



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of Environmental Justice and External Civil Rights

October 12, 2022

In Reply Refer to:

EPA Complaint Nos. 01R-22-R6, 02R-22-R6, and 04R-22-R6

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Re: Letter of Concern

Dear Secretary Brown and Secretary Phillips:

The United States Environmental Protection Agency's (EPA) external civil rights compliance program appreciates the Louisiana Department of Environmental Quality's (LDEQ) and the Louisiana Department of Health's (LDH) (collectively, the Departments or the Recipients) willingness to informally resolve the administrative complaints filed with EPA under Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. §§ 2000d et seq., (Title VI). The purpose of the Informal Resolution Agreement (IRA) negotiation process is to reach an agreement between LDEQ and EPA and an agreement between LDH and EPA that resolves the issues accepted for investigation.

As we discussed with LDEQ on September 23, 2022, and LDH on September 22, 2022, the purpose of this letter (Letter of Concern or Letter) is to convey the results of EPA's initial fact finding and analysis of the issues EPA accepted for investigation in Complaint No. 01R-22-R6 (*LDEQ and the Denka Facility*), 02R-22-R6 (*LDEQ and the Denka Facility*), and EPA Complaint No. 04R-22-R6 (*LDEQ and the Industrial Corridor and the Formosa Facility*) (collectively, Complaints) with respect to LDEQ's implementation of its air pollution control permit program and LDH's duty to inform, and make recommendations to the public about prevention and reduction of health threats and air toxics exposures. EPA's expectation is that the information contained in this Letter will help facilitate the IRA process and result in an

expeditious resolution of each of these Complaints. We want to emphasize that EPA has not concluded its investigation of these Complaints and has not reached final conclusions of fact or law as to LDEQ's or LDH's compliance with the civil rights laws, including Title VI. Nevertheless, based on facts discovered thus far during EPA's investigation, EPA issues this Letter to present significant evidence suggesting that the Departments' actions or inactions have resulted and continue to result in disparate adverse impacts on Black residents of St. John the Baptist Parish, St. James Parish, and the Industrial Corridor.

As you know, EPA's investigation of these Complaints is being conducted under the authority of the federal civil rights laws, including Title VI, and EPA's nondiscrimination regulations at 40 C.F.R. Parts 5 and 7, and consistent with EPA's January 2021 Case Resolution Manual.¹ EPA's fact finding and analysis thus far has included a review of: information submitted by the Complainants; air monitoring data, the applicable air permits, health and scientific studies and other literature; census data, the Departments' responses to the Complaints; and interviews with residents of St. John the Baptist Parish. EPA looks forward to further discussions with the Departments in the near-term regarding EPA's initial fact finding set forth in this Letter and any questions you might have.

I. SUMMARY OF INITIAL FACT-FINDING AND ANALYSIS

EPA has conducted initial fact-finding and analyses to assess whether LDEQ's methods of administering its air permitting program and LDH's actions/inactions related to its duty to inform and make recommendations to the public about prevention and reduction of health threats and air toxics exposures, have an adverse disparate impact on the basis of race. Specifically, EPA assessed whether LDEQ's and LDH's actions have an adverse disparate impact on residents who identify as Black living in or near the following areas: (1) the Denka Performance Elastomer LLC (Denka) facility in LaPlace, Louisiana; (2) the location of the proposed FG LA, LLC (Formosa) facility in St. James Parish; and (3) the Industrial Corridor.

LDEQ and LDH are both charged with the important mission of protecting the health of the people of Louisiana.² As demonstrated in the actions related to the Denka facility described below, LDEQ and LDH also have critical interrelated roles to play related to air pollution control permitting decisions in Louisiana. LDH provides LDEQ public health information, including, for example, health consultation letters, such as the letter conveying the results of the 2018 St. John the Baptist Parish cancer incidence review in relation to Denka.³ In turn, LDEQ relies on

¹ U.S. EPA, Office of External Civil Rights Compliance (formerly, External Civil Rights Compliance Office) *Case Resolution Manual*, available at https://www.epa.gov/sites/default/files/2021-01/documents/2021.1.5_final_case_resolution_manual.pdf.

² LDEQ's mission is "to provide service to the people of Louisiana through comprehensive environmental protection in order to promote and protect health, safety and welfare." LDEQ, *ABOUT LDEQ*, <https://www.deq.louisiana.gov/subhome/about-ldeq> (last visited Oct. 4, 2022). LDH's mission is "to protect and promote health and to ensure access to medical, preventive, and rehabilitative services for all citizens of the State of Louisiana." LDH, *Mission*, <https://ldh.la.gov/page/1#:~:text=The%20mission%20of%20the%20Louisiana,of%20the%20State%20of%20Louisiana> (last visited Oct. 4, 2022).

³ Letter from Louisiana Department of Health, Office of Public Health to Louisiana Department of Environmental Quality (Mar. 2, 2018) (<https://ldh.la.gov/assets/oph/Center-EH/envepi/PHA/Documents/DENKALetterHealthConsultCancerReview2018.pdf>).

information and analysis provided by the medical health professionals at LDH in its decision making.⁴ The quality of LDH and LDEQ decisions that impact residents' health and the risk of adverse health effects is determined by the quality and breadth of information used in the decision making.

EPA's initial investigation raises concerns that the Departments' methods of administering their programs and activities related to air pollution control and health risk mitigation and communication as described below may have an adverse and disparate impact on Black residents who live and/or attend school near Denka, who live near the proposed location for the Formosa facility, and those who live in the Industrial Corridor.

A. EPA Complaint No. 01R-22-R6 (LDEQ and the Denka Facility)

EPA's initial factual investigation strongly suggests that Louisiana residents who identify as Black and are living and/or attending school near the Denka facility have been subjected to adverse and disparate health impacts as a result of LDEQ's decisions. For decades, it appears that LDEQ's implementation of its air permitting program continuously exposed the residents who live near the Denka facility and the children who attend the St. John the Baptist Parish's Fifth Ward Elementary School to average annual concentrations of chloroprene in ambient air at levels associated with increased lifetime cancer risk. One hundred in one million (100-in-1 million)⁵ generally represents the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime.⁶ Specifically, residents of neighborhoods surrounding the Denka facility were routinely exposed to chloroprene concentrations that placed them at greater than an estimated 100-in-1 million risk of developing chloroprene-linked cancers over a 70-year lifetime.

EPA's initial investigation also revealed that many residents who are now adults living near Denka spent their childhood in the community as well. As explained in more detail below, individuals exposed to mutagenic carcinogens such as chloroprene starting in early life as infants and children are understood to be more susceptible than individuals exposed only as adults. As a result, adolescents and adults who spent their infancy and childhood in this community and who breathed chloroprene at levels measured near Denka, surpass a 100-in-1 million estimated lifetime cancer risk more quickly than an adult without childhood exposure to chloroprene.⁷

⁴ Julie Demansky, *Secretary of the LDEQ Chuck Carr Brown, at Meeting 4/24/2018*, YouTube, at Minute 5:34-7:07. (Apr. 18, 2018), <https://www.youtube.com/watch?v=cqBpydLGhJA> (Dr. Brown stated at a public meeting in St. John the Baptist Parish on April 24, 2018, he was in contact "with medical professionals you heard one speak tonight. As long as they are telling us that we can continue to move forward as we are then that is what we will continue to do.") (last visited October 11, 2022).

⁵ Although EPA recognizes that there are alternate ways to express 100-in-1 million, such as, 1-in-10,000 or 10^{-4} , for clarity, EPA will use 100-in-1 million in this document.

⁶ As set forth in the *Residual Risk Report to Congress*, EPA will "consider the extent of the estimated risk if an individual were exposed to the maximum level of a pollutant for a lifetime, i.e., maximum individual risk (MIR)." "The EPA will generally presume that if the risk to that individual is no higher than approximately 1 in 10 thousand, that risk level is considered acceptable and EPA then considers the other health and risk factors to complete an overall judgment on acceptability." U.S. EPA, https://www.epa.gov/sites/default/files/2013-08/documents/risk_rep.pdf, page B-4

⁷ The chloroprene inhalation risk unit (IUR) is 3×10^{-4} per $\mu\text{g}/\text{m}^3$ without Age Dependent Adjustment Factor (ADAF). Use of ADAFs results in an adjusted inhalation unit risk of 5×10^{-4} per $\mu\text{g}/\text{m}^3$ to account for childhood

For the same reason, the risk associated with childhood exposure to chloroprene also raises concerns about the children currently exposed to chloroprene concentrations that are associated with an estimated cancer risk greater than 100-in-1 million. As discussed in more detail below, these residents and school children are disproportionately Black as compared to both the state population and St. John the Baptist Parish population.

Chloroprene was identified by EPA as a likely human carcinogen twelve years ago, in 2010⁸, and since that time, both EPA's and LDEQ's understanding of the exposures and consequently the risks that chloroprene emissions pose to exposed populations in Louisiana have evolved. EPA also recognizes LDEQ's efforts in negotiating an Administrative Order on Consent with Denka in 2017 (No. AE-AOC-17-00011) that required the facility to install air pollution controls discussed in more detail below, and resulted in substantial reductions in chloroprene emissions. There is no question, however, that elevated cancer risk for residents of all ages and school children still exists and has existed as a result of breathing air polluted with chloroprene and that this risk has impacted and currently impacts Black residents disproportionately.

As a result, EPA has significant concerns that Black residents and school children living and/or attending school near the Denka facility have been subjected to discrimination through LDEQ's actions and inactions as described below in the implementation of its air pollution control permit program.

B. EPA Complaint No. 02R-22-R6 (LDH and the Denka Facility)

EPA's initial factual investigation suggests that LDH may have failed to provide the predominantly Black residents living near the Denka facility and school children attending the Fifth Ward Elementary school with critical information about cancer risks associated with chloroprene levels in these areas. Additionally, EPA has concerns that LDH neither implemented the commitments it made in connection with reviews and studies of chloroprene exposure risk nor made meaningful recommendations to educate and protect community members from elevated cancer risks as indicated by its own research and required by its implementing regulations.⁹ Moreover, LDH may not have satisfied its duty to make recommendations to agencies, such as LDEQ and the St. John the Baptist Parish School Board, to prioritize the reduction and prevention of chloroprene exposure. EPA believes that, as a result of LDH's actions and inactions, LDH may be causing and/or contributing to disproportionate and adverse impacts on the Black residents living and school children attending school near the Denka facility.

susceptibility to a mutagenic carcinogen. About half of the estimated excess lifetime cancer risk, from continuous lifetime exposure, is associated with increased susceptibility to cancer following exposures during childhood life stages between 0 years and <16 years. Application of ADAFs to IUR are shown on p. 18 of U.S. EPA, *Chemical Assessment Summary National Center for Environmental Assessment, Integrated Risk Information System (IRIS), Chloroprene* (CASRN: 126-99-8) (Sept. 2010) ("IRIS Chemical Assessment") (https://iris.epa.gov/static/pdfs/1021_summary.pdf).

⁸ U.S. EPA, Toxicological Review of Chloroprene (CAS No. 126-99-8), *In Support of Summary Information on the Integrated Risk Information System (IRIS)* ("Summary Information on IRIS") (Sept. 2010).

⁹ La. Rev. Stat. Ann. §36.258(B), *see also* La. Rev. Stat. Ann. §36:251(B).

C. EPA Complaint No. 04R-22-R6 (LDEQ and the Industrial Corridor and the Formosa Facility)

EPA's initial fact finding indicates that census tracts with the highest cancer risks from air toxics in Louisiana are almost exclusively within the Industrial Corridor and also have a high percentage of Black population. For this and other reasons described in detail below, EPA has reason to believe that the cancer risks from air toxics exposures may be borne disproportionately by the Black residents of the Industrial Corridor. Also, many residents living near the location of the proposed Formosa facility have lived in their homes for years and have in the past on average been exposed to levels of air pollution that, while below the 100-in-1-million upper bound increased lifetime cancer risk, were still above EPA's preferred 1-in-1 million cancer risk benchmark. Further, the proposed Formosa site is in a census tract where 90% of residents identify as Black which is disproportionate as compared to the Parish (49.6% Black) and State (33.5% Black) populations. As described below, EPA has significant concerns that LDEQ's methods of administering its air permitting program may be causing or contributing to the cancer and toxicity risk from air toxics for residents living near the proposed Formosa facility and that these risks appear to be borne disproportionately by the Black residents in St. James Parish, especially those who live closest the proposed Formosa facility.

RECOMMENDATIONS

For the reasons set forth more fully below, EPA recommends that LDEQ and LDH:

- Jointly host at least one community meeting, to be held virtually and in person, in Reserve, Louisiana¹⁰ within 45 days of reaching a resolution of EPA's Complaint Nos. 01R-22-R6 and 02R-22-R6 to discuss the commitments made in the IRAs;
- Conduct cumulative impact analyses for:
 - the currently overdue permit renewals for Denka's Chloroprene Unit (No. 3000-V5), the Neoprene Unit (No. 2249-V9), and the HCl Unit (No. 206-V4) in St. John the Baptist Parish;
 - the Formosa Title V permits in St. James Parish to the extent LDEQ maintains the issuance of those permits or reconsiders and reissues new permits—as noted below, each of the fourteen permits issued by LDEQ to Formosa was recently vacated and remanded by a Louisiana state court, and that decision was subsequently stayed and appealed; and
 - the next significant CAA permitting action in each of the Industrial Corridor Parishes; the specific permit actions to be determined during informal resolution discussions.

¹⁰ Reserve is the community closest to Denka and the location of the Fifth Ward Elementary School.

These cumulative impact analyses should, at a minimum:

- Consider input from stakeholders, including those impacted by permitting decision(s);
 - Examine current, baseline cumulative risk burden or cumulative impact due to multiple pollutant exposures (via any media) and non-pollutant stressors, such as, income, race, employment, education, access to health care, and other social determinants of health;
 - Consider impacts from any facility mutagenic carcinogen emissions on lifelong residents who have been exposed to such emissions starting in early-life as infants and children; and
 - Provide evidence-based recommendations for maximizing potential positive health impacts and minimizing and/or avoiding potential adverse impacts especially those that are or will be borne disproportionately based on race, color or national origin, including consideration, where appropriate, of measures to reduce emissions below the current baseline.
- Each should hire a professional risk communicator to assist in providing residents complete and accurate health risk information (*e.g.*, cancer risk).

EPA recommends that LDEQ:

- Immediately conduct additional monitoring within St. John the Baptist Parish to determine where chloroprene concentrations are below $0.2 \mu\text{g}/\text{m}^3$ and are otherwise appropriate locations to temporarily host the Fifth Ward Elementary School.
- Issue the renewed Denka permits by a date certain (to be agreed) after completion of the cumulative impact analysis described above.
- Develop and implement a process to identify and address potential adverse health and non-health effects (*e.g.*, traffic, odors, noise) of proposed air permitting decisions and the distribution of those effects based on race and/or national origin.
- Work to establish limits in Industrial Corridor air permits that appropriately take into account the risks faced by the affected populations.
- Work to establish limits in Industrial Corridor air permits that, in the aggregate, limit air emissions of carcinogens that have a mutagenic mode of action, including chloroprene and EtO. Given the long history of exposure in the area, the goal is to limit future air emissions of such pollutants to levels consistent with cancer risks below 100-in-1 million (based on 70 years of exposure) at sites where people live, and to reduce concentrations of such carcinogens even further if reasonably achievable. That being said, it is preferable

to have the concentration for these chemicals as close to 1-in-1 million as reasonably achievable.

EPA recommends that LDH:

- Within 60 days of reaching a resolution with EPA for Complaint No. 02R-22-R6 (*LDH Denka Complaint*), complete an updated health consultation report to evaluate the cancer risk to the children of the Fifth Ward Elementary School which:
 - Applies the current Agency for Toxic Substances and Disease Registry (ATSDR)¹¹ Public Health Assessment Guidance Manual including the recommendations to consider based on cancer risk thresholds;¹²
 - Addresses deficiencies of the June 2018 Report identified below;
 - Evaluates all potential protective measures including the relocation of the school children to alternate locations inside and outside the Parish; and
 - Provides recommendations on measures necessary to eliminate or reduce the children’s chloroprene exposure while at school to levels protective of the children’s health.

During our informal resolution negotiations, EPA intends to discuss additional recommendations, including those suggested by the Complainants and by the CRISP 2022 Report discussed below. EPA would like to explore with LDEQ and LDH opportunities for technical and funding assistance with respect to analytical tools, such as, for example cumulative impact assessments, including health impact assessments, which could be used as part of LDEQ’s permitting program/process. EPA is also willing to participate with LDEQ and LDH in the community meeting(s) in Reserve as recommended above. In addition, EPA would also like to explore with the affected communities opportunities for technical assistance and/or funding.

LDEQ and LDH Procedural Safeguards

To comply with federal nondiscrimination obligations, all recipients of federal assistance must have in place procedural safeguards required under 40 C.F.R. Parts 5 and 7; implement specific policies and procedures to ensure meaningful public participation and access to the recipients’ services, programs, and activities for individuals with limited English proficiency (LEP) and individuals with disabilities; and ensure that public involvement policies and practices are consistent with the federal civil rights laws.¹³ This Letter does not specifically address whether

¹¹ Agency for Toxic Substances and Disease Registry (ATSDR), <https://www.atsdr.cdc.gov/pha-guidance> (last visited Oct. 5, 2022).

¹² ATSDR, https://www.atsdr.cdc.gov/pha-guidance/conducting_scientific_evaluations/indepth_toxicological_analysis/EvaluateEvidenceCancerEffects.html (last visited Oct. 5, 2022).

¹³ See Title VI, 42 U.S.C. 2000(d) *et seq.*; Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794; *Lau v. Nichols*, 414 U.S. 563, 568-69 (1974) (finding that the government properly required language services

LDEQ or LDH have and are implementing these procedural safeguards; however, based on an initial review, EPA identified several deficiencies in the Departments' nondiscrimination programs in light of EPA's nondiscrimination regulations and applicable guidance. We look forward to working with LDEQ and LDH to address these deficiencies as part of the IRA process and commitments.

II. GENERAL BACKGROUND/OVERVIEW

Louisiana is one of the most heavily industrialized states in the nation.¹⁴ The Industrial Corridor,¹⁵ sometimes referred to as Cancer Alley, is an 85-mile stretch of land along the Mississippi River between Baton Rouge and New Orleans comprised of the two Parishes that have or will host the specific facilities at issue in these Complaints, St. John the Baptist and St. James, and five other Parishes: Ascension Parish, East Baton Rouge Parish, West Baton Rouge Parish, Iberville Parish, and St. Charles Parish.

A. History of Industrial Corridor

The historical context for the formation of the Industrial Corridor is important to understand as it forms the backdrop for the apparent racial disparities highlighted in this Letter. As LDEQ in its response to the Complaint stated, "beginning in the mid-20th century, many large tracts (previously plantations) of well-drained land along the Mississippi River were offered up for sale at reasonable prices."¹⁶ A note in the Georgetown Environmental Law Review provides the following overview:

Much of Cancer Alley is rural and made of unincorporated towns, meaning that these communities do not have local governance over their affairs. Thus, the parish they are located in has jurisdiction and can establish rules of governance in the town. Most unincorporated communities were created when slavery ended and groups of free black people, called "companies," were able to buy strips of land at the edges of plantations. The descendants of the original companies remained on the land and continued to subdivide the parcels, resulting in a series of small black communities living on small

to be provided under a recipient's Title VI obligations not to discriminate based on national origin); 40 C.F.R. § 7.35(a). *See also* U.S. EPA, *Guidance to Environmental Protection Agency Financial Assistance Recipients Regarding Title VI Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons*, 69 Fed. Reg. 35602 (June 25, 2004) (available at https://www.epa.gov/sites/production/files/2020-02/documents/title_vi_lep_guidance_for_epa_recipients_2004.06.25.pdf); U.S. EPA, *Title VI Public Involvement Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs*, 71 Fed. Reg. 14207 (Mar. 21, 2006) (available at https://www.epa.gov/sites/production/files/2020-02/documents/title_vi_public_involvement_guidance_for_epa_recipients_2006.03.21.pdf); U.S. EPA, *Procedural Safeguards Checklist for Recipients* (rev. Jan. 2020) (available at https://www.epa.gov/sites/production/files/2020-02/documents/procedural_safeguards_checklist_for_recipients_2020.01.pdf) (which provides a more detailed explanation of nondiscrimination obligations and best practices); U.S. EPA, *Disability Nondiscrimination Plan Sample* (2017) (available at https://www.epa.gov/sites/production/files/2020-02/documents/disability_nondiscrimination_plan_sample_for_recipients_2020.01.pdf).

¹⁴ LDEQ, *TOXIC AIR POLLUTANTS FACT SHEET FAQs, Other Aspects of Air Pollution Regulation*, <https://deq.louisiana.gov/faq/category/19> (last visited Aug. 30, 2022).

¹⁵ LDEQ, *Formosa Basis for Decision*, p. 108.

¹⁶ LDEQ *Formosa Response to Administrative Complaint No. 04R-22-R6* ("Formosa Response"), p. 11.

strips of land. The plantations directly adjacent to these black communities have either continued to be farming and sugar cane plantations or were sold to industries dependent on river access to ship goods, chemicals, and petroleum products.¹⁷

The above is reinforced in the following passage:

In the period after the American Civil War of 1861-1865, known as ‘Reconstruction’, emancipated Black people formed small towns, which grew from the slave quarters on the plantations of their former enslavement. Over the course of the 20th century, large-scale industrial facilities have been constructed atop those plantations, and historical ‘freetowns’ have since become today’s ‘fenceline’ communities.¹⁸

An article in *The Atlantic* adds:

It’s not by chance that 158 years after the signing of the Emancipation Proclamation, rural Black communities bear the environmental consequences of Louisiana’s biggest industry. Overlay a map of southern Louisiana’s petrochemical and petroleum plants with archival maps of the area’s plantations, and you’ll find that in many cases the property lines match up. “One oppressive economy begets another,” Barbara L. Allen, a professor of science, technology, and society at Virginia Tech and the author of *Uneasy Alchemy*, a book on environmental justice in the region, told me over the phone. “The Great River Road was built on the bodies of enslaved Black people. The chemical corridor is responsible for the body burden of their descendants.”

Allen’s research examines the extractive economy: how sugar monocropping transitioned to petrochemical manufacturing. During Reconstruction, the Freedmen’s Bureau gave land grants to black maroons and the formerly enslaved along the lower Mississippi, parceling out slivers of large plantations to extended-family groups as part of reparations, while returning the bulk of the land to white owners. The result, Allen wrote in a 2006 article was “a pattern of large, contiguous blocks of open land under single ownership . . . separated by communities of freed blacks and poorer whites.” Like plantations, petrochemical and petroleum plants benefit from large acreage and easy access to some of the world’s busiest shipping lanes. When the oil industry moved in during the first half of the 20th century, corporations began buying up the intact plantations. More than a century later, the pattern established during Reconstruction is still visible, only instead of plantations, Louisiana’s historic free towns share fence lines with plants.¹⁹

The article goes on to discuss St. James Parish:

¹⁷ Julia Mizutani, *In the Backyard of Segregated Neighborhoods: An Environmental Justice Case Study of Louisiana*, 31 *Geo. Env. L. Rev.* 363, 373 (2019).

¹⁸ Center for Constitutional Rights, et al. (2021, June 28). *Environmental Racism in Death Alley, Louisiana*. Forensic Architecture. <https://forensic-architecture.org/investigation/environmental-racism-in-death-alley-louisiana>.

¹⁹ Groner, A. (2021, May 7). *Louisiana Chemical Plants are Thriving Off of Slavery*. The Atlantic. <https://www.theatlantic.com/culture/archive/2021/05/louisiana-chemical-plants-thriving-off-slavery/618769/>

“St. James Parish, on its face, is hunky-dory: fifty-fifty Black and white,” Anne Rolfes, the founder and director of the Louisiana Bucket Brigade, a nonprofit that partners with fence-line communities to advocate for environmental rights, said during the aforementioned bike tour. “However, the African American population is mostly at one end of the parish, in the Fourth and Fifth Districts. And where do you think the land-use plans put all the petrochemical plants?” Lavigne lives in the Fifth District, where nine plants are in operation, two are under construction, and four more, including Formosa’s megaplex—which itself includes 14 unique facilities—are proposed.”²⁰

The 2016-2020 American Community Survey (ACS) found that Louisiana is 33.5% Black and 58.3% White. The population of the Industrial Corridor is 42.5% Black and 50% White. Only 16% of Louisiana’s population lives in the Industrial Corridor; however, it is home to 20.3% of the state’s Black population and 13.6% of the state’s White population.²¹

III. LEGAL BACKGROUND

A. Title VI

Title VI prohibits discrimination on the basis of race, color, or national origin by recipients of federal financial assistance. It covers all of the operations of programs or activities that receive federal financial assistance without regard to whether specific portions of the program or activity are federally funded. The term “program or activity” means all of the operations of a department, agency, or the entity to which federal financial assistance is extended.²² The part of the program or activity that receives assistance can be, and often is, distinct from the part that engages in the allegedly discriminatory conduct.²³

Both LDEQ and LDH are recipients of EPA financial assistance.²⁴ As such, the prohibitions against discrimination based on race, color, or national origin (including limited English proficiency), disability, sex and age, apply to all LDEQ and LDH programs and activities regardless of whether those specific programs or activities receive EPA financial assistance.

Title VI prohibits both intentional discrimination and acts that have an unjustified disparate impact on the basis of race, color, or national origin. Under EPA’s Title VI implementing regulations, discrimination may occur when a recipient’s “criteria or methods of administering

²⁰ *Id.*

²¹ U.S. Census Bureau, 2016-2020 American Community Survey, <https://www.census.gov/newsroom/press-releases/2022/acs-5-year-estimates.html>.

²² See 42 U.S.C. §§ 2000d, 2000d-4(a). 42 U.S.C. § 2000d-4a; *Civil Rights Restoration Act of 1987*, Pub. L. No. 100-259, 102 Stat. 28 (1988) (CRRA); U.S. Department of Justice (DOJ), *Title VI Legal Manual*, <https://www.justice.gov/crt/fcs/T6manual5> (discussing “Program or Activity”).

²³ See *White v. Engler*, 188 F. Supp. 2d 730, 745–47 (E.D. Mich. 2001) (finding that plaintiffs could pursue a Title VI claim against a scholarship program, even though the program operated without federal financial assistance, because it was part of a department that received federal funds); *D.J. Miller & Assocs. V. Ohio Dep’t of Admin. Servs.*, 115 F. Supp. 2d 872, 878 (S.D. Ohio 2000) (granting a preliminary injunction under Title VI regarding alleged discrimination in a state contract where the contract was administered by a department that received federal funds).

²⁴ EPA Complaint No. 01R-22-R6 Acceptance Letter, April 6, 2022; EPA Complaint No. 02R-22-R6 Acceptance Letter, April 6, 2022.

its program or activity . . . have the effect of subjecting individuals to discrimination because of their race, color, national origin, . . . 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, [or] national origin . . . ”²⁵ The focus in a “disparate impact” or “effects” case of discrimination is on whether the consequences of the recipient’s policies, practices, decisions, and actions, or failure to act, has had or will have the effect of subjecting persons to discrimination, regardless of the recipient’s intent.²⁶

To establish an adverse disparate impact, EPA must: (1) identify the specific policy or practice at issue; (2) establish adversity/harm; (3) establish disparity; and (4) establish causation.²⁷ This is referred to as a *prima facie* case of disparate impact discrimination.²⁸ Here, EPA’s initial evaluation of these factors included determining what the policy or practice is, who is being affected by LDEQ’s and/or LDH’s policies or practices, actions or inactions; how they are affected; and whether a disproportionate harm is borne by a population based on race. Below is a summary of EPA’s initial *prima facie* disparate impact analysis based on its investigation thus far.

B. Federal and State Regulation of Air Toxics

Under the Clean Air Act²⁹(CAA), EPA is required to regulate emissions of hazardous air pollutants.³⁰ The CAA contains a list of 189 hazardous air pollutants (HAP), also known as toxic air pollutants or air toxics. These pollutants are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Chloroprene is a HAP.³¹ EPA has developed technology-based and risk-based standards for controlling the emissions of air toxics from sources in most industry groups (or “source categories”). The technology-based standards, known as maximum achievable control technology (MACT) are based on emission levels that are already being achieved by top performing industry sources. The risk-based standards, known as residual risk standards, are based on levels necessary to provide an ample margin of safety to protect public health, unless a

²⁵ See 40 C.F.R. § 7.35(b).

²⁶ See U.S. EPA, Office of External Civil Rights Compliance, *Compliance Toolkit (EPA Title VI Toolkit)* Chapter I (Jan. 18, 2017), available at <https://www.epa.gov/sites/default/files/2017-01/documents/toolkit-chapter1-transmittal-letter-faqs.pdf>. See also U.S. DOJ, *Title VI Legal Manual*, <https://www.justice.gov/crt/fcs/T6manual5>.

²⁷ See *EPA Title VI Toolkit*, p. 8, <https://www.epa.gov/sites/production/files/2017-01/documents/toolkit-chapter1-transmittal-letter-faqs.pdf>.

²⁸ If the evidence establishes a *prima facie* case of adverse disparate impact, EPA must then determine whether the recipient has articulated a “substantial legitimate justification” for the challenged policy or practice. EPA will generally consider whether the recipient can show that the challenged policy was “*necessary* to meeting a goal that was *legitimate, important, and integral to the [recipient’s] institutional mission*” in order to establish a “substantial legitimate justification.” The analysis requires balancing recipients’ interests in implementing their policies with the substantial public interest in preventing discrimination. Once a substantial legitimate justification is established, the next step in the analysis is to evaluate whether there is a less discriminatory alternative available that would achieve the same legitimate objective but with less of a discriminatory impact. EPA utilizes the “preponderance of the evidence” (more likely than not) standard in its investigations to determine whether or not a recipient has violated federal civil rights laws. *Id.*

²⁹ 42 U.S.C. §7401 *et. seq.*

³⁰ CAA §112.

³¹ U.S EPA, *Initial List of Hazardous Air Pollutants with Modifications*, <https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications> (last visited Oct. 4, 2022).

more stringent standard is needed to prevent, taking into consideration costs, energy, safety and other relevant factors, an adverse environmental effect. Collectively, the standards for air toxics are known as National Emission Standards for Hazardous Air Pollutants (NESHAP).

Title V of the Clean Air Act Amendments of 1990, Public Law 101-549, requires EPA to promulgate regulations that require and specify the minimum elements of state operating permit programs. Section 502(d)(1) of the CAA, 42 U.S.C. § 7661a(d)(1), requires each state to develop and submit to the EPA an operating permit program to meet the requirements of Title V of the CAA. State and local permitting authorities issue Title V permits pursuant to their EPA-approved Title V programs. The CAA requires states to develop and to submit to EPA programs for issuing operating permits to major stationary sources (including major sources of HAPs listed in section 112 of the Act), sources covered by New Source Performance Standards (NSPS), sources covered by emissions standards for hazardous air pollutants pursuant to section 112 of the Act and affected sources under the acid rain program.³²

All major stationary sources of air pollution and certain other sources are required to apply for operating permits under Title V of the CAA, which combine all enforceable requirements, including emissions limits, monitoring, recordkeeping, and reporting requirements necessary to assure compliance with the CAA into one document.³³ The Title V operating permit program generally does not impose new substantive air quality control requirements.³⁴ One purpose of the Title V program is to "enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements."³⁵ Thus, the Title V operating permit program is a vehicle for ensuring that air quality control requirements are appropriately applied to facility emission units and for assuring compliance with such requirements.

In 1982, EPA granted Louisiana authority to implement the New Source Performance Standards program.³⁶ In 1995, LDEQ was granted full EPA approval to implement its Title V permit program.³⁷ LDEQ issues Part 70 operating permits (Title V operating permits) pursuant to its state regulations set forth at LAC 33:III. Chapter 5.

In 1989, the Louisiana Legislature established a state toxic air pollutant emission control program. LDEQ developed and promulgated the Comprehensive Toxic Air Pollutant Emission Control regulation³⁸ which incorporated the federal MACT standards and established emission reporting requirements for all major sources of toxic air pollutants and set an ambient air

³² 57 Fed. Reg. 32250 (July 21, 1992).

³³ CAA § 502(a).

³⁴ 57 Fed. Reg. 32250, 32251 (July 21, 1992).

³⁵ *Id.*

³⁶ Effective April 7, 1995, EPA delegated to LDEQ the authority to implement and enforce the NESHAP program. *See* 60 Fed. Reg. 17,750 (Apr. 7, 1995); 60 Fed. Reg. 47296 (Sept. 12, 1995); 69 Fed. Reg. 15687 (Mar. 26, 2004); 71 Fed. Reg. 19652 (Apr. 17, 2006); 75 Fed. Reg. 19252 (Apr. 14, 2010); 80 Fed. Reg. 9,613 (Feb. 24, 2015). Effective in 1982, EPA delegated to LDEQ the authority to implement and enforce the NSPS program. *See* 47 Fed. Reg. 7665 (Feb. 22, 1982); 69 Fed. Reg. 15687 (Mar. 26, 2004); 75 Fed. Reg. 19252 (Apr. 14, 2010); 80 Fed. Reg. 9,613 (Feb. 24, 2015).

³⁷ Effective October 12, 1995, EPA approved Louisiana's Title V operating permit program. *See* 40 C.F.R. Part 70, Appendix A; 60 Fed. Reg. 47,296 (Sept. 12, 1995).

³⁸ Louisiana Administrative Code (LAC) Title 33: Part III. Chapter 51.

standard for each pollutant. Under this program, facilities must report annual emission totals to LDEQ's Toxic Emission Data Inventory.³⁹ Compliance with CAA procedural and substantive requirements does not necessarily establish compliance with Title VI requirements.⁴⁰

IV. INITIAL FACT FINDING AND ANALYSIS

A. EPA COMPLAINT NO. 01R-22-R6 (LDEQ and the Denka Facility Complaint)

On January 20, 2022, EPA received a complaint filed on behalf of Concerned Citizens of St. John and Sierra Club alleging that LDEQ's implementation of its air pollution control program subjects Black residents of St. John the Baptist Parish to discrimination on the basis of race in violation of Title VI and EPA's nondiscrimination regulations found at 40 C.F.R. Part 7. The Complaint alleged that LDEQ's actions and failure to take action relative to the Denka facility in LaPlace, Louisiana, and other nearby industrial facilities subject Black residents to disproportionate levels of air pollution including chloroprene and ethylene oxide.

The Complaint also alleged that other LDEQ policies or practices resulted in discrimination including LDEQ's alleged failure to: (1) fulfill the terms of an EPA grant to assess the causes of higher cancer risk in St. John the Baptist Parish; (2) act on three Denka CAA Title V permit renewal applications; (3) conduct public notice and comment on the permit renewals; and (4) strengthen Denka's pollution control measures.

On April 6, 2022, EPA accepted, in part, for investigation:

Whether LDEQ uses criteria or methods of administering its air pollution control program that have the intent and/or effect of subjecting persons to discrimination on the basis of race in violation of Title VI of the Civil Rights Act of 1964 and EPA's implementing regulation at 40 C.F.R. Part 7 §§ 7.30 and 7.35, including, but not limited and with respect to:

LDEQ's acts or failures to undertake certain actions related to the Denka facility in connection with its air pollutant emissions, and the predominantly Black residents of St. John the Baptist Parish.

On April 25, 2022, LDEQ agreed to engage in the informal resolution process.

1. LDEQ's Response to EPA's Acceptance of the Complaint for Investigation

Pursuant to EPA's regulations, EPA provided LDEQ an opportunity to make a written submission responding to, rebutting, or denying the allegations raised in the Complaints. 40

³⁹ See, LDEQ, *AIR TOXICS PROGRAM*, <https://deq.louisiana.gov/resources/category/air-toxics-program> (last visited Oct. 4, 2022).

⁴⁰ See, e.g., *EPA Title VI Toolkit*.

C.F.R. §7.120(d) (1). LDEQ submitted a response dated June 3, 2022. LDEQ's response failed to provide a reason for EPA to dismiss either Complaint, halt its fact finding, or identify within LDEQ's information or arguments a rationale that would diminish EPA's level of concern. It is beyond the scope of this Letter to respond to each of the arguments raised by LDEQ in its response; however, EPA has undertaken to address a number of LDEQ's points in an effort to ensure EPA's positions and rationales are clear to LDEQ.

2. Background on Denka and St. John the Baptist Parish

The Denka facility in St. John the Baptist Parish produces neoprene, and the chemical chloroprene, which is used during the manufacturing process.⁴¹ The facility was originally operated by DuPont Pontchartrain Works (DuPont) beginning in 1964, and in 1968, DuPont announced that it would begin neoprene production at this facility. Since November 2015, the neoprene division of the facility has been owned and operated by Denka.

Chloroprene is emitted into the air from Denka's neoprene manufacturing operations which consist primarily of three chemical manufacturing process units: the Chloroprene Unit, the Neoprene Unit, and the HCl Recovery Unit. Chloroprene is produced using 1,3-butadiene and chlorine in the Chloroprene Unit.⁴² Chloroprene, 1,3-butadiene, and chlorine, are all defined as HAPs under CAA Section 112(b)(1).⁴³

In May 2016, in a memo discussing Denka's chloroprene emissions, the EPA's air toxics program explained to EPA Region 6:

Under EPA's air toxics risk management framework, a cancer risk of 100-in-1 million is generally described as the upper limit of acceptability for purposes of risk-based decisions. Cancer risks at or below 1-in-1 million indicate little potential for cancer risk in the air toxics program. When existing source emissions are too high to achieve the 1-in-1 million level and controls are being considered, EPA is interested in controls that reduce off-site exposure concentrations associated with cancer risks to no higher than 1-in-1 million for as much of the nearby population as is feasible.⁴⁴

With regard to Denka's emissions, EPA further stated:

At a minimum, we recommend that this facility aims for emission reductions such that the maximum annual average chloroprene concentration is no higher than 0.2 ug/m³ at the highest modeled off-site location. That being said, it is preferable to have the

⁴¹ U.S. EPA, *LaPlace, Louisiana – Background Information*, <https://www.epa.gov/la/laplace-louisiana-background-information> (last visited Oct. 4, 2022).

⁴² LDEQ-EDMS, *Title V Permit Renewal Application* (Oct. 2016), <https://edms.deq.louisiana.gov/app/doc/view?doc=10386907>.

⁴³ 42 U.S.C. § 7412(b)(1).

⁴⁴ Letter from Kelly Rimer, Leader, Air Toxics Assessment Group, Health and Environmental Impacts Division, Office of Air Quality Planning and Standards, U.S. EPA to Frances Verhalen, P.E., Chief, Air Monitoring Grants Section, EPA Region 6, *Preliminary Risk-Based Concentration Value for Chloroprene in Ambient Air* (May 5, 2016).

chloroprene concentrations at the highest modeled census block as close to 0.002 ug/m³ as reasonably achievable.⁴⁵

Due to concerns about chloroprene emissions from the facility, LDEQ and Denka negotiated an Administrative Order on Consent (AOC), dated January 6, 2017, under which Denka installed the pollution controls with the goal of reducing facility wide chloroprene emissions by 85% (as compared to the facility's 2014 emissions).⁴⁶ Measures implemented pursuant to the AOC included the installation of a Regenerative Thermal Oxidizer (RTO), which continues to operate. By letter dated May 20, 2020, LDEQ informed Denka that an 85% (84.63% rounded) reduction in chloroprene emissions compared to 2014 reported emissions had in fact been achieved.⁴⁷ The monitoring data discussed below shows reductions in chloroprene concentrations, but the annual averages for many of the monitors continue to show chloroprene concentrations above the EPA recommended 0.2 µg/m³ and the preferred 0.002 µg/m³.⁴⁸

In St. John the Baptist Parish, 58.5% of the population identifies as Black while 33.3% identifies as White. Ninety-three percent (93%) of the residents within one mile of the Denka facility identify as Black. The closest homes are approximately 700 feet away from the facility fence line, and the facility is approximately 1,500 feet from Fifth Ward Elementary,⁴⁹ a public school with 402 students, 75% of whom are Black.⁵⁰

3. Cancer Risk from Chloroprene Exposure

EPA develops IRIS assessments to characterize the hazards to human health posed by environmental chemicals. Developing an IRIS assessment for a particular chemical involves identifying credible human health hazards associated with chemical exposure, then characterizing a quantitative relationship between chemical exposure and each credible health hazard. These quantitative relationships are then used to derive toxicity values. IRIS toxicity values for cancer from inhalation exposure are called inhalation unit risk (IURs) and represent estimates of the increased cancer risk from inhalation exposure to a concentration of 1 µg/m³ over a lifetime. The IUR can be multiplied by an estimate of lifetime exposure (in µg/m³) to estimate the lifetime cancer risk. EPA programs integrate the hazard information and cancer unit risks into their risk assessments.

⁴⁵ *Id.*

⁴⁶ See LDEQ, *Denka: The Path Forward*, <https://www.deq.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=denka> (last visited Oct. 4, 2022) and https://www.deq.louisiana.gov/assets/docs/Denka/DENKA_AdministrativeOrderOnConsentAOCJan2017.pdf (last visited Oct. 4, 2022).

⁴⁷ See Letter from Lourdes Iturralde, Assistant Secretary, LDEQ to Patrick Walsh, CIH/SHE Manager, Denka Performance Elastomer LLC (May 20, 2020).

⁴⁸ It bears noting that the LDEQ 8-hour short term workplace standard for chloroprene exposure was at the time, and continues to be, 857 µg/m³. See, LAC Title 33: Environmental Quality Part III: Air. Section 5112-Table 51.2., April 2014.

⁴⁹ See Administrator's letter to Denka & DuPont (Jan. 24, 2020) (<https://www.epa.gov/system/files/documents/2022-01/messrs.-toshio-imai-and-edward-d.-breen.pdf>).

⁵⁰ National Center for Education Statistics, Fifth Ward Elementary School, St. John the Baptist Parish, 2020-2021 School Year, https://nces.ed.gov/ccd/schoolsearch/school_detail.asp?Search=1&SchoolID=220153002003&ID=220153002003 (last visited Oct. 12, 2022).

EPA's 2010 IRIS Assessment for Chloroprene⁵¹ analyzed the cancer and other human health effects associated with chronic inhalation exposure to chloroprene over a 70-year lifetime. It concluded that chloroprene is "likely to be carcinogenic to humans" and that it acts through a mutagenic mode of action. The IUR for chloroprene is 5×10^{-4} per $\mu\text{g}/\text{m}^3$ when adjusted for exposure from birth and taking into account increased susceptibility during childhood.⁵²

The IRIS IUR for continuous lifetime inhalation exposure can be used to calculate an estimated ambient air concentration associated with a particular lifetime excess cancer risk. For a lifetime excess cancer risk of 100-in-1 million from continuous exposure through inhalation over a 70-year lifetime, starting at birth, and taking into account increased susceptibility during childhood, the estimated air concentration is 0.2 micrograms of chloroprene per cubic meter ($\mu\text{g}/\text{m}^3$).

A mutagenic mode of action means that a chemical induces cancer by beginning to damage DNA and producing mutations. When a person breathes in chloroprene, it causes DNA damage in the body's cells. The resulting mutations increase the likelihood that a person will develop cancer over the course of their lifetime.

Individuals exposed to mutagenic carcinogens starting in early life as infants or young children are understood to be more susceptible than individuals exposed only as adults.⁵³ Reasons for this susceptibility include more rapid cell division during early life resulting in less time to repair DNA mutations; more rapid expansion of mutant cells lead to cancer. The contribution to lifetime cancer risk from a single year of exposure to chloroprene is greater if that year occurred during childhood. Childhood exposures to chloroprene may increase a person's risk of cancer later in life.

With publication of a peer reviewed IUR for chloroprene, it became possible to calculate cancer risks for populations exposed to that air pollutant.

⁵¹ See, Summary Information on IRIS.

⁵² See, IRIS Chemical Assessment, p. 18.

⁵³ U.S. EPA, *Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens*, (Mar. 2005), p.30.

4. Status of Denka Air Permits

Currently, the Chloroprene, Neoprene, and Hydrochloric Acid (HCl) Recovery Units operate under the following permits each of which has expired:

Unit	Permit No.	Date Issued	Expiration Date	Renewal Application Date
Chloroprene Unit	3000-V5	09/09/2014	04/26/2017	10/26/2016 ⁵⁴
Neoprene Unit	2249-V9	04/27/2017	05/15/2019	07/26/2018 ⁵⁵
HCl Recovery Unit	206-V4	03/03/2017	06/18/2020	11/19/2019 ⁵⁶

LDEQ has represented that it is presently reviewing Denka’s renewal applications.⁵⁷

5. Initial Disparate Impact Analysis

The following summarizes EPA’s initial disparate impact analysis.

a) *Neutral Policy or Practice*

EPA’s regulations prohibits LDEQ from administering its air pollution control program in a way that has the effect of subjecting the residents of St. John the Baptist living near the Denka facility to discrimination on the basis of race.⁵⁸ To determine compliance with the regulations, EPA must first identify what “facially neutral policies or practices,” or actions, may have produced “a negative effect—looking at who is impacted and where the impact occurs—in order to identify the legally relevant policies or practices.”⁵⁹

A neutral practice need not be undertaken affirmatively, but in some instances could be the failure to act or to adopt an important policy.⁶⁰ During its fact finding, EPA found several specific LDEQ policies or practices, actions or inactions taken within the context of LDEQ’s

⁵⁴ LDEQ-EDMS, <https://edms.deq.louisiana.gov/app/doc/view?doc=10386907>. On November 7, 2018, Denka submitted Addendum No. 1 and in December 2020 Addendum No. 2 to its renewal application (<https://edms.deq.louisiana.gov/app/doc/view?doc=12489947>).

⁵⁵ LDEQ-EDMS, <https://edms.deq.louisiana.gov/app/doc/view?doc=11249049>. On November 1, 2018, Denka submitted additional information on and addendums on January 28, 2020, and August 22, 2020. LDEQ-EDMS, <https://edms.deq.louisiana.gov/app/doc/view?doc=12328494>.

⁵⁶ LDEQ-EDMS, <https://edms.deq.louisiana.gov/app/doc/view?doc=11954047>. On June 2, 2020, Denka submitted an addendum. LDEQ-EDMS, <https://edms.deq.louisiana.gov/app/doc/view?doc=12204487>.

⁵⁷ Letter from Chuck Carr Brown, Secretary, Louisiana Department of Environmental Quality, to Lilian Sotolongo Dorka, Director, U.S. Environmental Protection Agency, External Civil Rights Compliance Office, *Re: Response to Concerned Citizens of St. John, et. al, Complaint Filed Under Title VI of the Civil Rights Act of 1964, 42 U.S.C. §2000d (Complaint No: 01 R-22-R6)* (“LDEQ Denka Response”), pp. 4 and 6 (June 3, 2022).

⁵⁸ 40 C.F.R. Part 7 §§ 7.30 and 7.35

⁵⁹ See U.S. DOJ *Title VI Legal Manual* (Identifying the facially neutral policy or practice, agency practice tip) <https://www.justice.gov/crt/fcs/T6Manual7#E>

⁶⁰ See *EPA Title VI Toolkit*.

methods of administering its air pollution control program that may be causing or contributing to adverse disparate impacts based on race as described below.

- i. EPA is concerned that LDEQ's erroneous legal interpretation that its nondiscrimination obligations under Title VI and EPA's implementing regulations do not apply to its Title V program⁶¹ results in LDEQ failing to properly identify and address disparate impacts resulting from its Title V program and to deny those impacted by LDEQ decisions the ability to raise concerns about discriminatory effects of those decisions. As explained above, *supra* at page 10, Congress made clear in the Civil Rights Restoration Act of 1987 that the Title VI nondiscrimination obligation applies to all the programs and activities of a recipient and courts have confirmed recipients' obligations in this regard.⁶² Therefore, even if LDEQ's Title V permit program does not directly receive EPA financial assistance, because LDEQ receives EPA financial assistance, the Title VI nondiscrimination obligation applies to all programs administered by LDEQ, including its Title V program.

EPA is concerned that LDEQ's inaction on the Denka Title V operating permit renewal process coupled with the lack of an established process to assess whether its permit actions might cause or contribute to adverse disparate impacts in violation of Title VI that is accessible to the public denied LDEQ and the community the opportunity to work together to identify and address any adverse disparate impacts resulting from Denka's chloroprene emissions.

The Title V permit process is one, but not the only logical point for LDEQ to conduct an analysis to identify and address any adverse disparate impacts to which the renewal of a facility's operating permit may cause or contribute. Another would be through the grievance process LDEQ is required to have in place by EPA's nondiscrimination regulations.⁶³ The grievance process is another appropriate avenue to formally to raise concerns about disparate impact and the health risks posed by Denka's chloroprene emissions. If LDEQ has a grievance procedure, EPA was not able to find a way to access it on LDEQ's website which makes it essentially unavailable.

LDEQ's failure to acknowledge the applicability of Title VI and to make available the grievance process described above meant that residents—already struggling with the burden of harmful pollution—had to seek other means to prod action to secure an appropriate response to address the health risk posed by Denka's chloroprene emissions. In the past few years, residents petitioned EPA for enforcement action

⁶¹ LDEQ Denka Response, pp. 1-2.

⁶² EPA has also made this clear in its 2017 Toolkit (p. 2) a document that LDEQ quotes at length in its Basis For Decision's for the Formosa permits discussed below. *See also*, FAQ #4 in *January 18, 2017 FREQUENTLY ASKED QUESTIONS (FAQs) FOR CHAPTER 1 OF THE U.S. EPA'S EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE COMPLIANCE TOOLKIT*'

⁶³ 40 C.F.R. § 7.90.

under the CAA and rulemaking under the Toxics Substances Control Act;⁶⁴ filed this Complaint with EPA and the Civil Rights Division of the U.S. Department of Justice; and petitioned the Organization of American States.⁶⁵ They also organized protests including at the Denka facility, at the Fifth Ward Elementary School, at Denka's headquarters in Japan, and a five-day march from Reserve to Baton Rouge, Louisiana.⁶⁶

In addition, when residents raised their concerns to EPA through the Title VI civil rights complaint process, LDEQ incorrectly argued it "was an improper vehicle for raising allegations of discrimination under the [t]itle V permitting program."⁶⁷ If allowed to stand, LDEQ's erroneously limited legal interpretation of its Title VI obligation would inappropriately deny the residents of Louisiana their right to file discrimination complaints with EPA.

Moreover, EPA is concerned that LDEQ's inaction on the Denka Title V operating permits renewal process denies the benefits of the permit process (*e.g.*, access to information about the facility; ability to influence operations through comment process; potential to appeal permit to EPA) to the residents impacted by Denka who disproportionately identify as Black. As explained above, one purpose of the CAA Title V program is to "enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements."⁶⁸

- ii. LDEQ's response to the Complaint provided several reasons for delaying the Title V operating permit renewal process, including asserting that there "was developing information and activities related to chloroprene emissions;"⁶⁹ and Denka's requests for reconsideration of the Integrated Risk Information System (IRIS) assessment for

⁶⁴ Petition to the Administrator, United States Environmental Protection Agency, *Petition for Emergency Action under the Clean Air Act, 42 U.S.C. § 7603 et seq., to Abate the Imminent and Substantial Danger to St. John the Baptist Parish, Louisiana Residents from Toxic Air Pollution and Petition for Rulemaking under the Clean Air Act, 42 U.S.C. § 7412, to Set Health-Protective Air Toxics Emissions Standards* (May 6, 2021).

⁶⁵ Petition from Concerned Citizens of St. John to the Organization of American States, Inter-American Commission on Human Rights, *Emergency Request for Precautionary Measures Pursuant to Article 25 of the Rules of Procedure of the Inter-American Commission on Human Rights on Behalf of Residents of St. John the Baptist Parish, Louisiana*, (undated).

⁶⁶ Dermansky, J. (2019, Nov. 1). *Environmental Justice Activists Arrested Amid Growing Concerns Over Louisiana's Cancer Alley Pollution*. DeSmog. <https://www.desmog.com/2019/11/01/environmental-justice-arrests-louisiana-cancer-alley-pollution/> (*EJ Activists Arrested*); Dermansky, J. (2021, May 12) *Inspector General Directs EPA to Update Its Rules for Two Toxic Air Pollutants A Louisiana Cancer Alley community group responded by petitioning the EPA to take emergency action to reduce carcinogenic emissions*. DeSmog. <https://www.desmog.com/2021/05/12/inspector-general-epa-chloroprene-ethylene-oxide-denka/> (*IG Directs EPA*); Blair, G. and Laughland, O. (2019, June 26). *Residents of America's Cancer Town confront chemical plant owner in Japan*. The Guardian. <https://www.theguardian.com/us-news/2019/jun/26/cancer-town-denka-pontchartrain-works-reserve-louisiana>; Lartey, J. and Laughland, O. (2019, May 30). *They've been killing us for too long': Louisiana residents march in coalition against 'death alley'*. The Guardian. <https://www.theguardian.com/us-news/2019/may/30/toxic-america-louisiana-residents-march-against-polluting-plant>.

⁶⁷ LDEQ Denka Response, pp. 1-2.

⁶⁸ 57 Fed. Reg. 32250, 32251 (July 21, 1992).

⁶⁹ LDEQ Denka Response, p. 6.

chloroprene.⁷⁰ In its response to the Complaint, LDEQ states that “it is EPA that bears the responsibility to update control standards for hazardous air pollutants under Section 112 of the CAA; this is not a state responsibility nor is it an element of the Title V permitting program.”⁷¹ While it is true that EPA has a role in regulating HAPs and has taken steps toward regulating chloroprene,⁷² LDEQ fails to acknowledge its own authority and precedent for regulating chloroprene.⁷³ LDEQ’s webpage devoted to explaining its TAP program states as mandated by Louisiana Revised Statute 30:2060:

*“ . . . Louisiana DEQ developed and promulgated the Comprehensive Toxic Air Pollutant Emission Control regulation, one of the most stringent state air toxics rules in the country. The state regulation also surpasses the federal regulation. In addition to incorporating the control technology (MACT) standards, the state rule establishes emission reporting requirements for all major sources of toxic air pollutants and sets an ambient air standard for each pollutant. ”*⁷⁴

Chloroprene is listed as a TAP in LAC 33:III. Chapter 51, Tables 51.1 - 51.3. As Denka explained in an undated FAQ, “The LDEQ ambient standard for chloroprene is 857 µg/m³ on an 8-hour basis.”⁷⁵

Additionally, the rationale that it is waiting to see what other agencies might do related to Denka’s chloroprene emissions is inconsistent with LDEQ’s prior actions which raises questions about the reasonableness of such a claim. For example, in 2016, Chuck Carr Brown, the Secretary of the LDEQ (Dr. Brown), stated that rather than wait around for his counterparts at EPA to set a chloroprene standard, he was using the AOC to get reductions.⁷⁶

- iii. EPA is also concerned about LDEQ’s interactions with the residents who live near the Denka facility. During the few public meetings held to discuss Denka’s chloroprene emissions that LDEQ attended, when residents raised their concerns about Denka’s failure to meet the maximum annual average chloroprene

⁷⁰ U.S. EPA, *RFC 21005 – Chloroprene*, <https://www.epa.gov/quality/rfc-21005-chloroprene>

⁷¹ LDEQ Denka Response, p. 11.

⁷² EPA will conduct a risk assessment on chloroprene emissions to support of the Group I Polymers and Resins: National Emission Standards for Hazardous Air Pollutants (NESHAP) and the Hazardous Organic NESHAP, that are scheduled for proposal in March 2023 and December 2022, respectively.

⁷³ Also, Denka noted in an FAQ issued sometime after 2017 that LDEQ had not “. . . set any new limits regarding chloroprene exposure as a result of the draft NATA study published in 2015.” Denka, *FREQUENTLY ASKED QUESTIONS*, <http://denka-pe.com/wp-content/uploads/2017/10/Denka-QA.pdf>.

⁷⁴ LDEQ, *TOXIC AIR POLLUTANTS FACT SHEET FAQs*, <https://www.deq.louisiana.gov/index.cfm/faq/category/19> (last accessed Oct. 2, 2022).

⁷⁵ Denka, *FREQUENTLY ASKED QUESTIONS*, <http://denka-pe.com/wp-content/uploads/2017/10/Denka-QA.pdf>

⁷⁶ Dermansky, J. *LDEQ Secretary Dr. Chuck Brown*, YouTube video imbedded within DeSmog, at approximately Minute 18:23 (Dec. 2016), <https://www.desmog.com/2017/04/19/st-john-baptist-parish-fight-clean-air-louisiana-cancer-alley-denka-chloroprene/>(*St. John Baptist Parish Fights*) (Dr. Chuck Carr Brown before the St. John the Baptist Parish Council).

concentration EPA recommended, LDEQ officials referred to those concerns as “fear mongering.”⁷⁷

In a 2016 public meeting to discuss the Denka facility and actions being taken to address the emissions, Dr. Brown spoke for several minutes with a councilmember who was trying to determine whether the implementation of the AOC pollution controls would reduce the chloroprene concentrations to “point 2.” Dr. Brown repeatedly emphasized that the 0.2 was an EPA guidance, “just something EPA targeted as a goal,”⁷⁸ and that he wanted the speaker to “detach yourself from that number.”⁷⁹ The message seemed to be that residents should focus on the amount of the predicted emissions reductions, not what was of concern to residents—whether the reductions would achieve cancer risks below EPA’s upper limit of acceptability or meet EPA’s preferred cancer risks of no higher than 1-in-1 million for as much of the population near Denka as is feasible.

LDEQ’s website page “Denka: The Path Forward” also includes the Department’s response to the question “What about .2?”:

Once the control measures are in place, LDEQ will again assess the emissions at the Denka facility. While there is currently no federal or state standard for chloroprene emissions, EPA has offered a number as guidance. It is not an emissions limit.⁸⁰

While it is true that the 0.2 $\mu\text{g}/\text{m}^3$ concentration does not constitute an explicit emissions limit, the statement is confusing at best and misleading at worst since it does not provide any explanation of what the “.2” number is—EPA’s scientific assessment of the upper limit of acceptable exposure to avoid elevated cancer risk. LDEQ’s repeated reference to the lack of a federal standard and its description of the 0.2 $\mu\text{g}/\text{m}^3$ concentration as mere guidance could be interpreted as questioning the scientific basis and significance of the IRIS inhalation unit risk, and the advisability of reaching those concentration levels and risk levels.

At this same 2016 public meeting when discussing EPA’s IRIS assessment for chloroprene, Dr. Brown stated that in 2015 EPA had reclassified chloroprene as a “possible carcinogenic.”⁸¹ He further stated that he hoped the audience would “key in

⁷⁷ Dr. Brown later said, “I’m not going to say I regret using the term. I just felt like I could’ve used a different term.” Victor Blackwell, Wayne Drash and Christopher Lett, *Toxic tensions in the heart of ‘Cancer Alley’*, CNN (Oct. 20, 2017), <https://www.cnn.com/2017/10/20/health/louisiana-toxic-town/index.html>.

⁷⁸ *Supra* footnote 76, *St. John Baptist Parish Fights*, Minute 16:41 (Dec. 2016).

⁷⁹ *Supra* footnote 66, *EJ Activists Arrested*, at Minute 15:33. Dr. Brown later stated in an interview with CNN, “That’s why I’ve tried to tell everyone: Detach yourself from that number and let’s work toward a solution that involves the best available control technology.” Victor Blackwell, Wayne Drash and Christopher Lett, *Toxic tensions in the heart of ‘Cancer Alley’*, (Oct. 20, 2017), <https://www.cnn.com/2017/10/20/health/louisiana-toxic-town/index.html>.

⁸⁰ LDEQ, *Denka: The Path Forward*, <https://www.deq.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=denka> (last visited Oct. 4, 2022).

⁸¹ *Supra*, footnote 66, *EJ Activists Arrested*, Minute 2:14 (Nov. 1, 2019).

on the words” he was using “a possible carcinogenic.”⁸² In 2010, EPA concluded that chloroprene was a *likely* carcinogen. In general usage “possible” means something that may or may not occur,⁸³ while “likely” means having a high probability of occurring or being true.⁸⁴ Dr. Brown’s mischaracterizing the category of carcinogen on behalf of LDEQ had the potential to confuse and mislead, even if that was not LDEQ’s intention.

The community relies on LDEQ to provide accurate and complete information. EPA is concerned that on some important occasions including on a webpage specifically designed to provide information to the public about risks posed by Denka’s chloroprene emissions, LDEQ has fallen short.

- iv. EPA is also concerned that in assessing whether there are adverse health impacts from Denka’s emissions, LDEQ relied upon LDH studies about which EPA has concerns as discussed below.

b) Adversity/Harm

EPA must evaluate the policies or practice identified above, to determine whether these “harm” to the Black residents living near Denka is enough to be actionable. This element is sometimes referred to as “adversity of the impact.”⁸⁵ In the context of this Title VI investigation EPA could examine, not only the burdens or harms resulting from each individual policy, decision or action, and borne disproportionately on the basis of race, but also the total or cumulative burdens including exposures throughout a person’s lifetime borne disproportionately by a community, especially in light of the characteristics of that community.⁸⁶ To date, EPA has not engaged in a cumulative impact analysis, but the information gathered to date suggests that such an analysis should have been performed by LDEQ.

⁸² *Id.* at Minute 2:17. EPA notes that LDEQ’s website *Denka: The Path Forward* accurately states: “EPA reclassified chloroprene as a likely carcinogen in 2010.” (<https://www.deq.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=denka>) (last visited Oct. 4, 2022).

⁸³ <https://www.merriam-webster.com/dictionary/possible>.

⁸⁴ <https://www.merriam-webster.com/dictionary/likely>.

⁸⁵ E.g., *S. Camden Citizens in Action v. N.J. Dep’t of Env’tl. Prot.*, 145 F. Supp. 2d 446, 487, *opinion modified and supplemented*, 145 F. Supp. 2d 505 (D.N.J.) (discussing the methods used to “evaluate the ‘adversity’ of the impact” and considering whether the impacts at issue were “sufficiently adverse” to establish a prima facie case), *rev’d on other grounds*, 274 F.3d 771 (3d Cir. 2001). See also *Bryan v. Koch*, 627 F.2d 612, 617 (2d Cir. 1980) (indicating that adversity exists if a fact specific inquiry determines that the nature, size, or likelihood of the impact is sufficient to make it an actionable harm).

⁸⁶ EPA’s Office of Research and Development 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. Cumulative impacts include contemporary exposures to multiple stressors as well as exposures throughout a person’s lifetime. They are influenced by the distribution of stressors and encompass both direct and indirect effects to people through impacts on resources and the environment. Cumulative impacts can be considered in the context of individuals, geographically defined communities, or definable population groups. Cumulative impacts characterize the potential state of vulnerability or resilience of a community.” U.S. EPA, *Cumulative Impacts Research: Recommendations for EPA’s Office of Research and Development*. U.S. Environmental Protection Agency, Washington, D.C., EPA/600/R-22/014a, 2022. p. 4, https://www.epa.gov/system/files/documents/2022-09/Cumulative%20Impacts%20Research%20Final%20Report_FINAL-EPA%20600-R-22-014a.pdf.

When assessing whether there are adverse health effects from air pollution, EPA has used as a benchmark the residual risk from air toxics for source categories that are subject to technology-based requirements under Section 112 of the Act. EPA generally seeks to prevent cancer risks in excess of 100-in-1 million (or 1-in-10,000). EPA applied this cancer risk benchmark in past Title VI investigations related to air pollution and has used it in this investigation as an initial benchmark.

A monitor provides actual concentrations in the area where the monitor is located. But computer models provide estimated concentrations across an entire community – not just at the monitor location. EPA was able to include both types of information in its analysis below.

(1) Defining the Affected Population

The National Air Toxics Assessment (NATA)/AirToxScreen⁸⁷ uses actual emissions data to estimate ambient concentrations of air toxics and resulting health effects around the country. NATA/AirToxScreen is designed by EPA as a screening tool for state and local governments to identify pollutants, emission sources, and places for further localized analysis of risks to public health. NATA/AirToxScreen features an online mapping application that presents emissions, concentrations, and cancer risks at the census tract level. EPA used NATA and AirToxScreen data, as described in more detail below, to assess the potential for adverse impacts from Denka in terms of the estimated human health risk of air pollution for different demographic populations.

The 2011 NATA/AirToxScreen estimated excess cancer risk for the census tract closest to the Denka facility (tract 708) was 770-in-100 million (more than 7 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime) the risk of developing cancer was significantly higher than the national average (the census tract was, in fact, the worst in the United States for cancer risk); more than 90% of that increased risk was due to chloroprene exposure; and the increased risk was attributable to Denka's chloroprene emissions.

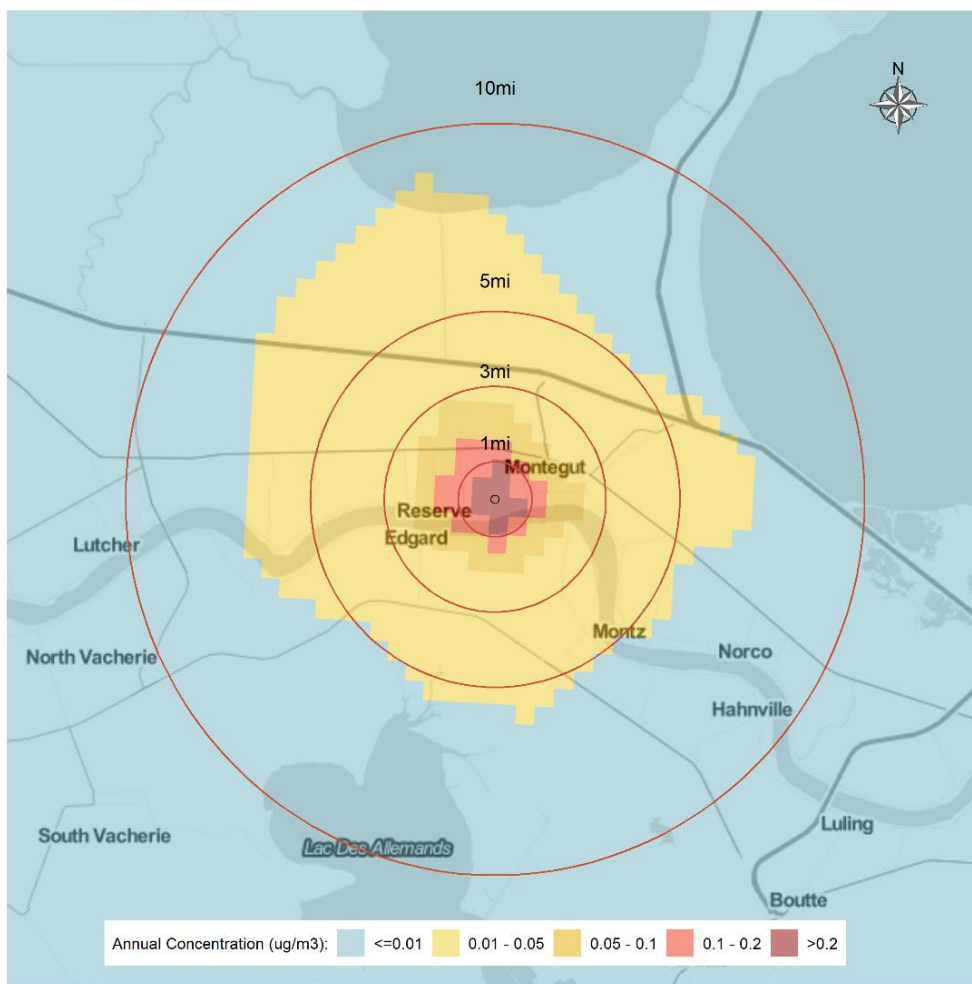
EPA's Risk-Screening Environmental Indicators model (RSEI) incorporates facility-reported information from the Toxics Release Inventory (TRI) on the amount of toxic chemicals released, together with factors such as the chemical's fate and transport through the environment, each chemical's relative toxicity, and potential human exposure. Modeling assumptions in RSEI are designed to reflect a worst-case scenario, and so in some cases actual air concentrations may be lower than modeled concentrations. RSEI model results can be used to help establish priorities for further investigation and to look at changes in potential human health impacts over time. RSEI Scores are designed to be compared to each other. A RSEI Score 10 times higher than another RSEI Score suggests that the potential for risk is 10 times higher.

As Figure 1 below displaying results from the RSEI model shows, those living closest to the Denka facility are most impacted by the chloroprene emissions. Modeled average annual chloroprene concentrations from Denka emissions were over 0.2 $\mu\text{g}/\text{m}^3$ in most of the region within 1 mile of the facility in 2020. The census tract that contains the centroid of the Denka

⁸⁷ The name NATA was retired and replaced with the name AirToxScreen for the emissions year 2017 (released March 2022).

facility from satellite imagery is 708. The other census tracts that fall within the 1-mile circle are 711 and 709.

Figure 1: Denka Modeled Average Annual Chloroprene Concentrations (2020)⁸⁸



(2) Unacceptable Risk Levels Continue After 2018, Despite Installation of Pollution Control Equipment

(a) Estimated Cancer Risk

Cancer risks from air toxics in the St. John the Baptist Parish and in particular the census tracts located nearest the Denka facility declined after the AOC pollution control measures were installed but remain high. The 2018 AirToxScreen estimated lifetime cancer risks from exposure to air toxics in St. John the Baptist were 120-in-1-million. For tracts closest to Denka, the

⁸⁸ The dispersal pattern is based on the RSEI fate and transport model, which computes how the facility affects the continuous annual concentration of chloroprene in all 0.8 x 0.8 km gridded cells within 30 miles. For more information on the RSEI model, see U.S. EPA, *Risk-Screening Environmental Indicators (RSEI) Methodology*, <https://www.epa.gov/system/files/documents/2022-06/RSEI%20Methodology%20V2.3.10.pdf>

lifetime cancer risks in 2018 were even higher: tract 708 had a lifetime cancer risk of 400-in-1-million (four times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime), and tracts 707 and 709 both had estimated lifetime cancer risks of 200-in-1-million (two times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime).

(b) Cancer Risk Based on Monitored Chloroprene Concentrations

EPA's NATA, released on December 17, 2015, using 2011 data, estimated high levels of air toxics including chloroprene in the area close to Denka. At the time of the NATA release, these levels of chloroprene were predicted by the model, but not confirmed by actual air monitoring results. EPA and LDEQ conducted air monitoring in the community to determine whether there were chloroprene levels of concern in the ambient air from 2016 until the present. EPA calculated cancer risk to residents based on measured concentrations at monitors in and along the edge of the residential area near Denka.

Since March 2016, there has been a combination of discrete and continuous community-based and fence-line monitoring near Denka.⁸⁹ The monitors discussed below were placed by EPA, LDEQ, and Denka. The most recent EPA fence-line monitoring data cover the period ending August 4, 2022, and the most recent Denka canister monitoring data was collected on August 29, 2022.

Across the various monitoring programs and sampling methods, the air quality measurements taken after Denka installed controls to reduce chloroprene emissions (after March 2018) consistently measure ambient chloroprene concentrations above $0.2 \mu\text{g}/\text{m}^3$, and average concentrations at all monitors are above $0.2 \mu\text{g}/\text{m}^3$, which represents the 100-in-1-million upper bound increased cancer risk from continuous exposure to this concentration for a lifetime.

Concentrations above $0.2 \mu\text{g}/\text{m}^3$ were measured not only at fence-line monitoring locations, but also at community monitors located further away from the facility including the Fifth Ward Elementary School. These elevated concentrations were also detected during the time period when Denka had shut down its chloroprene production in the aftermath of Hurricane Ida in September 2021.

The past 6 years of data from EPA, LDEQ, and Denka monitors located in the census tracts near Denka with the modeled elevated levels of cancer risk in NATA/AirToxScreen and elevated RSEI toxicity scores prior to 2018, show that *even after the required pollution controls were operational in 2018, the levels of risk exceeding the 100-in-1-million cancer risk have persisted.*

From May 2016 through September 2020, EPA's Chad Baker air sampling station in the residential neighborhood west of Denka showed average concentrations of $2.13 \mu\text{g}/\text{m}^3$ - more

⁸⁹ Discrete monitoring refers to the collecting of chloroprene samples on a fixed time interval (*e.g.*, for the 2016-2020 Community Ambient Air Monitoring Program, EPA/LDEQ started out collecting samples every third day). In contrast, continuous monitoring refers to use of a device that continuously measures chloroprene in the ambient air and collects a sample when the ambient chloroprene concentration exceeds a certain threshold.

than 10 times higher than $0.2 \mu\text{g}/\text{m}^3$. From January 7 through August 4, 2022, the Denka fence-line monitor site 17, which is approximately 750 feet from the former location of EPA's Chad Baker air sampling station, showed average concentrations of $0.77 \mu\text{g}/\text{m}^3$ —close to 4 times $0.2 \mu\text{g}/\text{m}^3$. From 2018 through September 2020, the chloroprene concentration averaging across readings from all of the EPA's air sampling sites was $1.44 \mu\text{g}/\text{m}^3$ —more than 7 times higher than $0.2 \mu\text{g}/\text{m}^3$.

Denka's Western air sampling station is closest to the residential neighborhood west of the facility. The Fifth Ward Elementary School is approximately 1,000 feet from the Western monitor. From February 2, 2020, to February 1, 2022, the average chloroprene concentration at Denka's Western sampling station was $2.22 \mu\text{g}/\text{m}^3$ which is more than 11 times $0.2 \mu\text{g}/\text{m}^3$.

If someone was exposed continuously to $2.22 \mu\text{g}/\text{m}^3$ of chloroprene for their lifetime (24 hours a day for 70 years), their estimated increased upper bound risk of developing cancer as a result of this exposure would be 600-in-1 million using the unadjusted IUR of 3×10^{-4} per $\mu\text{g}/\text{m}^3$ (6 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime). If that person is exposed continuously to $2.22 \mu\text{g}/\text{m}^3$ of chloroprene for their lifetime *from birth* (24 hours a day for 70 years), and taking into account increased susceptibility during childhood, their estimated increased upper bound risk of developing cancer as a result of this exposure would be 1000-in-1 million using the adjusted IUR of 5×10^{-4} per $\mu\text{g}/\text{m}^3$ (10 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime).⁹⁰

Over a lifetime of exposure (24 hours a day from birth to 70 years old) to the same concentration of chloroprene, approximately half of one's lifetime risk of cancer from chloroprene exposure would be attributable to childhood exposure (from birth to 16 years old).

The annual average for chloroprene at EPA's air sampling at the Fifth Ward Elementary School from October 2, 2019, to September 26, 2020, was $1.2 \mu\text{g}/\text{m}^3$, including some shorter term (24-hour average) spikes as high as $16.6 \mu\text{g}/\text{m}^3$ with a collocated sample showing $15.3 \mu\text{g}/\text{m}^3$.⁹¹ The average concentrations for January 7 to August 4, 2022 at the two fence-line monitors⁹² closest to the Fifth Ward Elementary School were $0.51 \mu\text{g}/\text{m}^3$ and $0.77 \mu\text{g}/\text{m}^3$, respectively. The highest detected concentrations at those monitors were $1.63 \mu\text{g}/\text{m}^3$ (Apr. 14-28, 2022) and $2.91 \mu\text{g}/\text{m}^3$ (Jan. 7-21, 2022), respectively, while only a few of the samples at those two locations were below $0.2 \mu\text{g}/\text{m}^3$.⁹³

In 2017, pursuant to the AOC with LDEQ, Denka implemented pollution control measures that significantly reduced chloroprene emissions in 2018 as compared to 2014 levels. While those reductions were significant in relation to past chloroprene emissions, the monitoring information above shows that Denka still continued to emit chloroprene at a rate that contributes to or causes

⁹⁰ See, IRIS Chemical Assessment, p. 18.

⁹¹ Letter from Michael S. Regan, U.S. EPA Administrator, to Mr. Toshio Imai, Denka Corporation, and Mr. Edward D. Breen, DuPont (Jan. 24, 2022) (<https://www.epa.gov/system/files/documents/2022-01/messrs.-toshio-imai-and-edward-d.-breen.pdf>).

⁹² Site 16 and 17. Note this is more recent data than depicted in Figure 3.

⁹³ Only four out of the fifteen samples at Site 16 and three out of the fifteen samples at Site 17 measured concentrations below $0.2 \mu\text{g}/\text{m}^3$.

concentrations many times higher than $0.2 \mu\text{g}/\text{m}^3$, which therefore results in an increased risk of developing cancer over a lifetime that is many times higher than the 100-in-1 million risk level.

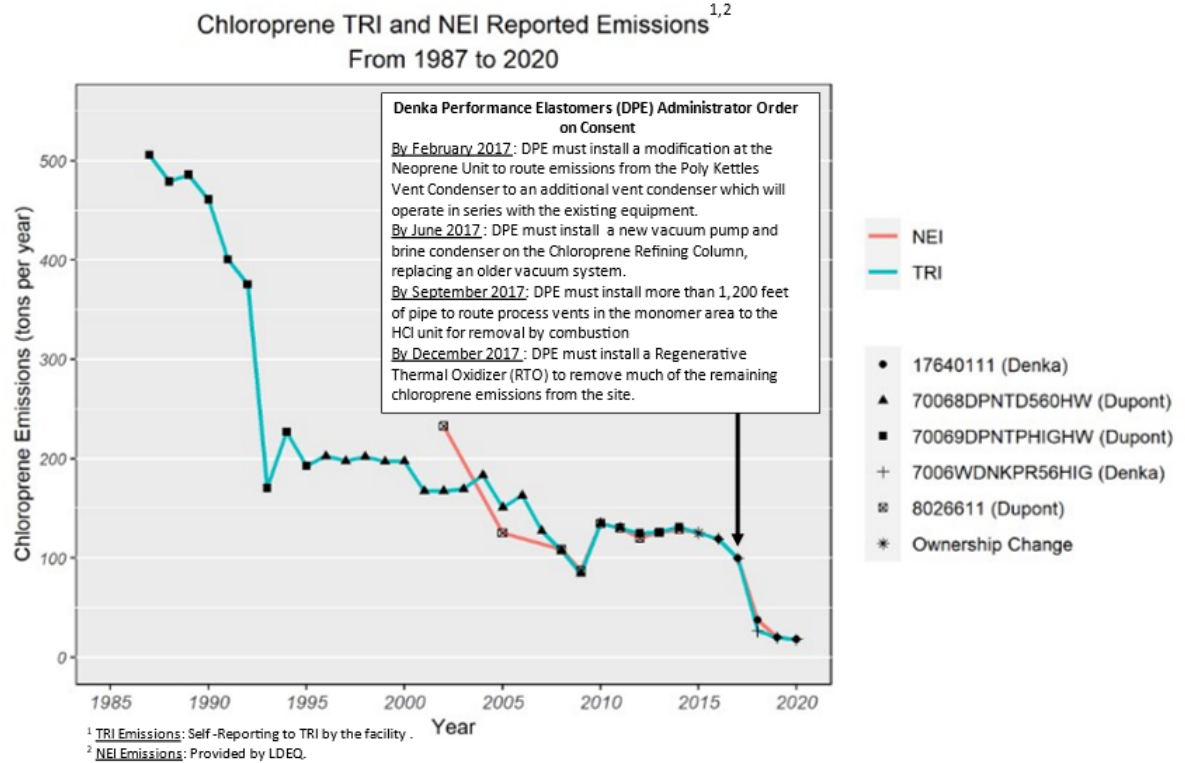
Current chloroprene concentrations near Denka present a risk that is especially grave for infants and children under the age of 16. As stated above, approximately half of one's lifetime risk of cancer from chloroprene exposure would be attributable to childhood exposure. For example, sixteen years of exposure (24 hours a day, 7 days a week) to concentrations measured at the Western monitor beginning at birth and ending at age 16 would present a lifetime risk of approximately 600-in-1 million. Seventy (70) years of exposure beginning at birth to concentrations measured at the Western monitor would present a lifetime of risk of approximately 1000-in-1 million. As evidenced by this comparison, by year 16, approximately half of the lifetime risk is reached. As a result, infants continuously exposed to chloroprene at the average concentrations measured near the Western air monitor could potentially reach the upper bound of acceptable lifetime cancer risk (100-in-1 million) early in life.

This is because chloroprene is a mutagen and children are more sensitive to it – one year of exposure to a child result in more risk than one year of similar exposure to an adult. If chloroprene was not a mutagen, then half a person's 70-year lifetime risk would happen at about year 35. Chloroprene is a mutagen; therefore, half the estimated lifetime cancer risk comes at year 16, not 35. The result is that adolescents and adults who experienced childhood exposure and who breathe chloroprene at levels measured at the Western monitor would surpass a 100-in-1 million excess cancer risk more quickly than an adult without prior childhood exposure.⁹⁴

Moreover, as is shown by Figure 2 below, the residents living near the facility for the past 30 years, including children, were exposed to higher chloroprene levels than those measured after implementation of the emissions control measures, at least four times higher based on TRI and NEI data, which would elevate the excess cancer risk even higher above 100-in-1 million.

⁹⁴ See *supra* footnote 7.

Figure 2



3

During interviews, residents indicated that many of the homes have been occupied by members of the same families for several generations. For example, one resident indicated that he had lived in the community his whole life and that his neighbors had similarly been longstanding residents of the community. This resident further indicated that homes had stayed within families, with younger generations moving into homes previously owned by relatives. Another resident corroborated the pattern of intergenerational ownership by stating that houses were passed down within families from one generation to the next. A third resident further corroborated this by indicating that some neighbors had lived in the area for sixty years or more.

The U.S. Census data⁹⁵ confirms that many residents have lived in the community near the facility for many years. For the five census tracts nearest Denka, 61% of all residents have lived in the same home since 2009; 36% since 1999. For the Parish overall, about 60% of all residents have lived in the same home since 2009; about 32% since 1999.

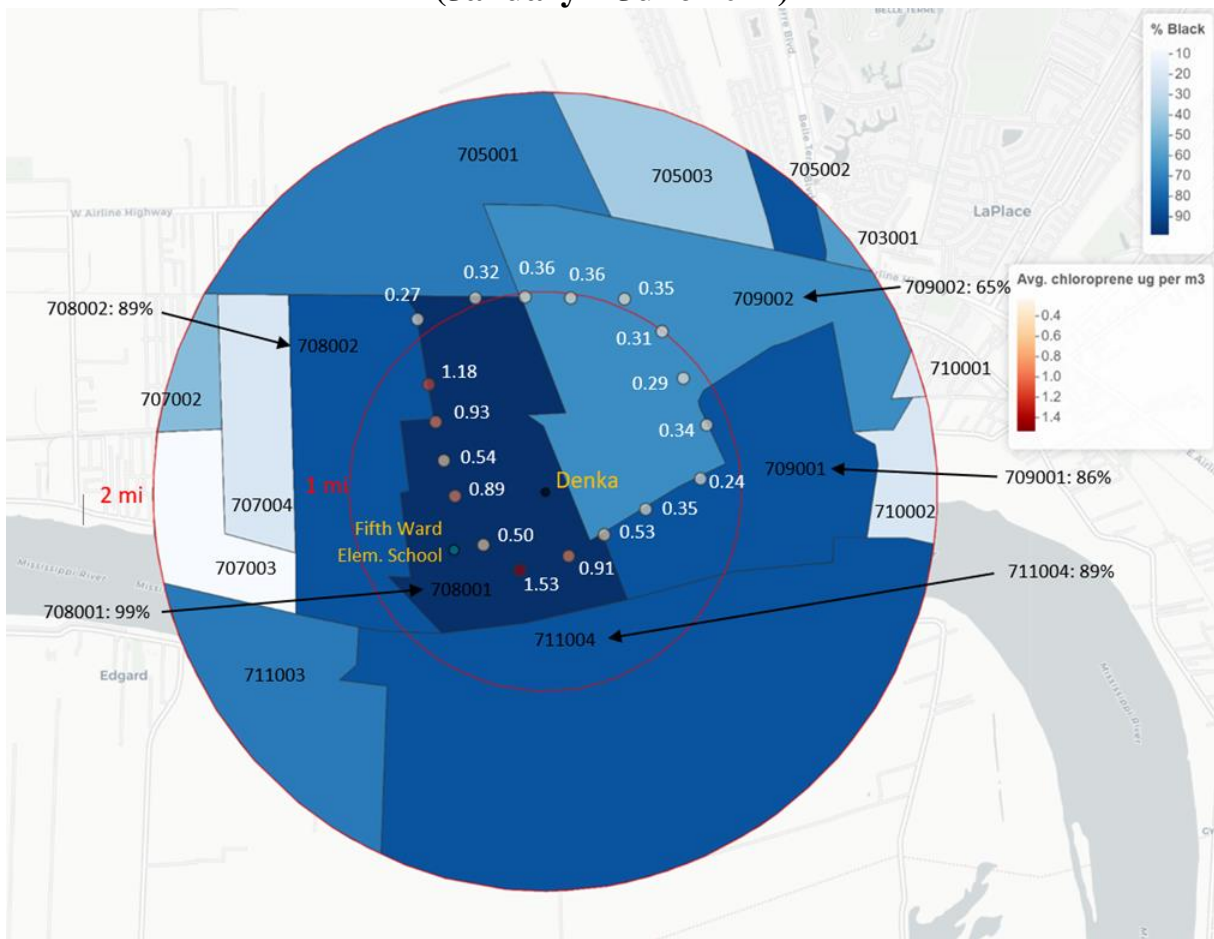
As a result, adolescents and adults who grew up near the facility and breathe chloroprene at levels measured at monitors near Denka reach an exposure associated with a 100-in-1 million risk excess cancer risk faster than an adult without childhood exposure to chloroprene.⁹⁶

⁹⁵ U.S. Census Bureau, 2015 – 2019 American Community Survey, <https://www.census.gov/newsroom/press-kits/2020/acs-5-year.html>.
⁹⁶ See, *supra* footnote 7.

(3) Current Information Regarding Residents Near Denka as Compared to the State

In Figure 3 below, the monitoring data of chloroprene concentrations are overlaid with census block groups neighboring Denka. Each point represents one of the 18 monitors that EPA required Denka to place in January 2022 on its fence-line. The monitoring sites are labeled and colored by the average chloroprene concentrations ($\mu\text{g}/\text{m}^3$) measured at that location between January 7 – June 9, 2022.⁹⁷ The darker shade of red indicates a higher average chloroprene concentration measured at that location. The lifetime chloroprene concentration associated with a 100-in-1 million cancer risk is $0.2 \mu\text{g}/\text{m}^3$. The concentric rings demarcate distances of 1 and 2 miles outward from the centroid⁹⁸ of the Denka facility.

Figure 3: Average Chloroprene Concentration at Denka Fence-line Monitors (January – June 2022)



⁹⁷ U.S. EPA, Fence-line monitoring data from January – 2022, <https://www.epa.gov/la/denka-air-monitoring-data-summaries> (last visited Oct. 4, 2022).

⁹⁸ The centroid coordinate is 30.056, -90.524.

c) *Disparity*

In analyzing disparity under Title VI, EPA looks at whether a disproportionate share of the adversity/harm discussed above is borne by individuals based on their race, color, or national origin. Disparity is a fact-specific inquiry that involves identifying an appropriate measure.⁹⁹ A typical disparity measure involves a comparison between the proportion of persons in the protected class who are adversely affected by the challenged practice and the proportion of persons not in the protected class who are adversely affected.¹⁰⁰ A disparity is established if the challenged practice adversely affects a significantly higher proportion of protected class members than non-protected class members.¹⁰¹

In this case, it appears the Black residents and children attending school nearest the Denka facility have been and continue to be impacted by the adversities or harms previously discussed, especially related to increased cancer risk, at comparatively higher rates than other racial groups impacted by LDEQ's methods of administering its air pollution control program. That is, the policies, practices, actions or failures to act related to the Denka facility, as previously discussed, appear to have a disparate impact on the basis of race.

Generally speaking, the statistical disparity must be “sufficiently substantial to raise an inference of causation.”¹⁰² In determining what is considered statistically significant or substantial, courts appear generally to have judged the ‘significance’ or ‘substantiality’ of numerical disparities on a case-by-case basis and based on all of the surrounding facts and circumstances.¹⁰³

Here, the cancer risk from exposure to chloroprene emissions due to LDEQs actions and decisions clearly fall “substantially disproportionately” on the Black residents who live near the Denka facility, as compared to non-Black residents. When we examine the most adversely affected population, that is, the population living within one mile of Denka—where the risk of cancer from chloroprene exposure is and has been greatest, 93% of that population identifies as Black as compared to 7% identifying as non-Black.¹⁰⁴

In addition, when we examine the affected and increasingly vulnerable population of children who attend the Fifth Ward Elementary School, 75% of the students identify as Black as compared to 25% who do not identify as Black.¹⁰⁵ Examining the disparity in a different light and based on a different “comparator,” 93% of residents living within one mile of Denka identify

⁹⁹ See, e.g., *S. Camden Citizens in Action v. New Jersey Dept. of Env'tl. Protec.*, 145 F. Supp. 2d 446, 493 (D.N.J. 2001), *opinion modified and supplemented*, 145 F. Supp. 2d 505 (D.N.J. 2001), *rev'd*, 274 F.3d 771 (3d Cir. 2001) (disparity analysis); see also DOJ Title VI Legal Manual at <https://www.justice.gov/crt/fcs/T6Manual7#G>.

¹⁰⁰ *Tsombanidis v. W. Haven Fire Dep't*, 352 F.3d 565, 576–77 (2d Cir. 2003).

¹⁰¹ *Id.*

¹⁰² *Smith v. Xerox Corp.*, 196 F.3d 358, 364 (2d Cir. 1999), citing *Watson v. Fort Worth Bank & Trust*, 487 U.S. 977, 994–995 (1988), *NAACP v. Town of East Haven*, 70 F.3d 219, 225 (2d Cir. 1995).

¹⁰³ *Teamsters v. United States*, 431 U.S. 324, 340, 97 S.Ct. 1843, 1856–1857, 52 L.Ed.2d 396 (1977); *Watson v. Fort Worth Bank and Trust*, 487 U.S. 977, 995 n.3 (1988); see also *Waisome v. Port Auth. of N.Y. & N.J.*, 948 F.2d 1370, 1376 (2d Cir. 1991).

¹⁰⁴ EJSCREEN ACS Summary Report dated August 30, 2022, indicates the population within 1 mile of location Denka self-reported to TRI.

¹⁰⁵ See *supra* footnote 50.

as Black while 58.5% of the residents of St. John the Baptist Parish identify as Black and only 33.5% of the State's population identifies as Black.

As stated earlier, the 2018 AirToxScreen estimated lifetime cancer risks from exposure to air toxics in St. John the Baptist were 120-in-1-million and was even higher in previous years. There are several additional methods of analyzing disparity, including the Threshold Risk Ratio, the Demographic Ratio, and the Relative Risk Ratio which also appear to conclude that the adverse impacts associated with LDEQs policies, practices, decisions, actions or inactions, have been and continue to be borne disproportionately on the basis of race.

EPA used the five-year ACS for 2016-2020 data when conducting the Threshold Risk Ratio and Demographic Ratio comparisons. During this time period, there were: 43,055 people in St. John the Baptist, 25,175 of whom identified as Black (58.5%) and 17,880 who identified as a race other than Black (41.5%).

(a) Threshold Risk Ratio

The Threshold Risk Ratio is defined in two ways. First, EPA examines the ratio of (1) the probability of a Black resident in Louisiana to be affected (*e.g.*, live in St. John the Baptist) to (2) the probability of a non-Black resident in Louisiana to be affected. Residents who are facing elevated estimated lifetime cancer risks are on average 3.03 times more likely to identify as Black than identify as other than Black. The Threshold Risk Ratio is statistically significantly greater than 1.0, meaning that the higher likelihood of Black residents to be exposed to average cancer risks from air toxics exceeding the 120-in-1-million risk level in 2018 as compared to the likelihood of non-Black residents is likely not by random chance.¹⁰⁶

The Threshold Risk Ratio is also defined as the ratio of (1) the probability of a Black resident in Louisiana to be affected (*e.g.*, live within 1 mile of the Denka facility centroid) to (2) the probability of a non-Black resident in Louisiana to be affected. Residents who are facing elevated estimated lifetime cancer risks are on average 80 times more likely to identify as Black than identify as other than Black.¹⁰⁷

(b) Relative Risk Ratios¹⁰⁸

To capture the extent to which residents of St. John the Baptist Parish face disparate cancer risks and live in tracts with higher cancer risks from air toxics, EPA also calculated Relative Risk

¹⁰⁶ The Threshold Risk Ratio and Demographic Ratios are statistically significantly greater than 1, using the Fishers exact test, where the alternative hypothesis is that the odds ratio > 1. The p-value is <10e-50, which is less than alpha = 0.01.

¹⁰⁷ Population estimates within 1 mile of the Denka facility are taken from EJSCREEN which is based on 2015-2019 American Community Survey 5-year summary population estimates. Therefore, in generating the Threshold Risk Ratio and Demographic Ratio, we use the same 2015-2019 American Community Survey population data for the rest of the state.

¹⁰⁸ Relative risk measures are calculated as the ratio of population-weighted cancer risk across census tracts for Black residents within a specific Parish relative to a comparison group using information on cancer risk from the National Air Toxics Assessment (NATA; 2014), AirToxScreen (2017-2018) and population totals from the American Community Survey, 5-year estimates, 2015-2019. We could not use the most recent American Community Survey, 5-year estimate data (2016-2020) due to changes in tract definitions.

Ratios. A relative risk ratio measure is a common approach in epidemiology for comparing the risk of a specific outcome (typically, health related) among one group to the risk of the same outcome occurring among a second group. The risk of a specific outcome for the exposed group of interest is divided by the risk of the same outcome for the comparison, unexposed group. A relative risk of one means there is no difference between two groups in terms of their risk of a specific outcome (*e.g.*, cancer) due to exposure. A relative risk greater than one means that exposure to a certain substance or factor increases the risk of a specific outcome. A value less than one indicates a lower risk of that outcome. EPA used relative risk ratios as one method to assess potential disparities in risk of different populations defined by race.

(i) Cancer Relative Risk Ratio

When differences in census tract level estimated cancer risks from air toxics in the St. John the Baptist Parish, taken from NATA/AirToxScreen, are combined with ACS 2015-2019 tract-level data on where residents reside (*i.e.*, a relative risk measure), EPA found that population-weighted averages of cancer risks for all populations in St. John the Baptist Parish were:

9.7 times the average for all populations living elsewhere in Louisiana in 2014.

5.5 times the average for all populations living elsewhere in Louisiana in 2017.

The relative risk measure of the population-weighted averages of estimated cancer risks from air toxics for Black residents – as compared to non-Black residents, in St. John the Baptist Parish were:

1.2 times that of all other residents in the Parish in 2014.

1.3 times that of all other residents in the Parish in 2017.

1.1 times that of all other residents in the Parish In 2018.

Even within a Parish with estimated cancer risks that are many times higher than the estimated cancer risk of the rest of the State, the Black residents of St. John the Baptist have estimated cancer risks that are higher than all other residents of the Parish over time.

When differences in cancer risks from air toxics across census tracts in the St. John the Baptist Parish are combined with data on where residents of different races reside (*i.e.* a relative risk measure), EPA found that population-weighted averages of cancer risks for Black populations in St. John the Baptist were 4.2 times the average for people living elsewhere in Louisiana in 2018.

(ii) Toxicity Relative Risk

EPA's RSEI model incorporates facility-reported TRI information on the amount of toxic chemicals released, together with factors such as the chemical's fate and transport through the environment, each chemical's relative toxicity, and potential human exposure. The average RSEI tract-level toxicity scores decreased somewhat from 2016 to 2017 in St. John the Baptist Parish (from 608,594 in 2016 to 517,471 in 2017).

In 2016, when differences in RSEI toxicity scores across census tracts in the St. John the Baptist Parish are combined with data on where residents of different races reside (*i.e.*, a relative risk measure), EPA found that population-weighted averages of RSEI scores for all people residing in

St. John the Baptist are 71 times those for people residing elsewhere in Louisiana. For Black residents of the Parish, population-weighted averages of RSEI scores in 2016 were even higher at 80 times the score for people residing elsewhere in Louisiana.

RSEI toxicity scores have declined over time; however, disparities continue to exist. When differences in RSEI toxicity scores across census tracts in the St. John the Baptist Parish are combined with data on where residents of different races reside (*i.e.*, a relative risk measure), EPA found that average RSEI scores in 2020 for all people residing in St. John the Baptist are 36 times those for people residing elsewhere in the State, while for Black residents of St. John the Baptist Parish, the RSEI toxicity scores are 41 times those for people residing elsewhere in the State.

The population weighted averages of RSEI tract-level toxicity scores decreased from 2016 to 2020 in St. John the Baptist Parish. However, the gap in toxicity scores between Black residents and non-Black residents persists through 2020 in the Parish. When differences in RSEI scores across census tracts in the St. John the Baptist Parish are combined with data on where residents of different races reside (*i.e.* a relative risk measure), EPA found that Black residents lived in areas with population-weighted average RSEI toxicity scores that were 1.3 times (2016), 1.4 times (2017), and 1.3 times (2020) those of areas where non-Black residents in the Parish lived.

(c) Demographic Ratio

In addition to the Threshold Risk Ratio and the Relative Risk Ratios, EPA considered the Demographic Ratio, which while not providing a direct comparison between Black residents and non-Black residents does provide additional insight and may allow one to infer that a particular burden is felt more heavily by one segment of the general population. The Demographic Ratio is defined in two ways. First, EPA examines the ratio of (1) the probability of an affected Louisiana resident (*e.g.*, living in St. John the Baptist Parish) to be Black to (2) the probability of a non-affected Louisiana resident to be Black. The proportion of Black residents in the Parish was 1.84 times the proportion of Louisiana's Black residents living outside the Parish. The Demographic Ratio is statistically significantly greater than 1.0, meaning that the proportion of Black residents living inside St. John the Baptist Parish being higher than the proportion of Black residents living outside the Parish is not due to random chance.¹⁰⁹

The Demographic Ratio is also defined as the ratio of (1) the probability of an affected Louisiana resident (*e.g.*, living within 1 mile of the Denka facility centroid) to be Black to (2) the probability of a non-affected Louisiana resident to be Black. The proportion of Black residents within 1 mile of Denka was 6.63 times the proportion of Louisiana's Black residents living outside of 1 mile of the facility. The Demographic Ratio is statistically significantly greater than 1.0, meaning that the proportion of Black residents living inside St. John the Baptist Parish being higher than the proportion of Black residents living outside the Parish is not due to random chance.

¹⁰⁹ The Threshold Risk Ratio and Demographic Ratios are statistically significantly greater than 1, using the Fishers exact test, where the alternative hypothesis is that the odds ratio > 1. The p-value is <10e-50, which is less than alpha = 0.01.

d) Causation

As discussed above, it appears that, for years, LDEQ did not take appropriate action on Denka's permit renewal, failed to appropriately recognize the application of the federal nondiscrimination requirements to its Title V air program, failed to provide accurate and complete information to residents most affected by Denka's chloroprene emissions and relied on inaccurate and incomplete information regarding the cancer risk to the most affected residents. Based on EPA's initial fact finding, there appears to be a causal link between LDEQ's actions and inactions in administering its air permitting program and the adverse and disproportionate distribution of the cancer and toxicity risks from chloroprene exposure, by race. EPA has significant concern that LDEQ's methods of administering its air pollution control program may have subjected and continues to subject the predominantly Black residents and school children of St. John the Baptist Parish who live and attend school near Denka, to disparate impacts on the basis of race.

B. EPA COMPLAINT NO. 02R-22-R6 (LDH - DENKA FACILITY COMPLAINT)

On January 20, 2022, EPA received a complaint filed on behalf of Concerned Citizens of St. John (CCSJ) and Sierra Club alleging that LDH discriminates on the basis of race in violation of Title VI. The complaint alleges that LDH failed in its duty to provide the predominantly Black residents of St. John the Baptist Parish with necessary information regarding the health threats posed by air pollutants emitted from the facility owned by Denka and other nearby sources.¹¹⁰

The complaint also alleges that LDH failed to make necessary recommendations to "relevant government agencies" and affected communities regarding measures to reduce and prevent exposure to hazardous air pollutant emissions from these sources. Complainants were particularly concerned about LDH's failure to make recommendations to the St. John the Baptist Parish School Board (School Board) to relocate the Fifth Ward Elementary School, because the chloroprene-emitting Denka facility is located only three blocks away from the school.¹¹¹ On April 6, 2022, EPA opened an investigation into:

Whether LDH subjects Black residents of St. John the Baptist Parish, including students at the Fifth Ward Elementary School, to discrimination on the basis of race in violation of Title VI of the Civil Rights Act of 1964 and EPA's implementing regulation at 40 C.F.R. §§ 7.30 and 7.35, including by allegedly failing in its duty to provide Parish residents with necessary information about health threats, and to make necessary recommendations to all relevant government agencies and affected communities regarding measures to reduce and prevent exposure to hazardous air pollutant emissions from the Denka facility and other nearby sources of pollution.¹¹²

On May 16, 2022, LDH agreed to engage in the informal resolution process.¹¹³

¹¹⁰ EPA Administrative Complaint No. 02R-22-R6 (*LDH Denka Complaint*).

¹¹¹ *Id.*

¹¹² EPA Acceptance Letter for Administrative Complaint No. 02R-22-R6, April 6, 2022.

¹¹³ LDH Email to EPA, May 16, 2022.

1. LDH's Response to EPA's Acceptance of Complaint for Investigation

Pursuant to EPA's regulation, EPA provided LDH an opportunity to make a written submission responding to, rebutting, or denying the allegations raised in the Complaint. 40 C.F.R. § 7.120(d) (1)(iii). On June 6, 2022, LDH responded to EPA's acceptance of the complaint for investigation. On September 7, 2022, LDH provided a supplemental response. LDH's responses failed to provide a reason for EPA to dismiss the Complaint or for EPA to halt its fact finding. The information and arguments provided by LDH did not serve to diminish EPA's level of concern. In general, LDH's initial response denied the allegations in the Complaint, stating, "all of the complained of actions/inactions taken or omitted by LDH were based upon the reasonable conclusions" and "upon the best evidence and science available."¹¹⁴

2. Initial Disparate Impact Analysis

The following summarizes EPA's initial disparate impact analysis.

a) *Neutral Policy or Practice*

EPA's regulation prohibits LDH from administering its public health program in a way that has the effect of subjecting the residents of St. John the Baptist living near the Denka facility to discrimination on the basis of race.¹¹⁵ To determine compliance with the regulation, EPA must first identify what "facially neutral policies or practices," or actions, may have produced "a negative effect—looking at who is impacted and where the impact occurs—in order to identify the legally relevant policies or practices."¹¹⁶ A neutral practice need not be undertaken affirmatively, but in some instances could be the failure to act or to adopt an important policy.¹¹⁷

To determine whether LDH's neutral policies, practices, actions or inactions taken within the context of LDH's methods of administering its public health program may be causing or contributing to negative effects on residents and school children on the basis of race, EPA reviewed four studies conducted by LDH since 2017 related to chloroprene and health effects. LDH conducted these studies on chloroprene emissions from the Denka facility in St. John the Baptist Parish pursuant to LDH's implementing regulation and as part of its Multipurpose Grant project.

These studies are:

- *The Report of the Expert Panel on Chloroprene Exposure in the Air in St. John the Baptist Parish*, September 6, 2017 (September 2017 Report).
- *A Reference Document for the Preliminary Assessment of Chloroprene Levels in St. John the Baptist Parish*, June 14, 2018 (June 2018 Report).

¹¹⁴ LDH Response to Administrative Complaint No. 02R-22-R6, June 6, 2022, p.1.

¹¹⁵ 40 C.F.R. Part 7 §§ 7.30 and 7.35

¹¹⁶ See U.S. DOJ *Title VI Legal Manual* (Identifying the facially neutral policy or practice, agency practice tip) <https://www.justice.gov/crt/fcs/T6Manual7#E>.

¹¹⁷ See *EPA Title VI Toolkit*, at https://www.epa.gov/sites/default/files/2017-01/documents/toolkit-chapter1-transmittal_letter-faqs.pdf.

- *Cancer Reporting in St. John Parish (CRISP), Cancer Surveillance Project, Final Report 2021, March 1, 2021* (CRISP 2021 Report).
- *St. John the Baptist Parish Chloroprene Monitoring Demonstration Subproject of “Cancer Reporting in St. John Parish (CRISP)” Project, April 11, 2022* (CRISP 2022 Report).

b) Adversity/Harm

In determining whether LDH’s practices resulted in adversity or harm, EPA examined the following issues: (1) whether LDH examined all available data; (2) whether the data LDH relied on were accurate; (3) whether LDH employed the appropriate analysis to determine the cancer risk from exposure to chloroprene; and (4) whether LDH effectively communicated cancer risk information to residents, the School Board, and LDEQ to facilitate their ability to make well-informed decisions to avoid or reduce the nearby community’s exposure to chloroprene.

(1) September 2017 Report

In 2017, Dr. LuAnne White of Tulane School of Public Health was contracted by LDH to convene the expert scientific panel on chloroprene.¹¹⁸ The purpose of the panel was to produce a report that would “provide advice on the immediate public significance of the current levels of chloroprene in air in the community that surrounds the plant.”¹¹⁹ In particular, LDH sought advice from the panel on how results from the monitoring of chloroprene emissions in the LaPlace, Louisiana area could inform actions LDH could take to protect the public health of local residents. The expert panel also explored the role of medical monitoring and what public health messages LDH should provide to the community, health care providers, and public health officials.

The September 2017 Report was unclear in its conclusions about the chloroprene exposure in St. John the Baptist Parish. The September 2017 Report claimed that chloroprene exposure during the sampling period (*i.e.*, May 2016 to August 2017) was “intermittent” and in amounts that varied across the six air sampling sites. However, the report did not define “intermittent” and provided little to no support for these conclusions. From the inception of monitoring into September 2017, chloroprene was detected in about 75 percent of the samples at these sites, which EPA would not characterize as intermittent. These and other omissions raise questions about the reliability of the panel’s results.¹²⁰

Moreover, the September 2017 Report failed to provide straightforward conclusions about what measures residents and state agencies can take to avoid or reduce exposure, sidestepping direct recommendations by stating that no immediate action was necessary because the chloroprene exposure in St. John Parish did not constitute a “public health emergency,” with no explanation of what that term means.¹²¹

¹¹⁸ LDH Response to EPA’s Acceptance of Administrative Complaint No. 02R-22-R6, June 6, 2006, p. 6.

¹¹⁹ LDH Report of the Expert Panel on Chloroprene Exposure in Air in St. John the Baptist Parish, September 6, 2017, p. 3.

¹²⁰ *Id.*

¹²¹ *Id.*

EPA’s review has identified additional significant questions and concerns about the September 2017 Report. For example, the Report:

- Failed to identify the data the panelists relied upon to determine its conclusions;
- Failed to identify the author of the report and their credentials;
- Failed to define key terms, such as, what constitutes a “public health emergency” or “intermittent;”
- Failed to include relevant experts on its panel, for example, an environmental epidemiologist of cancer outcomes or an EPA expert involved in publishing an extensive review of chloroprene toxicity (*e.g.*, U.S. EPA, IRIS Chemical Assessment).
- Relied on inaccurate representations of monitoring results from the EPA 24-hour canister samples when EPA’s data analysis from the same time frame showed that the arithmetic mean concentration at Fifth Ward Elementary School was $6.22 \mu\text{g}/\text{m}^3$ (with a higher 95th percentile upper confidence limit), at least ten times higher;¹²²
- Relied on outdated data, such as the OSHA Chemical Sampling Information fact sheet, which predates the laboratory animal studies that informed the IRIS assessment;¹²³ and
- Failed to address the fact that chloroprene is a carcinogen with a mutagenic mode of action, which means, as per EPA cancer risk assessment guidance, the chemical has a much greater effect on lifetime cancer risk than late life exposure.¹²⁴

The panel’s recommendations included that LDH:

- Provide medical education about the potential health effects of chloroprene to local physicians and health care providers, as well as public health personnel; and
- Encourage community members to speak with their private physicians about how chloroprene exposure relates to their health.¹²⁵

While LDH directed community members to speak with and rely upon their health care providers, LDH failed to follow through on commitments¹²⁶ to the community to educate local medical and public health providers on the health impacts of chloroprene.¹²⁷

¹²² LDH *Report of the Expert Panel on Chloroprene Exposure in Air in St. John the Baptist Parish*, September 6, 2017, p. 7.

¹²³ *Id* at p. 6.

¹²⁴ U.S. EPA, *Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens*, (Mar. 2005), p.30.

¹²⁵ LDH *Report of the Expert Panel on Chloroprene Exposure in Air in St. John the Baptist Parish*, September 6, 2017, p. 3.

¹²⁶ LDH Response to EPA’s Acceptance of Administrative Complaint No. 02R-22-R6, *see also* LDH Supplemental Response to EPA, September 7, 2022, although LDH, in the 2017 Report, encouraged community members to discuss their concerns regarding health-related impacts of chloroprene with their personal physicians, it acknowledged that it is “not aware” of any actions taken to follow the expert panel’s recommendation to provide medical education on the health impacts of chloroprene to local physicians, other healthcare providers, and to the public personnel in the area.

¹²⁷ EPA conducted interviews with a group of community members as part of its initial fact finding in August 2022. A number of local residents told EPA they had followed LDH’s recommendations to discuss concerns about chloroprene with their primary care physicians but their doctors did not or would not address chloroprene issues and health effects with them.

(2) June 2018 Report

On June 29, 2018, LDH issued the June 2018 Report in response to an inquiry from the St. John the Baptist Parish School Board.¹²⁸ The assessment examined the potential for reducing cancer risk associated with transferring children out of the Fifth Ward Elementary School, which is the closest public school to the Denka Facility.¹²⁹

The June 2018 Report's main finding with regard to cancer risk was: "Based on data limited to the March-May 2018 sampling results, transferring children from the current Fifth Ward Elementary School location to another location within the community would 'not greatly decrease' their theoretical risks of developing excess cancers from exposure to chloroprene."¹³⁰ EPA has concerns regarding the information presented and how the public was informed of the findings. For example:

- LDH failed to prominently acknowledge the unacceptably high cancer risks which residents and students experience by limiting the document's focus to relative risk reductions associated with moving students from one chloroprene-impacted school to another.
- LDH failed to consider the possibility of appropriate mitigation, because LDH did not evaluate the cancer risk reduction benefits of transferring the Fifth Ward Elementary students to:
 - areas further from the Denka facility that would be expected to have considerably lower chloroprene concentrations;¹³¹ or
 - a location in Edgard, Louisiana, where a Denka monitor had been in place since 2016 and was registering chloroprene concentrations significantly lower than the EPA monitors that LDH used in its analysis to reach the conclusion that transferring children from the current Fifth Ward Elementary School location to another location would 'not greatly decrease' their risks of developing excess cancers from exposure to chloroprene.
 - LDH failed to set criteria for risk reduction; for example, LDH does not define "not greatly decrease"¹³² for purposes of deciding whether relocation is warranted.
 - LDH failed to acknowledge the significant limitations associated with using data of limited duration (*i.e.*, March 2018 through May 2018) to accurately assess whether relocation could result in cancer risk reduction.
 - LDH failed to include appropriate data and relied on inaccurate data in its analysis of the risk reduction benefits of relocation; for example, data related to correlations between chloroprene exposure and cancers other than lung and liver cancer, and omission of human epidemiological literature from its analysis.¹³³

¹²⁸ LDH, *Health Department Provides Health Risk Data to St. John Officials*, June 29, 2018, available at <https://ldh.la.gov/news/4668>.

¹²⁹ LDH/SEET, *A Reference Document for the Preliminary Assessment of Chloroprene Levels in St. John the Baptist Parish: Evaluation of Potential Health Risks for Elementary School Students based on Early Sampling Results following Emissions Reductions*, p. 11, which "For purposes of this assessment, the other location is identified as East St. John Elementary School."

¹³⁰ *Id.* at p. 15.

¹³¹ *Id.* at p. 11.

¹³² LDH/SEET, *A Reference Document for the Preliminary Assessment of Chloroprene Levels in St. John the Baptist Parish: Evaluation of Potential Health Risks for Elementary School Students based on Early Sampling Results following Emissions Reductions*, June 14, 2018, p. 15.

¹³³ *Id.* at p. 10.

- LDH failed to make recommendations to reduce emissions, exposure, or risk when its June 2018 Report found elevated cancer risks in the community.

The unsupported conclusions and failure to consider relevant data, some of which are contradictory to LDH’s conclusions, potentially misinformed the School Board’s analysis of the benefits of relocating the school children. In light of this, LDH’s recommendation that no action was needed potentially may have caused additional hazardous air pollutant exposure for the students of Fifth Ward Elementary School.

(3) CRISP 2021 Report and CRISP 2022 Report

LDH contracted with the Louisiana State University School of Public Health (LSU) to conduct the CRISP 2021 Report¹³⁴ and CRISP 2022 Report.¹³⁵ The Reports assessed the health risks associated with chloroprene exposure in the community near Denka. The Reports were funded by an EPA Multipurpose Grant that LDH and LDEQ procured to respond to continuing community concerns about health effects of living in close proximity to Denka.

The CRISP 2021 Report addressed community concerns about whether LTR was completely and accurately reporting those rates.¹³⁶ The main objective was to verify the completeness of cancer reporting in St. John the Baptist Parish. The principal findings of the CRISP 2021 Report were that no reportable cancers were identified that were not a part of LTR data.¹³⁷

LDH’s CRISP 2022 Report¹³⁸ presented air monitoring results from nine locations around the Denka facility, including residences, school sites, a courthouse, and a park.¹³⁹ The 2022 Report also provided an analysis of urine testing for chloroprene metabolites and cancer risks.

The CRISP 2022 Report concluded there was a “likelihood of chronic exposure to low doses of chloroprene at levels [from the Denka facility] which may have potential health impacts on vulnerable populations.”¹⁴⁰ The Report also stated that “Fifth Ward Elementary School students may potentially face unacceptably high cancer risks based only on the years of school attendance.”¹⁴¹ Finally, the CRISP 2022 Report found detectable levels of chloroprene even during periods of reported Denka facility shutdowns.

The CRISP 2022 Report made several recommendations to LDH, including:

¹³⁴ LDH, *Cancer Reporting in St. John Parish (CRISP), Cancer Surveillance Project, Final Report 2021*, March 1, 2021, available at https://louisianacancer.org/wp-content/uploads/2022/04/LSU_Chloroprene-Monitoring-Report_2022_FINAL-3.pdf.

¹³⁵ *Id.*

¹³⁶ *Id.* at p. 3.

¹³⁷ *Id.* at pp. 12-13.

¹³⁸ LDH, *St. John the Baptist Parish Chloroprene Monitoring Demonstration Subproject of “Cancer Reporting in St. John Parish (CRISP)” Project*, April 11, 2022, available at https://louisianacancer.org/wp-content/uploads/2022/04/LSU_Chloroprene-Monitoring-Report_2022_FINAL-3.pdf.

¹³⁹ *Id.* at pp 4, 6.

¹⁴⁰ *Id.* at pp 8-9, *see also* p. 14, while the Report does not define “vulnerable populations,” it does refer to “vulnerable individuals” as “5th Ward Elementary School Students” and “vulnerable groups” as “school authorities, daycare operators, etc.”

¹⁴¹ *Id.* at p. 10-11.

- Engage in monitoring, mitigation and exposure prevention, including conducting health assessments and tracking health outcomes;
- Implement a school-based health surveillance system;¹⁴²
- Use air monitoring and biomonitoring to quantify resident and child exposures to chloroprene; and
- Work with LDEQ to establish a relationship with the community and to adopt precautionary practices and policies preventing the future siting of industries next to residential and community spaces.¹⁴³

The recommendations from the CRISP 2022 Report provided LDH and LDEQ with practical steps to potentially reduce and prevent chloroprene exposure in the St. John the Baptist Parish community. EPA is concerned that LDH has not provided evidence that it has taken any action to implement the CRISP 2022 Report’s recommendations or to communicate findings to the community following the issuance of the study in April 2022.

(4) Community Engagement

LDH is responsible for providing accurate, relevant, and timely information about health risks associated with exposure to hazardous air pollutant emissions.¹⁴⁴ In fulfilling its mission, LDH is required to clearly communicate such information to exposed populations and government agencies, such as the School Board and LDEQ, which are empowered to make decisions significantly impacting the health and safety of Louisiana’s communities. EPA is concerned that LDH has not taken and is not taking appropriate¹⁴⁵ actions to engage with the impacted community, School Board, and other local and State agencies during its planning for and conduct of the health impact studies.

EPA is especially concerned with the following deficiencies in LDH’s public engagement on the health risks associated with chloroprene exposure:

- LDH failed to timely communicate the reports’ findings on chloroprene to the impacted community and had minimal community-wide engagement after it released the

¹⁴² *Id.* at p 14.

¹⁴³ *Id.*

¹⁴⁴ La. Rev. Stat. Ann. §36:251(B), stating that LDH is responsible for the “development and providing of health and medical services for the prevention of disease for the citizens of Louisiana;” *see also* La. Rev. Stat. Ann §36.258(B), stating that LDH is also tasked with “perform[ing] those functions of the state provided by law relating to environmental quality. . . pollution control [and] public health. . . which are specifically assigned to [LDH];” LDH website, available at <https://ldh.la.gov/page/1>, which states that LDH’s public mission is “to protect and promote health and to ensure access to medical, preventive, and rehabilitative services for all citizens of the State of Louisiana”; and U.S. EPA, *EPA awards Louisiana over \$311,000 to assess air pollutants in St. John Parish* available at <https://www.epa.gov/newsreleases/epa-awards-louisiana-over-311000-assess-air-pollutants-st-john-parish>, where LDH also represented its commitment to this mission with its acceptance of an EPA Multipurpose Grant in the amount of \$86,081.

¹⁴⁵ 40 CFR § 7.35, states that [LDH] must not exclude persons from participation in or denied the benefit of its programs, activities and services, *see also* La. Rev. Stat. Ann. §36:251(B) and La. Rev. Stat. Ann §36.258(B).

September 2017 Report, June 2018 Report, CRISP 2021 Report and CRISP 2022 Report;¹⁴⁶

- LDH also failed to effectively communicate the reports' findings including developing summary fact sheets that identify and explain the key findings of each report; and convening meetings with the community to explain those findings especially the technical issues involved in a way that residents could understand; and
- LDH has not consistently published all of its reports on its website, and as a result, public access to information is limited.

c) Disparity

In evaluating disparity under Title VI, EPA examined whether a disproportionate share of the adversity/harm is borne by individuals based on their race, color, or national origin. There are several methods of analyzing disparity, as discussed above, *supra* at pages 30-33.

d) Causation

There appears to be a causal connection between LDH's practices, decisions, actions and inactions in carrying out its public health mission and the harmful continued exposure to chloroprene by the predominantly Black residents and school children of St. John the Baptist Parish who live and attend school near the Denka facility. EPA notes that among LDH's deficiencies are:

- Failure to provide accurate and reliable information central to decision making;
- Failure to properly educate residents and health care professionals;
- Failure to implement study recommendations; and
- Failure to advise local and state entities such as the School Board and LDEQ on measures to reduce or prevent chloroprene exposure.

C. EPA COMPLAINT NO. 04R-22-R6 (LDEQ - FORMOSA COMPLAINT)

On February 2, 2022, EPA received a Title VI administrative complaint filed behalf of Stop the Wallace Grain Terminal, Inclusive Louisiana, RISE St. James, and the Louisiana Bucket Brigade alleging that LDEQ's implementation of its air pollution control program subjects Black residents of St. James Parish to discrimination on the basis of race. Specifically, the Formosa Complaint alleged Black residents are subjected to ongoing disproportionate and adverse health and environmental impacts which result in part from the lack of a procedure or policy to identify and address disproportionate impacts based on race of air permitting decisions and the failure to establish criteria and consistently follow them when conducting environmental justice analyses.

Further, the Formosa Complaint alleged that LDEQ's August 5, 2021, decision to reaffirm issuance of air permits to the Formosa facility allowing emissions of both criteria pollutants (*e.g.*,

¹⁴⁶ LDH Response to EPA's Acceptance of Administrative Complaint No. 02R-22-R6, June 6, 2022, *see also* LDH Supplemental Response to EPA, September 7, 2022, in its response, LDH states "several phone calls were held [by the project team] with representatives of [CCSJ]" including an in-person meeting on January 20, 2020, but failed to describe any community wide engagement initiatives.

PM_{2.5}, nitrogen dioxide, volatile organic compounds, carbon monoxide) and toxic and carcinogenic air pollutants such as ethylene oxide, benzene, and formaldehyde would add to the alleged existing adverse disparate impacts from air pollution. The Formosa Complaint also alleged that LDEQ fails to provide Black residents with meaningful involvement in air permitting decisions.

On April 6, 2022, EPA opened an investigation into:

Whether LDEQ uses criteria or methods of administering its air pollution control program that have the intent and/or effect of subjecting persons to discrimination on the basis of race in violation of Title VI of the Civil Rights Act of 1964 and EPA's implementing regulation at 40 C.F.R. §§ 7.30 and 7.35, including, but not limited and with respect to, LDEQ's decision to reaffirm issuance of 14 new air permits for the Formosa facility, and the predominantly Black residents of St. James Parish.

On April 25, 2022, LDEQ indicated that it was interested in pursuing informal resolution for both of the Complaints. On June 20, 2022, LDEQ submitted a response to Complaint 04R-22-R6.

On September 8, 2022, the 19th Judicial District Court for the Parish of East Baton Rouge issued a decision in the matter of *Rise St. James et al. v. LDEQ (Rise)*, reversing LDEQ's decision to issue those permits, vacating the permits, and remanding the matter to LDEQ. On September 27, 2022, that decision was appealed by LDEQ and stayed. EPA has continued to investigate this matter as it relates to the Formosa permits since the lower court's decision—which EPA has reviewed carefully and taken into account for purposes of this Letter—did not finally resolve the concerns related to the issuance of the Formosa permits.

1. LDEQ's Response to EPA's Acceptance of the Complaint for Investigation Complaint Responses

Pursuant to EPA's regulation, EPA provided LDEQ an opportunity to make a written submission responding to, rebutting, or denying the allegations raised in the Complaints. 40 C.F.R. §7.120(d)(1). LDEQ submitted a response dated June 20, 2022. LDEQ's response failed to provide a reason to dismiss either Complaint or for EPA to halt its fact finding, nor has the information or arguments provided served to diminish EPA's level of concern. It is beyond the scope of this letter to respond to each of the arguments raised by LDEQ in its response, however, EPA has undertaken to address a number of LDEQ's points in an effort to ensure the Agency's positions and rationales are clear to LDEQ.

2. Initial Disparate Impact Analysis – Industrial Corridor

a) Neutral Policy or Practice

As explained previously, *supra* at pages 11-12, LDEQ regulates air toxics and operates the Title V permit program in Louisiana.¹⁴⁷ A neutral practice need not be affirmatively undertaken, but in some instances could be the failure to take action, or to adopt an important policy.¹⁴⁸

b) Adversity/Harm

Similar to the analysis with respect to Denka described in more detail above, *supra* at pages 21-29, EPA evaluated whether there are adverse impacts from LDEQ's air permitting decisions that are borne disproportionately by persons on the basis of race.

(1) Defining the Affected Population

As LDEQ explained, the Industrial Corridor is an identifiable area where Louisiana's industrial development is concentrated. In its response to the Complaint, LDEQ identified several business-related factors that make the area attractive for industry (*e.g.*, railroads, highways, access to process and cooling water, large supply of oil and natural gas, access to foreign and domestic markets).¹⁴⁹

In 2014, the estimated cancer risks from air toxics for all residents in the Industrial Corridor was at or above the 100-in-1 million estimated lifetime cancer risk benchmark. In 2018, it was above the 1-in-1 million estimated cancer risk benchmark while also being more than twice the median cancer risk of Louisiana residents living elsewhere.

EPA also used RSEI, *supra* at pages 23-24. Creating trends using RSEI Scores¹⁵⁰ illustrates the change in potential risk for that grouping over time. The RSEI toxicity score for the Industrial Corridor was 104,978 in 2016 and 63,330 in 2020, demonstrating a downward trend. However, EPA found that residents of the Industrial Corridor had population-weighted averages of RSEI toxicity scores that were 12 times those of residents living elsewhere in the state in 2016 and they were still 11 times those of residents living elsewhere in the state in 2020.

Therefore, for purposes of this analysis, EPA treats those living within the Industrial Corridor as the affected group – both Black and non-Black, and analyzes whether adversities fall disparately on one of those populations. In addition, for both Parish-specific and Industrial Corridor-wide measures of potential disparities, EPA also compared Black residents living in the Parish and the Corridor adversely affected by LDEQ policies or practices, actions or inactions with individuals living in Louisiana but outside of the Industrial Corridor.

¹⁴⁷ Effective October 12, 1995, EPA approved Louisiana's Title V operating permit program. *See* 40 C.F.R. Part 70, Appendix A; 60 Fed. Reg. 47,296 (Sept. 12, 1995). LDEQ's approved Operating Permit Program is located at LAC Title 33: Part III. Chapter 5 ("Permit Procedures").

¹⁴⁸ *See EPA Title VI Toolkit*, <https://www.epa.gov/sites/default/files/2017-01/documents/toolkit-chapter1-transmittal-letter-faqs.pdf>.

¹⁴⁹ LDEQ Formosa Response, p. 11.

¹⁵⁰ RSEI Score is a unitless value that accounts for the size of the chemical release, the fate and transport of the chemical through the environment, the size and location of the exposed population, and the chemical's toxicity. The chemical releases data come from the Toxics Releases Inventory.

c) Disparity

Here again, the cancer risk from exposure to HAP emissions which appear to be due to LDEQ's policies or practices, actions or inactions, clearly fall "substantially disproportionately" on Black residents. As with the residents in St. John the Baptist who live nearest to the source of harmful pollution (Denka), so too the proposed Formosa site is in the census tract with the highest percentage of Black residents in all of St. James Parish.

As previously stated, *supra* at pages 30-32, in the context of a Title VI disparate impact analysis, a typical disparity measure involves a comparison between the proportion of persons in the protected class who are adversely affected by the challenged practice and the proportion of persons not in the protected class who are adversely affected.¹⁵¹ Based on the data examined to date in the Industrial Corridor – those who are exposed to more HAPs and face greater cancer risk as a result of LDEQ's permitting decisions are disproportionately Black as compared to the population of non-Blacks impacted by LDEQ's policies or practices, actions or inactions, whether in the Corridor or anywhere else in the State.

Using other methodologies previously discussed, *supra* at pages 31-33, we see that, although overall, the residents of the Industrial Corridor are predominantly non-Black (58%)¹⁵², the highest cancer risk falls disproportionately on the Black residents of the Industrial Corridor who make up only 42.5% of the population. For example, when conducting the Threshold Risk Ratio and Demographic Risk Ratio comparisons¹⁵³ using the five-year ACS for 2016-2020 we continue to see adverse disproportionate impacts on Black residents in the Industrial Corridor.

Disparities for the Threshold Risk Ratio and the Demographic Ratio greater than 1 are statistically significant.¹⁵⁴ The Threshold Risk Ratio indicates that Black Louisiana residents – although comprising only 33.5% of the state population,¹⁵⁵ were on average 1.59 times more likely to reside in the Industrial Corridor than non-Black residents during 2016-2020. The Demographic Ratio indicates for residents of the Industrial Corridor, the proportion of Black residents was 1.34 times the proportion of Black residents living elsewhere in Louisiana during this period. This means a resident in the Industrial Corridor is 1.34 times more likely to identify as Black than elsewhere in Louisiana. As Black residents within the Industrial Corridor comprise

¹⁵¹ *Tsombanidis v. W. Haven Fire Dep't*, 352 F.3d 565, 576–77 (2d Cir. 2003).

¹⁵² There are 744,293 people living in the Industrial Corridor, 316,084 of whom identified as Black (42.5%) and 428,209 who identified as a race other than Black (58%). Note that of the 3,920,323 people living outside of the Industrial Corridor, 1,244,598 identified as Black (31.7%) and 2,675,725 identified as a race other than Black (68%).

¹⁵³ These are comparable to ratio calculations used to evaluate disparate impact under employment discrimination laws, such as Title VII. Such ratios are often used to evaluate the proportion of persons of a particular race or ethnicity in a selection category relative to a comparison population. The Threshold Risk Ratio corresponds to a "hypergeometric" analysis, while the Demographic Ratio corresponds to a "binomial" analysis (also known as a "pools analysis") (Biddle, 1995).

¹⁵⁴ The Threshold Risk Ratio and Demographic Ratios are statistically significantly greater than 1, which is the value if there were not disparity between the affected and unaffected group. The statistical test conducted was the Fishers exact test, where the alternative hypothesis is that the odds ratio is greater than 1. The p-value is <10e-50, which is less than the statistical significance threshold used (alpha = 0.01).

¹⁵⁵ There are 4,664,616 people in Louisiana, 1,560,682 of whom identified as Black (33.5%) and 3,103,934 who identified as a race other than Black (66.5%).

a disproportionate portion of its population when compared to areas outside of the Industrial Corridor, this fact is critically important to the disparity analysis as related to adversity or harm, because, from the 2014 NATA through until the most recent 2018 AirToxScreen data, the average estimated lifetime cancer risk from air toxics for residents of the Industrial Corridor was more than twice the median cancer risk from air toxics faced by residents living in other parts of Louisiana.

To capture the extent to which residents of the Industrial Corridor face disparate cancer risks and live in tracts with higher RSEI scores, EPA also calculated Relative Risk Ratios using estimated cancer risks from air toxics from NATA/AirToxScreen and RSEI scores by census tract. The Relative Risk Ratios compare the average cancer risks or RSEI scores of Black residents in the Industrial Corridor, adjusted for the proportion of the population they represent, to the average cancer risks or RSEI scores of a comparison population. The comparison populations used are: (a) non-Black residents in the Industrial Corridor, adjusted for the proportion of the population they represent; and (B) all others living outside the Industrial Corridor.

Relative Risk Ratios examine differences in cancer risks for Black residents compared to other residents within the Industrial Corridor indicate that Black residents had population-weighted averages of cancer risks from air toxics 1.1 times those of non-Black residents within the Industrial Corridor in 2014. As of 2018, Black residents of the Industrial Corridor faced similar population-weighted averages of cancer risks from air toxics as non-Black residents of the Industrial Corridor.¹⁵⁶

Further, RSEI toxicity scores also reveal disparities in risks from facilities reporting chemical releases to the Toxic Releases Inventory. When differences in RSEI toxicity scores across census tracts in the Industrial Corridor are combined with data on where residents of different races reside, EPA found residents of the Industrial Corridor have population-weighted averages of RSEI toxicity scores that were 12 times that for residents living elsewhere in the state in 2016. In 2020, they were still 11 times that of residents living elsewhere in the state. Within the Industrial Corridor, Black residents had population-weighted averages of RSEI toxicity scores that were 1.3 times those of non-Black residents in the Industrial Corridor in 2016. In 2020, they were 1.1 times those of non-Black residents in the Industrial Corridor.

As shown below, when reviewing estimated cancer risks from air toxics in the Industrial Corridor it is apparent that while all residents of the Industrial Corridor faced increased risks, the burden seems to fall disproportionately on Black residents of the Industrial Corridor.

The estimated cancer risk from air toxics in the Industrial Corridor, which is the average of cancer risks of all census tracts that make up the Corridor, was:

- 100-in-1 million in 2014,
- 70-in-1 million in 2017, and

¹⁵⁶ Relative risk measures are calculated as the ratio of population-weighted cancer risks across census tracts for Black residents within the Industrial relative to a comparison group using information on cancer risk from the National Air Toxics Assessment (NATA; 2014), AirToxScreen (2017-2018) and population totals from the American Community Survey, 5-year estimates, 2015-2019. EPA could not use the most recent American Community Survey, 5-year estimate data (2016-2020) due to changes in tract definitions.

- 70-in-1 million in 2018.

The average estimated cancer risks from air toxics were at or above 100 in 1 million for all census tracts that make up the following Parishes:

- 2014:
 - St John the Baptist was 400-in-1 million (four times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime) and 58% of the population identified as Black;
 - Iberville Parish was 110-in-1 million and 49% of the population identified as Black; and
 - St Charles Parish was 140-in-1 million and 27% of the population identified as Black.
- 2017:
 - Iberville Parish was 100-in-1 million; and
 - St John the Baptist was 200-in-1 million (twice the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime).
- 2018:
 - St. John the Baptist Parish was 120-in-1 million.

In 2014 NATA, 31 of the 1,128 Louisiana census tracts¹⁵⁷ have estimated cancer risks from air toxics at or above 100-in-1 million of which:

- 29 are in five of the seven Parishes that comprise the Industrial Corridor.¹⁵⁸
- 20 had populations that are more than the 33.5% general Black population of the State.
- 12 had populations greater than 50% Black.

While 14 Louisiana census tracts, all in Industrial Corridor Parishes, had estimated cancer risks from air toxics at or above 200-in-1 million (twice the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime) of which:

- 11 had populations that are more than the 33.5% general Black population of the State.
- 7 had populations greater than 50% Black.

In 2014, the five census tracts with the highest estimated cancer risk from air toxics in Louisiana were all within the Industrial Corridor:

- tract 708 in St. John the Baptist Parish with 1,500-in-1 million (15 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime),
- tract 601 in St. Charles Parish with 800-in-1 million (8 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime),
- tract 709 in St John the Baptist Parish with 620-in-1 million (more than 6 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime),
- tract 707 in St. John the Baptist Parish with 510-in-1 million (more than 5 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime), and

¹⁵⁷ U.S. Census Bureau, <https://www.census.gov/geographies/reference-files/2010/geo/state-local-geo-guides-2010/louisiana.html#:~:text=There%20are%201%2C148%20census%20tracts,204%2C447%20census%20blocks%20in%20Louisiana.>

¹⁵⁸ St. John the Baptist, St. James, East Baton Rouge, West Baton Rouge, Iberville, St. Charles, and Ascension Parishes.

- tract 710 in St. John the Baptist Parish with 490-in-1 million (more than 4 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime).

The 2017 AirToxScreen showed 20 of the 1,128 Louisiana census tracts with estimated cancer risks from air toxics cancer risks at or above 100-in-1 million – 18 of which are in the Industrial Corridor and:

- 13 have populations that are more than the 33.5% general Black population of the State.
- 9 have populations greater than 50% Black.

A total of 10 Louisiana census tracts had estimated cancer risks from air toxics at or above 200 in a million (twice the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime):

- 6 have populations that are more than the 33.5% general Black population of the State.
- 5 have populations greater than 50% Black.
- 9 of the 10 census tracts are in three of the seven Parishes that comprise the Industrial Corridor, St. John the Baptist, St. Charles and Iberville parishes.

In 2017, the three census tracts with the highest estimated cancer risk from air toxics in Louisiana were all in St. John the Baptist Parish:

- tract 708 with 1,000-in-1 million (10 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime),
- tract 707 with 300-in-1 million (3 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime), and
- tract 705 with 300-in-1 million (3 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime).

The 2018 AirToxScreen data showed, of the 1,128 Louisiana census tracts with estimated cancer risks from air toxics, 14 tracts, all of which are in the Industrial Corridor, had risks at or above 100-in-1 million:

- 9 have populations that are more than the 33% general Black population of the State.
- 7 have greater than 50% Black populations.
- All five census tracts are in two of the seven Parishes that comprise the Industrial Corridor, St. John the Baptist.

In 2018, the highest estimated cancer risk from air toxics in Louisiana is 400-in-1 million (4 times the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime) in tract 708 in St. John the Baptist Parish. The four remaining tracts have an estimated cancer risk of 200-in-1 million (twice the upper bound of acceptability for estimated excess cancer risk over a 70-year lifetime) -- tracts 601 and 625 in St Charles Parish and tracts 707 and 709 in St John the Baptist Parish.

As LDEQ indicated in its response to the Formosa Title VI complaint, a number of “business-related factors make the Lower Mississippi River Corridor in Louisiana an attractive area for industry.”¹⁴⁷ This statement is evident from an analysis of the 100 census tracts in Louisiana with the highest estimated cancer risks from air toxics; for 2014 all but 12 of the 100 were in the Industrial Corridor and for 2018 all but one of the 100 were in the Industrial Corridor.

Based on the 2016-2020 ACS data, the percentage of Blacks in the total population of the Industrial Corridor (42.5%) is higher than that of Blacks in the state's general population (33.5%). Also, a higher proportion of Louisiana's Black population (20.3%) lives in the Industrial Corridor as compared to the proportion of Louisiana's White population (13.6%). Moreover, as the above analysis of the census tracts within Louisiana suggests, the census tracts with the highest cancer risks from air toxics include those within the Industrial Corridor, which include census tracts with a high percentage of Black population. Therefore, EPA has reason to believe that the cancer risk from air toxics is disproportionately felt by the Black population.

d) Causation

It appears LDEQ's action and inaction in administering its air permitting program has allowed emissions from facilities in the Industrial Corridor to result in concentrations of air toxics as well as the distribution of associated cancer risks in the Industrial Corridor as described above and that Black residents of the Industrial Corridor are disproportionately impacted by LDEQ's actions and inactions.

3. Initial Disparate Impact Analysis – Proposed Formosa Facility

a) Background

On August 5, 2021, LDEQ reaffirmed the issuance of a Prevention of Significant Deterioration (PSD) construction permit and 14 Title V operating permits for the proposed Formosa facility. The proposed facility will be located in a predominantly industrial and agricultural area¹⁵⁹ on the west bank of the Mississippi River in St. James Parish near the unincorporated community of Welcome. According to Formosa, its "operational units will be 300 feet or more from the Formosa property boundary."¹⁶⁰ The communities closest to the Formosa site are Welcome and St. James.¹⁶¹ "Welcome is a small community and has a 99% minority population, 87% of whom identify as Black."¹⁶² According to Formosa, the closest residents and the nearest schools (St. James' Fifth Ward Elementary School and St. Louis Academy) are "over a mile away."¹⁶³

The property and adjoining areas have been in agricultural use for decades, primarily in sugar cane production.¹⁶⁴ LDEQ identified Mosaic Fertilizer and American Styrenics plants as located in close proximity¹⁶⁵ to Formosa with eight other industrial facilities nearby in St. James Parish.¹⁶⁶

¹⁵⁹ Formosa Prevention of Significant Deterioration Permit Application, Environmental Assessment Statement (EAS) July 19, 2018, p. 5, available at <https://edms.deq.louisiana.gov/app/doc/view?doc=11230529>.

¹⁶⁰ Formosa EAS July 19, 2018, p. 5.

¹⁶¹ *Rise St. James, et.al. v. Louisiana Department of Environmental Quality*, 19th Judicial District Court Parish Of East Baton Rouge Docket Number: 694,029, Sept. 8. 2022 (*Rise*), pp. 16-17.

¹⁶² *Rise*, p. 2.

¹⁶³ Formosa EAS July 19, 2018, pp. 7 and 39.

¹⁶⁴ Formosa EAS July 19, 2018, p. 5.

¹⁶⁵ Formosa EAS July 19, 2018, p. 5.

¹⁶⁶ Nucor Steel Louisiana, LLC; Zen-Noh Grain Corporation; Sunshine West Industrial Park; Coastal Bridge Company (Asphalt Plant); Marathon Pipe Line LLC (St. James Capline Station); NuStar Logistics, LP (St. James

Formosa will emit more than 3,800 tons per year of HAPs and Louisiana toxic air pollutants (TAPs) (e.g., ethylene oxide, acetaldehyde, benzene, 1, 3 - butadiene, ethylene glycol, formaldehyde, n-hexane, and vinyl acetate).¹⁶⁷ The chemical of most concern in the Complaint is ethylene oxide (EtO). The permitted limit for EtO from Formosa is 7.7 tons per year, which would make it, based on a preliminary analysis of TRI data, the only EtO emitter in St. James Parish.

EPA lists EtO as a known carcinogen¹⁶⁸ and LDEQ lists it as a "known and probable human carcinogen."¹⁶⁹ The court in *Rise* found that "LDEQ's regulations contain a limit on airborne concentrations for ethylene oxide of 1.0 ug/m³, but . . . this standard (or limit) has not been updated in 25 years and is 50 times less protective than the EPA limit."¹⁷⁰

EPA's knowledge about EtO has changed over time. In December 2016, EPA updated the IRIS assessment for EtO. The updated inhalation unit risk incorporates new studies and reflects EPA's updated understanding that EtO is 60 times more toxic than the previous estimate. This includes the fact that children are more sensitive to EtO than adults.¹⁷¹ This is because ethylene oxide can damage DNA, and growing children are more susceptible to DNA damage because their cells divide more rapidly than adults.¹⁷² As with chloroprene, EPA recommends the application of ADAFs as described above in accordance with the EPA's *Supplemental Guidance*¹⁷³ for exposure scenarios that include early-life exposures.¹⁷⁴ The contribution to lifetime cancer risk from a single year of exposure to ethylene oxide is greater if that year occurred during childhood.¹⁷⁵

In August 2020, EPA published revised regulations for Miscellaneous Organic Chemical Manufacturing facilities that require additional controls on certain equipment and processes that emit EtO in order to reduce risk to surrounding communities.¹⁷⁶ The proposed Formosa facility will be subject to several National Emission Standards for Organic Hazardous Air Pollutants

Terminal); Air Products and Chemicals, Inc. (Convent Facility); and Equilon Enterprises LLC. Formosa Basis For Decision (BFD), January 6, 2020, p. 15, available at <https://edms.deq.louisiana.gov/app/doc/view?doc=11998452>.

¹⁶⁷ Formosa BFD, at 4-5; Formosa EAS July 19, 2018, p. 8.

¹⁶⁸ U.S. EPA, *Evaluation of the Inhalation Carcinogenicity of Ethylene Oxide, Executive Summary* (CASRN 75-21-8) *In Support of Summary Information on the Integrated Risk Information System (IRIS)*, December 2016, p.8.

¹⁶⁹ LAC Title 33: Part III. Section 5112, Table 51.1.

¹⁷⁰ *Rise*, p. 19, *see*, LAC Title 33: Part III. Section 5112, Table 51.1.

¹⁷¹ U.S. EPA, *Frequent Questions about Ethylene Oxide (EtO)* (<https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/frequent-questions-about-ethylene-oxide-eto>).

¹⁷² *Id.*

¹⁷³ U.S. EPA, *Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens*, (Mar. 2005).

¹⁷⁴ U.S. EPA, *Evaluation of the Inhalation Carcinogenicity of Ethylene Oxide, Executive Summary* (CASRN 75-21-8) *In Support of Summary Information on the Integrated Risk Information System (IRIS)*, December 2016, p. 8, note c.

¹⁷⁵ U.S. EPA, *Frequent Questions about Ethylene Oxide (EtO)*, <https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/frequent-questions-about-ethylene-oxide-eto>.

¹⁷⁶ *Id.*

(NESHAPS)¹⁷⁷ some of which are undergoing revision. For example, in August 2020, EPA published revised regulations for Miscellaneous Organic Chemical Manufacturing facilities that require additional controls on certain equipment and processes that emit EtO in order to reduce risk to surrounding communities. Formosa will be subject to the NESHAP provisions as outlined in any compliance deadline/applicability conditions of the NESHAP itself even if it is not currently listed as a requirement in the permits.

b) Status of Formosa Permits

On September 16, 2019, RISE St. James, Louisiana Bucket Brigade, Sierra Club, Center for Biological Diversity, Healthy Gulf, Earthworks, No Waste Louisiana, and 350 New Orleans petitioned EPA to object to LDEQ's draft Title V air operating permits for Formosa. The Title V petition is still pending. As noted above, a Louisiana state court has vacated those permits and the PSD permit issued by LDEQ, and remanded them to LDEQ, and LDEQ has appealed that decision.

c) Neutral Policy or Practice

EPA's regulation prohibits LDEQ from administering its air pollution control program in a way that has the effect of subjecting the residents of St. James Parish living near the proposed Formosa facility to discrimination on the basis of race.¹⁷⁸ As previously stated, a neutral practice need not be affirmatively undertaken, but in some instances could be the failure to take action or to adopt an important policy.¹⁷⁹ During its initial fact finding, EPA found that, although the Industrial Corridor and the demographic characteristics of both the Industrial Corridor as a whole and those living in closest proximity to certain sources clearly present significant risks, LDEQ failed to consider the potential for adverse and disproportionate impacts and did not take steps to ensure that its analysis of such was accurate and complete.

(1) Title VI and Environmental Justice Analyses

The Title VI Complaint alleged that LDEQ had no "procedure or policy for addressing disproportionate impacts of its air permitting decisions on predominantly Black communities."¹⁸⁰

¹⁷⁷ Some of these include the following 40 C.F.R. Part 63 Subparts: F - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry; G - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater; H - National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks; FFFF- Miscellaneous Organic Chemical Manufacturing.

¹⁷⁸ 40 C.F.R. Part 7 §§ 7.30 and 7.35

¹⁷⁹ See, e.g., *United States v. Maricopa Cty*, 915 F. Supp. 2d 1073, 1079 (D. Ariz. 2012) (disparate impact violation based on national origin properly alleged where recipient "failed to develop and implement policies and practices to ensure [limited English proficient] Latino inmates have equal access to jail services" and discriminatory conduct of detention officers was facilitated by "broad, unfettered discretion and lack of training and oversight" resulting in denial of access to important services). See also, *EPA Title VI Toolkit*, https://www.epa.gov/sites/default/files/2017-01/documents/toolkit-chapter1-transmittal_letter-faqs.pdf.

¹⁸⁰ Title VI Complaint dated February 1, 2022, from Lisa Jordan, Tulane Environmental Law Clinic, to Lilian Dorka, Director, External Civil Rights Compliance Office, *Re: Complaint Under Title VI of the Civil Rights Act of*

Whether to consider environmental justice (EJ) in the decision-making process for an air pollution control permit is left to LDEQ's discretion.¹⁸¹ LDEQ exercised that discretion for the Formosa permits. The Basis for Decision (BFD) documents prepared to support the issuance of the Formosa permits included discussions of LDEQ's EJ analyses and an assertion that the permitting of the facility would not violate Title VI.¹⁸²

In its response to the complaint, LDEQ denied that it lacks procedure or policy for addressing disproportionate impacts of its air permitting decisions on predominantly Black communities. The support LDEQ provided for this statement is that its "Air-permitting decisions are made in accordance with federally promulgated emission control standards that EPA has delegated to the State of Louisiana."¹⁸³ As explained previously, compliance with environmental laws does not necessarily ensure compliance with Title VI or other federal nondiscrimination obligations. EPA was unable to find any published policies, guidance, criteria, or procedures regarding when and how LDEQ conducts EJ analyses or its Title VI analyses nor did LDEQ provide any. Instead, LDEQ's response to the Complaint provides a history of environmental justice initiatives in the 1990s in Louisiana and a multi-page discussion of the history of EPA's policy regarding Title VI and the NAAQS. This same discussion of the history of EPA's policy comprises about half of the 8-page Environmental Justice/Civil Rights Title VI Issues section of the first BFD for the Formosa permits.¹⁸⁴

LDEQ further stated that it "has an internal environmental equity work group that meets regularly to discuss environmental justice and equity-related matters . . . which serves as "resource to identify potential concerns and provide feedback and recommendations to the LDEQ Secretary."¹⁸⁵ LDEQ concludes by stating it "believes its environmental justice best practices are adequate, are based on years of independent study, and follow EPA guidance."¹⁸⁶

1964, 42 U.S.C. § 2000d, and 40 C.F.R. Part 7 against the Louisiana Department of Environmental Quality for Lack of Environmental Justice Procedures in its Air Permitting Program and Resulting Discriminatory Decision on Formosa Air Permits, p. 1.

¹⁸¹ *Rise*, p. 23. The Court in *Rise* stated that the scope of the Louisiana Constitutional public trust doctrine, as interpreted by the Louisiana Supreme Court, requires that agencies determine "before granting approval of proposed action affecting the environment, [] that adverse environmental impacts have been minimized or avoided as much as possible consistently with the public welfare." *Rise* at 12, citing *Save Ourselves, Inc. v. La. Env't Control Comm'n*, 452 So.2d 1152, 1157 (La. 1984). Based on the facts before the Court in *Rise*, the Court found that, "an environmental justice analysis was mandatory under the constitutional provisions and *Save Ourselves*." *Rise* at p. 23

¹⁸² See, Louisiana Department of Environmental Quality, Office of Environmental Services, *Basis for Decision Part 70 Operating Permit Nos. 3141-V0, 3142-V0, 3143-V0, 3144-V0, 3145-V0, 3146-V0, 3147-V0, 3148-V0, 3149-V0, 3150-V0, 3151-V0, 3152-V0, 3153-V0, And 3154-V0 Prevention of Significant Deterioration (PSD) Permit PSD-LA-812 FG LA Complex, FG LA LLC, Welcome, St. James Parish, Louisiana, Agency Interest (Ai) No. 198351*, January 6, 2020; and *Supplement to the Basis For Decision, Part 70 Operating Permit Nos. 3141-V0, 3142-V0, 3143-V0, 3144-V0, 3145-V0, 3146-V0, 3147-V0, 3148-V0, 3149-V0, 31150-V0, 3151-V0, 3152-V0, 3153-V0, And 3154-V0 Prevention of Significant Deterioration (PSD) Permit PSD-LA-812 FG LA Complex FG LA LLC, Welcome, St. James Parish, Louisiana, Agency Interest (AI) No. 198351*, August 5, 2021.

¹⁸³ LDEQ Formosa Response, p. 4.

¹⁸⁴ Louisiana Department of Environmental Quality, Office of Environmental Services, *Basis for Decision Part 70 Operating Permit Nos. 3141-V0, 3142-V0, 3143-V0, 3144-V0, 3145-V0, 3146-V0, 3147-V0, 3148-V0, 3149-V0, 3150-V0, 3151-V0, 3152-V0, 3153-V0, And 3154-V0 Prevention of Significant Deterioration (PSD) Permit PSD-LA-812 FG LA Complex, FG LA LLC, Welcome, St. James Parish, Louisiana, Agency Interest (Ai) No. 198351*, January 6, 2020, p. 35.

¹⁸⁵ LDEQ Formosa Response, p. 9.

¹⁸⁶ *Id.*

None of these statements is a written policy or procedure, much less a best practice that provides guidance to LDEQ staff on when and how to conduct either an EJ analysis or an appropriate analysis to evaluate Title VI compliance.

EPA's review of the "Environmental Justice/Civil Rights Title VI Issues" discussions in the two Formosa BFD documents¹⁸⁷ raises concerns about whether LDEQ is considering all relevant possibilities for adverse disproportionate impacts before making critical permitting decisions. The EJ and Title VI Issues section is a total of eight pages, four of which review the history of EPA's policy regarding Title VI and the NAAQS.¹⁸⁸ Only about two pages are focused on LDEQ's analysis, which mostly consisted of data showing apparent reductions over time in reported criteria pollutant emissions, TAP emissions, and TRI releases in St. James Parish and/or within a 5-mile radius of the proposed Formosa facility.¹⁸⁹

LDEQ concludes the analysis by finding that, because the area is sparsely populated and EJSCREEN showed no one living within a one-mile radius from the center of the proposed facility, there would be no "fenceline" community impacted. Yet, this conclusion is clearly contradicted by the exhibits attached to the permit. The maps provided by Formosa as Exhibits D and E in its EIS show that the school is about 1.02 miles from the fenceline near the proposed ethylene glycol plants which are sources of EtO emissions and that residential streets across the river in Union are closer than one mile.¹⁹⁰

In sum, LDEQ concludes that the air pollution is less than it was years ago; there will be compliance with the federal National Ambient Air Quality Standards (NAAQS) health-based air standards; and the EtO emissions from Formosa will drop below 0.02 µg/m³ concentration just shy of the school and nearby residences. There is no discussion in the EJ and Title VI section about the amount of TRI releases, emissions or baseline concentrations of pollutants currently in the area. While reducing pollution levels is desirable, the fact that there are emissions reductions does not mean there are no adverse impacts. The Denka monitoring results described above are evidence of that.

The court in *Rise* observed that—despite knowing the area near the proposed facility already experiences substantial amounts of toxic air pollutants and that cancer risk in Welcome's census tract is driven by ethylene oxide and benzene exposure—LDEQ did not consider this information

¹⁸⁷ Louisiana Department of Environmental Quality, Office of Environmental Services, *Basis for Decision Part 70 Operating Permit Nos. 3141-V0, 3142-V0, 3143-V0, 3144-V0, 3145-V0, 3146-V0, 3147-V0, 3148-V0, 3149-V0, 3150-V0, 3151-V0, 3152-V0, 3153-V0, And 3154-V0 Prevention of Significant Deterioration (PSD) Permit PSD-LA-812 FG LA Complex, FG LA LLC, Welcome, St. James Parish, Louisiana, Agency Interest (Ai) No. 198351*, January 6, 2020 and Supplement to the Basis For Decision, Part 70 Operating Permit Nos. 3141-V0, 3142-V0, 3143-V0, 3144-V0, 3145-V0, 3146-V0, 3147-V0, 3148-V0, 3149-V0, 31150-V0, 3151-V0, 3152-V0, 3153-V0, And 3154-V0 Prevention of Significant Deterioration (PSD) Permit PSD-LA-812 FG LA Complex FG LA LLC, Welcome, St. James Parish, Louisiana, Agency Interest (AI) No. 198351, August 5, 2021.

¹⁸⁸ Louisiana Department of Environmental Quality, Office of Environmental Services, *Basis for Decision Part 70 Operating Permit Nos. 3141-V0, 3142-V0, 3143-V0, 3144-V0, 3145-V0, 3146-V0, 3147-V0, 3148-V0, 3149-V0, 3150-V0, 3151-V0, 3152-V0, 3153-V0, And 3154-V0 Prevention of Significant Deterioration (PSD) Permit PSD-LA-812 FG LA Complex, FG LA LLC, Welcome, St. James Parish, Louisiana, Agency Interest (Ai) No. 198351*, January 6, 2020, pp. 36-39.

¹⁸⁹ *Id.* at pp. 40-41.

¹⁹⁰ Formosa EIS, exhibits D and E.

when issuing the permits that would allow Formosa “to emit a great deal more ethylene oxide and benzene.”¹⁹¹ In addition, the absence of written policies and criteria may result in inconsistent treatment of data of disproportionate health effects and ad hoc analyses. Based on this information, EPA believes LDEQ’s analysis is too flawed in design and implementation to rely upon for Title VI compliance purposes.

This lack of written policies and/or procedures or potentially a misunderstanding or misapplication of guidance that was not provided to EPA in its response to the Complaint resulted in a permitting process the court in *Rise* characterized as arbitrary and capricious on numerous grounds.¹⁹² “An arbitrary decision shows disregard of evidence or the proper weight thereof while a capricious decision has no substantial evidence to support it or the conclusion is contrary to substantiated competent evidence.”¹⁹³ In addition, the court in *Rise* found that LDEQ had no support in the record for some of its conclusions.

d) Adversity/Harm

As mentioned earlier, in 2014 NATA, the cancer risk from air toxics for Louisiana was approximately 50-in-1 million and the median score was approximately 40-in-1 million. *See supra* at pages 46-47. St. James Parish had a cancer risk from air toxics of 80-in-1 million. Census tract 404 and 405 both had cancer risks of 70-in-1 million respectively. The 2018 AirToxScreen indicates that one of the air toxics responsible for the cancer risk in St. James Parish is EtO. EPA is not stating in this letter that the projected EtO emissions from Formosa are per se adverse. Given, however, the underlying environmental conditions and demographic characteristics of those most potentially impacted in the Industrial Corridor as a whole, and St. James Parish in particular, LDEQ’s failure to do a proper analysis of the impacts, from a civil rights perspective, is concerning.

e) Disparity

Using the 2016 – 2020 ACS data, the population of St. James Parish is 49.9% Black and 48.1% White. The proposed Formosa facility will be located in census tract 405 which covers a large area of land. The population centers are along the Mississippi River. For census tract 405, 93.3% of the population identifies as Black and 5.7% as White. Directly across the River is census tract 404 which also includes a large area of land. As with census tract 405, the population centers are clustered near the river, directly across from the proposed location of the Formosa facility. Sixty-five percent (65%) of the population of census tract 404 identified as Black and 33.5% as White. The proposed Formosa site is in the census tract with the highest percentage of Black residents in all of St. James Parish. Using any comparison and test for statistical significance, those who would live near Formosa disproportionately identify as Black.

As discussed above, *supra* at pages 15-16, individuals exposed to mutagenic carcinogens starting in early-life as infants and children are understood to be more susceptible than individuals exposed only as adults. EPA’s initial fact finding indicates that many residents living near the

¹⁹¹ *Rise*, pp. 16-17.

¹⁹² *Rise St. James, et.al. v. Louisiana Department of Environmental Quality*, 19th Judicial District Court Parish Of East Baton Rouge Docket Number: 694,029, Sept. 8, 2022

¹⁹³ *Rise*, at p. 4 quoting *Carpenter v. State, Dep 't of Health & Hosps.*, 2005-1904 (La. App. 1 Cir. 9/20/06); 944 So.2d 604, 612 (internal quotations and citations omitted).

location of the proposed Formosa facility have in the past on average been exposed to levels of air pollution that, while below the 100-in-1-million upper bound increased lifetime cancer risk, were still above EPA's preferred 1-in-1 million cancer risk benchmark. Moreover, census data indicates that many of the residents in the communities near the proposed Formosa site have lived in their homes for a while. Further, the proposed Formosa site is in a census tract where 90% of residents identify as Black which is disproportionate as compared to the Parish and State populations.

The *Rise* court found that LDEQ failed to analyze Formosa's ethylene oxide and benzene emissions in combination with such emissions from other facilities and only analyzed data about the proposed Formosa facility.¹⁹⁴ The *Rise* court further observed that "LDEQ cannot determine Welcome's full risk for cancer from exposure to toxic air pollutants if the agency does not consider [Formosa's] FG LA's ethylene oxide and benzene emissions in combination with such emissions from other facilities that the agency itself says drives EPA's cancer risk data for the area."¹⁹⁵ EPA agrees.

f) Causation

From a civil rights perspective, it appears LDEQ's action and inaction in administering its air permitting program with respect to the Formosa permits has proceeded without appropriate consideration of the factors which would be relevant to a Title VI analysis. Given the apparent existing disparities outlined in this Letter, EPA remains concerned that such a failure does not take into account the distribution of associated cancer risks in St. James Parish.

V. CONCLUSION

While emissions of air toxics have decreased in the Industrial Corridor Parishes, in some cases dramatically, many of the Black residents living near Denka, near the proposed Formosa facility, and elsewhere in the Industrial Corridor were born there, spent their childhoods there, and continue to live there. The vulnerabilities they carry because of past exposures do not go away because concentrations of air pollution have decreased. Critically, based on the data EPA has reviewed thus far, Black residents of the Industrial Corridor Parishes continue to bear disproportionate elevated risks of developing cancer from exposure to current levels of toxic air pollution.

Moreover, it is important that LDEQ and LDH provide those residents whose health and lives will be impacted by LDEQ and LDH decisions timely, complete, and accurate information related to those decisions. Without this information, residents are not able to make informed decisions about their health and lives, nor are local government officials. As explained in the Denka and Formosa discussions above, the failure to seek out, consider or analyze available information and data about health risks appears to have formed the basis for actions and/or

¹⁹⁴ *Rise*, p. 17.

¹⁹⁵ *Rise*, p. 18.

inactions by both LDEQ and LDH that may be subjecting Black residents of Louisiana to adverse disparate impacts.

We appreciate your cooperation in this matter and look forward to our continued collaboration with LDEQ and LDH as we work together to resolve these Complaints in a timely and effective manner. Please feel free to contact me at dorka.lilian@epa.gov, or (202) 564-9649.

Sincerely,



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