

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Draft EJ 2020 Action Agenda)
Framework (June 15, 2015))
)

Submitted via e-mail - July 14, 2015
to ejstrategy@epa.gov

Thank you for accepting these comments on the Environmental Protection Agency's ("EPA") Draft EJ 2020 Action Agenda Framework (June 15, 2015) ("EJ 2020 Framework"). The Sierra Club is the oldest and largest grassroots environmental group, with over 1.2 million members and supporters. The Sierra Club has joined with other environmental groups in a detailed set of comments to EPA's EJ 2020 Framework focused on demonstrating progress on outcomes that matter to minority and low income communities and creating specific initiatives that will assist the agency in achieving this progress. These comments discuss in more detail how to integrate environmental justice ("EJ") in rule making and rule implementation, with an emphasis on practical suggestions to effectively apply the EPA's recently finalized "Guidance on Considering Environmental Justice During the Development of Regulatory Actions" ("Final Guidance"), focused primarily on air pollution rules.

The Sierra Club would also like to take this opportunity to recognize and thank EPA staff for its continued commitment to comply with Executive Order ("EO") 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, which requires every federal agency to make environmental justice a part of its mission. However, as these comments note, there is still much left to do for environmental justice to truly take root in every section of the agency. As numerous studies have documented and EPA has also acknowledged, minority, low income, and indigenous communities often live in close proximity to large sources of air and water pollution, experience adverse or even disproportionate health impacts resulting from numerous environmental hazards, and have less opportunities to participate meaningfully in decisions that affect their health and environment. Minority and low income communities are also more likely to reside in areas vulnerable to climate change impacts such as sea-level rise and to spend higher proportions of their income as a result of rising food prices or increased water scarcity.

Consistent with its obligations under EO 12898, EPA must integrate environmental justice in all its regulatory actions, assessing not only whether the agency's regulations would have the potential of creating adverse or disproportionate impacts on minority and low-income populations, but also whether those communities in particular can receive the benefits expected from the implementation of those rules. These comments offer practical suggestions on how to effectively put into effect EPA's Final Guidance to implement EO 12898, in order to ensure that EPA appropriately addresses environmental justice both in the development and implementation of the agency's regulatory actions. Toward this end, we also provide input on EPA's environmental justice screening tools, with an emphasis on EJSCREEN, which EPA recently released, and EJView, which the agency plans to discontinue this fall.

I. Incorporating environmental justice in rule making

A. EPA must prepare an environmental justice analysis of every federal rule under EO 12898 and the agency's policies that implement it

Executive Order (“EO”) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires each federal agency to make environmental justice part of its mission “by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.”¹ EO 12898 requires all federal agencies to collect, maintain, and analyze information that assesses and compares environmental and human health risks to populations identified by race, national origin or income, and to use that information in determining whether their actions have “disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.”²

Incorporating environmental justice into the rule making process is a critical part of implementing EO 12898. Sierra Club commends EPA for its continued commitment to make this one of the agency's focus areas, now under its Plan EJ 2020. The recently-finalized Final Guidance will be an important tool to assist EPA's rule writers and decision makers in incorporating EJ in its “Action Development Process” (“ADP”) for developing environmental regulations.³ As EPA notes, rule making will be more effective if, following the Final Guidance, EJ is considered not only in the development of the rules themselves, but also in other “up-front” actions that support the development of those regulations, such as risk assessments and analytical tools.⁴

Sierra Club shares EPA's view that the agency's rules need not entail “disproportionate” impacts in order to trigger a requirement to protect the health and environment of minority, low income, and indigenous communities (“EJ communities”). As the Final Guidance notes, the Clean Air Act “provide[s] a broader basis for protecting human health and the environment.”⁵ Consistent with its authority under the Act, EPA may address any adverse impacts from the implementation of a rule on EJ communities without having to show that those impacts are disproportionate. If EPA is required to make such a determination in particular contexts, however, EPA's Final Guidance provides a good recommendation that agency staff must implement in every rule they craft—to consider “the severity and nature of health consequences; the magnitude of the estimated differences in impacts between population groups; mean or median exposures or risks to relevant population groups; distributions of

¹ Exec. Order No. 12898, § 1-101.

² *Id.* § 3-302(a).

³ EPA, *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*, May 2015, at i.

⁴ *Id.* at 1.

⁵ *Id.* at 7.

exposures or risk to relevant population groups; characterization of the uncertainty; and a discussion of factors that may make population groups more vulnerable.”⁶

EPA must promote the effective use and robust implementation of the Final Guidance, as proposed in its EJ 2020 Framework.⁷ Consistent with EPA’s obligations under EO 12898, EPA must prepare an EJ analysis in every rule it issues. EPA and other federal agencies have for many years conducted cost-benefit (“CBA”) analyses for each and every “significant” action they issue, in accordance with EO 12866, *Regulatory Planning and Review*.⁸ Just like CBA has become a critical component of agencies’ decision making, we believe EJ analyses must become more rigorous in order to really become an integral part of the regulatory process. This would also help offset some of the gaps in traditional CBA analyses, which do not focus on distributional issues.⁹ Effective integration of EJ concerns into EPA’s regulatory analysis would provide both substantive and practical benefits. It would also fully comport with EPA’s legal mandates under EO 12866 and EO 12898. Perhaps most importantly, integrated CBA and EJ analyses would help ensure that EJ considerations are not overlooked at key moments in the decision-making process and that EJ communities are treated like equal stakeholders, whose costs and benefits are, as a matter of fact, part of CBA calculus.

Sierra Club fully supports the Final Guidance’s expansion of the concept of “fair treatment” to include the distribution of benefits of the agency’s regulations across all populations, in particular EJ communities. In light of this expanded concept, agency staff

⁶ *Id.*

⁷ Draft, at 2.

⁸ See Executive Order 12866, “Regulatory Planning and Review,” Fed. Register Vol. 59, No. 32, Sec. 6(a)(3)(B) (September 30, 1993), available at: <http://www.archives.gov/federal-register/executive-orders/pdf/12866.pdf>.

⁹ The Draft Technical Guidance observes that “analyses of potential EJ concerns are often conducted separately from an assessment of benefits and costs (i.e., benefit-cost analysis evaluates efficiency, while analyses of potential EJ concerns evaluate whether impacts are distributed differently).” It also notes that consideration of EJ concerns is distinct from “other parts of the regulatory analysis” such as CBA; that “the focus of E.O. 12898 is on human health or environmental effects, which is generally at least one step prior to monetization of benefits and precludes certain other benefit categories covered in the EPA’s Economic Guidelines;” and that decision-makers are to consider distributional impacts analyses “along with” efficiency analyses. Draft Technical Guidance at 4, n. 14., 5, n. 17. See also Office of Management and Budget, “Circular A-4” (September 17, 2003), available at: https://www.whitehouse.gov/omb/circulars_a004_a-4/ (implying that the two analyses should be separate). However, the Draft Technical Guidance fails to note that EPA’s own description of its Economic Guidelines states that they “provide guidance on analyzing the benefits, costs, and economic impacts of regulations and policies, including assessing the distribution of costs and benefits among various segments of the population.” EPA, “Guidelines for Preparing Economic Analyses,” available at: <http://yosemite.epa.gov/EE%5Cepa%5Ceed.nsf/webpages/Guidelines.html> (emphasis added). EPA needs to revise its Draft Technical Guidance to address this possible inconsistency. In particular, EPA should provide its staff with clear guidance on at what point in the process will EPA ensure that EJ concerns are considered “along with” efficiency, and what will be the relative priority of the two when they conflict.

should not only evaluate potential adverse impacts to these communities, but also “the distribution of the positive environmental and health consequences resulting from their regulatory actions.”¹⁰ Thus, as part of its EJ analyses, agency staff must assess not only whether the agency’s regulations would have the potential of creating adverse impacts on minority, low-income, and indigenous populations, but also whether those communities specifically can receive the expected benefits of those rules. Robust implementation of the Guidance means that, going forward, EPA’s analyses of the environmental justice implications of its rules should be done differently if EPA really is to make environmental justice part of its mission. The following comments offer practical suggestions on how to implement the Guidance and ensure that the rules EPA issues address EJ appropriately.

Finally, Sierra Club supports EPA’s direction to rule writers to consider environmental justice not only in the development of the agency’s regulatory actions, but also in the implementation of those actions. As these comments detail, EPA must provide guidance and work closely with states in developing implementation plans to comply with applicable EPA standards and in developing the operating permit program to comply with these requirements at the state level in a manner that addresses environmental justice effectively.

B. EPA must establish more stringent standards for the regulation of pollutants that affect minority and low income communities

In order to effectively implement the Final Guidance in the rule making context, EPA must establish more stringent and more protective standards for the regulation of pollutants that affect the health of environmental justice communities. For example, in its proposed Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone (“ozone NAAQS”), EPA concluded that “the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income or indigenous populations because it does not affect the level of protection provided to human health or the environment,” and that, if finalized, the revised ozone NAAQS will actually increase public health protections.¹¹ Contrary to this statement, the level of the standard established by EPA will affect the level of protection to human health and the environment, including for minority, low income, and indigenous communities. The more stringent the final standard is, the more benefits EJ communities will receive from the implementation of the ozone rule.

EPA’s proposed Regulatory Impact Analysis (“ozone RIA”) to the proposed ozone NAAQS provides a limited analysis of the socio-demographic characteristics of populations living in counties with monitors with current design values (2011-2013) that exceed the proposed standards (65 to 70 ppb). As the agency itself indicates, the analysis does not identify in detail the demographic characteristics of the most affected communities nor does it quantify the level of risk those communities currently face. The RIA does not provide state-level or county-level

¹⁰ *Id.* at 4-5.

¹¹ 79 Fed. Reg. 75,234, 75,387 (Dec. 17, 2014).

information either, and it does not assess in detail the health burdens that EJ communities face. EPA has thus concluded that the analysis “cannot be used to draw any conclusions regarding potential disparities in exposure or risk across populations of interest from an EJ perspective.”¹²

On the other hand, based on this limited analysis EPA has quickly concluded that, to the extent that an EJ community is disproportionately impacted by ozone levels because it resides in an area of interest (i.e., an area which ozone levels exceed the proposed standard), those communities stand “to see increased environmental and health benefits from the emission reductions called for by this proposed rule,” and that the proposed standard “will tend to benefit” geographic areas with a larger proportion of minority (particularly Hispanic and African-American) and low-income residents than the national average.¹³ EPA has the opportunity to address and ameliorate existing adverse impacts on EJ communities in revising the ozone NAAQS standard by setting a stringent level and form for the new standard, which will contribute to decrease the disproportionate ozone-related health burdens that EJ communities (in particular minorities) bear throughout the country, both in non-attainment and attainment areas, as detailed below.

1. Minority and low income communities are disproportionately exposed to higher levels and health impacts of ozone air pollution

Ozone is a public health threat. Ozone exposure can cause numerous health problems, including chest pain, coughing, throat irritation, and congestion.¹⁴ Breathing ozone inflames and damages the airways, reduces lung function, and continues to damage the lungs even after symptoms have disappeared.¹⁵ Ozone also makes the lungs more susceptible to infection and repeated exposures may permanently scar lung tissue and cause premature death from heart or lung disease. Ozone is particularly dangerous for those who already suffer from respiratory illnesses because it can trigger and exacerbate conditions such as asthma, emphysema, and chronic bronchitis.¹⁶ Sensitive populations such as children and the elderly are especially susceptible to the negative health effects of ozone.¹⁷ These effects lead to increased school absences, work absences, emergency department visits, hospital admissions, and reliance on medication.¹⁸

¹² Ozone RIA, at 9A-1.

¹³ *Id.*, at 9-7, 9A-7.

¹⁴ See, e.g., U.S. EPA, National Ambient Air Quality Standards for Ozone; Final Rule, 73 Fed. Reg. 16,436, 16,440 (Mar. 27, 2008); see also U.S. EPA, Integrated Science Assessment for Ozone and Related Photochemical Oxidants, EPA 600/R-10/076F (Feb. 2013), available at <http://www.epa.gov/ncea/isa/ozonehtm> (cataloguing scientific studies and discussing in depth the wide range of adverse health effects associated with short- and long-term ozone exposure) [hereinafter “ISA”].

¹⁵ *Id.* at sec. 6.2.

¹⁶ *Id.*

¹⁷ *Id.* at ch. 8.

¹⁸ See, e.g., U.S. EPA, Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards, EPA-452/R-14-006 (Aug. 2014), at 4-57.

Minority and low income communities are disproportionately exposed to higher levels of ozone air pollution, to more types of elevated air pollution and to more chronic air pollution. African-Americans, in particular, are at higher risk of early death from ozone pollution than the general population. Bell et al. (2008)¹⁹ examined 98 urban communities in the U.S. and reported that the risk between ozone and mortality was greatest in areas with high unemployment, a higher percentage of African-Americans, higher public transportation use, and a lower availability of air conditioning.

There are far higher proportions of minority populations than white populations living in ozone non-attainment areas. The Sierra Club has cross-referenced census data, EPA's nonattainment designations for the 2008 ozone standard, and levels of ozone (2011-2013 design values for the 2008 ozone standard) in several states,²⁰ finding that this is a clear and persistent trend. (See Appendix A.) Sierra Club has provided this information as part of its joint comments²¹ to EPA's proposed ozone standard, and reiterates it here as a means to provide practical suggestions to EPA on how to analyze EJ issues and implement its Final Guidance in the context of the ozone rulemaking. Sierra Club hopes that this information also contributes to further EPA's obligation to collect and analyze information on environmental and human health risks borne by populations identified by race, national origin, or income, as mandated under Section 3-302(a) of EO 12898.

Sierra Club's analysis found that, in the south of the country, Alabama, Arkansas, North Carolina, Georgia, Kentucky, Tennessee and Texas all have higher relative concentrations of blacks—sometimes far higher—living in areas that fail to meet the 2008 ozone standards than concentrations of whites when compared to average state wide racial demographics. The same holds true for central and mid-west states: Wisconsin, Illinois, Michigan, Missouri, Ohio, Kansas, and Oklahoma are particularly notable in the over representation of blacks living in areas that fail to meet minimum air quality standards for ozone. Nevada also follows this trend. This trend can also be seen in eastern and mid-Atlantic states, where Pennsylvania and Rhode Island have higher relative exposures among blacks than whites, though in other states, such as New York and Virginia, minorities that are at greater relative exposure than whites are Hispanics and Asians.

Indeed, as Appendix B demonstrates,²² for many states there is a striking correlation between increasing concentrations of smog, increasing concentrations of people of color and

¹⁹ M.L. Bell & F. Dominici (2008). Effect modification by community characteristics on the short-term effects of ozone exposure and mortality in 98 US communities, *Am. J. Epidemiol.*, 167: 086-997.

²⁰ Data derived from US Census Bureau, "QuickFacts," available at <http://quickfacts.census.gov/qfd/index.html> and EPA, "Design Values: Ozone 2013 Design Value Report," available at <http://www.epa.gov/airtrends/values.html>

²¹ **Cite the ozone comments**

²² Data derived from US Census Bureau, "QuickFacts," available at <http://quickfacts.census.gov/qfd/index.html> and EPA, "Design Values: Ozone 2013 Design Value Report," available at <http://www.epa.gov/airtrends/values.html>

decreasing concentrations of whites in areas that fail to meet minimum air quality standards. Stated another way, as air quality progressively worsens, representation of people of color increases while representation of whites in the population decreases.

It is also undisputed that ozone is a trigger for asthma attacks. Minority and low income communities suffer a disproportionately higher asthma burden in the United States – particularly African-Americans, Hispanics (specifically Puerto Ricans), and Native Americans.

In absolute number terms, African-Americans are most heavily burdened by asthma in the U.S. Nationally, the current asthma prevalence rate for non-Hispanic blacks is 11.9%, compared to 8.1% for non-Hispanic whites and 7.0% for Hispanics.²³ While the prevalence rate reflects a relatively significant impact, it actually understates asthma's true burden on the African-American community. Other key statistical measures of asthma's impact – including hospitalization rates, emergency department visit rates, and mortality rates – show a much starker contrast amongst races, with disproportionate impacts of approximately 200-400% when comparing non-Hispanic blacks to non-Hispanic whites. Figure 1, which includes statistics from several states that have recent data in at least three of the four major categories, illustrates this pattern:

Fig. 1. State data on statistical measures of asthma's impact

| State | Current Prevalence among Adults | | Hospitalization Rate* | | Emergency Department Visit Rate* | | Mortality Rate* | |
|------------------|---------------------------------|--------------------|-----------------------|--------------------|----------------------------------|--------------------|--------------------|--------------------|
| | White Non-Hispanic | Black Non-Hispanic | White Non-Hispanic | Black Non-Hispanic | White Non-Hispanic | Black Non-Hispanic | White Non-Hispanic | Black Non-Hispanic |
| CT ²⁴ | 8.3% | 15% | 86 | 405 | 342 | 1273 | 0.77 | 2.61 |
| TX ²⁵ | 9.2% | 10.2% | 88 | 195 | N/A | N/A | 1.0 | 1.9 |
| NC ²⁶ | 7.2% | 10% | 75 | 210 | N/A | N/A | 0.68 | 1.8 |
| IN ²⁷ | 8.7% | 13.7% | 85 | 306 | 344 | 1293 | N/A** | N/A** |

²³ CDC, Asthma Surveillance Data, *available at* <http://www.cdc.gov/asthma/asthmadata.htm> (accessed Mar. 13, 2014).

²⁴ Connecticut Dept. of Health (2012). The Burden of Asthma in Connecticut 2012 Surveillance Report, *available at* http://www.ct.gov/dph/lib/dph/hems/asthma/pdf/full_report_with_cover.pdf.

²⁵ Texas Dept. of State Health Services, Asthma Health Facts 2011, *available at* https://www.dshs.state.tx.us/asthma/data.shtm#New_Asthma (accessed Mar. 13, 2014).

²⁶ North Carolina Dept. of Health and Human Services (2010). The Burden of Asthma in north Carolina 2010, *available at* <http://www.asthma.ncdhhs.gov/docs/TheBurdenOfAsthmaInNorthCarolina-2010.pdf>; North Carolina Dept. of Health and Human Services, African Americans and Asthma in North Carolina (Mar. 12, 2014), <http://www.asthma.ncdhhs.gov/docs/factsheets/2011/AfricanAmericansAndAsthmaInNorthCarolina.pdf>.

²⁷ Indiana State Dept. of Health, Asthma Fact Sheet, *available at* [http://www.in.gov/isdh/files/ISDH_FactSheet_Asthma_Nov2013_FINAL\(1\).pdf](http://www.in.gov/isdh/files/ISDH_FactSheet_Asthma_Nov2013_FINAL(1).pdf) (accessed Mar. 12, 2014).

| | | | | | | | | |
|------------------|------|-------|----|-----|-----|-----|------|------|
| WI ²⁸ | 8.6% | 15.9% | 63 | 346 | N/A | N/A | 0.79 | 3.54 |
|------------------|------|-------|----|-----|-----|-----|------|------|

* Per 100,000 persons

**Indiana data provides raw mortality numbers but not mortality rates. In 2011, 73 Indiana residents died from asthma, 54 of whom were white and 18 of whom were black. African-Americans thus comprised approximately 24% of asthma deaths despite accounting for only 9% of Indiana's total population.

As the data summarized above shows, asthma's disproportionate impact is greater for the most serious, life-threatening asthma-related complications. Not only are African Americans more likely to have asthma, but even among asthma sufferers, they are more likely to have the worst asthma-related complications, as not all individuals who have asthma suffer from it equally. In other words, a higher percentage of African-Americans have asthma, but an even higher percentage suffers from its most serious symptoms and outcomes.

Minority groups other than African-Americans are also disproportionately affected by asthma. Nationally, Hispanics (specifically Puerto Ricans) and American Indians/Native Alaskans have a much higher current asthma prevalence rate than even African-Americans, at 16.7% and 14.3% respectively.²⁹ In Hawaii, the prevalence rate for Native Hawaiians is 14.9%, compared to only 9.0% for whites living in Hawaii.³⁰ Asthma's heavy burden on these groups is also evident from other statistical measures. Nationally, the mortality rate for Puerto Ricans is four times higher than the mortality rate for whites.³¹ Similar trends exist at the state level for Native Americans. In Oregon and Wisconsin, for example, the American Indian hospitalization rate is double the rate for non-Hispanic whites.³² And while asthma prevalence among the total Hispanic population is actually lower than the national average, Hispanics also have higher hospitalization and mortality rates than non-Hispanic whites, and thus also suffer disproportionately.³³ Hispanics are 30% more likely to visit the hospital for asthma, as compared to non-Hispanic whites, and Hispanic children are 40% more likely to die from asthma.

²⁸ Wisconsin Dept. of Health (2013). Burden of Asthma in Wisconsin 2013.

²⁹ The Office of Minority Health, Asthma and American Indians/Alaskan Natives, *available at* <http://minorityhealth.hhs.gov/templates/content.aspx?lvl=3&lvlID=532&ID=6172> (accessed Mar. 13, 2014).

The Office of Minority Health, Asthma and Hispanic Americans, *available at* <http://minorityhealth.hhs.gov/templates/content.aspx?lvl=3&lvlID=532&ID=6173> (accessed Mar. 13, 2014).

³⁰ Hawaii State Dept. of Health, Hawai'i Asthma Plan 10 (2013).

³¹ The Office of Minority Health, Asthma and Hispanic Americans (Mar. 13, 2014), <http://minorityhealth.hhs.gov/templates/content.aspx?lvl=3&lvlID=532&ID=6173>.

³² Oregon Health Authority, Asthma Emergency Department Visits and Hospitalizations (Mar. 12, 2014), *available at* <https://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Asthma/Documents/burden/ch7.pdf> (Mar. 12, 2014); Wisconsin Dept. of Health 2013, *supra*.

³³ The Office of Minority Health, Asthma and Hispanic Americans, *supra*.

Epidemiological studies also suggest that socioeconomic status (“SES”) is associated with higher risks of ozone-related health outcomes.³⁴ EPA concludes that “most studies of individuals have reported that individuals with low SES and those living in neighborhoods with low SES are more at risk for O₃-related health effects, resulting in increased risk of respiratory hospital admissions and ED visits.”³⁵ For example, a New York City study showed that children with lower socioeconomic status had greater risk of ozone-induced hospital admissions for asthma.³⁶ Accordingly, the ISA noted that “evidence is suggestive of SES as a factor affecting risk of O₃-related health outcomes.”³⁷

Even in ozone attainment areas, environmental justice communities are adversely affected by high ozone pollution levels due to the weak form of the current (2008) ozone NAAQS. The form, known as the “design value,” is the three-year average of the fourth highest 8-hour average ozone concentration. This form of the standard completely ignores the top three ozone concentrations each year, and thus authorizes extremely high levels of ozone without triggering any requirement to clean the air.

There are many areas largely in the eastern region that have recently attained the 2008 ozone NAAQS of 75 ppb based on 2012-2014 design values. However, it is important to note that this shift is largely based on aberrant weather, as ozone and temperature are inextricably linked, rather than a result of permanent and enforceable emission reductions. Despite now being in attainment, many of these areas have regular and extreme exceedances, up to 111 ppb, that threaten public health but are entirely permissible due to the weak form of the ozone NAAQS.

For example, the Baltimore community regularly suffers from ozone exceedances up to 109 ppb, as the following graph shows.³⁸ Baltimore City has the highest percentage of people living below the poverty line in the entire state³⁹ and is predominantly black. Moreover, blacks are over 30% over-represented and whites are 25% under-represented compared to the state

³⁴ S. Lin, X. Liu, L.H. Le, & S. Hwang (2008). Chronic exposure to ambient ozone and asthma hospital admissions among children, *Env. Health Perspect.*, 116(12): 1725-1730.; J.T. Lee, J.Y. Son, H. Kim, & S.Y. Kim (2006). Effect of air pollution on asthma-related hospital admissions for children by socioeconomic status associated with area of residence, *Arch. Environ. Occup. Health*, 61(3): 123-120; S. Cakmak, R.E. Dales, M.A. Rubio, M& C.B. Vidal (2011). The risk of dying on days of higher air pollution among the socially disadvantaged elderly, *Environ. Res.*, 111(3): 388-393; M. Pastor, R. Morello-Frosch, & J. Sadd (2010). Air Pollution and Environmental Justice: Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability into Regulatory Decision-Making, California Air Resources Board.

³⁵ ISA at 8-27.

³⁶ Lin. et al. 2008, *supra* note 654.

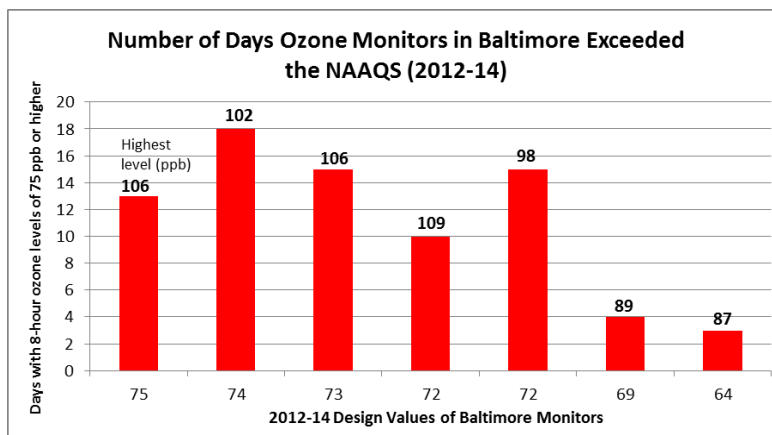
³⁷ *Id.* at 8-28.

³⁸ Data derived from: http://www.epa.gov/airdata/ad_data_daily.html.

³⁹ Maryland Alliance for the Poor, “Maryland Poverty Profiles: 2014,” available at <http://www.catholiccharities-md.org/public-policy/2014-map-poverty-profiles.pdf>
<http://www.catholiccharities-md.org/public-policy/2014-map-poverty-profiles.pdf>

average.⁴⁰ Baltimore City also consistently has the highest asthma prevalence, rates of emergency department visits, hospitalization and death caused by asthma in all of Maryland, which already has disproportionately high asthma rates compared to the rest of the nation.⁴¹ Blacks Marylanders bear a significant asthma burden statewide as they are over 3 times as likely to visit the hospital for asthma, over 4 times as likely to visit the emergency department for asthma, and nearly 2.5 times more likely to die from asthma than white Marylanders.⁴²

Fig. 2. Number of Days Ozone Monitors in Baltimore Exceeded the NAAQS (2012-14)



Source:

Yet EPA issued a “Clean Data Determination” for the Baltimore area, thus suspending any obligations to improve local air quality, despite the endemic EJ and asthma issues in the area. In order to effectively implement its Final Guidance, EPA should be cognizant of these EJ concerns in the rulemaking process when setting the level and form of the ozone NAAQS, as problematic areas such as Baltimore City can be in attainment despite their high ozone levels which further exacerbate adverse health impacts to those communities.

Similarly, Charlotte, North Carolina, achieved attainment based on its 2012-2014 design value largely due to aberrant weather. EPA promptly proposed a “Clean Data Determination” and “Redesignation to Attainment” for the area, despite the regular and severe ozone exceedances (up to 111 ppb) as displayed in the graph below,⁴³ and disproportionate asthma burdens on people of color and low-income communities. For example, African American adults and children are significantly more (up to twice as) likely to have lifetime and current asthma compared to whites; three times as likely to be hospitalized for asthma; and twice as likely to

⁴⁰ US Census Bureau, “QuickFacts: Maryland,” available at <http://www.census.gov/quickfacts/table/IPE120213/24,24510,24005>

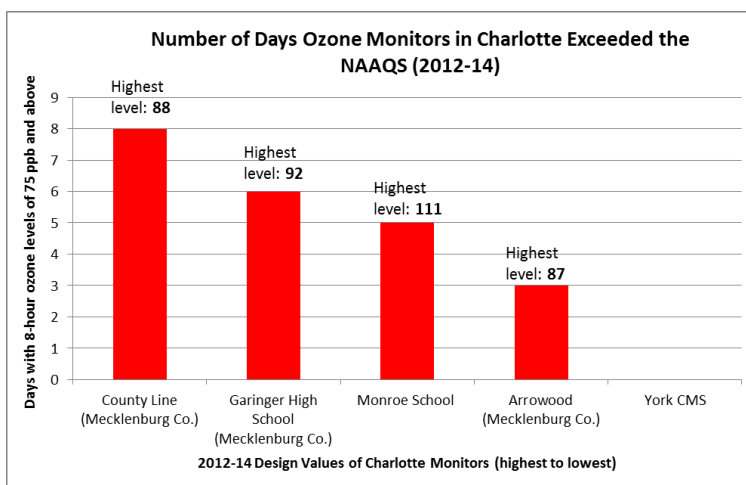
⁴¹ Maryland Department of Health and Mental Hygiene, Asthma in Maryland 2011, available at: [http://phpa.dhmm.maryland.gov/mch/Documents/Asthma in Maryland-2011.pdf](http://phpa.dhmm.maryland.gov/mch/Documents/Asthma%20in%20Maryland-2011.pdf)

⁴² *Id.*

⁴³ Data derived from: http://www.epa.gov/airdata/ad_data_daily.html.

die from asthma compared to whites.⁴⁴ Additionally, low income households (less than \$25,000) are about twice as likely to have lifetime and current asthma compared to the highest income brackets.⁴⁵ Yet the Charlotte community still endures significant ozone impacts and asthma burdens and will soon have no obligation to improve its air quality due to the weak form on the NAAQS.

Fig. 3. Number of Days Ozone Monitors in Charlotte Exceeded the NAAQS (2012-14)



Source:

The Philadelphia area also recently came into attainment, but still endures frequent exceedances, well above the current standard of 75 ppb and at levels deemed unsafe by EPA, as the following graph shows.⁴⁶ Once again, these egregious exceedances are entirely permissible due to the weak form of the NAAQS. The Philadelphia area has some of the highest asthma rates in the entire state. The Southeast region of Pennsylvania, which includes Philadelphia, has the highest asthma hospitalization rate, emergency room visit rate, and lifetime asthma prevalence amongst school students in the entire state. And as displayed in the graph below, blacks are significantly overrepresented and whites are underrepresented in Philadelphia.⁴⁷ Blacks bear a disproportionate asthma burden, as black children are nearly twice as likely to have lifetime asthma as white children in Pennsylvania. Moreover, Blacks are also over five

⁴⁴ NCDHHS, African Americans and Asthma in North Carolina Fact Sheet, 2011, *available at* <http://asthma.ncdhhs.gov/docs/factsheets/AfricanAmericansandAsthmainNorthCarolina.pdf>.

NCDHHS, The Burden of Asthma in North Carolina: 2010, 90, *available at* <http://www.asthma.ncdhhs.gov/docs/TheBurdenOfAsthmainNorthCarolina-2010.pdf>.

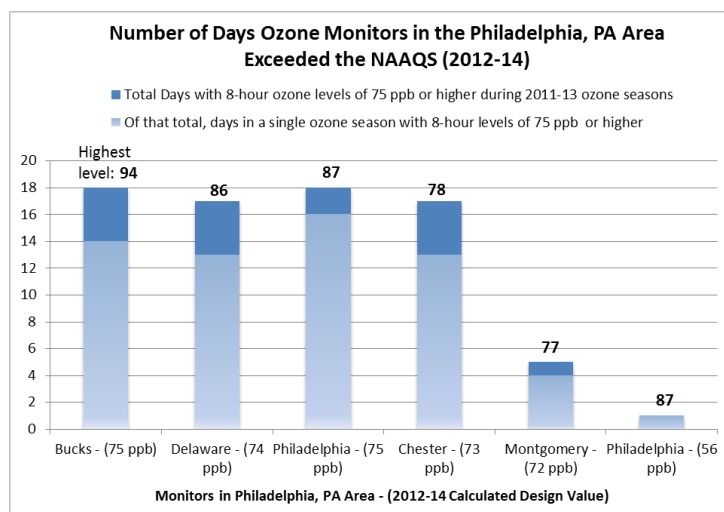
⁴⁵ NCDHHS, Low Income Households and Asthma in North Carolina Fact Sheet, 2011, *available at* <http://www.asthma.ncdhhs.gov/docs/factsheets/2011/LowIncomeHouseholdsAndAsthmainNorthCarolina.pdf>.

⁴⁶ Data derived from: http://www.epa.gov/airdata/ad_data_daily.html.

⁴⁷ US Census Bureau, "QuickFacts: Massachusetts," *available at* <http://www.census.gov/quickfacts/table/PST045214/25,2530840#flag-js-X>

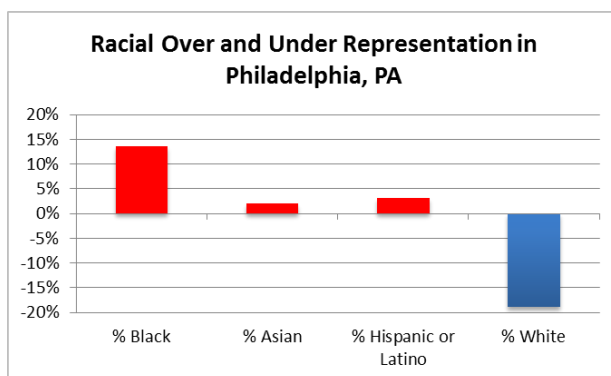
times as likely to be hospitalized for asthma as whites, and Hispanics are three times as likely. And finally, Blacks are over three times as likely to die from asthma as whites.

Fig. 4. Number of Days Ozone Monitors in the Philadelphia, PA Area Exceeded the NAAQS (2012-14)



Source:

Fig. 5. Racial Over- and Under-Representation in Philadelphia, PA



Source:

It is evident that throughout the country, in both currently attaining and non-attaining areas, minority and low-income communities are disproportionately exposed to ozone and bear an undue asthma burden. EPA must address these EJ concerns when setting the level and form of the new ozone NAAQS.

- C. It is practicable to require states to conduct an environmental justice analysis as part of implementation plan submission and approval**

Effective implementation of EPA's Final Guidance in the rule making context also means that, in the context of rules where EPA cannot initially perform an environmental justice analysis due to lack of information on the content of state implementation plans, the agency should require states to conduct such an analysis as part of plan submission and approval. For example, in the proposed Clean Power Plan, EPA has not performed the analysis required by EO 12898.⁴⁸ The agency states that, because it "cannot exactly predict how emissions from specific EGUs would change as an outcome of the proposed rule due to the state-led implementation ... it is not practicable to determine whether there would be disproportionately high and adverse human health or environmental effects on minority, low income, or indigenous populations from this proposed rule." In addition, the proposed rule highlights the co-benefits of the Clean Power Plan in terms of emissions reductions from criteria and hazardous air pollutants, but does not look at how those benefits could be distributed to minority and low-income communities because there is no analysis of communities overburdened by criteria air pollutants and their resulting health impacts.⁴⁹

In the proposed Clean Power Plan, EPA is essentially leaving the decision on how to avoid the creation of environmental justice impacts to the states. The proposed rule provides that a state can take steps to avoid increased utilization of particular fossil fuel-fired power plants, and thus avoid increased emissions of regulated pollutants with localized environmental effects. To the extent that states take this course of action, "there would be no new environmental justice concerns in the areas near such EGUs."⁵⁰ EPA also contemplates that any environmental justice impacts that result from the implementation of the rule will be dealt with after the fact, because existing tracking systems will inform EPA and the states of which power plants have increased their utilization significantly, to enable them to prioritize efforts in assessing changes in air quality in the vicinity of such plants. *Id.*

The Clean Power Plan differs from other environmental rules because, as proposed, it provides states with great flexibility to comply with the required state targets through the combination of emission reduction measures that makes the most sense depending on their particular circumstances. This is why EPA cannot at this point predict with certainty which fossil fuel-fired plants will increase or decrease their utilization as a result of the implementation of this rule. While EO 12898 is addressed directly to the activities and policies of federal agencies, in order to implement its Final Guidance effectively EPA could determine, in the context of rules that provide flexible avenues for compliance (such as, for example, the Clean Power Plan and rules issued under Section 110 of the Clean Air Act, which require the development of state implementation plans), that it is practicable to require states to conduct an environmental justice analysis as part of the development of their implementation plans and to effectively address EJ concerns in order to receive plan approval. This will ensure that EJ impacts are avoided and benefits to EJ communities are encouraged as a matter of compliance plan design.

⁴⁸ RIA at 7-9 to 7-13.

⁴⁹ 79 Fed. Reg. at 34,950.

⁵⁰ 79 Fed. Reg. at 34,949.

To this end, EPA needs to provide guidance to states on how to prepare this analysis and effectively address environmental justice in their plans.

EPA is also authorized to require owners or operators of affected stationary sources to provide necessary information to assist in the development of state plans pursuant to Section 114 of the Clean Air Act.⁵¹ The information collected from states and owners and operators of affected sources will enable the agency to prepare a full-fledged environmental justice analysis as required under EO 12898, which EPA should complete before approval of state plans. Once EPA has collected and assessed state-specific environmental justice analyses, this information will enable the agency to assess the environmental justice implications of its rules (in terms both of mitigation of adverse impacts and distribution of benefits) at the national level.

D. EPA must provide guidance to staff and states on how to conduct an environmental justice analysis and address minority and low-income communities' concerns

EPA must provide guidance to its own staff (both in Headquarters and in the EPA Regions) and to states on how to prepare an environmental justice analysis and address adverse impacts and distribution of benefits to minority and low-income communities in the agency's rules and their implementation plans. EPA has done robust environmental justice analyses of its rules in the past that can help towards this guidance. In particular, the environmental justice analysis to the Definition of Solid Waste ("DSW") rule,⁵² together with EPA's Final Guidance, provide agency staff and states with a robust sample methodology that agency staff and states can use (and then adjust as appropriate) to develop expanded EJ analyses. In the EJ analysis on the DWS rule, EPA mapped the facilities that it thought may take advantage of the rule against the demographics of the surrounding communities, finding that certain population groups would experience an increased risk of adverse impacts. EPA then incorporated means to mitigate these adverse impacts, for example, by closely monitoring the facilities that notify under the rule.⁵³

The DSW Rule analysis used a 6-step approach to identify affected areas and formulate targeted requirements to improve both oversight and accountability for hazardous materials recycling regulated under the rule:⁵⁴

1. Hazard characterization
2. Identification of potentially affected communities
3. Demographics of potentially affected communities

⁵¹ 42 U.S.C. §7414(a)(i)(1).

⁵² [Cite]

⁵³ *Id.*

⁵⁴ EPA, *Environmental Justice Analysis of the Definition of Solid Waste Rule: Draft for Public Comment* (June 30, 2011), available at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-RCRA-2010-0742-0004>, at ii.

4. Identification of other factors that affect vulnerability in potentially affected communities
5. Assessment of disproportional impact
6. Identification of potential preventive and mitigation strategies

In providing guidance to agency staff and states on how to perform an environmental justice analysis of an environmental rule, we suggest EPA to review the above methodology and perform those steps that it can readily execute using publicly available information on pollution from the regulated sources contained in the agency's various databases, demographic information available in the U.S. Census, and information on cumulative impacts, as documented in extensive research under various EPA programs and environmental justice screening tools. Sierra Club believes that, under any rule, EPA can characterize the potential hazards from the application of the relevant rule in detail.

EPA can also identify potentially affected communities (in many cases located in close proximity to the sources of pollution regulated under the relevant rules) and their demographic make-up. In the context of the Clean Power Plan, for example, EPA can assess and explain the co-pollutant implications of the increased utilization of coal-fired and gas-fired plants that are located in areas where minority and low income communities reside. Utilizing its unit-level data, EPA can identify plants with large co-pollutant emission levels and "map" these facilities against the demographics of the surrounding communities.

EPA can also assess other factors that increase the vulnerability of those communities (for example, other sources of pollution), based on information available in its own environmental justice screening tools such as EJSCREEN and EJView, as well as web-based tools such as Google Earth. EPA may also require states to provide detailed information on their minority, low income, and indigenous communities and the different kinds of localized pollution hazards and health impacts they face, some of which is not available in national databases, as further discussed below.

In short, Sierra Club believes that the EJ analysis conducted by EPA under its DSW rule provides a sound methodology to identify potential hazards to environmental justice communities from the implementation of a rule.⁵⁵ It also provides good examples of practical solutions that EPA took to address EJ concerns in the rule. For example, the 2010 proposal required heightened storage and record keeping requirements compared to the 2008 proposal. Companies that sent their hazardous materials offsite for recycling would have to abide by tailored storage standards, and would be required to send their materials to a permitted hazardous waste recycling facility. The rule also required all forms of hazardous waste recycling to meet requirements designed to ensure materials are legitimately recycled and not being disposed of illegally.⁵⁶

⁵⁵ EPA, *Plan EJ 2014*, *supra* at n. x, at 5.

⁵⁶ [Cite]

On the other hand, the concept of distributing benefits from its rules specifically to these communities, as provided in EPA's Final Guidance, needs to be further developed and implemented. The steps in the methodology above are critical to identify those communities whose health and environment are and have for years been overburdened by different sources of pollution, both from the sources regulated under the rules and from other sources. Strengthening environmental regulations will, as a general rule, provide benefits at the national level to all populations affected by those rules. But if EPA really is to make environmental justice part of its mission, the agency also needs to ensure that its agency staff or the states, where applicable, devise targeted efforts to ensure that those communities receive the benefits expected from those regulations.

For example, as discussed above in the context of EPA's proposed ozone standard, minority communities are heavily overburdened by ozone pollution in both attainment and non-attainment areas and, as a consequence, they are greatly affected by asthma, in a much higher proportion than whites are. In order to truly address benefits to these communities from the implementation of the ozone rule, the standard needs to be strengthened, both in level and form. In the Clean Power Plan, EPA has quantified the co-benefits of the proposed rule in terms of emissions reductions from criteria and hazardous air pollutants, but has also acknowledged that its benefit-per-ton estimates "may not reflect the local variability in population density, meteorology, exposure, baseline health incidence rates, or other local factors for any specific location."⁵⁷ EPA and the states must identify EJ communities potentially affected by the increased utilization of fossil fuel-fired power plants and ensure those plants must actually reduce their utilization and thus their emissions. These communities must also benefit from the expansion of renewable energy and demand-side energy efficiency, which the Clean Power Plan authorizes as compliance measures.

In addition, EPA must provide guidance to states on how to integrate environmental justice in the context of state implementation plan revisions to ensure that states continue to address adverse impacts and benefits for environmental justice communities as part of this process. The underlying environmental justice analysis provided as part of initial plan approval may need to be updated to address potential adverse impacts or opportunities for distribution of benefits from the proposed plan revisions. EPA should provide guidance on the type and level of analysis that states should be required to submit as part of their applications for approval.

Finally, Sierra Club commends EPA for providing sample language for the EO 12898 section of its rules to agency staff, as the Final Guidance provides.⁵⁸ In addition, we specifically recommend EPA to create a central repository for environmental justice analyses, and for rule writers to prepare memoranda summarizing the key aspects of the relevant rules at issue and the specific methodologies used in the environmental justice analyses of those rules. If agency staff and states have a robust information resource that they can rely on to conduct and

⁵⁷ RIA at ES-16.

⁵⁸ [Cite]

improve their analyses in future rules, the practice of preparing expanded environmental justice analyses will take root inside the agency and help fulfil the goals of EPA's EJ 2020 Framework.

E. Promoting greenhouse gas reduction co-benefits must be a critical component of the EJ 2020 Framework

The EJ 2020 Framework provides that promoting climate adaptation and resilience and greenhouse gas ("GHG") reduction co-benefits will be a "related effort" under the Framework. Sierra Club fully supports EPA's proposal to incorporate the concept of co-benefits from GHG emissions reductions into its Plan EJ 2020, but believes that it cannot be simply a "related effort." Instead, EPA should incorporate it as one of the key components of effective integration of environmental justice in the rule making context. Standards to reduce GHG emissions from stationary sources such as the Clean Power Plan, which regulates CO₂ emissions from existing power plants, can result in decreased emissions of both criteria and hazardous air pollutants, including sulfur dioxide ("SO₂"), nitrogen oxides ("NO_x"), particulate matter ("PM"), and mercury ("Hg"). SO₂ causes the formation of fine particle pollution ("PM_{2.5}") and NO_x is an ozone ("O₃") precursor. As discussed elsewhere in these comments, these pollutants contribute to an increased risk of premature death, heart attacks, an increased incidence and severity of asthma, and other health effects.⁵⁹

The Clean Power Plan provides EPA with the opportunity to promote GHG reduction co-benefits in a manner that effectively addresses environmental justice. EPA has estimated that the Clean Power Plan specifically will substantially reduce emissions of CO₂, SO₂, NO_x, and directly emitted PM_{2.5}, which could result in lower ambient concentrations of PM_{2.5} and ozone.⁶⁰ The agency has calculated that, in 2020, implementation of the CPP using an individual state compliance approach would yield climate benefits⁶¹ of approximately \$18 billion and air pollution co-benefits ranging between \$17 to \$40 billion, with net benefits (i.e., less compliance costs) of \$27 to \$50 billion.⁶² In 2030, the climate benefits of this approach are estimated at \$31 billion, and the air pollution health co-benefits are estimated to range between \$27 and \$62 billion, with net benefits of \$49 to \$84 billion.⁶³ It is clear that policies intended to address climate change by reducing CO₂ emissions can result in substantial public health benefits through co-pollutant reductions. EPA, however, has not yet addressed the

⁵⁹ RIA, ES-9. The CPP's Regulatory Impact Analysis provides that EPA was unable to quantify all of the climate benefits and health and environmental co-benefits associated with

⁶⁰ RIA, ES-9.

⁶¹ EPA's estimates of climate benefits are based on the average social cost of carbon estimated at a 3 percent discount rate, but the RIA considers the full range of SCC values (model average at 2.5, 3, and 5 percent. Monetized benefits correspond to \$2011 USD.

⁶² Table 18-Summary of the Monetized Benefits, Compliance Costs and Net Benefits for Proposed Option 1 in 2020; 79 Fed. Reg. at 34,943. EPA also looked at monetized climate and co-pollutant benefits, compliance costs, and net benefits of a regional compliance scenario, both in 2020 and 2030.

⁶³ Table 19-Summary of the Monetized Benefits, Compliance Costs, and Net Benefits for Proposed Option 1 in 2030, Id. at 34,944. Monetized health co-benefit estimates do not include the benefits of reducing direct exposure to SO₂, NO_x, and mercury, as well as ecosystem effects and visibility impairment. These unquantified benefits could be substantial.

environmental justice part of the equation, by performing (or requiring states to perform) a robust environmental justice analysis that identifies low income and minority communities overburdened by the impacts of air pollution (including cumulative impacts) to ensure that those communities in particular receive the co-pollutant benefits from the rule, for example, by ensuring that state plans do not allow increased utilization of fossil fuel-fired power plants that affect these communities and that they provide for expanded renewable energy and energy efficiency to directly benefit those communities.

F. EPA must prioritize further research on cumulative impacts and address those impacts in its environmental justice analyses

In preparing environmental justice analyses of its rules, EPA staff must also consider cumulative impacts, i.e., “the impact[s] on the environment which result from the incremental impact of [an] action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”⁶⁴ As EPA itself notes, minority and low income populations are in many instances affected by multiple environmental hazards, such as industrial facilities, landfills, poor housing, leaking underground tanks, pesticides, and incompatible land uses. Analyzing the effects from these multiple stressors would allow a more complete evaluation of pollutant risks to specific populations.⁶⁵

While, as EPA notes in the Final Guidance, the science supporting cumulative impact assessments is still evolving, EPA has already undertaken significant efforts to develop research on cumulative impacts, and should apply it in elaborating EJ analyses of its rules. It is critical to consider the cumulative impacts of multiple stressors when assessing health impacts, including a population’s exposure to multiple pollutants, exposure to higher levels of multiple pollutants, and chronic exposure to lower levels of multiple pollutants. This is particularly true when evaluating sensitive sub-groups such as minority communities and low-income communities that frequently experience higher exposure to air pollution and other disproportionate impacts.⁶⁶ As noted above, minority and low income communities are more likely to live or work near sources of pollution, which is only exacerbated by factors such as health care access, housing market dynamics, and predisposed traits.⁶⁷ These higher pollution burdens are associated with adverse health outcomes such as respiratory and cardiovascular disease, low birth weight, and premature mortality.⁶⁸

⁶⁴ 40 C.F.R. § 1508.7; EPA, Office of Fed. Activities, *Consideration of Cumulative Impacts In EPA Review of NEPA Documents*, EPA 315-R-99-002 (May 1999), available at <http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf>, at 2.

⁶⁵ [Cite Final Guidance]

⁶⁶ Policy Assessment at 1-15; ISA at 8-1, 8-2, 8-2.

⁶⁷ Morello-Frosch et al. (2011). Understanding the Cumulative Impacts of Inequalities in Environmental Health: Implications for Policy, *Health Affairs*, 30(5): 879-887.

⁶⁸ American Lung Association, *State of the Air-Disparities in the Impact of Air Pollution* (2013), available at http://www.stateoftheair.org/2013/health-risks/health-risks-disparities.html#_ftn1.

Controlled human exposure studies are valued for their ability to control and eliminate confounding factors such as temperature, co-pollutants, or allergens, and the epidemiological studies EPA relies upon are subjected to rigorous statistical analysis to control for confounding effect of multiple pollutant exposures.⁶⁹ Yet in the real world, physiological impacts are likely to be even worse than what is experienced in the exposure studies because of the addition of these other factors. The combined effects among air pollutants produce important physiological effects.⁷⁰ Air pollutants are inhaled as a mixture of different sources, yet focus has historically been placed on monitoring and regulating individual pollutants in isolation.⁷¹

In conducting its EJ analyses, EPA should draw on its own Framework for Cumulative Risk Assessment and prior cumulative impacts analyses, such as the one prepared in the context of the DSW rule. EPA may also rely on its own guidance for the agency's review of NEPA documents. Although focused on the analysis of projects on ecological resources, the agency could consider the same principles as applied to socioeconomic and human health issues, particularly with respect to the identification of areas cumulatively impacted by a given measure, the delineation of geographic and time boundaries, the identification of all relevant past activities into the affected environment, the utilization of qualitative and quantitative thresholds to determine degradation and cumulative impacts, and the incorporation of mitigation measures to avoid or reduce the severity of those impacts.⁷²

There are many programs and tools to evaluate different components of risk assessments, for example, the Community-Based Technical Support Forum, an EPA workgroup on technical issues that supports community-based risk assessments; EPA's Community Action for a Renewed Environment ("CARE") program, which addresses risk mitigation needs, and the Office of Research and Development's ("ORD") National Exposure Research Laboratory's ("NERL"), which develops and applies exposure models and tools to conduct cumulative exposure assessments, both with respect to health impact and other stressors.⁷³ NERL is also developing the Community-Focused Exposure and Risk Screening Tool ("C-FERST"), which will help identify environmental issues and prioritize exposure and risk reduction efforts based on

⁶⁹ See Proposed Rule at 75,251: "Most O3 effect estimates for lung function were robust to adjustment for temperature, humidity, and copollutants such as PM2.5, PM10, NO2, or SO2."

⁷⁰ J. Mauderly & J. Samet (2009). Is there Evidence for Synergy Among Air Pollutants in Causing Health Effects?, *Environ. Health Perspect.*, 117(1):1-6; ISA sec. 4.3.4.

⁷¹ U.S. EPA, Exposure and Health Effects of Mixtures of Air Pollutants, *available at* <http://www2.epa.gov/air-research/exposure-and-health-effects-mixtures-air-pollutants> (accessed Mar. 16, 2015).

⁷² EPA, *Consideration of Cumulative Impacts*, *supra* n. x, at 5-19.

⁷³ ORD and NERL have also developed models to estimate children's cumulative exposures to chemicals. See Zartarian et al., *ORD/NERL's Model to Estimate Aggregate and Cumulative Exposures to Chemicals: SHEDS – Multimedia Version 4* (Jan. 13, 2011), *available at* http://ghhidetroit.cus.wayne.edu/blog/file.axd?file=2011%2F1%2FSHEDS_Presentation_01-13-2011_clearance.pdf.

EPA's best available information.⁷⁴ Furthermore, EPA's Community Cumulative Assessment Tool ("CCAT"), currently under development, will use information from C-FERST in order to inform the public about the process and complexities of assessing cumulative impacts.⁷⁵ To the extent EPA needs more community-level information to prepare a comprehensive "cumulative effects" analysis, it should ask the states to provide it in their own environmental justice analyses in state plans.⁷⁶ EPA must, however, continue to prioritize the development of research on cumulative impacts.

G. Comments on EPA's environmental justice screening tools

EPA has a breadth of environmental justice screening tools that can help to integrate EJ considerations in its rules and in "up-front" actions that support the development of those regulations, as the Final Guidance provides.⁷⁷ EPA recently launched EJSCREEN, a new environmental justice mapping and screening tool that provides demographic and environmental information for a selected geographic area. The tool combines environmental and demographic indicators into "EJ indexes" to identify potential exposure and susceptibility to air and water pollution and other environmental risks in a selected location. EJSCREEN's main purpose is to provide a nationally consistent tool that EPA, other agencies, and the public can use to understand demographic and environmental characteristics of different locations defined by the tool users.⁷⁸ Sierra Club recognizes EJSCREEN as an extremely valuable tool, in particular because it summarizes information in percentiles, allowing users to compare environmental information for a selected geographic area to that of the state, EPA region, or the country. Below we offer specific comments on how to further improve this screening tool. We also ask EPA not to discontinue EJView.

1. EPA must prioritize the completion of NATA assessment updates to finalize EJSCREEN

EJSCREEN contains 12 environmental indicators, some of which quantify proximity to sources of exposure to pollutants, and others which estimate ambient levels of air pollutants. Available indicators for air pollution include particulate matter and ozone. Available indicators relevant to a proximity analysis include traffic proximity and volume (amount of nearby vehicular traffic and distance from roads), lead paint (percentage of housing units built before 1960), and proximity to waste and hazardous chemical facilities and sites (National Priorities

⁷⁴ Zartarian et al., *The EPA's Human Exposure Research Program for Assessing Cumulative Risk in Communities*, J. of Exposure Sci. and Env'tl. Epidemiology (April 15, 2009), attached as **Ex. X**, at 352-355.

⁷⁵ EPA, *Plan EJ 2014, Progress Report* (Feb. 2014), available at <http://www.epa.gov/environmentaljustice/resources/policy/plan-ej-2014/plan-ej-progress-report-2014.pdf>, at 23.

⁷⁶ In a separate rulemaking, EPA should issue a cumulative impacts standard that fully recognizes the existence of these effects on minority and low income communities, providing guidance to states, or any other obligated entity under its rules, to identify and address cumulative impacts in all their programs, policies, and activities.

⁷⁷ [Cite]

⁷⁸ <http://www2.epa.gov/ejscreen/how-does-epa-use-ejscreen>

List, Risk Management Plan Facilities, Hazardous Waste Treatment, Storage and Disposal Facilities, and National Pollutant Discharge Elimination System discharges, which have been calculated from various EPA databases.⁷⁹ The data for these indicators ranges between 2011 and 2013. We note that the tool will have to be updated periodically to reflect the latest information available. In addition, EPA has not yet made available several indicators from EPA's National Air Toxics Assessments ("NATA"), including cancer risks, neurological hazard, respiratory hazard, and diesel particulate matter.⁸⁰ Sierra Club urges EPA to prioritize the completion of these assessment updates so that EJSCREEN can be finalized.

2. EPA should add SO₂ to EJSCREEN's environmental indicators

With respect to EJSCREEN's available indicators, Sierra Club urges EPA to add sulfur dioxide (SO₂) to the list of environmental indicators provided by this tool. Exposure to SO₂ in even very short time periods—even five minutes—has significant health impacts and causes decrements in lung function, aggravation of asthma, and respiratory and cardiovascular morbidity.⁸¹ SO₂ pollution can have local impacts on minority and low income communities located in proximity to large sources of SO₂ pollution. Its impacts can also extend far beyond those communities, affecting the health of other populations.

3. EPA must provide detailed guidance on its intended uses of EJSCREEN

The EJ 2020 Framework clarifies that EJSCREEN is a "screening" tool; i.e., EPA uses it as a preliminary step to identify areas that may be candidates for additional consideration, analysis or outreach as the agency develops programs that affect EJ communities. In EJSCREEN's website, EPA indicates that the tool is not used to "label" an area as an EJ community; to quantify specific risk values for a selected area; to measure cumulative impacts of multiple hazards; or as a basis for agency decision making regarding the existence or absence of EJ concerns.⁸² Sierra Club, however, believes that the tool can be used to identify low-income and minority communities suffering disproportionate impacts, without having to formally "label" them as EJ communities. Identifying populations of concern would help agency staff to ensure the agency avoids adverse impacts from their actions and to target the distribution of benefits from its rules.

In its website, EPA also states that the tool is used to help inform outreach to communities; implement aspects of permitting, enforcement, compliance, and voluntary programs; enhance geographically-based initiatives, and develop retrospective reports of EPA work. EPA must provide clarity on how exactly is the tool used in permitting and enforcement processes, so that the public can comment and provide further input on additional ways the

⁷⁹ <http://www2.epa.gov/ejscreen/overview-environmental-indicators-ejscreen>

⁸⁰ Id.

⁸¹ Primary National Ambient Air Quality Standard for Sulfur Dioxide Final Rule, 75 Fed. Reg. 35,520, 35,525 (June 22, 2010)

⁸² <http://www2.epa.gov/ejscreen/how-does-epa-use-ejscreen>

tool could be utilized in these contexts. Training communities in how to use EJSCREEN will also empower them to participate more meaningfully in the actual permitting process. Sierra Club also urges EPA to provide guidance to its staff and to states on how to use EJSCREEN in EJ analyses in the rule making context.

4. EPA must also provide guidance on how to use EJSCREEN for cumulative impacts analyses

Sierra Club believes that EJSCREEN provides valuable information on cumulative impacts by displaying pollution data and data on proximity to sites of concern as percentiles, which allows users to determine how pollution and air quality in a selected area compares to that of the relevant state, the relevant region, and the country as a whole. For example, as shown in Figure 6 below, the EJSCREEN report for Eckert Station Power Plant in Michigan indicates that the levels of PM2.5 within 5-miles of the plant are worse than in 79 percent of the state. Moreover, populations living within 5 miles of the Eckert plant are in closer proximity to other sites of concern than the majority of people living in Michigan. The population living within 5 miles of the plant is also in closer proximity to Treatment Storage and Disposal Facilities (TSDFs) than 76 percent of the state; to National Priorities List (NPL) sites than 94 percent of the state; to Risk Management Plan (RMP) sites than 78 percent of the state; and to Major Direct Water Dischargers than 88 percent of the state. EJSCREEN, however, does not allow mapping all these indicators together, which would be useful for a cumulative impacts screening. (See Figure 7). Sierra Club believes that EJSCREEN's mapping tool would be more useful if users could visualize the EJ indexes both individually and cumulatively.

Fig. 6. EJSCREEN's EJ Indexes for 5 mile radius around Eckert Station, Michigan

| Selected Variables: EJ Indexes | State Percentile | EPA Region Percentile | USA Percentile |
|---------------------------------------|------------------|-----------------------|----------------|
| PM2.5 | 79 | 79 | 66 |
| Ozone | 79 | 79 | 65 |
| Traffic Proximity and Volume | 83 | 86 | 75 |
| Lead Paint Indicator | 84 | 84 | 80 |
| Proximity to NPL sites | 94 | 92 | 84 |
| Proximity to RMP sites | 78 | 77 | 65 |
| Proximity to TSDFs | 76 | 76 | 63 |
| Proximity to Major Direct Dischargers | 88 | 86 | 76 |

Fig. 7. Map of EJ Index PM 2.5 for Eckert Station

Alteryx's Site Selection reports display different population counts for larger geographic areas when compared with EJSCREEN results. By way of example, Figures 8, 9, and 10 below display population numbers for Mount Storm Power Plant in West Virginia, as well as Eckert Station and River Rouge Power Plant in Michigan within a 3 mile, 5 mile and 25 mile radius using both Site Selection and EJSCREEN. As noted, Site Selection displays different population numbers than EJSCREEN. Sierra Club urges EPA to explain in detail how EJSCREEN calculates population counts when users define larger areas, provide more detailed information on margins of error, contrast this information with other available tools, and adjust its population calculations if necessary. EPA has already acknowledged that there is uncertainty in its estimates of smaller areas and has instead suggested using EJSCREEN by defining larger areas in buffer reports.⁸⁸ But it has not addressed possible inaccuracies in population counts in those larger areas. Providing the most accurate population numbers possible is critical this information underlies the tool's EJ Indexes.

Fig. 8. 2010 Census Demographics for Mount Storm Plant, West Virginia

| 2010 Demographics | 3 Miles | 5 Miles | 25 Miles |
|-----------------------------|---------|---------|----------|
| Total Population (Alteryx) | 231 | 681 | 72,791 |
| Total Population (EJSCREEN) | 231 | 710 | 71,098 |

Fig. 9. 2010 Census Demographics for Eckert Station, Michigan

| 2010 Demographics | 3 Miles | 5 Miles | 25 Miles |
|-----------------------------|---------|---------|----------|
| Total Population (Alteryx) | 89,752 | 193,248 | 497,484 |
| Total Population (EJSCREEN) | 89,233 | 192,743 | 501,790 |

Fig. 10. 2010 Census Demographics for River Rouge, Michigan

| 2010 Demographics | 3 Miles | 5 Miles | 25 Miles |
|-----------------------------|---------|---------|-----------|
| Total Population (Alteryx) | 55,537 | 173,489 | 3,037,033 |
| Total Population (EJSCREEN) | 55,496 | 173,177 | 3,039,164 |

6. CalEnviroScreen 2.0 provides good lessons on additional information that EPA could incorporate into EJSCREEN

To further strengthen EJSCREEN we suggest EPA to again review the design of the California Communities Environmental Health Screening Tool ("CalEnviroScreen 2.0"), which California state and local agencies use to identify communities that are disproportionately burdened by different sources of pollution and better direct their resources and programs. CalEnviroScreen 2.0 uses a myriad of environmental indicators, including ozone, PM2.5, diesel particulate matter, drinking water contaminants, pesticide use, toxic releases from facilities,

⁸⁸ <http://www2.epa.gov/ejscreen/limitations-and-caveats-using-ejscreen>

traffic density, clean-up sites, groundwater threats, hazardous waste generators and facilities, impaired water bodies, and solid waste sites and facilities. It also provides information on health and socioeconomic indicators, including age (to distinguish children and elderly populations), asthma rates, low birth weight infants, educational attainment, linguistic isolation, poverty, and unemployment.⁸⁹ The demographic data is derived from roughly 8,000 census tracts (from the 2010 Census) throughout the state.⁹⁰ This tool compiles all of the different indicators when evaluating a particular location, and ranks zip codes statewide for comparison.

EJSCREEN relies on most but not all of these indicators. To the extent that some of the additional indicators of CalEnviroScreen 2.0 are also available in national databases or this information can be collected from state level health agencies (for example, asthma-related information), EPA should incorporate these indicators to EJSCREEN, particularly if those indicators can help to prioritize clean-up and abatement projects. In addition, CalEnviroScreen's scores are, to a degree, based on available scientific literature on environmental pollutants, risk assessment principles (in particular that some populations, such as children, may be 10 times more sensitive to certain chemical exposures), and established risk scoring systems quantifying risks by both the relevant threat and the vulnerability to it. To the extent that these principles have not yet been incorporated in EJSCREEN's calculation of EJ indexes, EPA should integrate them into the relevant formulas used.

7. EPA should not discontinue EJView

EPA's EJView website states that EJView will be taken down in September 2015.⁹¹ Sierra Club urges EPA not to do so. EJView provides valuable information on cumulative impacts in terms of the actual number of potential sources of pollution, by tallying total sites/facilities and environmental concerns in a selected area based on sources that report to EPA under various programs. For example, according to the EJView report for Eckert Station in Michigan, there are 879 sites and facilities and 35 environmental concerns within 5 miles of this power plant. More specifically, EJView identifies 726 hazardous waste sites reporting to EPA, as well as 26 impaired streams within the said radius. In this area there are also 121 schools, 5 hospitals and 147 places of worship.

Cross-referencing EJView's number of environmental concerns and sites with the population information generated in EJSCREEN (which appears to be the same population information available in EJView), we find that 710 people live within the 5 mile radius and are potentially exposed to pollution risks that need to be analyzed further. We appreciate the feature in EJView maps that allows users to click on the relevant objects in the map and be

⁸⁹ <http://oehha.ca.gov/ej/pdf/CES20FinalReportUpdateOct2014.pdf>

⁹⁰ California Env't'l Protection Agency, *Designation of Disadvantaged Communities Pursuant to Senate Bill 535* (Oct. 2014), at 13.

⁹¹ <http://epamap14.epa.gov/ejmap/entry.html>

redirected to the relevant EPA databases in order to gather detailed information on those sites and concerns, which does not exist in EJSCREEN.

Some of the databases where EJView and EJSCREEN draw their information for the analysis of proximity impacts overlap; for example, it appears that both tools use RCRAInfo, which contains information reported by hazardous waste generators, transporters, treaters, storers, and disposers of hazardous waste under the Resource Conservation and Recovery Act, including information on releases and clean-ups, as well as the Permit Compliance System (PCS), which contains information collected under the National Pollutant Discharge Elimination System (NPDES) permit program. But there seem to be other databases used by EJView that have not been incorporated into EJSCREEN; for example, the Toxics Release Inventory (TRI), which contains information about hundreds of toxic chemicals that are being used, manufactured, treated, transported, or released into the environment, as well as the Assessment, Cleanup and Redevelopment Exchange System (ACRES) database, which captures data reported by grantees on environmental activities (assessment, cleanup and redevelopment) under the Brownfields Program.

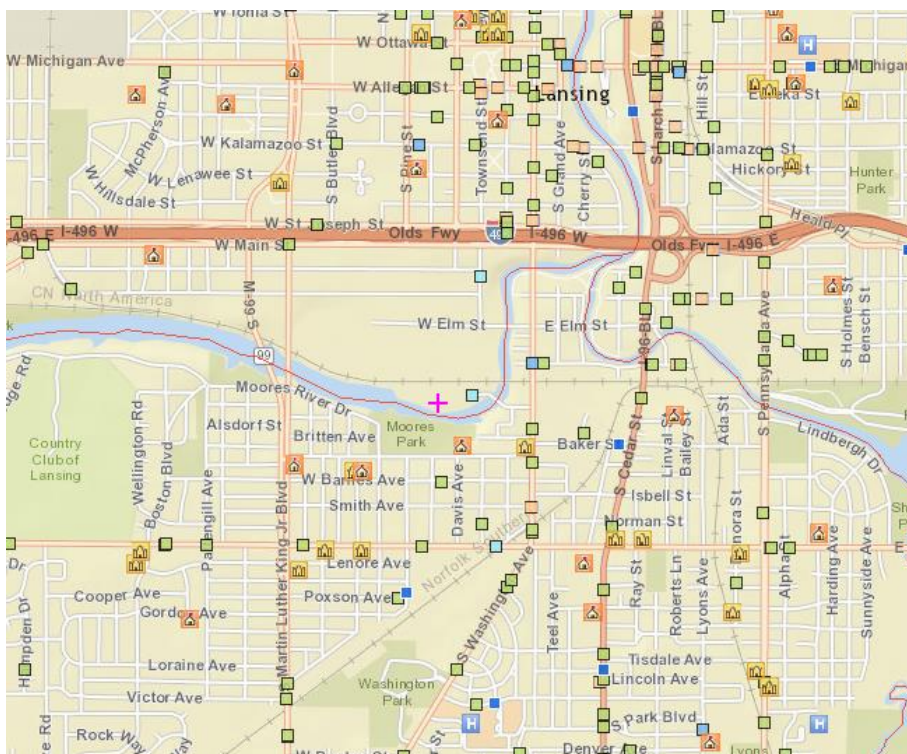
EJView's ability to visualize all these concerns in a single map (individually or together, as chosen by the user) is very helpful to provide communities a full picture of potential cumulative impacts that need to be analyzed further. (See Fig. 12 below for an example). We urge EPA to not discontinue EJView unless it incorporates this aspect of the tool and any other databases that have not yet been incorporated into EJSCREEN. Furthermore, as noted, EPA must ensure EJSCREEN's (and EJView's) population estimates are accurate, so that EJView reports can be compared to the specific populations that these sites and concerns are potentially affecting.

Fig. 11. EJView Environmental Report for 5-mile radius around Eckert Station

| Sites and Facilities | Count |
|--|--------------|
| Air Facility System (AFS) | 33 |
| Superfund Sites (NPL) | 3 |
| Toxic Releases (TRI) | 27 |
| Hazardous Waste (RCRAInfo) | 726 |
| Water Dischargers (PCS & ICIS) | 24 |
| Brownfields (ACRES) | 65 |
| Radiation Information Database (RADInfo) | 0 |
| Toxic Substances Control Act (TSCA) | 1 |
| Environmental Concerns | Count |
| National Water Information System (NWIS) | |
| sites | 6 |
| STOrage and RETrieval (STORET) sites | 3 |
| Impaired Streams | 26 |
| Impaired Waterbodies | 0 |

| | National Parks | 0 |
|--------|----------------|-------|
| Places | | Count |
| | Schools | 121 |
| | Hospitals | 5 |
| | Worship Places | 147 |

Fig. 12. EJView's Map of Environmental Concerns around Eckert Station



Eckert Station is represented by the pink cross in the center of the map. Green squares represent hazardous waste sites; light blue squares are toxic release sites; dark blue squares represent sources of air emissions; and orange squares are brownfields. The houses with flags are schools; the yellow houses are churches, and the letter "H" depicts hospitals. This map shows that there is a school 0.15 miles southeast of the facility, which raises concerns that children may be exposed to various environmental hazards that need to be further evaluated.

H. EPA Must Continue to Ensure Meaningful Involvement of Minorities and Low Income Communities in Regulatory Actions

EO 12898 requires federal agencies to conduct their programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons from participation in these actions, denying them the benefits of those actions, or subjecting them to

discrimination because of their race, color, or national origin.⁹² EO 12898 also seeks to promote public participation by requiring federal agencies to ensure that public documents, notices, and hearings are concise, understandable, and readily accessible to the public” and encouraging them to translate crucial public documents, notices, and hearings for limited English speaking populations.⁹³

In furtherance of these requirements, the Final Guidance provides that “meaningful involvement” means that communities whose health or environment would be potentially affected by a regulatory action should have an appropriate opportunity to participate in and influence those decisions, and that rule-writers and decision-makers should reach out and facilitate the involvement of those populations potentially affected by the agency’s actions.⁹⁴ The Guidance emphasizes that public involvement from minority and low income populations, as well as tribes and indigenous peoples, works best when rule writers consult with these communities early and often so that they can obtain relevant information on their needs and vulnerabilities. To the extent possible, these populations should have a meaningful role in designing the regulatory action.⁹⁵

Sierra Club commends EPA for arranging outreach opportunities for communities to obtain their input in the design of recently proposed rules, and for organizing visits by communities to the agency’s campus in Research Triangle Park. We urge the agency to continue providing these communities with opportunities for meaningful involvement in the process of developing regulatory actions and to increase these opportunities to the extent possible. EPA should also do trainings for environmental justice communities to educate and inform them on the public health and environmental impacts of its actions (both in terms of potential adverse impacts as well as distribution of benefits, as discussed above). EPA’s Final Guidance encourages rule writers to develop a formal public involvement plan early in the rule making process.⁹⁶ Sierra Club believes that this public involvement plan must become an integral part of every regulatory action by the agency.

Finally, EPA’s obligations under EO 12898 also involve public participation from tribes (whether federally-recognized or not) as environmental justice communities. As part of this mandate, EPA must ensure public participation by a broad range of tribal stakeholders (not just tribal officials, which EPA is required to consult with under EO 13175, including community and neighborhood groups; traditional leaders (elders); community service, environmental, and other non-governments organizations; academic institutions; and religious communities.⁹⁷

⁹² § 1-101.

⁹³ § 5-5.

⁹⁴ Final Guidance at 4.

⁹⁵ Final Guidance at 32-33.

⁹⁶ Final Guidance at

⁹⁷ NEJAC, supra n.x, at 49.

II. EPA must ensure that environmental justice concerns are adequately addressed in the operating permit process⁹⁸

EPA must ensure that environmental justice concerns are adequately addressed in the operating permit process through the implementation and enforcement of emission limitations that fully comply with applicable EPA's standards for the regulation of pollution set forth in state implementation plans. For example, under Title V of the Clean Air Act all major stationary sources of air pollution are required to apply for operating permits.⁹⁹ Title V permits must provide for all federal and state regulations in one legally enforceable document, thereby ensuring that all Clean Air Act requirements are applied to the facility and that the facility is in compliance with those requirements.¹⁰⁰ These permits must include emission limitations and other conditions necessary to assure a facility's continuous compliance with all applicable requirements of the Act, including the requirements of any applicable state implementation plan.¹⁰¹ Title V permits must contain monitoring, recordkeeping, reporting, and other requirements to assure continuous compliance by sources with emission control requirements.¹⁰² It is unlawful for any person to violate any requirement of a Title V operating permit.¹⁰³

Under Title V of the Act, EPA establishes the minimum elements that must be included in the operating permit programs, and assists states and local governments in developing their programs.¹⁰⁴ EPA is responsible for overseeing the implementation of permit programs and may object to a permit that fails to comply with the program requirements. The agency is also required to establish a federal permit program in any area where the relevant permitting authority fails to develop and maintain an adequate operating program.¹⁰⁵

Below we discuss the results of Sierra Club's modeling of the permitted maximum allowable SO₂ emission limits of select coal plants, which shows that facilities' permitted SO₂ emission limits can be dramatically higher than what is necessary to adequately protect human

⁹⁸ Sierra Club endorses the comments of the Human Rights Defense Center on the EJ 2020 Framework, which urge EPA to prioritize the provision of the environmental protections intended under EO 12898 to prisoner populations and their families, the great majority of whom are low income and people of color.⁹⁸ HRDC's "Prison Ecology" Project has conducted extensive research to understand how environmental justice criteria have been applied to prisoner populations, particularly in the permitting process, noting that EPA does not take prisoners into account as local residents of the regions where they are incarcerated in assessing environmental impacts from land use decisions on siting the prison facilities. Human Rights Defense Center, *Comment on the inclusion of prisoner populations in EPA's Draft Framework for EJ 2020 Action Agenda*, July 14, 2015.

⁹⁹ 40 C.F.R. § 70.5(a); see 42 U.S.C. § 7661a(a).

¹⁰⁰ See 42 U.S.C. §§ 7661a(a) and 7661c(a); 40 C.F.R. § 70.6(a)(1).

¹⁰¹ See *id.*

¹⁰² See 40 C.F.R. § 70.

¹⁰³ See 42 U.S.C. § 7661(a).

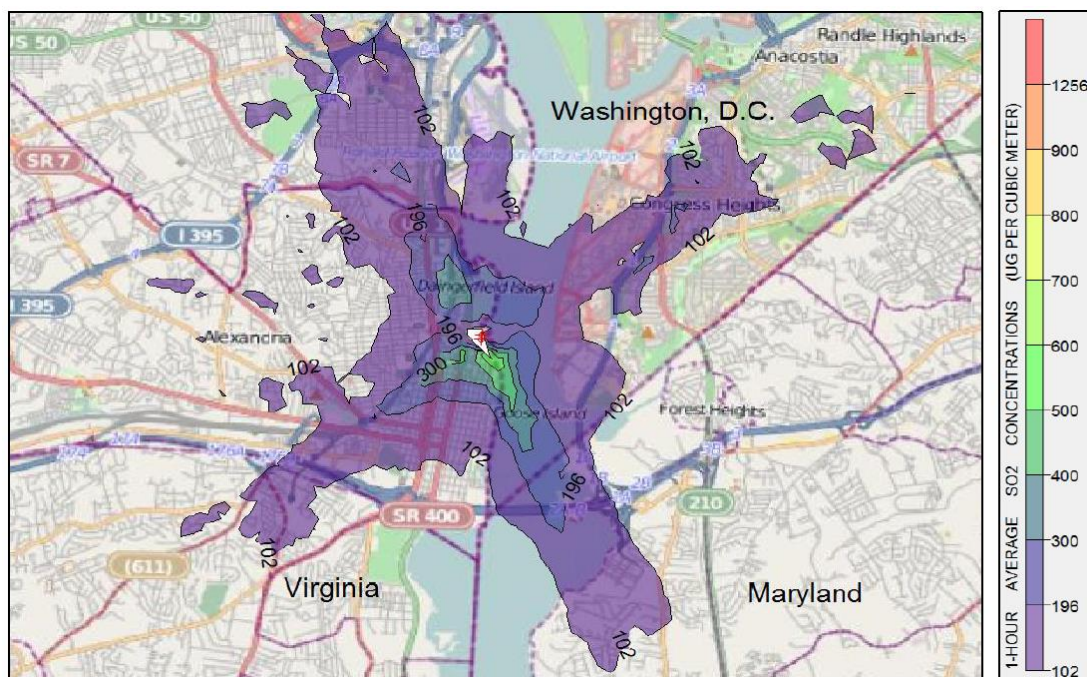
¹⁰⁴

¹⁰⁵ [Cite] <http://www.epa.gov/oaqps001/permits/permitupdate/permits.pdf>

health. The modeling shows that the permitted emission limits caused violations of the 1-hour SO₂ NAAQS, which not only threatens public health but also disproportionately affects EJ communities. Thus, developing permits with restrictive limits is essential to protecting EJ communities, and EPA must play a critical role in this effort.

Specifically, Sierra Club used AERMOD software to model the permitted allowable SO₂ emission limit for the Potomac River Generation Station in Alexandria, Virginia. The resulting SO₂ plume map overwhelmingly demonstrated that the station's emissions were causing violations of the 1-hour SO₂ NAAQS in not only the local area but also in neighboring Maryland and DC. More specifically, the plant was causing violations in DC's Ward 8, which has been consistently the poorest ward of DC and predominantly (93.5%) black.¹⁰⁶ Ward 8 also, perhaps not surprisingly, consistently has the highest asthma emergency department visits for children, adults and the elderly.¹⁰⁷

Fig. 13. SO₂ Plume Map of Potomac River Generation Station, Virginia



NOTE: All colored areas represent a violation of the National Ambient Air Quality Standard for Sulfur Dioxide.

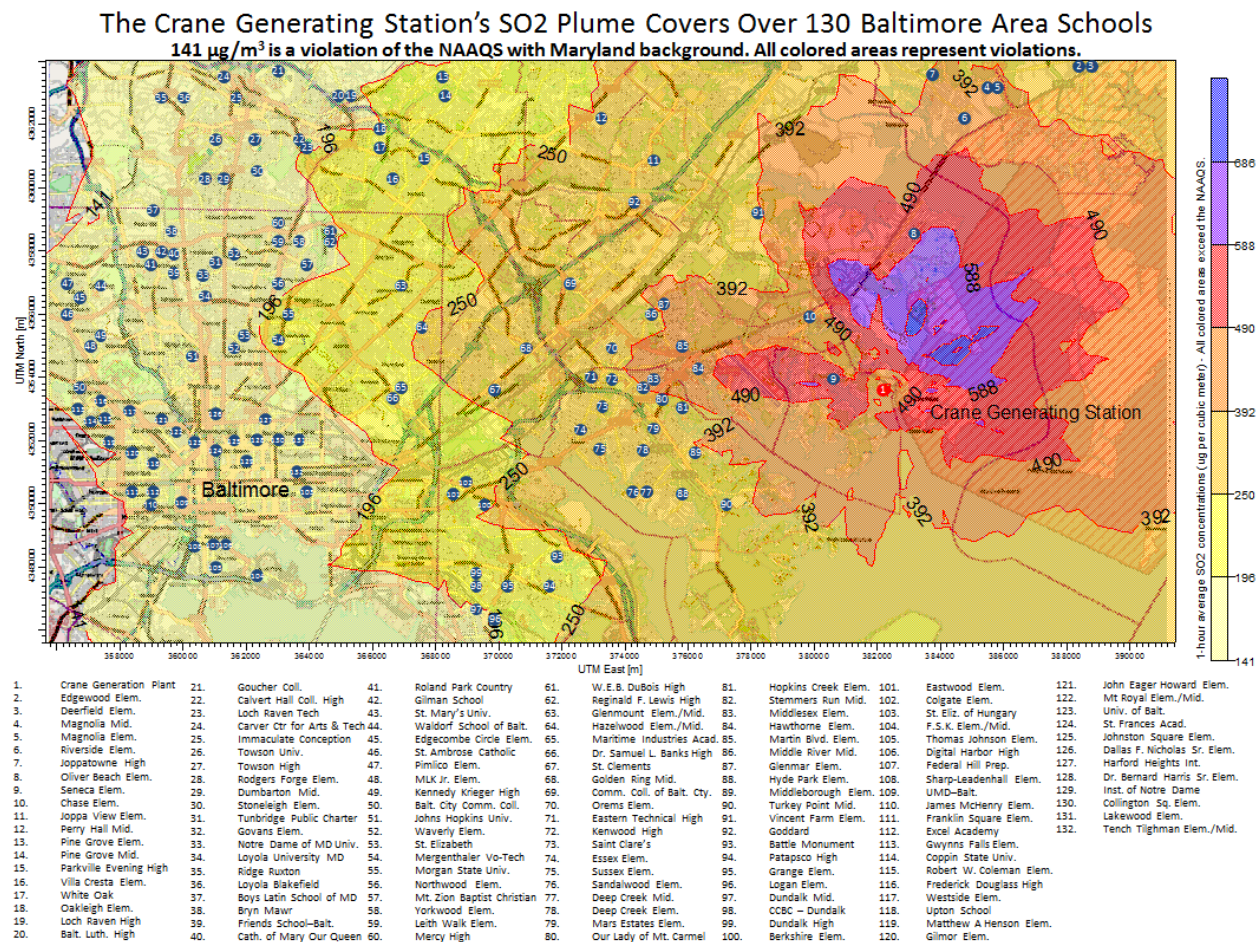
Source:

¹⁰⁶ DC Office of Planning, "Census 2010 Population by Race and Ethnicity – Ward 8," available at <http://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/Census%202010%2520Population%2520by%2520Race%2520and%2520Ethnicity%2520-%2520Ward%25208.pdf>

¹⁰⁷ Children's National Medical Center, DC, "Asthma Surveillance in DC Emergency Departments," available at http://childrensnational.org/~media/cnhs-site/files/departments/impactdc/impact-dc-surveillance-20022011_website-compatibility-mode.ashx?la=en

Similarly, for the Baltimore area Sierra Club used AERMOD to model the permitted allowable SO₂ emission limit for the Crane Generating Station in Bowleys Quarters, Maryland. The SO₂ plume map displayed massive violations of the 1-hour SO₂ NAAQS, including impacts on over 130 schools and Baltimore City, an environmental justice community. As described previously, Baltimore City is a predominantly black county, and has the highest asthma rates and highest poverty rate in all of Maryland.

Fig. 14. SO₂ Plume Map of Crane Generating Station, Maryland



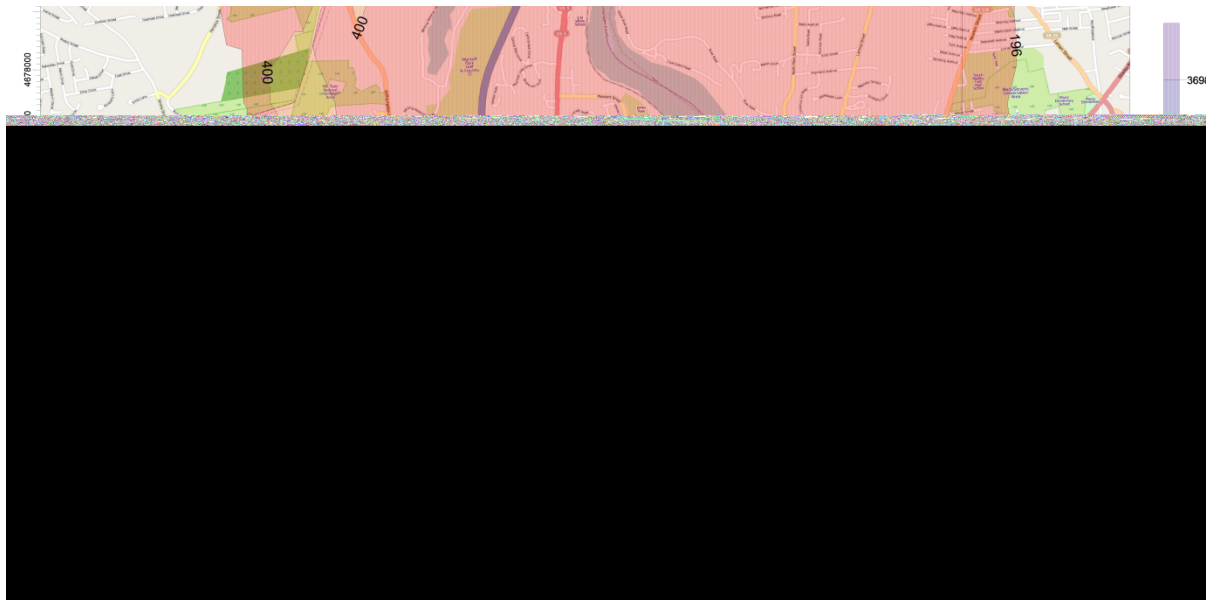
Source:

Sierra Club conducted a similar analysis for the Mount Tom Power Station in Holyoke, Massachusetts. The SO₂ plume map, modeling the plant's allowable emission limit according to its permit, showed flagrant violations of the 1-hour SO₂ NAAQS. Holyoke is located in Hampden County, which has the second highest poverty rate in Massachusetts.¹⁰⁸ Holyoke is also a predominantly Hispanic community, with a Hispanic overrepresentation of nearly 40% and a

¹⁰⁸ US Census Bureau, "American Fact Finder," available at <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

nearly 30% underrepresentation of whites compared to the state average.¹⁰⁹ Holyoke's age-adjusted asthma emergency room visit rate is nearly four times higher the state age-adjusted rate¹¹⁰ and within that metric, Hispanics had by far the highest rate (up to triple) compared to all other races. Moreover, Hispanics were over 2.5 times as likely to go to the emergency room for asthma if they lived in Holyoke compared to the rest of the state. Even more disturbingly, Holyoke's age-adjusted asthma mortality rate is triple the state rate, and the asthma mortality rate for Hispanics in Holyoke in particular is four times the state rate.

Fig. 15. SO2 Plume Map of Mount Tom Power Station, Massachusetts



Source:

In all of these instances, the facilities' permits were so lax that they allowed violations of the 1-hour SO2 NAAQS, endangering local populations and in particular minority communities. EPA should work with states in developing stringent permits to realize the environmental and public health protections intended by the agency's rules, to protect overburdened communities, and to meet its EJ goals under its EJ 2020 Framework.

III. EPA must effectively incorporate EJ concerns in reviewing and approving amended state plans and enforcing the requirements of the SSM rule under those plans

The Clean Air Act requires states to craft state implementation plans to meet Clean Air Act requirements, including the requirement to ensure attainment and maintenance of the

¹⁰⁹ US Census Bureau, "QuickFacts: Massachusetts," available at <http://www.census.gov/quickfacts/table/PST045214/25,2530840#flag-js-X>

¹¹⁰ Massachusetts Department of Health and Human Services, "Asthma – Mortality and Hospital Data," available at <http://www.mass.gov/eohhs/researcher/community-health/masschip/asthma-mortality-and-hospital-data.html>

National Ambient Air Quality Standards (NAAQS).¹¹¹ However, many plans contain illegal exemptions and affirmative defenses that allow polluters to exceed federally-applicable emission limitations during startup, shutdown, malfunction (“SSM”) events without consequences. These SSM loopholes undermine the emission limits in state plans, threaten states’ abilities to achieve and maintain compliance with the NAAQS, and endanger public health and public welfare. These provisions also undermine other requirements of the Act, including Prevention of Significant Deterioration increments, nonattainment plans, and visibility requirements. Ignoring emissions during SSM events undermines the entire state operating program because for years there has been no check on whether SSM events are violating EPA’s standards or the facilities’ applicable permits.

The pollution caused by these events often exceeds the routine pollution levels emitted by a source during normal operations. However, because of the SSM loopholes in state plans, facilities have been effectively exempted from permit limits or face no penalties for these large emissions. Excessive pollution during SSM events from large facilities has devastating impacts on surrounding communities, which are often minority or low income communities. During these events, the facility can emit a toxic mix of pollutants, which the community bears witness to, as described below.

On May 22, 2015, EPA issued a final rule –the SSM Emissions Rule—which requires states to fix these unlawful loopholes in their state plans implementing the NAAQS. The U.S. Court of Appeals for the D.C. Circuit recently evaluated the validity of an affirmative defense provision in EPA’s NESHAP for manufacturers of Portland cement, holding that affirmative defense provisions in EPA’s regulations are inconsistent with Clean Air Act requirements because the Act gives citizens the right to have a court determine whether violators should be penalized for not taking reasonable precautions to avoid upset events that cause disproportionate impacts on the surrounding communities.¹¹² In issuing this rule to ensure that states have implementation plans that are fully compliant with Clean Air Act requirements and are consistent with recent court decisions, EPA has identified loopholes in the state plans of 36 states and issued a “SIP call” to direct them to correct the relevant SSM provisions in their plans. States have until November 22, 2016 to propose the relevant revisions. EPA must effectively incorporate EJ concerns in reviewing and approving amended state plans, as well as in enforcing the requirements of the SSM rule under the approved plans. Below we provide testimony from members of communities that have been disproportionately affected by these SSM loopholes. We hope EPA takes these issues into account in evaluating states’ modified plans, in accordance with EO 12898.

A. Testimony from members of the Fairmount, Alabama community surrounding the Walter Coke Facility

¹¹¹ *Id.* § 7410(a)(1).

¹¹² *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir. 2014)

The federal government has identified environmental justice concerns in North Birmingham, Alabama.¹¹³ Jefferson County, in particular, ranks tenth in the nation for the highest risk of cancer from toxic air pollution.¹¹⁴ In accordance with the SSM exemptions allowed under the current Alabama SIP, the operating permit for the Walter Coke facility, which coke for use in blast furnaces and foundries, allows large excess emissions events to occur without consequence.¹¹⁵ The Walter Coke facility had at least 80 SSM events from July 2008 to June 2012, with many spanning several hours, including one for almost 30 hours.¹¹⁶

Charlie Powell lived very close to the Walter Coke facility for over forty years. His house and car were regularly covered in soot pollution, so he had to routinely hose off his house and if he didn't wash his car weekly, it would accumulate a dense layer of soot that he would have to scrape off the windows.¹¹⁷ Charlie also developed sleep apnea and other respiratory problems while living near the facility, and his wife developed cancer. Since moving a few more miles away from the facility, Charlie's health has improved and he doesn't have to sleep hooked up to a machine as often.¹¹⁸

Eunice Webb is Charlie Powell's 70-year old aunt and she blames Walter Coke for a range of sicknesses that she and her family have suffered.¹¹⁹ She developed asthma after moving to the area, and she lives with her son, who is very sick, and three of her grandchildren, one who has asthma and another who suffers from cerebral palsy. One of her sisters has cancer, both her mom and other sister have suffered from heart attacks, and her husband died of cancer. Air pollution is particularly bad in the summertime, and while Eunice would like to sit outside on her porch, she cannot do so because the poor air quality exacerbates her asthma. The air quality often makes it too difficult for Eunice to go outside at all. She would like to move away from the area, and has family and friends who have already done so.¹²⁰

¹¹³ Defined as "low income, minority communities that are unfairly burdened with industrial pollution." *Deadly Deception*, CBS-TV 42 (Aug. 5, 2011), available at <http://www.cbs42.com/2013/01/11/deadly-deception-part-1/>. In August 2011, CBS-TV 42 aired a documentary titled "Deadly Deception" about the health concerns of North Birmingham residents due to the Walter Coke plant, and other industrial facilities. The opening scenes of the video show flares from the Walter Coke facility and a resident describing how he can taste the chemicals coming from the flares.

¹¹⁴ *Id.*

¹¹⁵ Ala. Admin. Code r. 335-3-14-.03(1)(h)(1)-(2), available at <http://www.epa.gov/region4/air/sips/al/335-3-14.pdf>; see Sierra Club Petition at pp. 17-18.

¹¹⁶ Copies of Walter Coke Six-Month Monitoring Reports from July 2008 to June 2012 as referenced and attached as an exhibit in "Sierra Club et al. Comments Supporting EPA's Proposed SSM Rule," available at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2012-0322-0622>

¹¹⁷ Sierra Club et al. Comments Supporting EPA's Proposed SSM Rule at 30, available at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2012-0322-0622>

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 31.

¹²⁰ *Id.*

B. Testimony from Members of the Detroit, Michigan Community Surrounding the Marathon Refinery

The diverse community surrounding the Detroit Marathon Refinery is located in the zip code with the highest levels of air pollution in the country. One-quarter of the residents live below the poverty level¹²¹ and the community's cancer and death rates are "significantly higher" than the rest of the state.¹²² Since 2001, the Michigan Department of Environmental Quality has issued several air-pollution violations notices to Marathon's Detroit Refinery, but nevertheless in 2008 the refinery underwent a \$2.2 billion dollar expansion to allow it to process more high-sulfur tar sands crude oil from Canada.¹²³ Since that expansion, the community has noticed that flaring events have significantly increased. The Michigan SIP's SSM provisions do not discourage constant flaring events because the SIP allows excess emissions from the facility without penalty. The SIP contains both an enforcement discretion approach to "excess emissions resulting from malfunction, start-up, or shutdown," and an affirmative defense for "excess emissions during start-up or shutdown."¹²⁴

Sherry Griswold has lived within a few hundred feet of this enormous refinery for 21 years, and has raised her children in this home.¹²⁵ For the last five years, Sherry has been tormented by relentless flaring from this facility – usually three times every night. Twenty-foot tall flames shoot out from the flares accompanied by a loud howling sound and a pungent odor. Once while Sherry was in her backyard, a flaring event literally knocked her to the ground. Her house shakes and her ceiling tiles have fallen down during these events. Sherry doesn't have her children and grandchildren come over anymore because she is afraid the pollution from the refinery will impact their health. When the kids did play outside, soot from the flaring would coat their skin, and was very difficult to wash off.¹²⁶

C. Testimony from members of the Shreveport, Louisiana Community Surrounding Calumet Shreveport Refining

¹²¹ Global Community Monitor, Southwest Detroit, available at <http://www.gcmonitor.org/section.php?id=156>.

¹²² Center for Public Integrity, Detroit Refinery expansion adds more Canadian crude, brings more worries, available at <http://www.publicintegrity.org/2012/10/31/11566/detroit-refinery-expansionadds-more-canadian-crude-brings-more-worries#!5>.

¹²³ *Id.*

¹²⁴ Mich. Admin. Code r. 336.1915; id. r. 336.1916, available at <http://yosemite.epa.gov/r5/r5ard.nsf/SIPs%20View%20By%20State%20Main%20View!OpenView&Start=1&Count=30&Expand=3.12#3.12>; see Approval and Promulgation Michigan Provisions for Excess Emissions During Startup, Shutdown or Malfunction, 68 Fed. Reg. 8,550 (Feb. 24, 2003); see also Sierra Club Petition at pp. 44-45.

¹²⁵ Sierra Club et al. Comments Supporting EPA's Proposed SSM Rule at 33.

¹²⁶ *Id.*

The Louisiana Department of Environmental Quality documented over 100 SSM incidents from 2005 through 2012 at the Calumet Shreveport Refining facility,¹²⁷ emitting over 320,000 pounds of unpermitted excess air pollution into the community.¹²⁸ The Calumet Refinery permit allows excess pollution events and flaring because the SIP contains automatic and discretionary exemptions for specific pollutants.¹²⁹ Other conditions and affirmative defense provisions allow Calumet to escape penalties for excess emissions during SSM events.¹³⁰

Velma White has lived two streets over from Calumet's massive oil refinery for over 38 years in the Ingleside neighborhood, a predominately African-American, low income community in Shreveport.¹³¹ When Velma White first moved, the Calumet refinery was a much smaller facility, but it has since expanded from approximately half a block in size to over twelve blocks. Velma White's daughter was diagnosed with renal failure at a young age, and many others in the community suffer from respiratory illnesses, such as asthma, heart disease, renal failure, cancer and skin problems, which Velma believes are caused by pollution from the Calumet refinery. Velma spends much of her time documenting the refinery's accidents and upsets: she usually smells strong odors accompanying the flaring ranging from a rotten egg, sulfuric smell to a more chemical smell, and experiences physical reactions including a burning sensation in her nose and throat, nausea, and a funny taste in her mouth. These symptoms can last for days after the flaring. In addition to the smells, Velma has often awakened in the middle of the night to a loud, roaring noise when the facility is flaring. There also can be a black ash or debris from the flaring, which on occasion has covered her house and property, and even her skin.¹³²

D. Testimony from members of the Port Arthur community surrounding the BASF Chemical Plant and the Total Petrochemicals and Refinery

Hilton Kelley was born in Port Arthur and returned to the area in 2000. He has lived downwind from the BASF Chemical plant and Total Petrochemicals and Refinery for the past 12 years.¹³³ Port Arthur, where most residents are African American or Hispanic,¹³⁴ has one of the

¹²⁷ Louisiana Bucket Brigade, Refinery Accident Database, Calumet Lubricants 8, available at <http://ec2-54-234-227-88.compute-1.amazonaws.com/refinery.php?refinery=BB004>.

¹²⁸ Louisiana Bucket Brigade, Air Emissions - Calumet Lubricants 8 (1214), available at http://ec2-54-234-227-88.compute-1.amazonaws.com/emission_list.php

¹²⁹ La. Admin. Code tit. 33, §§ III:1107, III:1507(A) & (B), III:2153(B)(1)(i), III:2201(C)(8) and III:2307(C)(1) & (2), available at

<http://yosemite.epa.gov/r6/Sip0304.nsf/home?Openview&Start=1&Count=30&Expand=3>;

¹³⁰ Calumet Shreveport Refinery Operating Permit, Specific Requirements, at p. 30

¹³¹ Sierra Club et al. Comments Supporting EPA's Proposed SSM Rule at 33.

¹³² *Id.* at 33-35.

¹³³ Sierra Club Comments Supporting EPA's Supplement to the SSM Rule Eliminating Affirmative Defenses at 14, available at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2012-0322-0961>

highest concentrations of hazardous waste and petrochemical facilities and refineries in the country. He routinely notices soot on the cars in his neighborhood, and a pungent, sulfurous odor in the air. His eyes frequently sting and water when he leaves his house, and when the air smells particularly strong of sulfur, his lips immediately chap and he feels a tingling sensation on his tongue. He also deals with hypertension, sinus problems, and allergies. He did not suffer from any of these ailments before moving back to Port Arthur. His 12-year old grandson lives nearby and spends a lot of time at his house and has, since birth, suffered from respiratory problems, allergies, and sinus infections. His grandson's symptoms persist, and worsen when he spends time outdoors. Hilton had returned home to fight for environmental justice and over the last couple of years, he helped to successfully relocate families from the housing project where he spent his childhood, which was located on the fence line of the Valero and Motiva refineries, to another part of town not directly in harm's way.

IV. EPA must ensure compliance with Title VI of the Civil Rights Act by any entity that receives funding from the agency

EPA must ensure compliance with Title VI of the Civil Rights Act by any entity that receives funding from the agency to implement its rules, programs, and policies. Title VI of the Civil Rights Act ("Title VI"), Section 601, provides that "[n]o person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."¹³⁵ Title VI "reaches unintentional, disparate-impact discrimination as well as deliberate racial discrimination."¹³⁶ Title VI, Section 602, requires every federal agency and department empowered to grant financial assistance to issue regulations to effectuate the provisions of Section 601.¹³⁷

EO 12250, *Leadership and Coordination of Nondiscrimination Laws*, directs federal agencies to issue appropriate Title VI implementing directives, either in the form of policy guidance or regulations consistent with the requirements prescribed by the Department of Justice's Assistant Attorney General for Civil Rights.¹³⁸ The presidential memorandum accompanying EO 12898 also requires federal agencies providing funding to programs or activities that affect public health or the environment to comply with Title VI of the Civil Rights Act.¹³⁹

¹³⁴ See EPA, Environmental Justice Showcase Communities, <http://www.epa.gov/environmentaljustice/grants/ej-showcase.html>

¹³⁵ 42 U.S.C. § 2000d.

¹³⁶ *Guardians Ass'n v. Civil Service Com'n of City of New York*, 103 S.Ct. 3221, 3227 (1983).

¹³⁷ *Id.* § 2000d-1.

¹³⁸ Exec. Order No. 12250, § 1-402.

¹³⁹ *Memorandum from President Clinton Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (Feb. 11, 1994), available at http://www.epa.gov/swerffrr/documents/executive_order_12898.htm.

EPA's implementing regulations forbid recipients¹⁴⁰ of federal funds from using criteria or methods of administering their programs in a manner that has the effect of discriminating on the grounds of race, color, national origin, or sex.¹⁴¹ These regulations also preclude a recipient of federal funds from choosing a site or location for a facility that would result in discriminatory effects.¹⁴² Other EPA's regulations mandate that state agencies that receive federal funds maintain Title VI compliance programs for themselves and other recipients that obtain federal assistance through such programs.¹⁴³

State agencies implementing EPA's rules are responsible for ensuring that EPA-funded activities (for example, permitting processes) conform to Title VI requirements. If any program or measure that was funded by EPA resulted in discrimination on the basis of race, color, or national origin, those agencies would be in violation of Title VI, and aggrieved persons would be entitled to file an administrative complaint with EPA.¹⁴⁴

Title VI cannot be just a "related effort;" it needs to be an integral part of EPA's EJ 2020 Framework. EPA must prioritize and devote additional resources to Title VI compliance and enforcement. As part of this process, Sierra Club reiterates EPA's need to make modifications to the complaint investigation and resolution process in a manner that ensures meaningful participation of environmental justice communities and effective enforcement of Title VI complaints.¹⁴⁵

In addition, if compliance cannot be achieved voluntarily, the regulations authorize EPA to deny, suspend or terminate funding to the particular program under which the agency has found discrimination. EPA may also refer the matter to the Department of Justice to ensure compliance.¹⁴⁶ EPA should make use of this authority if any program funded by the agency results in a Title VI violation. EPA should also finalize its *Draft Title VI Guidance for EPA*

¹⁴⁰ The regulations define "recipient" as "any State or its political subdivision, any instrumentality of a State or its political subdivision, any public or private agency, institution, organization, or other entity, or any person to which Federal financial assistance is extended directly or through another recipient, including any successor, assignee, or transferee of a recipient, but excluding the ultimate beneficiary of the assistance." 40 C.F.R. § 7.25.

¹⁴¹ 40 C.F.R. § 7.35(b).

¹⁴² 40 CFR § 7.35(c).

¹⁴³ 28 C.F.R. § 42.410.

¹⁴⁴ 40 C.F.R. § 7.120.

¹⁴⁵ Letter from Center on Race, Poverty & the Environment, The City Project, Conservation Law Foundation, Earthjustice, Environmental Justice League of Rhode Island, Humansynergyworks.org, New Mexico Environmental Law Center, NRDC, Sierra Club, West End Revitalization Association, Inc., Marc Brenman, and Patrice Lumumba Simms to EPA Administrator Gina McCarthy (Nov. 5, 2013), attached as **Appendix X**.

¹⁴⁶ 40 C.F.R. § 7.130; *Draft Title VI Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs (Draft Recipient Guidance) and Draft Revised Guidance for Investigating Title VI Administrative Complaints Challenging Permits (Draft Revised Investigation Guidance)*, 65 Fed. Reg. 39,650, 39,696-97 (June 27, 2000).

Assistance Recipients Administering Environmental Permitting Programs and its Draft Revised Guidance for Investigating Title VI Administrative Complaints Challenging Permits.

Meaningful public involvement is also necessary to ensure recipients' compliance with Title VI. As EPA notes in its Title VI's "Recipient Guidance," early and inclusive public involvement of environmental justice communities in the permitting process is critical to ensure that the use of federal funds does not discriminate against these communities on the basis of race, color, or national origin.¹⁴⁷ In this guidance, EPA has suggested specific public involvement approaches in the permitting process, which could also inform the development of environmental rules. As noted above, the Final Guidance directs rule writers to develop formal public involvement plans to ensure the participation of EJ communities in the making and implementation of the agency's rules.

Specifically, Title VI "Recipient Guidance" encourages the preparation of a "public involvement plan" with the participation of environmental justice communities.¹⁴⁸ The guidance also suggests equipping communities with appropriate tools such as information materials, training sessions (including in other languages, if there are non-English speaking communities), and grants to ensure their active and effective participation in the plan development process.¹⁴⁹ Finally, funding recipients should work to ensure that local authorities integrate environmental justice concerns early in the process, which will require acknowledging communities' concerns about existing facilities near residential areas; working with the relevant authorities to ensure that data on demographics and location of existing facilities in communities are considered before making any siting decisions; and working with those authorities to identify locations for new facilities that avoid net increases in pollution in communities with disproportionately high exposure or that already host a number of facilities."¹⁵⁰

Respectfully submitted,

Leslie Fields
Violet Lehrer
Alejandra Núñez
Isabelle Riu
Joanne Spalding

¹⁴⁷ *Title VI Public Involvement Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs (Recipient Guidance)*, 71 Fed. Reg. 14,207, 14,210 (Mar. 21, 2006).

¹⁴⁸ *Id.* at 14,211.

¹⁴⁹ *Id.* at 14,213.

¹⁵⁰ *Id.* at 14,214-15. This would be the case, for example, if EPA allowed new gas-fired power plants as a compliance measure under state plans. However, we believe that EPA should not allow new gas for compliance, as we discuss in Section X.

Natalie Spiegel
Joshua Stebbins

Sierra Club

50 F St. NW, 8th Floor
Washington, DC 20001
leslie.fields@sierraclub.org