACT AMENDMENTS OF 1977 at § 2.5.5 (1978), <https://go.usa.gov/xS9Uu>.

²⁵ Criteria pollutants include carbon monoxide (CO), lead (Pb), ground-level ozone (O₃), particulate matter (PM), oxides of sulfur (SO_x), and oxides of nitrogen (NO_x).

B. *Attainment Date Extensions*

The attainment date extension provisions of the CAA²⁶ provide that “[u]pon application by any State, the Administrator may extend for 1 additional year . . . the attainment date . . . if (i) the State has complied with all requirements and commitments pertaining to the area in the applicable implementation plan, and (ii) in accordance with guidance published by the Administrator, no more than a minimal number of exceedances of the relevant national ambient air quality standard has occurred in the year preceding the Extension Year.” Because these provisions provide that EPA “may” extend attainment dates where the statutory criteria are met, EPA retains discretion to deny such requests. The U.S. Court of Appeals for the D.C. Circuit has affirmed that EPA may consider factors beyond those enumerated under the extension provisions, but that such exercise of discretion is subject to arbitrary-and-capricious review.²⁷

As an example, in October 2022, EPA denied a request from Texas to extend the attainment date of the Houston-Galveston-Brazoria Serious nonattainment area for the 2008 ozone NAAQS.²⁸ In support of its denial of the request for the attainment date extension, EPA stated that the statutory extension provision was appropriately read in light of the CAA’s focus on expeditious attainment of the NAAQS in order to protect public health and the environment.²⁹

EPA therefore considered available information that demonstrated that Houston could not have attained by an extended attainment date, nor qualified for a second attainment date extension, as well as information that indicated that the population that would be impacted by the Agency’s decision already bears a disproportionate burden of pollution. First, EPA examined air quality trends for the Houston area and found that air quality monitoring data indicated that the Houston area was unlikely to either attain by the extended attainment date or qualify for a second 1-year extension.

Second, EPA considered existing burdens of pollution in the Houston area and explained in the proposal: “Where the statute has provided the Administrator a discretionary authority in the attainment date extension provisions, we think it is reasonable to consider the existing environmental burden in the area in question, and what impact our action may have on that burden.”³⁰

²⁶ CAA § 172(a)(2)(C) (general non-attainment plans); CAA § 181(a)(5) (ozone); CAA § 186(a)(4) (carbon monoxide); CAA § 188(d) (particulate matter). *See also* CAA § 188(e) (extensions for serious PM areas); EJ LEGAL TOOLS, *supra* note 3, at 26–27.

²⁷ *Delaware v. EPA*, 895 F.3d 90, 100 (D.C. Cir. 2018).

²⁸ *Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Areas Classified as Serious for the 2008 Ozone National Ambient Air Quality Standards*, 87 Fed. Reg. 60,926 (Oct. 7, 2022).

²⁹ *Cf.* *Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Areas Classified as Marginal for the 2015 Ozone National Ambient Air Quality Standards*, 87 Fed. Reg. 60,897 (Oct. 7, 2022) (finalizing determinations of attainment by the attainment date for the 2015 ozone NAAQS, including a grant of an attainment date extension for the Uinta Basin area relying on similar considerations).

³⁰ *Determinations of Attainment by the Attainment Date, Extension of the Attainment Date, and Reclassification of Areas Classified as Serious for the 2008 Ozone National Ambient Air Quality Standards, Proposed Rule*, 87 Fed. Reg. 21,825, 21,832 (Apr. 13, 2022).

EPA conducted a screening analysis using data from EJScreen to better understand the pollution burden on the population that would be affected by extending the ozone attainment date. EPA analyzed the cumulative pollution burden in certain areas of Houston, including ozone pollution exposure, particulate matter concentration, traffic proximity and volume, percentage of pre-1960 housing units (lead paint indicator), proximity to Superfund sites and hazardous waste facilities, and other factors. Based on this analysis, EPA found that Houston residents in certain parts of the nonattainment area are exposed to a disproportionately high burden of ozone pollution, relative to the rest of Houston and the United States, and that near the Houston Ship Channel, residents may also be exposed to disproportionately high burdens of other pollution, based on high percentile results of these environmental indicators EPA assessed in EJScreen.

EPA noted in the proposal that the effect of denying the state's request would be to reclassify the area to "Severe," triggering a more stringent set of implementation requirements for the Houston area, and that avoiding delay of these requirements was appropriate under the circumstances in order to facilitate attainment as expeditiously as practicable, and that "applying a protective approach is particularly warranted where the Agency has identified populations that may already be overburdened with pollution."³¹

C. Attainment Date Extensions – Particulate Matter

"Serious" particulate matter areas, which refers to areas classified as serious nonattainment for particulate matter NAAQS,³² face a different set of criteria under CAA section 188(e) in order to qualify for an attainment date extension. EPA may extend the attainment date beyond the date specified by the statute if:

- attainment by the attainment date would be "impracticable";
- the state has complied with all requirements and commitments pertaining to that area in the implementation plan;
- the state demonstrates to the satisfaction of the Administrator that the plan for that area includes the most stringent measures that are included in the implementation plan of any state, and can feasibly be implemented in the area; and
- at the time of the state's request, the state submits a revision to the implementation plan that includes an attainment demonstration by the most expeditious alternative date practicable.

In determining whether to grant an extension, and the appropriate length of time for any such extension, the Administrator may consider:

- the nature and extent of nonattainment,
- the types and numbers of sources or other emitting activities in the area (including the influence of uncontrollable natural sources and transboundary emissions from foreign countries),
- the population exposed to concentrations in excess of the standard,

³¹ 87 Fed. Reg. at 21,835.

³² CAA § 188(b); *see also* 40 C.F.R. § 51.1002(b).

- the presence and concentration of potentially toxic substances in the mix of particulate matter emissions in the area, and
- the technological and economic feasibility of various control measures.

These CAA section 188(e) factors may present an opportunity for EPA to evaluate cumulative impacts of pollution on an affected population when determining whether to grant NAAQS attainment date extension for “serious” particulate matter areas but, to date, the Agency has not done so.

D. Ambient Air Monitoring

EPA has designed its ambient monitoring networks to balance various goals, including collecting data on multiple pollutants where appropriate. For example, EPA has regulatory networks such as the National Core Network (NCore) that include measurements of particles (continuous mass, filter mass and speciation), gases (ozone, carbon monoxide, sulfur dioxide, nitrogen oxide and total reactive nitrogen), and basic meteorology across a geographically diverse set of sites. Data from this network are used as inputs to health and atmospheric studies, NAAQS revisions, and validating air quality models and assessing emission reduction programs as well as the more routine objectives of comparing to the NAAQS and the Air Quality Index (AQI). Another example of multipollutant measurement includes the near-road monitoring network that has sites in larger urban areas collecting nitrogen dioxide, fine particulate matter, and carbon monoxide data in the near-road environment. EPA also has voluntary monitoring such as National Air Toxics Trends Station (NATTS) sites, which provide measurements of large suites of hazardous air pollutant compounds where state, local and tribal monitoring agencies agree to operate and support a site. These and other ambient air monitoring initiatives and networks may provide valuable information to be used along with other data to assess cumulative impacts on environmental justice communities.

III. Air Toxics

A. Hazardous Air Pollutants

CAA section 112 addresses the regulation of hazardous air pollutants (HAPs). While CAA section 112 does not reference the term “cumulative impacts,” section 112(f) requires EPA to assess risk to public health that remains after implementation of a National Emission Standard for Hazardous Air Pollutants (i.e., residual risk) and to determine whether additional standards for a source category or subcategory are necessary to provide ample margin of safety to protect public health. EPA incorporates some elements of cumulative risk analyses into its risk assessments under this provision of the CAA. In its residual risk reviews, the Agency (1) conducts facility-wide assessments, which include source category emission points, as well as other emission points within facilities; (2) combines exposures from multiple sources in the same category that could affect the same individuals; and (3) for some persistent and bioaccumulative pollutants, analyzes the ingestion route of exposure. In addition, EPA’s risk assessments under CAA section 112(f) take into account aggregate cancer risk from all carcinogens and aggregated

noncancer hazard quotients³³ for all noncarcinogens affecting the same target organ or target organ systems.

EPA has historically undertaken residual risk reviews for major sources only. Pursuant to CAA section 112(f)(5), residual risk reviews are not required for area sources where EPA has established generally available control technologies (GACT) standards. Nevertheless, EPA has the discretion to conduct a risk review when the Agency conducts the required technology review. The Agency could use qualitative assessments of cumulative risks, including cumulative risks to communities with environmental justice concerns, to determine whether to undertake residual risk assessments for area source categories subject to GACT standards.

B. Solid Waste Combustion

Section 129 of the CAA requires EPA to establish performance standards for new and existing solid waste incineration units. These standards must incorporate siting requirements for new units that minimize to the maximum extent practicable potential risks to public health or the environment. Regulations implementing this provision could be revised to incorporate a cumulative risk assessment into the siting requirements. The Agency's ability to take cumulative risk into account under section 129, however, may be limited or constrained by the residual risk provisions of section 129(h)(3), which limit EPA's consideration and regulation of risk to certain listed pollutants (particulate matter, opacity (as appropriate), sulfur dioxide, hydrogen chloride, oxides of nitrogen, carbon monoxide, lead, cadmium, mercury, and dioxins and dibenzofurans).

IV. Permitting

A. Prevention of Significant Deterioration (PSD) Permitting Program

A limited form of a cumulative impacts analysis may be conducted under the New Source Review (NSR) permitting program, as part of the review of an application for a permit to construct a stationary source of air pollution. In areas where the air quality is meeting the NAAQS, to obtain a permit under the Prevention of Significant Deterioration (PSD) component of the NSR program, CAA section 165(a)(3) requires that a source demonstrate that its emissions will not cause or contribute to a violation of each NAAQS for which the area is in attainment. In addition, section 165(e)(1) requires "an analysis . . . of the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility." This analysis is used in PSD permitting to make the demonstration required under section 165(a)(3). If an initial estimate of the ambient concentration increase resulting from increased emissions from a new or modifying source indicates that these emissions have the potential to cause or contribute to a violation of a NAAQS, then a cumulative analysis of concentrations of that air pollutant should be undertaken, as described in EPA's *Guideline on Air Quality Models*.³⁴ This analysis incorporates background concentrations of the air pollutant that is the subject of the NAAQS, including the impact of other sources in the area on that pollutant. However, since section 165(a)(3) requires a demonstration for each NAAQS for which the area is in attainment, this cumulative analysis focuses on the impact of emissions from multiple sources on one NAAQS

³³ A hazard quotient is the ratio of the potential HAP exposure concentration to the noncancer dose-response value.

³⁴ 40 C.F.R. pt. 51, App. W.

pollutant at a time, rather than the combined effects of all air pollutants subject to the PSD program or certain other stressors.

Since Congress provided in CAA section 112(b)(6) that the PSD provisions do not apply to hazardous air pollutants (HAPs), the analysis conducted under section 165(e)(1) does not cover these air pollutants. However, hazardous air pollutant emissions from PSD sources can be considered in the context of determining emissions limits for the pollutants that are covered in PSD permits. Under CAA section 165(a)(4), a PSD permit must contain limitations on the emissions of each PSD pollutant³⁵ that are based on the emissions levels that can be achieved through application of the Best Available Control Technology (BACT) for such pollutants. EPA has long recognized that, in establishing BACT for pollutants regulated under PSD, analysis of control technologies for PSD pollutants could also consider their relative ability to control emissions of pollutants that are not PSD pollutants.³⁶ In addition, some HAPs are also PSD pollutants, such as volatile organic compounds. Thus, permitting authorities may be able to indirectly take into account the effects of such a HAP in PSD, using authority to address PSD pollutant emissions. Furthermore, states that implement the PSD program on the basis of state laws reflected in an approved State Implementation Plan may have additional state law authority to directly consider emissions of HAPs in the context of a permitting decision.³⁷

B. Title V Program

All major stationary sources of air pollution and certain other sources are required to apply for CAA Title V operating permits that include emission limitations and other conditions as necessary to assure sources' compliance with all applicable requirements of the CAA.³⁸ Unlike PSD/NSR permitting, the Title V operating permit program does not generally impose new substantive air quality control requirements (which are referred to as "applicable requirements"), but does require permits to contain monitoring, recordkeeping, reporting, and other conditions to assure compliance by sources with applicable requirements.

After a Title V operating permit has been issued by a permitting authority, EPA has authority under CAA section 505(e) to reopen the permit if the Administrator finds cause exists to terminate, modify, or revoke and reissue such permit. EPA may consider cumulative impacts to help prioritize and decide which among the thousands of Title V operating permits the Agency will scrutinize to ensure that they are consistent with the requirements of the CAA. EPA may exercise this authority on its own initiative if the Agency determines that this is necessary to

³⁵ The "PSD pollutants" discussed here are those covered by the definition of "regulated NSR pollutant" in the PSD regulations. 40 C.F.R. §§ 51.166(b)(49), 52.21(b)(50). These are pollutants for which EPA has promulgated a NAAQS, and also pollutants regulated under other parts of the CAA, such as the New Source Performance Standards under section 111. Most regulated NSR pollutants are identified in the definition of "significant" in the PSD regulations. 40 C.F.R. §§ 51.166(b)(23), 52.21(b)(23). BACT limits are required for each regulated NSR pollutant that is emitted or increased above the thresholds set forth in this definition of "significant." 40 C.F.R. §§ 51.166(j), 52.21(j).

³⁶ *In re North County Resource Recovery Assoc.*, 2 E.A.D. 229, 230 (EAB 1986).

³⁷ *See, e.g.*, Written Reasons for Judgment at 17-19, *Rise St. James v. Louisiana Dep't of Env't Quality*, No. C-694029 (La. 19th Dist. Ct. Parish of E. Baton Rouge Sept. 8, 2022) (finding that state agency's failure to conduct a cumulative assessment of toxic air pollutant emissions in the context of a construction permitting decision violated public trust obligations under state constitution) (appeal pending).

³⁸ CAA §§ 502(a); 504(a), (c).

assure compliance with the applicable requirements of the CAA. EPA's regulation at 40 C.F.R. § 70.7(g) requires that the permitting authority be notified and given an opportunity to propose a determination of termination, modification, or revocation and reissuance, as appropriate, within a specified time frame. Should the permitting authority fail to act, or otherwise fail to resolve any objection EPA has to the permit under this process, the Administrator would terminate, modify, or revoke and reissue the permit as appropriate.

V. Accident Prevention Authorities

EPA may consider cumulative impacts under its CAA section 112(r) authorities for the prevention of chemical accidental releases. This section authorizes a regulatory Risk Management Program that requires facility-specific plans for preventing and responding to releases of listed toxic and flammable substances.³⁹ Under the Risk Management Program, EPA can consider past and potential cumulative impacts of accidental releases from the facility and/or neighboring facilities as well as impacts from natural disasters when requiring facilities to develop accidental release prevention requirements in facility plans. For example, in fence-line communities with multiple facilities subject to CAA section 112(r) and associated regulatory requirements, a facility may have to take additional prevention and mitigation steps to address the heightened risks to the community caused by the presence of multiple facilities.

VI. Information Collection Authority

CAA section 114 vests EPA with broad authority to collect information in furtherance of CAA purposes. EPA may use this authority to obtain information necessary to assess cumulative impacts of any emission source or sources on communities, including communities with environmental justice concerns, and the environment. EPA may request information from any person:

- who owns or operates any emission source,
- who manufactures emission control equipment or process equipment,
- who the Agency believes may have information necessary to the purposes articulated in section 114, or
- who is subject to any requirement of the CAA.

The purposes specified in section 114 include:

- developing or assisting in the development of implementation plans, standards of performance, emissions standards, or regulation of solid waste combustion;
- determining whether any person is in violation of any such standard or any requirement of such a plan; or
- carrying out any provision of the CAA, with the exception of certain mobile source requirements applicable to manufacturers of new motor vehicle and motor vehicle engines.⁴⁰

³⁹ CAA § 112(r)(3)–(5), (7); *see also* 40 C.F.R. pt. 68.

⁴⁰ Information gathering activities for such mobile sources are governed by CAA § 208. This authority is comparable to CAA § 114 and thus could also provide a means to gather information about cumulative impacts.

EPA may require any person subject to section 114 to:

- establish and maintain records;
- make reports;
- install, use, and maintain monitoring equipment, and use audit procedures or methods;
- sample emissions;
- keep records on control equipment parameters, production values or other indirect data when it is impracticable to directly monitor emissions;
- submit compliance certifications; and
- provide additional information that EPA may reasonably need to carry out the CAA.

EPA may require such information on a one-time, periodic, or continuous basis. Note that EPA's exercise of authority is also subject to Paperwork Reduction Act considerations.

VII. Imminent and Substantial Endangerment (ISE) Authority

CAA section 303 provides EPA and United States district courts with broad authority to address imminent and substantial endangerment (ISE) to public health, welfare, or the environment in communities with environmental justice concerns where the cumulative impacts of air pollution from a source or multiple sources are presenting ISE, regardless of whether those sources are in compliance with the applicable CAA requirements. Specifically, section 303 provides that:

Notwithstanding any other [CAA provision], the Administrator, upon receipt of evidence that a pollution source or combination of sources (including moving sources) is presenting an imminent and substantial endangerment to public health or welfare, or the environment, may bring suit on behalf of the United States in the appropriate United States district court to immediately restrain any person causing or contributing to the alleged pollution to stop the emission of air pollutants causing or contributing to such pollution or to take such other action as may be necessary. If it is not practicable to assure prompt protection of public health or welfare or the environment by commencement of such a civil action, the Administrator may issue such orders as may be necessary to protect public health or welfare or the environment.

Courts interpreting other statutes providing similar authority have found that an endangerment may be “imminent” where present conditions indicate a threat of harm to public health, welfare, or the environment even though the harm may not be immediately realized,⁴¹ and “substantial” where there is a reasonable cause for concern that public health, welfare, or the environment is at risk.⁴² Thus, to the extent the evidence in a specific case demonstrates that multiple air pollution sources caused or contributed to cumulative impacts such that they present ISE to the health, welfare, or environment of people in a community with environmental justice concerns, EPA could seek a court order to restrain any person causing or contributing to the alleged pollution to stop emitting air pollutants causing or contributing to such pollution or to take such other action as may be necessary.⁴³ In addition, where EPA determines that

⁴¹ See, e.g., *Liebhart v. SPX Corp.*, 917 F.3d 952, 961 (7th Cir. 2019).

⁴² See, e.g., *Interfaith Community Organization v. Honeywell, Inc.*, 399 F.3d 248, 259 (3rd Cir. 2005).

⁴³ CAA § 303.

commencing a civil suit is not practicable to assure prompt protection, EPA “may issue such orders as may be necessary to protect public health or welfare or the environment.”⁴⁴ Such an order may remain in effect for up to 60 days, and may be extended by the court if EPA brings a civil action within the 60-day period. Finally, as part of their state implementation plans (SIPs) implementing NAAQS, all states are required to have “authority comparable to that in” CAA section 303.⁴⁵

EPA’s 1999 “Guidance on Section 303 of the Clean Air Act” contemplates consideration of cumulative impacts under section 303.⁴⁶ The Guidance notes that EPA interprets the phrase “contributing to” under section 303 to mean, “to have a share in any act or effect.”⁴⁷ It is not necessary for the person to be directly controlling the activities that are creating an imminent and substantial endangerment for EPA to issue an order or take other action under section 303. Nor is it necessary that a person be responsible for a specific share of the effect. A combination of air pollution sources may present ISE even though the emissions from a single source, if considered alone, may be of lesser concern. In some cases, it may be warranted to address an individual source under section 303 even though the action would not completely eliminate the pollutant(s) of concern.

⁴⁴ *Id.*

⁴⁵ CAA § 110(a)(2)(G).

⁴⁶ Memorandum from Eric V. Schaeffer, Director, Office of Regulatory Enforcement, Office of Enforcement and Compliance Assurance, EPA, to Addresses, on Transmittal of “Guidance on Section 303 of the Clean Air Act,” at 10–11 (Apr. 1, 1999), <https://www.epa.gov/sites/default/files/2021-05/documents/transmittalofguidanceonsection303ofcaa040199.pdf>.

⁴⁷ *Id.* at 11 (citing *United States v. Aceto Agricultural Chem. Corp.*, 872 F.2d 1373, 1384 (8th Cir. 1989)).

CHAPTER TWO: WATER PROGRAMS

The Clean Water Act (CWA) and Safe Drinking Water Act (SDWA) provide EPA with various legal authorities to address, where appropriate, cumulative impacts in communities with environmental justice concerns. Pursuant to these authorities, EPA already addresses or could consider addressing cumulative impacts, based on an adequate record, thus expanding or deepening opportunities to advance environmental justice.

This chapter discusses six of the authorities discussed in *EJ Legal Tools*⁴⁸ where EPA has considered or could consider cumulative impacts on affected communities, including communities with environmental justice concerns, in carrying out its functions under the CWA and SDWA. These illustrative examples address the following: (1) relative source contribution in developing human health water quality criteria, Maximum Contaminant Level Goals, and Health Advisories; (2) identifying impaired waters and developing Total Maximum Daily Loads (TMDLs) for impaired waters; (3) guidelines related to dredge or fill permits issued by the U.S. Army Corps of Engineers; (4) underground injection control area permits; (5) National Pollutant Discharge Elimination System (NPDES) permits related to municipal stormwater and pesticide applications; and (6) exercise of imminent and substantial endangerment authorities.

The authorities identified herein are not intended to be exhaustive but rather are illustrative of certain ways in which cumulative impacts are or could be relevant in decision-making under the CWA and SDWA. The highlighted examples are intended to spur further thinking about opportunities to take cumulative impacts into account in Agency decision-making. While the provisions identified in this section may provide authority for EPA to address cumulative impacts under the CWA and SDWA, discussion of such examples does not obligate EPA to take cumulative impacts into account in any particular action.

Whether and how EPA utilizes these and other authorities to address cumulative impacts will depend on the specific statutory, regulatory, policy, scientific, and factual contexts at issue, as well as the resources available to the Agency. In certain contexts, terms such as “cumulative impacts,” “aggregate exposure,” and “cumulative effects” may not encompass the combined exposures to stressors but may refer instead to the cumulative, or aggregate, impacts of only a specific set of pollutants or in specific media exposure pathways as defined by the statute or regulation.⁴⁹ EPA program and regional offices should consult with the relevant Office of General Counsel and Office of Regional Counsel attorneys regarding potential legal issues associated with whether and/or how to consider cumulative impacts to advance environmental justice through the water programs.

I. Human Health Water Quality Criteria, Maximum Contaminant Level Goals, and Health Advisories

One example of EPA’s consideration of cumulative impacts in its water programs is the Agency’s derivation and consideration of “Relative Source Contribution” or “RSC” in its decision-making. The RSC approach allows EPA to consider multiple sources of exposure to an

⁴⁸ EJ LEGAL TOOLS, *supra* note 3, at 59–87 (CWA); 87–97 (SDWA).

⁴⁹ See *supra* INTRODUCTION.

individual chemical, or aggregate exposure, and the Agency uses this approach in, among other circumstances, developing recommended ambient water quality criteria to protect human health,⁵⁰ drinking water Maximum Contaminant Level Goals (MCLGs), and drinking water Health Advisories (HAs). EPA generally limits this approach to chemicals with dose-response relationships that are thought to be either nonlinear or consistent with a threshold (i.e., those chemicals for which there is a point below which adverse effects are not expected to occur, such as noncarcinogens and nonlinear carcinogens).⁵¹ Under all three authorities, EPA's goal is, among other things, to regulate or advise to protect human health. EPA considers cumulative or aggregate exposure in appropriate circumstances to ensure that it is accurately representing the effect of additional exposure to the target pollutant on human health; considering additional loads in isolation, in these cases, would not reflect the real-world effects of the pollutants at issue.

The purpose of the RSC is to ensure that the level of the chemical at issue, when combined with other identified sources of exposure for the target population, will not result in exposures that exceed a level below which it is not likely to cause adverse health effects over a lifetime, i.e., the threshold effect level (Reference Dose, or RfD). Calculation of the RSC factors in dermal and inhalation exposure as well as exposure from other non-water sources (e.g., consumption of foods, dust, medications, consumer products, etc.). EPA published guidance in 2000 describing its approach for determining the RSC for chemicals with threshold effects.⁵² Because the RSC accounts for other potential exposure sources, the incorporation of the RSC in equations to derive human health ambient water quality criteria, an MCLG or an HA often leads to a more health protective approach.

EPA develops national recommended water quality criteria for waters of the United States and MCLGs and HAs for drinking water nationwide. The Agency takes sensitive subpopulations into account (such as children and pregnant women) when deriving such values, further factoring in environmental burden. While MCLGs, drinking water HAs, and national recommended human health criteria are not regulatory in nature, they represent the best available science and may be used by state environmental and public health agencies and/or public drinking water systems as appropriate in various actions, such as deriving permit limits for discharges from wastewater treatment facilities, to manage risks to people, including more vulnerable populations where appropriate, associated with a contaminant in drinking water or in rivers, streams, lakes, estuaries, and near-coastal waters.

II. Identifying Impaired Waters and Developing TMDLs

The CWA section 303(d) program presents several opportunities for states, territories, authorized tribes, and, where appropriate, EPA to consider cumulative impacts. For example, in developing TMDLs for impaired waters, regulators could exercise their discretion when setting waste load allocations (for point sources) and load allocations (for nonpoint sources) to allocate a

⁵⁰ 33 U.S.C. § 1314(a).

⁵¹ EPA, METHODOLOGY FOR DERIVING AMBIENT WATER QUALITY CRITERIA FOR HUMAN HEALTH (2000), <https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf>; *see also* 42 U.S.C. § 300g-1(a).

⁵² EPA, METHODOLOGY FOR DERIVING AMBIENT WATER QUALITY CRITERIA FOR HUMAN HEALTH (2000), <https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf>.

lesser share of pollutant loads to discharges in communities experiencing greater cumulative impacts.⁵³ Regulators could also consider cumulative impacts when deciding the order in which TMDLs are developed. The CWA and EPA regulations provide that each “State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.”⁵⁴ Provided that states and authorized tribes satisfy their statutory obligation of “taking into account” those statutory factors, they could exercise their discretion to prioritize developing TMDLs to address human health impairments in and around communities where cumulative impacts are a concern. States and authorized tribes could also consider revising existing TMDLs for waters in communities that continue to experience the disproportionate burdens associated with cumulative impacts, and EPA could provide technical support to states and authorized tribes to assist such efforts. All these actions could promote improved water quality and human health in and around such communities.

III. EPA Review of CWA Section 404 Permits

While the U.S. Army Corps of Engineers (the Corps) has the lead role in the CWA section 404-authorization process in most states, EPA’s authority to review proposed projects may, in certain circumstances, provide an opportunity to consider cumulative impacts on affected communities.

Before the Corps can authorize a discharge of dredged or fill material into federally regulated waters under CWA section 404, they must determine that the discharge complies with the CWA section 404(b)(1) Guidelines. EPA developed these Guidelines in conjunction with the Corps, and EPA’s review of the Corps’ public notices typically centers on compliance with the Guidelines. The Guidelines’ discussion of cumulative impacts is focused on “the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material.”⁵⁵ As part of its reviews, EPA could heighten its focus on ensuring that the issuing authority is aware of and adequately considers the cumulative impacts on disadvantaged communities from the authorization of discharges of dredged or fill materials. EPA could also consider the extent to which other considerations in the Guidelines may be particularly relevant to cumulative impacts on affected communities (e.g., factual determinations regarding human use characteristics, particularly as related to potential effects on municipal and private water supplies, recreational and commercial fisheries, and water-related recreation).⁵⁶

When the Corps issues CWA permits for discharges of dredged or fill material into waters of the United States, including certain wetlands, it is also required, pursuant to Corps regulations, to conduct a public interest review.⁵⁷ The Corps’ public interest review involves an analysis of the foreseeable impacts the proposed work would have on public interest factors, such as navigation, general environmental concerns, wetlands, economics, fish and wildlife values, land use, floodplain values, and the needs and welfare of the people. Where there is available information, EPA could provide comments, when appropriate, that identify

⁵³ 33 U.S.C. § 1313(d); 40 C.F.R. § 130.7.

⁵⁴ 33 U.S.C. § 1313(d)(1)(A); 40 C.F.R. § 130.7(b)(4).

⁵⁵ 40 C.F.R. § 230.11(g).

⁵⁶ 40 C.F.R. § 230.50–54.

⁵⁷ 33 C.F.R. pt. 320, General Regulatory Policies.

environmental justice concerns, which could include cumulative impacts, that the Corps should consider in the context of its public interest review.

In addition, in reviewing applications from states or tribes to assume the section 404 programs (in which they must issue permits consistent with the section 404(b)(1) Guidelines), EPA can encourage the state or tribal authority that implements the Guidelines to consider communities with environmental justice concerns as part of its required consideration of impacts on human uses of resources.⁵⁸

IV. Underground Injection Control (UIC) Area Permits

In the Underground Injection Control (UIC) program under the SDWA, EPA (or potentially a state or tribe with UIC primary implementation and enforcement authority) considers “the *cumulative effects* of drilling and operation of additional injection wells . . . during evaluation of the area permit application.”⁵⁹ EPA (or a state or tribal authority) may issue a permit on an “area basis” covering multiple wells, rather than for each well individually, if an application can meet the regulatory requirements.⁶⁰ EPA can deny an application for an area permit or condition the permit based on cumulative effects.⁶¹ Also, if EPA (or a state or tribal authority) receives information indicating that the “cumulative effects on the environment are unacceptable,” it may modify the permit.⁶²

EPA has relied on these authorities to consider cumulative effects in its evaluation of area permit applications. For instance, in November 2020, EPA issued UIC area permits regulating uranium In-Situ Recovery (ISR)⁶³ to ensure that underground sources of drinking water will be protected from impacts associated with mining activities and deep disposal of ISR-related waste fluids on site. EPA considered various factors in its Cumulative Effects Analysis (CEA) and environmental justice analysis, including groundwater quality/availability, surface water/wetlands, surface spills/leaks, land use, soils, geology, radiological, air quality, climate change, transportation, potential accidents, ecological resources, waste management, historic mining, and spiritual and cultural resources. EPA then included several protective requirements in the final permits informed by its CEA and environmental justice analyses plus stakeholder comments.

As part of this permitting process, EPA took various actions to engage with tribal governments, affected communities, and other stakeholders. Given the significant tribal interest in EPA’s action, EPA invited 38 Indian tribes to participate in tribal consultation discussions, engaged in numerous consultation meetings, held three informational webinars specifically for

⁵⁸ See 33 U.S.C. § 1344(h)(1)(A)(i); 40 C.F.R. § 230.50–54.

⁵⁹ 40 C.F.R. § 144.33(c)(3) (emphasis added). Area permits may not be issued for Class VI wells. *Id.* § 144.33(a)(5).

⁶⁰ See 40 C.F.R. § 144.33 (application requirements).

⁶¹ 40 C.F.R. § 144.33(c)(3) allows the Director to issue area permits only if the cumulative effects of drilling and operation of additional injection wells are “acceptable” to the Director. If the Director issues the area permit, the Director has plenary authority to condition the permit to prevent migration of fluids into underground sources of drinking water and to otherwise assure compliance with all applicable requirements of the SDWA and EPA’s implementing regulations. 40 C.F.R. § 144.52(a)(9), (b).

⁶² 40 C.F.R. § 144.39(a)(2).

⁶³ *EPA Dewey-Burdock Class III and Class V Injection Well Final Area Permits*, EPA, <https://www.epa.gov/uic/epa-dewey-burdock-class-iii-and-class-v-injection-well-final-area-permits>.

tribal governments, and once the decision was finalized, responded to each tribe that raised concerns or submitted comments and explained how the Region addressed their input. In addition, to enhance public engagement, Region 8 exercised its discretion to hold public hearings in four locations and at times selected to accommodate communities with environmental justice concerns. Prior to each public hearing, the program offered informational meetings on site to provide the local communities with opportunities to receive additional information and ask questions to facilitate informed and effective participation during the hearings. The Region also included drafts of its CEA and environmental justice analysis for review during the public comment periods and provided substantial comment period extensions.⁶⁴

V. NPDES Permits for Stormwater and Pesticide Application

EPA and states may consider cumulative impacts when developing certain CWA NPDES permits, such as those for small Municipal Separate Storm Sewer Systems (MS4s) and the Pesticide General Permit (PGP) and state equivalents. As mentioned in *EJ Legal Tools*, permit writers may establish more specific requirements tailored to the needs of communities with environmental justice concerns, including cumulative impacts, in developing permit conditions for small MS4s.⁶⁵ For instance, based upon a cumulative impact analysis of disproportionate local environmental burdens, MS4 permits could include tailored requirements related to illicit discharge detection and elimination and post-construction stormwater conditions for redevelopment and new development.⁶⁶ The permits could encourage urban communities with environmental justice concerns to prioritize and focus their own work to detect and “effectively eliminate” illicit discharges and incentivize contractors to use certain types of green infrastructure under the CWA section 402(p)(3)(B)(3) “maximum extent practicable” standard that applies to MS4 permits, including practices that incorporate vegetation, which would benefit water quality but could also have secondary benefits such as addressing illicit discharges, air and noise pollution, heat extremes, and people’s mental and physical wellbeing.

Regarding the PGP, EPA could explore requiring, or at least encouraging, operators to consider cumulative impacts, especially cumulative impacts to communities with environmental justice concerns, when selecting pest management measures that minimize pesticide discharges. EPA and states issue PGPs under the NPDES program to regulate discharges from pesticide applications.⁶⁷ The current EPA PGP requires operators to submit a notice of intent (NOI) before the first pesticide application covered under the PGP (and at least once each calendar year thereafter) that evaluates a broad range of pest management options—beyond pesticide application—to control target pests.⁶⁸ When evaluating options, operators must consider impacts

⁶⁴ A number of the actions identified in this example go beyond the area permit cumulative effects consideration required by 40 C.F.R. § 144.33 (e.g., the separate environmental justice analysis, the enhanced public participation and consultation, and the additional permit conditions informed in part by the environmental justice analysis and stakeholder comments).

⁶⁵ *EJ LEGAL TOOLS*, *supra* note 3, at 80–82.

⁶⁶ See 33 U.S.C. § 402(p)(3)(B)(ii)–(iii); 40 C.F.R. § 122.34(b)(3), (5).

⁶⁷ *Pesticide Permitting*, EPA, <https://www.epa.gov/npdes/pesticide-permitting>.

⁶⁸ This requirement is part of the permit’s technology-based effluent limitations (TBELs). 33 U.S.C. § 1311(b)(1)(A) (BPT), (b)(2)(A) (BAT), (b)(2)(E) (BCT); 40 C.F.R. §§ 122.44(a)(1), 125.3. The TBELs contained in the PGP are non-numeric and constitute the levels of control that reduce the area and duration of the discharge of pollutants to waters of the United States. They are based on EPA’s “best professional judgement” decision-making because no effluent limitation guideline or “ELG” applies.

to water quality and to non-target organisms (as well as feasibility and cost-effectiveness). For example, when evaluating pest management options for mosquito control, the operator could consider habitat modification to eliminate mosquito breeding sites, such as elimination of artificial ponds or maintenance of steep banks in natural waterbodies, proper disposal of containers used by mosquitos as breeding grounds, or even using mosquitofish that feed on mosquito larvae as a “biocontrol agent.” Some of these options beyond pesticide application can result in improvements to public health and the environment beyond water quality improvements. For instance, minimizing unnecessary pesticide applications can help reduce exposures to applicators, who may be part of a community with environmental justice concerns, as well as others. The current EPA PGP requires this evaluation of options only for operators required to submit an NOI; in the next PGP, EPA could explore requiring other operators to engage in this type of options evaluation (or require additional operators to submit an NOI).

VI. Imminent and Substantial Endangerment

Both the Safe Drinking Water Act (SDWA) and the CWA address imminent and substantial endangerment. SDWA section 1431 provides EPA with broad authority to address risks to public health, including those involving cumulative impacts to drinking water sources. Specifically, SDWA section 1431 authorizes EPA to take action where “a contaminant . . . is present in or is likely to enter a public water system or underground source of drinking water” which “may present an imminent and substantial endangerment to the health of persons,” and “State and local authorities have not acted . . .” Accordingly, where there is information showing that multiple sources are cumulatively impacting the drinking water and may present an “imminent and substantial endangerment” to public health in a community with environmental justice concerns, EPA could use this broad authority to take action “necessary to protect the health of persons.” Such action may include, but is not limited to, orders requiring the provision of alternative water by persons causing or contributing to the endangerment. “Imminent and substantial endangerment” has been broadly construed to include not only actual harm, but also the risk of harm.⁶⁹ Therefore, not only acute contaminants but also those that lead to chronic health effects in environmental justice communities, such as carcinogens, may be considered to cause “imminent endangerment” even though there is a period of latency before those contaminants, if introduced into a drinking water supply, might cause adverse health effects.⁷⁰ SDWA section 1431 can be used to prevent a dangerous situation from materializing or address a dangerous situation once discovered.⁷¹ Furthermore, it can be used to address cumulative threats to drinking water even from contaminants that are not regulated under the SDWA⁷² or where

⁶⁹ See *Trinity American Corp. v. EPA*, 150 F.3d 389, 397–98 (4th Cir. 1998) (“Because only the ‘risk of harm’ must be ‘imminent,’ EPA need not demonstrate that individuals are drinking contaminated water to justify issuing an emergency order”).

⁷⁰ See *id.* (“EPA . . . may invoke its powers under section 1431 even if there is only an ‘imminent likelihood of the introduction into drinking water of contaminants that may cause health damage after a period of latency’”), citing H.R. 93-1185, at 36 (stating that an imminent endangerment may result from exposure to a carcinogenic agent).

⁷¹ H.R. REP. NO. 93-1185, 93rd Cong., 2d Sess. 35–36, reprinted in, 1974 U.S. Code Cong. & Ad. News 6454, 6488 (“the Committee intends that this language be construed by the courts and the Administrator so as to give paramount importance to the objective of protection of the public health. Administrative and judicial implementation of this authority must occur early enough to prevent the potential hazard from materializing.”)

⁷² SDWA section 1401(6) defines contaminant very broadly to include any physical, chemical, biological or radiological substance or matter in water. Under this broad definition, EPA may act under SDWA 1431 even when the contaminant in question is not subject to a national drinking water regulation under SDWA.

there is no violation of regulatory requirements. While CWA section 504 (discussed below) is only available judicially, SDWA section 1431 provides for administrative and judicial enforcement and is used more frequently. In 2018, EPA updated its SDWA section 1431 guidance.⁷³

Similarly, CWA section 504, entitled “Emergency Powers,” provides EPA and United States district courts with broad authority—though rarely used—to address risks to public health and welfare, including in communities with environmental justice concerns, resulting from the cumulative impacts of water pollution from multiple sources, regardless of whether those sources comply with the requirements of the CWA. Specifically, CWA section 504 states that:

[n]otwithstanding any other provision of this chapter, the Administrator upon receipt of evidence that a pollution source or combination of sources is presenting an imminent and substantial endangerment to the health of persons or to the welfare of persons where such endangerment is to the livelihood of such persons, such as inability to market shellfish, may bring suit on behalf of the United States in the appropriate district court to immediately restrain any person causing or contributing to the alleged pollution to stop the discharge of pollutants causing or contributing to such pollution or to take such other action as may be necessary.⁷⁴

Courts interpreting other statutes providing similar authority have found that an endangerment may be “imminent” when the present conditions indicate a threat of harm to public health or welfare, even though the harm may not be immediately realized;⁷⁵ and “substantial” where there is a reasonable cause for concern that public health or welfare is at risk.⁷⁶⁷⁷ Thus, to the extent that there is evidence that, cumulatively, multiple water pollution sources are causing or contributing to conditions that present immediate or long-term risks to the health or welfare of people in a disproportionately impacted community, EPA could seek a federal court order to “immediately restrain any person causing or contributing to the alleged pollution to stop the discharge of pollutants causing or contributing to such pollution or to take such other action as may be necessary.”⁷⁸ EPA has issued guidance regarding CWA section 504.⁷⁹

⁷³ EPA, UPDATED GUIDANCE ON EMERGENCY AUTHORITY UNDER SECTION 1431 OF THE SAFE DRINKING WATER ACT (2018), <https://www.epa.gov/enforcement/updated-guidance-emergency-authority-under-sdwa-section-1431>.

⁷⁴ 33 U.S.C. § 1364.

⁷⁵ See, e.g., *Liebhart v. SPX Corp.*, 917 F.3d 952, 961 (7th Cir. 2019).

⁷⁶ See, e.g., *Interfaith Community Org. v. Honeywell, Inc.*, 399 F.3d 248, 259 (3d Cir. 2005).

⁷⁷ Interpretations of language in the emergency power provision of one environmental statute may be used to interpret comparable language in another environmental statute. See, e.g., *United States v. Reilly Tar & Chemical Corp.*, 546 F. Supp. 1100, 1109–10 (D. Minn. 1982); *Ethyl Corp v. EPA*, 541 F.2d 1, 17 (D.C. Cir. 1976) (en banc), *cert. denied*, 426 U.S. 941 (1976).

⁷⁸ 33 U.S.C. § 1364.

⁷⁹ See EPA, GUIDANCE ON USE OF SECTION 504, THE EMERGENCY POWERS PROVISION OF THE CLEAN WATER ACT at 72-103 (1993), <https://nepis.epa.gov/Exec/ZyPDF.cgi/91015HE9.PDF?Dockkey=91015HE9.PDF>.

CHAPTER THREE: WASTE MANAGEMENT AND EMERGENCY RESPONSE PROGRAMS

This chapter discusses the Resource Conservation and Recovery Act, the Oil Pollution Act, the Emergency Planning and Community Right-to-Know Act, and the Comprehensive Environmental Response, Compensation, and Liability Act. As explained below, these statutes provide EPA various legal authorities to, where appropriate, address cumulative impacts in communities with environmental justice concerns. The authorities and examples provided in this chapter are not a comprehensive accounting of all of EPA’s waste management and emergency response authorities related to cumulative impacts. Whether and how EPA utilizes these and other authorities will depend on the specific statutory, regulatory, policy, scientific, and factual contexts at issue, as well as the resources available to the Agency.

In certain contexts, the terms “cumulative impacts” or “cumulative risk” may not encompass the combined exposures to stressors but may refer instead to the cumulative, or aggregate, impacts of only a specific set of pollutants or in specific media exposure pathways.⁸⁰ EPA program and regional offices should consult with the relevant Office of General Counsel and Office of Regional Counsel attorneys regarding potential legal issues associated with whether and how to consider cumulative impacts to advance environmental justice through the Agency’s waste management and emergency response programs.

I. Resource Conservation and Recovery Act

EPA may use certain authorities under the Resource Conservation and Recovery Act (RCRA) to advance the fair treatment and meaningful participation of communities with environmental justice concerns in developing regulations, standards, and guidelines for hazardous waste management. RCRA requires EPA to promulgate regulations establishing standards applicable to generators, transporters, and owners and operators of hazardous waste treatment, storage, and disposal facilities “as may be necessary to protect human health and the environment.”⁸¹ RCRA section 7004(b) requires EPA to provide for “public participation in the development, revision, implementation, and enforcement of any regulation, guideline, information, or program.” EPA may consider factors such as “cumulative risk,” unique exposure pathways, or sensitive populations in establishing RCRA permitting or clean-up priorities, as described below and discussed in *EJ Legal Tools* at Chapter 3, Section II.⁸²

A. RCRA Section 3004(a) – Contingency Plans

EPA is obligated to promulgate, and has promulgated, regulations requiring facilities that treat, store, or dispose of hazardous waste to maintain “contingency plans for effective action to minimize unanticipated damage from any treatment, storage, or disposal of . . . hazardous waste.” Under the implementing regulations for permitted facilities, 40 C.F.R. Part 264 Subpart D, where EPA is the permitting authority, it could require facilities to prepare and/or modify

⁸⁰ See *supra* INTRODUCTION.

⁸¹ See RCRA §§ 3002(a) (standards applicable to generators), 3003(a) (standards applicable to transporters), and 3004(a) (standards applicable to owners and operators of hazardous waste treatment, storage, and disposal facilities).

⁸² EJ LEGAL TOOLS, *supra* note 3, at 100–103.

their contingency plans to reflect the needs of proximate communities with environmental justice concerns that have limited resources to prepare for or respond to emergency situations. EPA may consider whether contingency plans could account for cumulative impacts of multiple facilities on local communities, pre-existing community vulnerabilities, and hazards created or exacerbated by climate change such as flooding, heat island effect, and wildfires.

B. RCRA Sections 3004(u), 3004(v), and 3008(h) – Corrective Action for Continuing Releases

RCRA Subtitle C provides EPA or an authorized state the authority to address facility-wide corrective action at RCRA hazardous waste treatment, storage, and disposal facilities. Section 3004(u) requires corrective action for releases of hazardous waste or hazardous constituents from Solid Waste Management Units (SWMUs) at permitted facilities. RCRA section 3004(v) requires such corrective action beyond the facility boundary where necessary to protect health and the environment. Under these authorities, facilities must investigate and clean up contaminated soils, groundwater, and surface water as necessary to protect human health and the environment. Section 3008(h) allows EPA to take enforcement action to require corrective action at interim status hazardous waste treatment, storage, or disposal facilities. EPA’s corrective action guidance provides for assessment of cumulative impacts from multiple contaminants in media, contaminants in more than one medium, and contaminants from sources other than the permitted facility.⁸³ In implementing these authorities, EPA may consider factors relevant to cumulative impacts, such as cumulative risk, unique exposure pathways (*e.g.*, subsistence fishers, farming communities), or sensitive populations (*e.g.*, children, pregnant women, fetuses, the elderly).⁸⁴

C. RCRA Section 3013 Monitoring, Analysis and Testing

If EPA determines that “the presence of any hazardous waste at a facility or site at which hazardous waste is, or has been, stored, treated, or disposed of, or the release of any such waste from such facility or site may present a substantial hazard to human health or the environment,” the Agency may order a facility owner or operator to conduct reasonable monitoring, testing, analysis, and reporting to ascertain the nature and extent of such hazard.⁸⁵ Under certain circumstances and in accordance with Agency guidance, EPA can use RCRA section 3013 authority to gather information necessary to assess cumulative impacts.⁸⁶ For example, where the presence or release of hazardous wastes at several facilities or sites may present a substantial hazard to a specific geographic area, the Agency could consider issuing RCRA section 3013 orders to each owner or operator of such facilities or sites, in order to assess the cumulative impact of those activities and follow up with site-specific actions. EPA guidance also provides

⁸³ See Corrective Action for Solid Waste Management Units (SWMUs) at Hazardous Waste Management Facilities, 55 Fed. Reg. 30,798 (July 27, 1990), <https://www.epa.gov/sites/default/files/2013-10/documents/rcracactionpln-rpt.pdf>.

⁸⁴ See Memorandum from Gary S. Guzy, Gen’l Counsel, Off. of Gen’l Counsel, EPA, to Steven A. Herman, Asst. Admin., Off. of Enforcement & Compliance Assurance, EPA (Dec. 1, 2000), https://www.epa.gov/sites/default/files/201502/documents/ej_permitting_authorities_memo_120100.pdf.

⁸⁵ See EPA, ISSUANCE OF ADMINISTRATIVE ORDERS UNDER SECTION 3013 OF RESOURCE CONSERVATION AND RECOVERY ACT (1984), <https://www.epa.gov/enforcement/guidance-issuing-rcra-section-3013-administrative-orders>.

⁸⁶ See *id.*

that when issuing a RCRA section 3013 Order EPA can take into consideration citizen complaints corroborated by supporting information, information obtained through site-specific requests under CERCLA section 104, and information on “the potential for exposure to humans . . . and other related factors.”⁸⁷ This guidance also provides that EPA can consider some of the same factors as those used for RCRA section 7003 orders and encourages EPA to use any existing CERCLA section 105 investigations related to the facility for assessment of potential risks. See below the RCRA section 7003 and CERCLA section 105 discussions in this Addendum for more information on how those authorities allow for consideration of cumulative impacts.

D. RCRA Section 3019 – Exposure Information and Health Assessments

EPA has authority to increase the requirements of applicants for certain permits to provide exposure information and to request that the Agency for Toxic Substances and Disease Registry (ATSDR) conduct a Health Assessment.⁸⁸ ATSDR’s Health Assessment guidance requires analysis of cumulative impacts.⁸⁹ See additional discussion of ATSDR health assessments below under CERCLA.

E. RCRA Section 7003 – Imminent and Substantial Endangerment

EPA and the United States district courts have authority to address risks to public health and the environment in communities with environmental justice concerns resulting from the cumulative impacts of pollution from solid and hazardous waste. Specifically, RCRA section 7003 provides that:

[n]otwithstanding any other provision of this chapter, upon receipt of evidence that the past or present handling, storage, treatment, transportation or disposal of any solid waste or hazardous waste may present an imminent and substantial endangerment to health or the environment, the Administrator may bring suit on behalf of the United States in the appropriate district court against any person (including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility) who has contributed or who is contributing to such handling, storage, treatment, transportation or disposal to restrain such person from such handling, storage, treatment, transportation, or disposal, to order such person to take such other action as may be necessary, or both.

An endangerment is “imminent” where present conditions indicate that there may be a threat of harm to public health or the environment, even though the harm may not be realized for years; and is “substantial” where there is a reasonable cause for concern that public health or welfare is at risk. Thus, to the extent that there is evidence that persons who may be causing or contributing to conditions that cumulatively present immediate or long term risks to the health of people or the environment in a community with environmental justice concerns, EPA could seek a federal court order to “restrain such person[s] from such handling, storage, treatment,

⁸⁷ See *id.*

⁸⁸ See Memorandum from Gary S. Guzy, Gen’l Counsel, Off. of Gen’l Counsel, EPA, to Steven A. Herman, Asst. Admin., Off. of Enforcement & Compliance Assurance, EPA (Dec. 1, 2000), https://www.epa.gov/sites/default/files/201502/documents/ej_permitting_authorities_memo_120100.pdf.

⁸⁹ See *Public Health Assessment Guidance Manual (PHAGM)*, ATSDR, <https://www.atsdr.cdc.gov/pha-guidance/index.html>.

transportation, or disposal, to order such person[s] to take such other action as may be necessary, or both.” Section 7003 also allows EPA to issue administrative orders to private defendants or at a federal facility “as may be necessary to protect public health and the environment.”⁹⁰

F. RCRA Section 9003 – Underground Storage Tanks

EPA has authority to regulate underground storage tanks (USTs) containing regulated substances, as defined in RCRA section 9001(2). RCRA section 9003 authorizes UST regulations “necessary to protect human health and the environment.” It also allows the use of the Leaking Underground Storage Tank Trust Fund (the LUST Trust Fund) to undertake certain corrective actions with respect to releases of petroleum from USTs. There are three corrective action programs in this area. First, EPA has a regulatory program (including corrective action) that applies to both petroleum and hazardous substance USTs.⁹¹ EPA has approved most states to operate their own programs in lieu of the federal requirements, provided they are no less stringent than the federal program. Second, the LUST Trust Fund can be used for some cleanups for releases from petroleum USTs.⁹² Third, corrective action orders can be issued pursuant to RCRA section 9003(h)(4) covering USTs containing regulated substances. States operating pursuant to a cooperative agreement can utilize the federal authorities for the latter two categories.⁹³

In evaluating releases from USTs in communities with environmental justice concerns, EPA or the state can take into account factors relevant to cumulative impacts, such as cumulative risks, unique exposure pathways and scenarios, and sensitive communities. For example, when evaluating whether to implement a response action, the regulations provide that EPA, and states operating pursuant to cooperative agreements, “shall give priority in undertaking corrective actions . . . and in issuing orders requiring owners or operators to undertake such actions, to releases of petroleum from underground storage tanks which pose the greatest threat to human health and the environment.”⁹⁴

Additionally in the context of a petroleum response action, EPA or the state can require an owner or operator to implement an “exposure assessment” that takes into consideration:

the extent of exposure of, or potential for exposure of, individuals to petroleum from a release from an underground storage tank based on such factors as the nature and extent of contamination and the existence of or potential for pathways of human exposure (including ground or surface water contamination, air emissions, and food chain contamination), the size of the community within the likely pathways of exposure, and the comparison of expected human exposure levels to the short-term and long-term health effects associated with identified contaminants and any available recommended exposure or tolerance limits for such contaminants.⁹⁵

In emergency response situations where statutory exposure assessments are not practicable because of potential delay in abating the immediate hazards, EPA and the state can

⁹⁰ See EPA, GUIDANCE ON THE USE OF SECTION 7003 OF RCRA (1997), <https://www.epa.gov/sites/default/files/2013-10/documents/use-sec7003-mem.pdf>.

⁹¹ 40 C.F.R. pt. 280.

⁹² RCRA § 9003(h)(2).

⁹³ RCRA § 9003(h)(7).

⁹⁴ RCRA §§ 4001–4010.

⁹⁵ RCRA § 9003(h)(10), 42 U.S.C. § 9661(h)(10).

nonetheless consider cumulative impacts in assessing the need for temporary or permanent relocation of residents and alternative household water supplies in order to protect human health.⁹⁶ In disproportionately impacted communities with environmental justice concerns, EPA can engage the concerned communities to help ensure that the corrective action is protective of human health when a full exposure assessment is not practicable.

G. State Solid Waste Management Criteria

Under RCRA Subtitle D,⁹⁷ states are the primary implementing authority for managing nonhazardous solid waste. The federal role is to establish the overall regulatory direction, by providing minimum nationwide standards for protecting human health and the environment and providing technical assistance to states for planning and developing their own environmentally sound waste management practices. Under the authority of RCRA sections 1008(a)(3) and 4004(a), EPA promulgates minimum national performance standards necessary to ensure that “no reasonable probability of adverse effects on health or the environment” will result from solid waste disposal facilities or practices. Practices not complying with the criteria constitute “open dumping” for purposes of the prohibition on open dumping in RCRA section 4005(a). These requirements apply directly to facilities.

EPA issues guidelines and recommendations pursuant to these sections, which are used in approving state solid waste permitting programs under RCRA sections 4002 and 4003. Section 1008(a) requires that “where appropriate,” these guidelines shall direct states to include “demographic” factors in determining the location, design, and construction of solid waste management facilities.

Consistent with that direction, EPA promulgated guidelines for state solid waste management plans developed under RCRA section 4002(c) that may include consideration of factors such as “population density, distribution, and projected growth” and the “political, economic, organizational, financial, and management affecting comprehensive solid waste management.” EPA could, for example, develop guidelines that encourage states to consider demographic and socio-economic factors as well as disproportionate burdens on communities with environmental justice concerns and cumulative risks to communities when siting new solid waste management facilities.

H. RCRA Section 3005(c)(3) – Omnibus Authority

The “omnibus” authority provides that “[e]ach permit issued under this section shall contain such terms and conditions as the Administrator (or the State) determines necessary to protect human health and the environment.”⁹⁸ This authority allows EPA and authorized states to address cumulative impacts of pollution in specific contexts and other health stressors in communities that have been systematically and disproportionately burdened by environmental pollution. The Agency’s longstanding position is that EPA can consider factors relevant to

⁹⁶ See RCRA § 9003(h)(2), (h)(5); 42 U.S.C. § 9661(h)(2), (5).

⁹⁷ RCRA §§ 4001–4010.

⁹⁸ RCRA § 3005(c)(3), 42 U.S.C. § 6925(c)(3) (implementing regulations promulgated at 40 C.F.R. § 270.32(b)(2)).

cumulative impacts such as cumulative risk, unique exposure pathways, or sensitive populations in establishing hazardous waste permits.⁹⁹

As discussed in the RCRA section of *EJ Legal Tools*, the landmark decision that set out EPA's and the Environmental Appeals Board's (EAB's) position on the consideration of cumulative impacts in RCRA permitting is *In re Chemical Waste Management of Indiana*.¹⁰⁰ As stated by the EAB, RCRA's omnibus clause authorizes EPA to impose permit conditions as follows:

Under the omnibus clause, if the operation of a facility would have an adverse impact on the health or environment of the surrounding community, the Agency would be required to include permit terms or conditions that would ensure that such impacts do not occur. . . . Thus, under the omnibus clause, if the operation of a facility truly poses a threat to the health or environment of a low-income community or community of color, the omnibus clause would require the Region to include in the permit whatever terms and conditions are necessary to prevent such impacts.¹⁰¹

As such, in carrying out EPA's hazardous waste permitting program¹⁰² and in EPA's oversight of authorized state hazardous waste permitting programs,¹⁰³ EPA can take into account cumulative impacts to "justify permit conditions or denials based on disproportionately high and adverse human health or environmental effects."¹⁰⁴ Specifically, EPA can "tak[e] a more refined look at its health and environmental impacts assessment, in light of allegations that operation of the facility would have a disproportionately adverse effect on the health or environment of low-income or minority populations."¹⁰⁵

I. Permit Conditions and Risk Assessments to Address Cumulative Impacts

Most states are authorized to carry out their own hazardous waste programs—including the omnibus authority—in lieu of the federal RCRA program. Thus, most permit conditions, including conditions implementing omnibus, will be established by authorized states, not EPA. EPA may, however, comment on permits issued by state authorities. Where the state is authorized for omnibus authority and does not address factors identified in EPA comments as necessary to protect human health and the environment, EPA may seek to enforce the

⁹⁹ See Memorandum from Gary S. Guzy, Gen'l Counsel, Off. of Gen'l Counsel, EPA, to Steven A. Herman, Asst. Admin., Off. of Enforcement and Compliance Assurance, EPA (Dec. 1, 2000),

https://www.epa.gov/sites/default/files/2015-02/documents/ej_permitting_authorities_memo_120100.pdf.

¹⁰⁰ *In re Chemical Waste Management of Indiana, Inc.*, 6 E.A.D. 66 (EAB 1995) (examining for the first time the general policy directive set out in E.O. 12898 in the context of a RCRA permit),

[https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Published%20Decisions%20By%20Citation/75A5A197B66F098685257069005F7C38/\\$File/cwmii.pdf](https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Published%20Decisions%20By%20Citation/75A5A197B66F098685257069005F7C38/$File/cwmii.pdf). See also *EJ Legal Tools*, *supra* note 3, at 100–103.

¹⁰¹ *In re Chemical Waste Management of Indiana, Inc.*, 6 E.A.D. at 74.

¹⁰² 40 C.F.R. pt. 270.

¹⁰³ 40 C.F.R. pt. 271.

¹⁰⁴ *In re Chemical Waste Management*, 6 E.A.D. at 74–75.

¹⁰⁵ *Id.* It is important to remember that the EAB has repeatedly stated that an exercise of omnibus authority must be supported by an adequate administrative record. *E.g.*, *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 395–397 (EAB 1997) (citing *In re Amoco Oil Co.*, 4 E.A.D. 954, 970–71 (EAB 1993) (“the Agency’s bare assertion that a permit condition is authorized by RCRA’s omnibus provision is insufficient; the Agency must “provide a properly supported finding that the * * * provisions are necessary to protect human health and the environment.”)).

requirements it identified as necessary in its comment.¹⁰⁶ Alternatively, if the state is not authorized for omnibus authority, EPA may superimpose any necessary additional conditions under the “omnibus” authority in the federal portion of the permit.¹⁰⁷

When EPA issues a permit for a facility or specific unit at a facility that is otherwise permitted by a state, EPA can, where supported by an adequate factual record, rely on omnibus authority to require a facility to perform an assessment of hazardous waste management practices that have the potential to pose threats to human health and that are not specifically addressed by RCRA regulations.¹⁰⁸ Such an assessment may be initiated when a facility owner or operator seeks a new permit or renewal of an expiring permit, or when an existing permit is reopened for modification.¹⁰⁹

One way to evaluate such threats to human health is through a risk assessment that evaluates the health and environmental impacts of the facility’s operation on a community and includes, among other things, the cumulative impact of pollution exposures from sources beyond the applicant facility.¹¹⁰ Where supported by the findings of the risk assessment, EPA can require compliance with additional performance standards through permitting to protect human health and the environment, even though the terms are not specifically mandated by the regulations. For example, if the risk assessment concludes that lead emissions from a hazardous waste combustor, when combined with the exposures from other facilities in the area, would exceed safe levels, EPA can impose additional conditions (beyond those authorized in 40 C.F.R. Part 264) to reduce the hazardous waste emissions to safe levels.

For certain RCRA-permitted facilities (e.g., hazardous waste combustion complying with the Clean Air Act standards set forth at 40 C.F.R. Part 63, Subpart EEE), an assessment of cumulative impacts is expressly authorized by the regulations under certain circumstances. Specifically, 40 C.F.R. § 270.10(l) directs a permitting authority to require the submission of additional information or assessments to determine whether additional controls are necessary to protect human health, where the permitting authority concludes that compliance with the standards of 40 C.F.R. Part 63, Subpart EEE alone may not be protective of human health or the environment. The regulation directs the permitting authority to base this determination on considerations such as “proximity to . . . potentially sensitive receptors” (such as overburdened communities) and “identities and quantities of other off-site sources of pollutants in proximity of the facility that significantly influence interpretation of a facility specific risk assessment.”¹¹¹

EPA could also use the authority under RCRA section 3013 or 40 C.F.R. § 270.10(k) to compel a facility owner or operator to carry out necessary studies, so that, pursuant to the RCRA “omnibus” authority, EPA can ensure permit terms or conditions are protective of human health taking into account the cumulative impacts to overburdened communities.

¹⁰⁶ 40 C.F.R. § 271.19(e).

¹⁰⁷ RCRA § 3005(c).

¹⁰⁸ *Id.*

¹⁰⁹ 40 C.F.R. § 270.41.

¹¹⁰ *See, e.g.,* 2022 ORD CUMULATIVE IMPACTS REPORT, *supra* note 1.

¹¹¹ 40 C.F.R. § 270.10(l)(1).

J. Example of EPA RCRA Permitting Authority Addressing Cumulative Impacts

Below is an example wherein EPA evaluated health impacts of neighboring communities to inform the Agency's decisions and oversight related to permit conditions necessary to protect human health. This example illustrates the interaction between Clean Air Act (CAA) Title V permitting and RCRA hazardous waste permitting to address cumulative impacts in overburdened communities affected by hazardous waste combustors. Specifically, the CAA regulations require that Title V permit terms ensure compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) from hazardous waste combustors (located at 40 C.F.R. Part 63, Subpart EEE), where those standards are applicable. Under RCRA, if EPA or a state concludes that compliance with Subpart EEE NESHAP alone may not be protective of human health or the environment, then EPA or the state shall require a site-specific risk assessment (SSRA) to determine whether additional permit conditions are necessary and should be incorporated into a RCRA permit, to ensure protection of human health and the environment.¹¹²

When evaluating permit conditions to mitigate adverse effects on neighboring communities, EPA regional permitting teams may rely on EPA's RCRA public participation guidance, which discusses how to engage communities that are experiencing cumulative environmental and health impacts and how to consider those multiple and cumulative effects in the RCRA permitting process.¹¹³ Other tools to consider are those developed by EPA for its NEPA program, particularly the *Promising Practices for EJ Methodologies in NEPA Reviews*, which is a useful compilation of methodologies gleaned from current Agency practices concerning environmental justice throughout the NEPA process.¹¹⁴

RCRA Incinerator Site Specific Risk Assessment and CAA Title V Permit for Veolia

Veolia ES Technical Services, L.L.C. (Veolia) owns and operates three hazardous waste incinerators at its hazardous waste storage and disposal facility in Sauget, IL. The incinerators operate under an Illinois EPA RCRA permit and an EPA CAA Title V permit. Veolia is located in an area with significant environmental justice concerns.

In 2013, EPA reopened Veolia's Title V permit to incorporate additional requirements to assure continuous compliance with Subpart EEE NESHAP. Specifically, EPA proposed as permit requirements feedrate limits for Veolia's hazardous waste incinerators, the implementation of a feedrate analysis plan, and the installation and operation of a multi-metals continuous emissions monitoring system on the facility's combustion unit that had the highest potential emissions for mercury, semi-volatile metals (lead and cadmium), and low volatile metals (arsenic, chromium, and beryllium) for a period of at least 12 months. In support of its recommendation for additional monitoring, EPA described the facility's location in an area with significant environmental justice concerns and results from a 2008 RCRA SSRA that showed mercury emissions from the Veolia facility could result in the deposition of mercury in and

¹¹² 40 C.F.R. § 270.10(l).

¹¹³ See *RCRA Public Participation Tools and Resources*, EPA, <https://www.epa.gov/hwpermitting/rcra-public-participation-tools-and-resources>.

¹¹⁴ See *EJ IWG Promising Practices for EJ Methodologies in NEPA Reviews*, EPA, <https://www.epa.gov/environmentaljustice/ej-iwg-promising-practices-ej-methodologies-nepa-reviews>.

around lakes used for fishing downwind of the facility.¹¹⁵ Due to the facility's location, EPA also provided enhanced public participation opportunities regarding the permit renewal to communities near Veolia.

From 2013 through 2019, EPA engaged extensively with the public and Veolia concerning both the permitting and compliance at Veolia's facility. In making its 2019 Title V permitting decision, EPA considered source-specific circumstances, including Veolia's compliance history, the variability of its feedstream, and its location in an area with significant environmental justice concerns, which EPA noted underscored the need to establish conservative feedrate limits for heavy metals. The 2019 Title V permit did not significantly change the emission limit requirements in the 2008 Title V permit. Pursuant to a settlement agreement between EPA and Veolia, the 2019 permit added limits on how much arsenic, lead, mercury, and other metals Veolia can put into its incinerators by limiting the feedrate into each incinerator. The 2019 permit also requires additional monitoring to ensure that Veolia complies with its emissions limits and requires Veolia to install and operate mercury emissions controls on two incinerators that previously did not have mercury controls.¹¹⁶

Also in 2019, EPA updated its RCRA SSRA for the Veolia facility at the request of the Illinois EPA and the Illinois Attorney General's Office. As stated above, the specific purpose of the SSRA was to determine certain constituent emission rates that are expected to be protective of human health in the area around the facility and recommend that the RCRA permit ensures this protectiveness. In order to ensure protectiveness, the SSRA took into consideration the impacts of the chemical constituents permitted under CAA Title V on the specific population impacted by the facility. The SSRA identified potential exposure pathways and estimated the measurement of chemical exposure (e.g., concentrations for the various environmental media or doses) for the potential exposure pathways, based upon various exposure assumptions and the characteristics of the population receiving the exposure. This included, among other things, evaluation of fish-ingestion risk and computer modeling (the IEUBK model) to evaluate whether potential lead emissions from the facility could have a significant impact on the predicted blood lead level of children assumed to reside in residential neighborhoods near the facility. EPA concluded that the SSRA demonstrated that compliance with the Title V feedrate limits should be protective of public health near the facility but also recommended that Illinois EPA consider including mercury and chromium emission limits in its RCRA permit.¹¹⁷

II. Oil Pollution Act

The Oil Pollution Act amendments to the CWA provide for response efforts to remove a discharge of oil in accordance with the National Contingency Plan and any appropriate Area

¹¹⁵ See EPA REGION 5, STATEMENT OF BASIS, AIR POLLUTION CONTROL TITLE V PERMIT TO OPERATE PERMIT NO. V-IL-1716300103-08-01 SIGNIFICANT MODIFICATION (2013), <https://www.epa.gov/sites/default/files/2017-01/documents/veolia-statement-basis-draft-2013.pdf>. It is important to note that the CAA Title V program itself does not grant EPA the authority to create new limits or other requirements based on these concerns.

¹¹⁶ See *Veolia Sauguet Air Permitting*, EPA, <https://www.epa.gov/caa-permitting/veolia-sauguet-air-permitting>.

¹¹⁷ See *Veolia Sauguet Site-Specific Risk Assessment*, EPA, <https://www.epa.gov/caa-permitting/veolia-sauguet-site-specific-risk-assessment>. See also EPA REGION 5, SITE-SPECIFIC RISK ASSESSMENT FOR HUMAN HEALTH FROM HAZARDOUS WASTE COMBUSTION: VEOLIA ES TECHNICAL SOLUTIONS, L.L.C., SAUGET, ILLINOIS, https://www.epa.gov/sites/default/files/2019-10/documents/veolia_ssra_report.pdf.

Contingency Plan (ACP). CWA section 311(c)(3)(j) provides that ACPs include a description of the areas of special economic or environmental importance that might be damaged by a discharge. Currently, EPA's practice is to include critical infrastructure and areas of economic interest in its ACPs and subarea contingency plans. As part of the planning process, EPA can perform an environmental assessment to identify and evaluate cumulative impacts and develop response strategies that mitigate the impact of an oil spill and oil spill response activities. Further, EPA area committees and subarea committees can include local community groups in their planning initiatives to ensure collaborative community engagement to help identify potential areas of importance in the development of the ACP.¹¹⁸

EPA also has authority to regulate aboveground storage tanks (ASTs) containing regulated substances under its Spill Prevention, Control, and Countermeasure (SPCC) regulation.¹¹⁹ SPCC inspectors may evaluate whether a facility with ASTs is located in a community with environmental justice concerns and may take into account factors relevant to cumulative impacts, such as cumulative risks, unique exposure pathways and scenarios, and sensitive communities, when targeting inspections.

III. Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA) requires local emergency planning committees to prepare emergency response plans for facilities that contain certain amounts of designated extremely hazardous substances. EPA could publish guidance on considering environmental justice and cumulative impacts issues in preparing and implementing emergency plans that would assist localities in determining whether communities may require special medical attention in the event of a chemical release because of cumulative exposures to hazardous substances, consumption patterns, or sensitive populations.¹²⁰

A. EPCRA Section 312(b)

This section provides that EPA may establish threshold quantities for hazardous chemicals, below which no facility is subject to the emergency and hazardous chemical inventory form reporting requirements. Threshold quantities may, in EPA's discretion, be based on classes of chemicals or categories of facilities. These general provisions provide substantial discretion to EPA and presumably could be used by EPA to consider cumulative impacts in establishing threshold quantities for hazardous chemicals under two key reporting requirements in the Act.¹²¹

B. EPCRA Section 313(e)

This section provides that any person may petition EPA to add or delete a chemical from the EPCRA list of chemicals subject to the toxic chemical release form reporting requirements.

¹¹⁸ See Preamble to the NCP and the notice of rulemaking for NCP at 58 Fed. Reg. 54,644, 54,711–13 (Oct. 22, 1993), 59 Fed. Reg. 47,384, 47,229–47,524 (Sept. 15, 1994).

¹¹⁹ 40 C.F.R. pt. 112.

¹²⁰ EJ LEGAL TOOLS, *supra* note 3, at 118.

¹²¹ NAT'L ENV'T JUSTICE ADVISORY COUNCIL, ENSURING RISK REDUCTION IN COMMUNITIES WITH MULTIPLE STRESSORS: ENVIRONMENTAL JUSTICE AND CUMULATIVE RISKS/IMPACTS (2004), <https://www.epa.gov/sites/default/files/2015-04/documents/ensuringriskreductionnejac.pdf>.

The petition must be based on the same criteria that the statute directs EPA to use in making deletions and additions to the list. This regulatory process could be used specifically to promote environmental justice because it authorizes petitions to EPA to list chemicals that may present particular threats to low-income communities and communities of color, due to cumulative exposures, sensitive populations, or consumption patterns.¹²²

IV. Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as Superfund, authorizes the federal government to respond to releases and threats of releases into the environment of hazardous substances, pollutants, or contaminants. EPA does so by taking response measures, generally consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP),¹²³ deemed “necessary to protect the public health or welfare or the environment.”¹²⁴ EPA’s authority to take actions “necessary to protect the public health or welfare or the environment” authorizes EPA to ensure fair treatment and meaningful participation in environmental decision-making for communities with environmental justice concerns that are disproportionately impacted. Additionally, CERCLA’s mandate to consider “public health or welfare or the environment” could be readily interpreted to provide the legal authority for considering cumulative impacts, including accumulated or aggregate impacts on human health, in taking response actions.¹²⁵

A. CERCLA Section 105(a)(8)

Section 105(a) gives EPA broad general authority to determine methods for investigating and evaluating sites. Section 105(a)(8)(A) sets the criteria to be considered in Hazard Ranking System (HRS) evaluations for determining priorities among releases for inclusion on the National Priorities List (NPL) which must be based, in part, on “relative risk or danger to the public health or welfare or the environment,” taking into account to the extent possible the “population at risk” and several other considerations set out in the statute, as well as “other appropriate factors.”¹²⁶ The HRS is a screening model that exclusively uses numerical inputs in determining whether inclusion on the NPL is appropriate. Once enough data is available to reach the minimum cut-off score for NPL eligibility, obtaining additional data to increase the score does not affect the NPL listing decision. The current HRS includes calculations for certain cultural or economic characteristics such as population density, subsistence fishing, water bodies used for cultural/religious purposes, and community gathering places such as recreational, religious and ceremonial locations, educational institutions, and daycare facilities. Additional evaluation and quantification of potential environmental justice and cumulative impacts could inform refinements to the HRS screening that would likely require new rulemaking. Other areas of the CERCLA pre-remedial program can be enhanced by formulating strategies to advance environmental justice within the site assessment prioritization and decision-making process.

¹²² *Id.*

¹²³ 40 C.F.R. pt. 300.

¹²⁴ CERCLA § 104(a)(1).

¹²⁵ See definitions of the terms “response,” “removal,” and “remedial action” at CERCLA §§ 101(25), 101(23), and 101(24), respectively.

¹²⁶ 42 U.S.C. § 9605(a)(8)(A).

B. CERCLA Sections 104, 106 and 121

Section 104 of CERCLA provides EPA with response authority to conduct removals and “provide for remedial action . . . [as] necessary to protect the public health or welfare or the environment.”¹²⁷ EPA may consider factors related to the population impacted by the area pollution and multiple unique exposure pathways.¹²⁸ A necessary component of fulfilling the congressional objective to protect human health is the authority to identify, assess, and evaluate alternatives to address risk from a release or threatened release in EPA decision-making and actions. For CERCLA actions that require risk-based decision-making, incorporating assessment of cumulative impacts into ATSDR health assessments and site-specific baseline risk assessments promotes statutory goals and assists in meeting statutory and regulatory requirements for the protection of human health and welfare.

EPA uses baseline risk assessment to make risk management decisions such as determining whether remedial action under CERCLA section 104 or 106 is necessary.¹²⁹ Baseline risk assessments characterize the current and potential threats to human health and the environment that may be posed by multiple contaminants and multiple pathway such as migration to ground water or surface water, releases to air, leaching through soil, remaining in soil, and bioaccumulating in the food chain.¹³⁰ In characterizing risk, EPA risk assessors consider cumulative impacts by comparing the estimated or measured exposure level for each stressor and plant or animal population, community, or ecosystem of concern and the data on expected effects for that specific group.¹³¹

EPA also uses baseline risk assessments in selecting appropriate remedies under CERCLA section 121.¹³² In selecting a remedy for a site, CERCLA section 121 and the NCP¹³³ require EPA to consider nine criteria, including “overall protection of human health and the environment” and “community acceptance.” The NCP establishes a programmatic goal of selecting remedies that are protective of human health and the environment¹³⁴ and calls for a baseline risk assessment to characterize threats to human health and the environment, as well as the development of alternatives to address exposure pathways and reduce or eliminate risks, including cumulative risks, at the site.¹³⁵

¹²⁷ 42 U.S.C. § 9604(a).

¹²⁸ See NAT’L ENV’T JUSTICE ADVISORY COUNCIL, ENSURING RISK REDUCTION IN COMMUNITIES WITH MULTIPLE STRESSORS: ENVIRONMENTAL JUSTICE AND CUMULATIVE RISKS/IMPACTS (2004), <https://www.epa.gov/sites/default/files/2015-04/documents/ensuringriskreductionnejac.pdf>.

¹²⁹ See EPA OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, OSWER DIRECTIVE 9355.0-30: ROLE OF THE BASELINE RISK ASSESSMENT IN SUPERFUND REMEDY SELECTION DECISIONS (1991), <https://www.epa.gov/sites/default/files/2015-11/documents/baseline.pdf>.

¹³⁰ 40 C.F.R. § 300.430(d)(4).

¹³¹ See *Human Health Risk Assessment*, EPA, <https://www.epa.gov/risk/human-health-risk-assessment>.

¹³² See EPA OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, OSWER DIRECTIVE 9355.0-30: ROLE OF THE BASELINE RISK ASSESSMENT IN SUPERFUND REMEDY SELECTION DECISIONS (1991), <https://www.epa.gov/sites/default/files/2015-11/documents/baseline.pdf>.

¹³³ 40 C.F.R. § 300.430(f).

¹³⁴ 40 C.F.R. § 300.430(a)(1)(i).

¹³⁵ See 40 C.F.R. § 300.430(d)(4), (e)(2)(i)(D).

A cumulative impact assessment approach to risk-based decision-making such as remedy selection can be part of EPA's existing risk assessment methods that have been developed and expanded over time.¹³⁶ For example, Part A of EPA's Risk Assessment Guidance for Superfund (RAGS) includes consideration of site-specific epidemiological or health studies and provides for aggregating risks for multiple substances, combining risks across exposure pathways and identifying reasonable exposure pathway combinations. Further, CERCLA section 104(i)(6) provides for ATSDR health studies related to each facility on the NPL. ATSDR health assessments may be used to facilitate EPA's consideration of cumulative impacts during CERCLA response actions.¹³⁷

C. CERCLA Example

The **Abex Superfund Site** in Portsmouth, VA illustrates how EPA uses ATSDR health assessments and baseline risk assessment to consider cumulative impacts at both the pre-Record of Decision (ROD) and post-ROD stages of CERCLA response actions. To help prevent and reduce further exposure to lead, EPA's remedy provided permanent relocation to private landowners and included institutional controls to ensure that the property could not be used for residential purposes in the future to reduce exposure to lead in housing complexes.¹³⁸

In addition, EPA worked closely with the community to offer resources and tools to address environmental and health concerns. For example, EPA, along with federal, state, and local partners, coordinated an environmental health workshop at the community.¹³⁹ One such workshop, the Portsmouth Environmental Health Workshop, offered area residents the opportunity to learn more about environmental health topics that impact their communities such as urban lead exposure. In addition, the workshop offered free soil lead screening for residents and free blood lead screening for children, with results available in minutes.

¹³⁶ See 2022 ORD CUMULATIVE IMPACTS REPORT, *supra* note 1.

¹³⁷ ATSDR is a department of the Health and Human Services agency that helps prevent or reduce the harmful effects of human exposure to hazardous substances. CERCLA requires ATSDR to conduct public health assessments at all NPL and proposed NPL sites. Anyone may request or petition ATSDR to do a health consultation at other sites. See *Frequently Asked Questions About ATSDR*, ATSDR, <https://www.atsdr.cdc.gov/faq.html>; see also ATSDR, FRAMEWORK FOR ASSESSING HEALTH IMPACTS OF MULTIPLE CHEMICALS AND OTHER STRESSORS (UPDATE) (2018), <https://www.atsdr.cdc.gov/interactionprofiles/ip-ga/ipga.pdf>.

¹³⁸ See generally *Superfund Site: Abex Corp. Portsmouth, VA*, EPA, <https://cumulis.epa.gov/supercpad/cursites/csinfo.cfm?id=0302667>.

¹³⁹ See EPA, ABEX CORP SUPERFUND SITE COMMUNITY UPDATE (2019), <https://semspub.epa.gov/work/03/2278059.pdf>.

CHAPTER FOUR: PESTICIDES AND TOXICS PROGRAMS

I. Federal Insecticide, Fungicide, and Rodenticide Act and Federal Food, Drug, and Cosmetic Act

As outlined in *EJ Legal Tools*, EPA has several authorities to advance environmental justice under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA).¹⁴⁰ Among these authorities, some also authorize EPA to address cumulative impacts in a manner that could provide additional opportunities to advance environmental justice. The authorities and examples provided in this chapter are not a comprehensive accounting of all of EPA's pesticides and toxics authorities related to cumulative impacts. Whether and how EPA utilizes these and other authorities will depend on the specific statutory, regulatory, policy, scientific, and factual contexts at issue, as well as the resources available to the Agency.

In certain contexts, the terms “cumulative impacts” and “aggregate exposure” may not encompass the combined exposures to the full array of stressors but may refer instead to the cumulative or aggregate impacts of only a specific set of pollutants or in specific media exposure pathways.¹⁴¹ EPA program and regional offices should consult with the relevant Office of General Counsel and Office of Regional Counsel attorneys regarding potential legal issues associated with whether and how to consider cumulative impacts to advance environmental justice.

A. FIFRA

Under FIFRA, EPA may only register a pesticide if, among other things, the pesticide “will not generally cause unreasonable adverse effects on the environment.”¹⁴² Section 2(bb) of FIFRA defines “unreasonable adverse effects,” in part, as “any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide.”¹⁴³ The statute does not specify the economic, social and environmental factors to be weighed in the cost/benefit analysis beyond the requirement that the cost or benefit be tied to the pesticide use. Moreover, section 2(bb) of FIFRA provides that *any* unreasonable risk from pesticide use warrants consideration.¹⁴⁴

Given the congressional mandate to consider a wide range of factors in balancing costs against benefits, EPA could interpret this provision as providing authority for the Agency to consider cumulative impacts associated with the pesticide when determining whether to register a pesticide. For example, if there is a particular community that the Agency believes is disproportionately affected by, or exposed to, a pesticide, the Agency may take this into account in its assessment of social or human health costs associated with a given pesticide. The potential for a community to have disproportionate exposure to a pesticide is related, in part, to the type of pesticide (e.g., insecticide, fungicide, etc.), its use profile (e.g., frequency and method of

¹⁴⁰ EJ LEGAL TOOLS, *supra* note 3, at 111–18 (FIFRA), 119 (FFDCA).

¹⁴¹ See *supra* INTRODUCTION.

¹⁴² FIFRA § 3(c)(5).

¹⁴³ FIFRA § 2(bb).

¹⁴⁴ See FIFRA §§ 3(c)(5), 5(e) (experimental use permits), 6(b) (cancellation).

application), and the expected exposed populations (e.g., children or Indigenous populations), as well as behavioral/activity patterns and exposure pathways.¹⁴⁵

For example, during the reregistration process for the pesticide lindane, EPA found that the risks of continued registration of the pesticide outweighed the benefits of the registered use (seed treatment), compelling the conclusion that the pesticide use was not eligible for reregistration under FIFRA.¹⁴⁶ In the amended reregistration eligibility decision, EPA identified several sources of exposure to lindane beyond exposures directly from pesticide applications. As part of the analysis, EPA considered (1) past uses of lindane that, due to its persistent, bioaccumulative nature and potential for long-range transport, would potentially result in continued exposures to lindane; (2) consumption of imported meat containing lindane residues; and (3) pharmaceutical uses of lindane.¹⁴⁷ Due to its mobility and high persistence in the environment, EPA also evaluated lindane exposures in Indigenous populations who rely on subsistence diets.¹⁴⁸ All of these existing sources of exposure to lindane created a “reservoir of lindane in the environment” that was considered in addition to the exposure from the registered pesticide use under evaluation.

B. FFDCA

EPA also has authorities regarding the development of tolerances (the legal limit for a pesticide chemical residue in or on a food) and tolerance exemptions that may be relevant to addressing cumulative impacts in the form of consideration of “aggregate exposure” to the pesticide chemical. The FFDCA explicitly directs the Agency to incorporate “aggregate exposure” in its decision-making on tolerances and tolerance exemptions.¹⁴⁹ Under the FFDCA, aggregate exposure refers to the combined exposures to a *single* chemical across multiple routes (oral, dermal, inhalation) and across multiple pathways (food, drinking water, residential). For example, EPA revoked tolerances for the pesticide carbofuran after determining the aggregate exposure to residues from these tolerances did not meet the safety standard of section 408(b)(2)

¹⁴⁵ See EPA, STANDARD OPERATING PROCEDURES FOR RESIDENTIAL PESTICIDE EXPOSURE ASSESSMENT at 1–7 (2012), https://www.epa.gov/sites/default/files/2015-08/documents/usepa-opp-hed_residential_sops_oct2012.pdf; see also EPA, LABEL REVIEW MANUAL at 11–23 (2014) (the method of application may include tank mixing of multiple pesticide products).

¹⁴⁶ EPA, ADDENDUM TO THE 2002 LINDANE REREGISTRATION ELIGIBILITY DECISION (RED) at 15 (Jul. 2006), <https://www.regulations.gov/document/EPA-HQ-OPP-2002-0202-0074>.

¹⁴⁷ *Id.* at 5–7.

¹⁴⁸ *Id.* at 7; see also EPA, ASSESSMENT OF LINDANE AND OTHER HEXACHLOROCYCLOHEXANE ISOMERS at 45–46 (2006).

¹⁴⁹ First, FFDCA section 408(b)(2)(A)(ii) requires OPP to make a finding for each tolerance “that there is a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue, including all anticipated dietary exposures and all other exposures for which there is reliable information.” Section 408(b)(2)(C)(ii)(I) of the FFDCA also states that the Agency must find “there is a reasonable certainty that no harm will result to infants and children from aggregate exposure to the pesticide chemical residues.” Finally, section 408(b)(2)(D)(vi) requires EPA to consider “aggregate exposure levels . . . to the pesticide chemical residue . . . including dietary exposure and exposure from other non-occupational sources.”

As noted above, under FIFRA, the Agency may register a pesticide only if the use of the pesticide will not cause “unreasonable adverse effects on the environment.” The term “unreasonable adverse effects on the environment” is also defined to include human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under section 408 of the FFDCA. Therefore, the standard for making decisions whether to register or continue registration of a pesticide for food-use must satisfy the standards in the FFDCA.

of the FFDCA.¹⁵⁰ In order to derive the estimate for aggregate exposure, EPA combined the national food exposures to carbofuran with the exposures derived for individual region and crop-specific drinking water scenarios.¹⁵¹

A further authority to account for cumulative impacts under the FFDCA is the requirement to “consider . . . available information concerning the variability of the sensitivities of major identifiable subgroups of consumers.”¹⁵² Such subgroups could include, for example, consumers with subsistence diets, and EPA’s identification and subsequent analysis of such relevant subgroups could provide a mechanism to take cumulative impacts into account for communities with environmental justice concerns.

Under the FFDCA, the Agency also must evaluate the “cumulative effects” from multiple chemical substances when the pesticide and other substances share a *common mechanism of toxicity*. Specifically, FFDCA section 408(b)(2)(D)(v) requires that, when considering whether to establish, modify, or revoke a tolerance, the Agency “consider . . . available information” concerning the cumulative effects of a particular pesticide’s residues and “other substances that have a common mechanism of toxicity.” To implement this provision, once a group of substances that shares a common mechanism of toxicity is identified, the Agency evaluates all the registered and proposed uses for each substance in order to identify potential exposure pathways (food, drinking water, residential).¹⁵³ EPA then determines the combined estimated risk associated with exposure to the substances that share a common mechanism.¹⁵⁴

II. Toxic Substances Control Act

EJ Legal Tools outlines several authorities to advance environmental justice considerations under the Toxic Substances Control Act (TSCA), as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act.¹⁵⁵ Some of those authorities are further discussed in this Addendum as examples of EPA’s authority under TSCA to enhance consideration of key aspects of cumulative impacts. In particular, there are several overarching authorities in TSCA section 26 that compel the Agency, in carrying out TSCA sections 4 (testing), 5 (risk assessments for new chemical substances and regulation of significant new uses), and 6 (risk evaluation and regulation of existing chemical substances), to consider reasonably available information¹⁵⁶ and make decisions consistent with the best available science¹⁵⁷ and that are based on the weight of the scientific evidence.¹⁵⁸ These authorities are relevant to the Agency’s consideration of cumulative impacts where such consideration is appropriate.

¹⁵⁰ Carbofuran; Final Tolerance Revocations, 74 Fed. Reg. 23,046, 23,087 (May 15, 2009), <https://www.federalregister.gov/d/E9-11396/p-354>.

¹⁵¹ 74 Fed. Reg. at 23,051.

¹⁵² FFDCA § 408(b)(2)(D)(vii).

¹⁵³ See EPA, PESTICIDE CUMULATIVE RISK ASSESSMENT: FRAMEWORK FOR SCREENING ANALYSIS PURPOSE at 10 (2016), <https://www.regulations.gov/document/EPA-HQ-OPP-2015-0422-0019>.

¹⁵⁴ *Id.* at 12.

¹⁵⁵ EJ LEGAL TOOLS, *supra* note 3, at 122–41.

¹⁵⁶ 15 U.S.C. § 2625(k).

¹⁵⁷ 15 U.S.C. § 2625(h).

¹⁵⁸ 15 U.S.C. § 2625(i).

A. Section 4 Testing

Identification and characterization of chemical and non-chemical stressors is an important first step towards assessing cumulative impacts.¹⁵⁹ TSCA has authority to require testing through which EPA may obtain information relevant to the assessment of cumulative impacts, subject to other considerations (e.g., reduction vertebrate animal testing and tiered testing).¹⁶⁰ Once EPA determines that testing of a substance or mixture is necessary under section 4(a), TSCA section 4(b) requires that test rules and orders include protocols and methodologies for the development of information on a substance, and section 4(b)(2)(A) specifically provides that the health and environmental effects for which such protocols and methodologies may be prescribed include “cumulative or synergistic effects.”

B. Potentially Exposed or Susceptible Subpopulations

As further explained in *EJ Legal Tools*,¹⁶¹ EPA considers the general population and is required to consider relevant “potentially exposed or susceptible subpopulations” (PESS) when conducting risk assessments during the Agency’s review of new chemical substances or significant new uses under TSCA section 5¹⁶² and risk evaluations of existing chemical substances under TSCA section 6.¹⁶³ PESS refers to “a group of individuals within the general population identified by the Administrator who, due to either greater susceptibility or greater exposure, may be at greater risk than the general population of adverse health effects from exposure to a chemical substance or mixture, such as infants, children, pregnant women, workers, or the elderly.”¹⁶⁴ The statute does not define “greater exposure” or “greater susceptibility,” thereby providing EPA discretion to account for a population’s cumulative impacts, i.e., relevant chemical and non-chemical stressors, when identifying PESS.

For example, EPA has indicated that, where information is reasonably available, it could consider communities that live near industrial facilities and that may be disproportionately exposed to chemicals over long periods of times as PESS in ongoing risk evaluations.¹⁶⁵ EPA may also consider non-chemical stressors to identify more susceptible subpopulations.¹⁶⁶ Through its identification and subsequent analysis of PESS, EPA can take cumulative impacts into account in the risk determination for a chemical substance.

¹⁵⁹ 2022 ORD CUMULATIVE IMPACTS REPORT, *supra* note 1, at 18.

¹⁶⁰ EJ LEGAL TOOLS, *supra* note 3, at 126–27.

¹⁶¹ *Id.* at 137–38, 144–45, 148–49.

¹⁶² 15 U.S.C. § 2604(a)(3)(A), (a)(3)(B)(ii)(I), (a)(3)(C).

¹⁶³ 15 U.S.C. § 2605(b)(4)(D).

¹⁶⁴ 15 U.S.C. § 2602(12).

¹⁶⁵ *See, e.g.*, EPA, FINAL SCOPE OF THE RISK EVALUATION FOR 1,3-BUTADIENE at 38 (2021), https://www.epa.gov/sites/default/files/2020-09/documents/casrn_106-99-0_13-butadiene_finalscope.pdf.

¹⁶⁶ *See* EPA, FRAMEWORK FOR CUMULATIVE RISK ASSESSMENT at 41 (May 2003), https://www.epa.gov/sites/default/files/2014-11/documents/frnwrk_cum_risk_assmnt.pdf; *see also* EPA, TECHNICAL GUIDANCE FOR ASSESSING ENVIRONMENTAL JUSTICE IN REGULATORY ANALYSIS, at 19 (June 2016), https://www.epa.gov/sites/default/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf.

C. *Section 6 Risk Evaluation – Aggregate Exposure and Categories of Chemical Substances*

One component of assessing cumulative impact is the evaluation of “multiple exposure pathways across media.”¹⁶⁷ Section 6(b)(4)(F)(ii) of TSCA requires EPA, as a part of an existing chemical risk evaluation, to describe whether aggregate or sentinel exposures to a chemical substance under the conditions of use were considered, and the basis for their consideration.¹⁶⁸ The Office of Pollution Prevention and Toxics has defined aggregate exposure as “the combined exposures to an individual from a single chemical substance across multiple routes and across multiple pathways.”¹⁶⁹ “Routes” is further defined as “the particular manner by which a chemical substance may contact the body,” and “pathways” is defined as “the mode through which one is exposed to a chemical substance, including but not limited to: [f]ood, water, soil, and air.”¹⁷⁰ Thus, the authority to consider aggregate exposure in a risk evaluation under TSCA section 6 provides opportunity to account for the “multiple exposure pathway” component of cumulative impacts in a TSCA risk evaluation for a chemical substance. For example, EPA was able to further advance consideration of cumulative impacts in a 2020 risk evaluation by both identifying subsistence fishers in the general population as a PESS, and then conducting a separate aggregate exposure analysis specific to subsistence fishers.¹⁷¹

Assessing cumulative impacts is also linked to assessing cumulative risk from multiple chemical substances.¹⁷² TSCA gives EPA the authority to evaluate the combined risk from multiple chemical substances when there is an interrelated group of chemicals or mixtures in a manner that is consistent with the best available science and based on the weight of the scientific evidence.¹⁷³ Under TSCA section 26(c), EPA may take “any action authorized” under any provision of TSCA, in accordance with that provision, with respect to a category of chemical substances or mixtures. The definition of “category” is very broad and may include substances that share similar structure or physical, chemical, or biological properties.¹⁷⁴ Where appropriate, EPA may utilize this authority to assess risk to a category of chemical substances in a risk evaluation under TSCA section 6.

¹⁶⁷ 2022 ORD CUMULATIVE IMPACTS REPORT, *supra* note 1, at 5.

¹⁶⁸ 15 U.S.C. § 2605(b)(4)(F)(ii).

¹⁶⁹ 40 C.F.R. § 702.33.

¹⁷⁰ 40 C.F.R. § 702.33.

¹⁷¹ EPA, RISK EVALUATION FOR CYCLIC ALIPHATIC BROMIDE CLUSTER (HBCD) at 33, 39 (Sept. 2020), https://www.epa.gov/sites/default/files/2020-09/documents/1_risk_evaluation_for_cyclic_aliphatic_bromide_cluster_hbcd_casrn25637-99-4_casrn_3194-5_casrn_3194-57-8.pdf.

¹⁷² 2022 ORD CUMULATIVE IMPACTS REPORT, *supra* note 1, at 4.

¹⁷³ See H. REP. NO. 94-1679, at 60–61 (1976) (Conf. Rep.) (“[T]he conferees do not intend that a substance or mixture must be the single factor which results in the presentation of the risk. Oftentimes an unreasonable risk will be presented because of the interrelationship or cumulative impact of a number of different substances or mixtures. The conferees intend that the Administrator have authority to protect health and the environment in such situations.”).

¹⁷⁴ 15 U.S.C. § 2625(c)(2)(A).

CHAPTER FIVE: ENVIRONMENTAL REVIEW PROGRAMS

I. EPA National Environmental Policy Act Compliance and CAA Section 309 Reviews

The National Environmental Policy Act (NEPA)¹⁷⁵ applies broadly to federal actions that may significantly affect the environment.¹⁷⁶ NEPA requires disclosure of federal proposals' impacts, and consideration of reasonable alternatives and practicable mitigation to avoid or reduce those impacts, among other things. Compliance with NEPA routinely involves disclosing any disproportionate impacts on communities with environmental justice concerns, including cumulative impacts, along with consideration of ways to address—i.e., avoid or reduce—those impacts.¹⁷⁷

In the Council for Environmental Quality (CEQ) regulations implementing NEPA, the term “cumulative effects” is defined as:

effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.¹⁷⁸

The broader term “effects” is defined as including “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative.”¹⁷⁹ Accordingly, for a given agency action and depending on the context, NEPA analysis may readily encompass the combined exposures to various stressors or have a more specific scope.¹⁸⁰

Disclosure and consideration of the effects of past, present, and reasonably foreseeable actions to account for baseline burdens on communities with environmental justice concerns and other underserved communities—grounded in meaningful input from those communities—allows agencies and the public to be more fully informed about the impacts from a proposed action, including the degree to which affected communities may be more susceptible to those impacts. Appropriately broad impact assessment and community input, in turn, should sharpen consideration of alternatives and mitigation, enabling decision-makers to reckon more transparently with the cumulative nature of environmental injustice and inequity.

¹⁷⁵ 42 U.S.C. §§ 4321–4370h.

¹⁷⁶ 42 U.S.C. § 4331.

¹⁷⁷ Some states' environmental review laws also require consideration of cumulative impacts. *See, e.g.*, Massachusetts Environmental Policy Act, 301 MASS. CODE REGS. § 11.07(6)(h); California Environmental Quality Act implementing regulations, CAL. CODE REGS tit. 14, § 15355.

¹⁷⁸ 40 C.F.R. § 1508.1(g)(3).

¹⁷⁹ 40 C.F.R. § 1508.1(g)(4).

¹⁸⁰ *See supra* INTRODUCTION.

II. EPA NEPA Compliance

Because of statutory and judicially-created exemptions, NEPA generally applies to only a limited number of EPA actions.¹⁸¹ However, when NEPA applies to an EPA action and the Agency either applies a categorical exclusion (CE), or prepares an environmental assessment (EA) or an environmental impact statement (EIS). The CEQ NEPA regulations and detailed EPA EJ-NEPA guidance¹⁸² explicitly call for the Agency to examine not only the direct and indirect effects of the EPA action on communities with environmental justice concerns but also the cumulative impacts of the action when added to other past, present, and reasonably foreseeable future activities (federal and non-federal). This should include climate-related cumulative impacts on communities with environmental justice concerns.¹⁸³ In addition, EPA considers cumulative impacts when determining whether an action that would typically fall under a CE should instead, because of cumulative impacts, be subject to an EA or EIS.¹⁸⁴ EPA may also *voluntarily* prepare detailed EISs or brief EAs, as appropriate, for its NEPA-exempt actions under its “Statement of Policy for Voluntary Preparation of National Environmental Policy Act Documents.”¹⁸⁵

Detailed CEQ environmental justice guidance and the presidential memo¹⁸⁶ accompanying E.O. 12898 similarly make clear that EPA NEPA documents should disclose and consider the impact of EPA’s proposed actions in the context of the cumulative impacts, including the combined exposure to various stressors as appropriate, on communities with environmental justice concerns. Further, the breadth of this authority encompasses consideration of equity issues in a cumulative impact context as well, where appropriate, e.g., impacts on

¹⁸¹ See 40 C.F.R. § 6.101; see also 40 C.F.R. § 35.10010 (applying NEPA to EPA actions under the Water Infrastructure Finance and Innovation Act), 15 C.F.R. § 990.23 (applying NEPA to restoration actions undertaken under the Oil Pollution Act).

¹⁸² *Environmental Justice and National Environmental Policy Act*, EPA, <https://www.epa.gov/environmentaljustice/environmental-justice-and-national-environmental-policy-act>; EPA, FINAL GUIDANCE FOR INCORPORATING ENVIRONMENTAL JUSTICE CONCERNS IN EPA’S NEPA COMPLIANCE ANALYSES, at 16–18 (Apr. 1996), https://www.epa.gov/sites/default/files/2014-08/documents/ej_guidance_nepa_epa0498.pdf.

¹⁸³ 87 Fed. Reg. 23,453, 23,469–70 (Apr. 20, 2022) (to be codified at 40 C.F.R. § 1508.1), <https://www.govinfo.gov/content/pkg/FR-2022-04-20/pdf/2022-08288.pdf>.

¹⁸⁴ See 40 C.F.R. § 6.204(b)(1).

¹⁸⁵ See Notice of Policy and Procedures for Voluntary Preparation of National Environmental Policy Act (NEPA) Documents, 63 Fed. Reg. 58,045 (Oct. 29, 1998), <https://www.govinfo.gov/content/pkg/FR-1998-10-29/pdf/98-29019.pdf>. Notably, the criteria for doing so include “the potential for using an EA or an EIS to comprehensively address large-scale ecological impacts, particularly *cumulative impacts* [or] to facilitate analysis of *environmental justice issues* . . . and to expand public involvement.” See *id.* at 58,046 (emphasis added).

¹⁸⁶ See, e.g., Presidential Memorandum on Environmental Justice (Feb. 11, 1994), <https://www.govinfo.gov/content/pkg/WCPD-1994-02-14/pdf/WCPD-1994-02-14-Pg279.pdf>. The memorandum also indicates that “[m]itigation measures outlined or analyzed in an environmental assessment, environmental impact statement, or record of decision, whenever feasible, should address significant and adverse environmental effects of proposed Federal actions on minority communities and low-income communities.” See also, CEQ, ENVIRONMENTAL JUSTICE: GUIDANCE UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT (1997), https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf; EPA, GUIDANCE FOR INCORPORATING ENVIRONMENTAL JUSTICE CONCERNS IN EPA’S NEPA COMPLIANCE ANALYSES (1998), https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_epa0498.pdf.

underserved rural communities or persons with disabilities.¹⁸⁷ Whether EPA can take action to *address* cumulative impacts from a given proposed project depends on EPA’s underlying statutory and regulatory authority triggering the NEPA review and would be considered on a case-by-case basis.

III. EPA’s CAA Section 309 Review of Federal Agency EAs and EISs

In addition to its NEPA compliance for its own actions, EPA is directed under section 309(a) of the CAA to review and comment on the environmental impacts of proposed major actions of other federal agencies.¹⁸⁸ Moreover, pursuant to section 309(b), if the Administrator determines, as a result of EPA’s review, that a federal action is unsatisfactory from the standpoint of public health, welfare, or environmental quality, the Administrator must publish the determination and refer the matter to CEQ for resolution.¹⁸⁹ EPA’s review under section 309 is broad and provides an opportunity for EPA to ensure that cumulative impacts, factoring in the combined exposures to stressors in a community, are adequately disclosed and considered across the hundreds of EISs issued every year across the federal government.¹⁹⁰ This is consistent with the President’s memorandum accompanying Executive Order 12898 that directs EPA when conducting section 309 reviews to “ensure that the involved agency has fully analyzed environmental effects on minority communities and low-income communities, including human health, social, and economic effects.”¹⁹¹ Doing so involves EPA evaluating and disclosing in its publicly-available section 309 comment letters whether the potential for disproportionate impacts and means to avoid or reduce them have been fully disclosed and analyzed—e.g., through analysis of cumulative burdens to communities, identification of reasonable alternatives to avoid or reduce any disproportionate impacts, and disclosure of available practicable mitigation measures to avoid, minimize or compensate for adverse impacts. EPA may also use the section 309 review function to evaluate whether the involved agency not only identified disproportionate impacts, including cumulative impacts, but also whether the impacts have been satisfactorily addressed, and to make recommendations to federal agencies on how best to identify and address any such impacts.¹⁹²

NEPA and CAA section 309 create several additional important roles for EPA in the NEPA process that can help ensure NEPA reviews for proposed federal agency actions consider

¹⁸⁷ E.O. 13985, <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/>.

¹⁸⁸ 42 U.S.C. § 7609 (1970).

¹⁸⁹ See CEQ’s regulations at 40 C.F.R. part 1504 for the procedures on referrals.

¹⁹⁰ See CEQ, REPORT: EIS TIMELINES (2010–2018) at 1 (June 12, 2020) (showing that 1,276 final EISs were published in the Federal Register from 2010 through 2018), https://ceq.doe.gov/docs/nepa-practice/CEQ_EIS_Timeline_Report_2020-6-12.pdf.

¹⁹¹ Presidential Memorandum for the Heads of All Departments and Agencies on Executive Order 12898 on Federal Actions to Address Environmental Justice In Minority Populations and Low-Income Populations (Feb. 11, 1994), https://www.epa.gov/sites/default/files/2015-02/documents/clinton_memo_12898.pdf.

¹⁹² See EPA, POLICY AND PROCEDURES FOR THE REVIEW OF FEDERAL ACTIONS IMPACTING THE ENVIRONMENT (1984), https://www.epa.gov/sites/default/files/2014-08/documents/policy_and_procedures_for_the_review_of_federal_actions_impacting_the_environment.pdf. See also 40 C.F.R. § 1504 (CEQ can resolve referrals in a range of ways, including facilitating discussion or negotiation between EPA and the relevant other agency, reaching a determination that the issue is or is not a matter of national importance, publishing its findings on the matter, or ultimately submitting the referral and the response together with the Council’s recommendation to the President for action).

cumulative impacts on communities with environmental justice concerns. As emphasized in a 2022 EPA policy memorandum, EPA should generally:

[E]ngage early with federal agencies in the scoping and drafting of their NEPA documents to help ensure the meaningful involvement of communities with environmental justice concerns, reduce adverse environmental impacts, consider alternatives, and improve environmental outcomes. This review responsibility places EPA in a unique position to *help assist and encourage* federal agencies to fulfill the requirements of NEPA, including as they align with the letter and spirit of the executive orders related to climate, environmental justice, and equity.¹⁹³

EPA can also make use of tools like EJScreen¹⁹⁴ to identify and examine potential cumulative impact on communities with environmental justice concerns. In its 309 review, EPA can also work with Federal agencies to ensure they provide opportunities for meaningful involvement of communities potentially impacted by agency actions, thereby expanding opportunity for communities to raise any cumulative impacts to agencies' attention.¹⁹⁵ Under CEQ regulations, in addition to involving EPA in the preparation of EISs as a "cooperating agency," federal agencies should also be routinely providing EPA opportunities to be involved in the preparation of EAs, to the extent practicable, which provides yet another opportunity for EPA to bring attention to issues related to cumulative impacts, where appropriate.¹⁹⁶

CEQ's 1997 guidance, *Environmental Justice: Guidance Under the National Environmental Policy Act* also informs EPA's section 309 reviews. The CEQ guidance includes general principles for how to identify and address environmental justice issues under NEPA, a number of which relate specifically to cumulative impacts. The guidance provides that when determining whether there is disproportionately high and adverse human health or environmental effects on environmental justice populations, agencies should:

- "consider relevant public health and industry data concerning the potential for multiple or cumulative exposures to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards, to the extent such information is reasonably available. . . . Agencies should consider these multiple, or cumulative effects, even if certain effects are not within the control or subject to the discretion of the agency proposing the action."

¹⁹³ Memorandum from Vicki Arroyo, Assoc. Admin., EPA Office of Policy, *Addressing Climate Change and Environmental Justice through Reviews Conducted Pursuant to the National Environmental Policy Act and Section 309 of the Clean Air Act* (April 26, 2022) (emphasis added), <https://www.epa.gov/system/files/documents/2022-05/EPA%20Policy%20Memo%20Intergration%20of%20EJ%20and%20Climate%20Change%20into%20NEPA%20309%20review%204-26-2022.pdf>.

¹⁹⁴ *What is EJScreen?*, EPA, <https://www.epa.gov/ejscreen/what-ejscreen>.

¹⁹⁵ See EPA, FINAL GUIDANCE FOR INCORPORATING ENVIRONMENTAL JUSTICE CONCERNS IN EPA'S NEPA COMPLIANCE ANALYSES (1998), https://www.epa.gov/sites/default/files/2014-08/documents/ej_guidance_nepa_ea0498.pdf (providing that, generally, with regard to community representation, EPA practitioners should "[a]ssure meaningful community representation in the process. Be aware of the diverse constituencies within any particular community when they seek community representation. Endeavor to have complete representation of the community as a whole and encourage community participation as early as possible if it is to be meaningful.").

¹⁹⁶ 40 C.F.R. § 1501.5(e).

- “recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action. These factors should include the physical sensitivity of the community or population to particular impacts; the effect of any disruption on the community structure associated with the proposed action; and the nature and degree of impact on the physical and social structure of the community.”¹⁹⁷

Taken together, NEPA and the CAA section 309 review process provide EPA with broad authority to advance environmental justice by helping to ensure that cumulative impacts on communities with environmental justice concerns, and other underserved communities,¹⁹⁸ are considered and addressed in EPA or federal agency decisions. In addition, the policies and guidance discussed in this chapter provide robust direction and clarity for EPA practitioners to consider cumulative impacts as they implement EPA’s environmental review authorities to advance environmental justice.

¹⁹⁷ CEQ, ENVIRONMENTAL JUSTICE: GUIDANCE UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT at 9 (1997), https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf.

¹⁹⁸ As emphasized in the Introduction, *supra*, generally, where EPA has authority to address cumulative impacts to communities with environmental justice concerns, EPA is also likely to have authority to address impacts on underserved communities, consistent with Executive Order 13985.

CHAPTER SIX: CIVIL RIGHTS IN FEDERAL ASSISTANCE PROGRAMS

EPA enforces Title VI of the Civil Rights Act of 1964¹⁹⁹ and other federal civil rights laws that, together, prohibit discrimination on the basis of race, color, national origin (including limited-English proficiency (LEP)), disability, sex, age, retaliation, and intimidation in programs or activities that receive federal financial assistance from EPA.²⁰⁰ In particular, EPA’s nondiscrimination regulations²⁰¹ create affirmative legal obligations and prohibit recipients of EPA financial assistance from taking actions that are intentionally discriminatory as well as practices that have an unjustified discriminatory effect, including on the basis of race, color, or national origin, even if the actions or practices are not intentionally discriminatory.

The Supreme Court has explained that disparate impact claims concern practices that have a “disproportionately adverse effect on [protected classes]’ and are otherwise unjustified by a legitimate rationale.”²⁰² EPA has broad enforcement authority to ensure nondiscrimination in the programs or activities of recipients of federal financial assistance.²⁰³ For example, one specific prohibition under EPA’s nondiscrimination regulation provides:

A recipient shall not use criteria or methods of administering its program or activity which have the effect of subjecting individuals to discrimination because of their race, color, national origin, or sex, or have the effect of defeating or substantially impairing accomplishment of the objectives of the program or activity with respect to individuals of a particular race, color, national origin, or sex.²⁰⁴

This prohibition against discriminatory “effects” covers the overall effect of a recipient’s activities—including consideration of cumulative impacts from both chemical and non-chemical stressors.²⁰⁵ Accordingly, EPA has the authority to consider cumulative impacts when evaluating whether there is an adverse impact from a recipient’s policy or practice.²⁰⁶ That is, EPA may

¹⁹⁹ For a synopsis of the legislative history and purpose of Title VI, see the Department of Justice Title VI Legal Manual at Section II, <https://www.justice.gov/crt/fcs/T6manual2>.

²⁰⁰ See 40 C.F.R. pt. 7; Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d to 2000d-7); Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794); Title IX of the Education Amendments of 1972 (20 U.S.C. § 1681 *et seq.*); Section 13 of the Federal Water Pollution Control Act Amendments of 1972, Pub. L. 92-500 § 13, 86 Stat. 903 (codified as amended at 33 U.S.C. § 1251); Age Discrimination Act of 1975 (42 U.S.C. § 6101 *et seq.*); 40 C.F.R. pts. 5, 7.

²⁰¹ 40 C.F.R. pts. 5, 7.

²⁰² *Texas Dep’t of Hous. & Cmty. Affairs v. Inclusive Communities, Inc.*, 135 S. Ct. 2507, 2513 (2015) (quoting *Ricci v. DeStefano*, 557 U.S. 557, 577 (2009)).

²⁰³ This chapter of the Addendum discusses EPA’s legal authority. For a current list of external civil rights policy and guidance for recipients of EPA financial assistance, see <https://www.epa.gov/external-civil-rights/external-civil-rights-guidance>.

²⁰⁴ 40 C.F.R. § 7.35(b).

²⁰⁵ See, e.g., *S. Camden Citizens in Action v. N.J. Dep’t of Env’t Prot.*, 145 F. Supp. 2d 446, *modified and supplemented by* 145 F. Supp. 2d 505 (D.N.J. 2001), *rev’d on other grounds*, 274 F.3d 771 (3d Cir. 2001).

²⁰⁶ See, e.g., *Genesee Letter of Findings from Lilian S. Dorka, Dir., Office of External Civil Rights Compliance, EPA Office of General Counsel, to Heidi Grether, Dir., Mich. Dep’t of Env’t Quality at 19–23*, EPA File No. 01R-94-R5 (Jan. 19, 2017) (consideration of cumulative air toxics data from point sources countywide), <https://www.epa.gov/sites/default/files/2017-01/documents/final-genesee-complaint-letter-to-director-grether-1-19->

consider any adverse impact caused by the policy or practice—and borne disproportionately by persons on the basis of race, color, or national origin (including LEP status)—in light of cumulative impacts from other stressors.

EPA’s consideration of cumulative impacts in Title VI investigations is consistent with case law and the Title VI investigations of sister federal agencies.²⁰⁷ For instance, in response to a Title VI complaint, the Federal Highway Administration (FHWA) found in 2017 that the Texas Department of Transportation (TDOT) discriminated based on race, color, and national origin in violation of Title VI due to disparate impacts including adverse economic, social, and environmental effects arising from TDOT’s selection of the location for the Corpus Christi Harbor Bridge Project.²⁰⁸ Specifically, when comparing severity of adverse impacts arising from TDOT’s location selection to impacts of the four build alternatives, FHWA stated that, “specific demographics, historical impacts, *cumulative impacts*, Section 4(f), connectivity, cohesion, business impact, psychological and physical barriers, access, public services, among other factors, must be assessed between the different build alternatives.”²⁰⁹ To resolve the complaint, FHWA and TDOT reached a voluntary resolution agreement that included mitigation of the impacts of the bridge construction such as a relocation program for homeowners and renters; access to a relocation counselor; coverage of moving costs; and financial assistance for neighborhood churches, small businesses, and owners of rental properties, among other options.²¹⁰ TDOT also entered into agreements with local government agencies to facilitate its compliance with the settlement agreement.²¹¹

[2017.pdf](#). See also *S. Camden Citizens in Action v. N.J. Dep’t of Env’t. Protec.*, 145 F. Supp. 2d 446, 490 (D.N.J. 2001), *modified and supplemented by* 145 F. Supp. 2d 505 (D.N.J. 2001), *rev’d on other grounds*, 274 F.3d 771 (3d Cir. 2001) (interpreting EPA methodology as requiring consideration of the totality of the circumstances and cumulative environmental burdens and finding that plaintiffs demonstrated that permitting and operation of a facility was likely to have adverse impacts in context of “current health conditions and existing environmental burdens” in the community).

²⁰⁷ For additional examples of cumulative impacts considered in the Title VI context, see *Coalition of Concerned Citizens Against I-670 v. Damian*, 608 F. Supp. 110, 127 (S.D. Ohio 1984) (holding that disruptions and other impacts of planned highway construction would negatively affect communities of color living in the area under construction); *S. Camden Citizens in Action v. N.J. Dep’t of Env’t Prot.*, 145 F. Supp. 2d 446, 490, 505, *modified and supplemented by* 145 F. Supp. 2d 505 (D.N.J. 2001), *rev’d on other grounds*, 274 F.3d 771 (3d Cir. 2001) (granting preliminary injunction and vacating air permits upon finding that plaintiffs established sufficient potential harm to their health resulting from the recipient’s issuance of air pollution permits for a cement processing facility, noting that the operation of the facility would “adversely affect [the plaintiffs’] health to a degree that meets the standard of ‘adversity’ under Title VI”).

²⁰⁸ Letter from Irene Rico, Assoc. Admin. for Civil Rights, EPA, to James Bass, Exec. Dir., Tex. Dep’t of Transp., (Jan. 18, 2017) (Letter of Finding HCR-20 DOT # 2015-0124), https://www.fhwa.dot.gov/civilrights/programs/docs/title_vi_compl_dec/2015-0124.pdf.

²⁰⁹ *Id.* at 23 (emphasis added).

²¹⁰ See Voluntary Resolution Agreement between the Fed. Highway Admin. & Tex. Dep’t of Transp., (Dec. 14, 2015),

https://www.fhwa.dot.gov/civilrights/programs/docs/title_vi_compl_dec/VoluntaryResolutionAgreement.pdf; Letter from the Tex. Dep’t of Transp. to the Fed. Highway Admin. Re: the Voluntary Resolution Agreement of December 17, 2015—US181 Harbor Bridge Replacement Project in Corpus Christi, Texas (Feb. 1, 2017), https://www.fhwa.dot.gov/civilrights/programs/docs/title_vi_compl_dec/harborbridgeagreement.pdf.

²¹¹ *Id.*

GLOSSARY OF SELECTED ABBREVIATIONS AND ACRONYMS

A

AA	Assistant Administrator
ACP	Area Contingency Plan
AFO	Animal Feeding Operation
AQS	Air Quality System
AST	Aboveground Storage Tanks
ATSDR	Agency for Toxic Substances and Disease Registry

B

BACT	Best Available Control Technology
------	-----------------------------------

C

CAA	Clean Air Act
CE	Categorical Exclusion
CEA	Cumulative Effects Analysis
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act

E

EA	Environmental Assessment
EAB	Environmental Appeals Board
ECRCO	External Civil Rights Compliance Office
EIS	Environmental Impact Statement
EJ	Environmental Justice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act

F

FFDCA	Federal Food, Drug, and Cosmetic Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act

G

GACT	Generally Available Control Technology
------	--

H

HA	Health Advisory
HAP	Hazardous Air Pollutants
HRS	Hazard Ranking System

I

ISE Imminent and Substantial Endangerment
ISR In-Situ Recovery

L

LEP Limited English Proficiency
LUST Leaking Underground Storage Tank

M

MCLGs Maximum Contaminant Level Goals
MS4 Municipal Separate Storm Sewer System

N

NAAQS National Ambient Air Quality Standards
NCP National [Oil and Hazardous Substances Pollution] Contingency Plan
NEJAC National Environmental Justice Advisory Council
NEPA National Environmental Policy Act
NESHAP National Emission Standards for Hazardous Air Pollutants
NOI Notice of Intent
NPDES National Pollutant Discharge Elimination System
NPL National Priorities List
NSR New Source Review

O

OGC Office of General Counsel
ORC Office of Regional Counsel
ORD Office of Research and Development

P

PESS Potentially Exposed or Susceptible Subpopulations
PGP Pesticide General Permit
PSD Prevention of Significant Deterioration

R

RA Regional Administrator
RCRA Resource Conservation and Recovery Act
ROD Record of Decision
RSC Relative Source Contribution

S

SDWA Safe Drinking Water Act
SIPs State Implementation Plans
SS Suspended Solids
SSRA Site-Specific Risk Assessment

T

TDOT Texas Department of Transportation
TMDLs Total Maximum Daily Loads
TSCA Toxic Substances Control Act

U

UIC Underground Injection Control
UST Underground Storage Tank

W

WQS Water Quality Standards