Lessons Learned from Flint, Michigan: Managing Multiple Source Pollution in Urban Communities

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LESSONS LEARNED FROM FLINT, MICHIGAN: MANAGING MULTIPLE SOURCE POLLUTION IN URBAN COMMUNITIES

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I. INTRODUCTION

Many communities nationwide host multiple environmentally noxious facilities, disproportionately bearing the burdens associated with environmental contamination.1 Multiple source pollution often arises in areas where the population of minorities is high and the average income level is low.2 One such community in Flint, Michigan epitomizes the model of multiple source pollution, with its challenges and efforts paralleling those of many other minority communities nationwide. As the host of over 227 environmentally noxious facilities,3 the residents of this predominantly minority community attempted to impede the siting of two additional facilities by arguing that regulators failed to consider the environmental health impacts from other facilities in the area.4 The Flint site received national attention as a controversial civil rights and environmental justice debate.5

Based upon conclusions drawn from Flint, this Article argues that

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1 See Robert D. Bullard, Building Just, Safe, and Healthy Communities, 12 TUL. ENVTL. L.J. 373, 397 (1999); see also Jill E. Evans, Challenging the Racism in Environmental Racism: Redefining the Concept of Intent, 40 ARIZ. L. REV. 1219, 1225 (1998).

2 See Bullard, supra note 1, at 378.


the existing legal framework fails to account for the cumulative effects associated with multiple source pollution. It further contends that communities like Flint should receive real, tangible incentives, such as guaranteed employment opportunities and improved public services, for hosting additional environmentally noxious facilities in the event of siting as opposed to vague promises of economic development. Part II identifies characteristics of host communities and defines cumulative impacts. Part III outlines the specific problems that the Flint community faced with multiple source pollution and specifically discusses the proposed siting of a wood-burning incinerator, the Genesee Power Station, and a mini-steel mill, Select Steel. Part IV analyzes the Flint case study under the existing legal framework, highlighting its inadequacies. This Article concludes in Part V with recommendations for incorporating cumulative impact assessments into the regulatory process and with a discussion of the difficult choices facing multiple source pollution communities when industrial development is proposed.

II. BACKGROUND: COMMUNITY CHARACTERISTICS AND CUMULATIVE EFFECTS

A. Community Characteristics

Environmental problems in urban neighborhoods arise ultimately from the social challenges facing these minority communities such as political invisibility and economic recession. In addition to environmental degradation, urban areas struggle with problems such as drug abuse, gangs, violence, deteriorating infrastructure, poor public school systems, and inadequate public services.

Pollution is directly correlated with average income level and the racial composition of the Flint neighborhood and others nationwide, because the ability to avoid living in an environmentally contaminated neighborhood hinges largely upon affluence and political power. Individuals residing in communities plagued by multiple sources of pollution generally do not have the ability to escape these areas because of

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financial barriers.\(^9\) Residents with sufficient financial means often move when undesirable land uses emerge in their community, leaving the poor and politically oppressed to contend with pollution and causing the neighborhood to further decline.\(^{10}\) Many communities with multiple environmentally noxious facilities lack the political resources necessary to fight corporate entities, and the existing legal framework is arguably ineffective at preventing additional industrial sitings.\(^{11}\) Environmental health, quality of life, and employment opportunities create interrelated challenges for residents in these host communities.\(^{12}\)

Over the years, environmental contamination has accumulated in American cities and their corresponding residential host communities. Meanwhile, much of the new industrial development has emerged in suburban areas as well as in third world countries where labor laws and environmental regulations are less stringent.\(^{13}\) As a result, many inner-city communities must contend with old manufacturing facilities that operate with outdated pollution control technology and years of accumulated environmental pollution. These areas have also experienced economic depression from widespread unemployment as industry leaves the cities, making the demographic composition of these communities increasingly poor.\(^{14}\)

The siting of new facilities can create high-paying employment opportunities in areas where few well-paying private manufacturing jobs are available to inner-city residents.\(^{15}\) The highest paying jobs available to

\(^9\) See generally Bullard, supra note 1, at 391-93.
\(^{11}\) See infra Part III.
\(^{13}\) Bullard, supra note 1, at 392. By 1990, the suburban population had grown to 46.2%, or nearly half of the nation, while the urban population declined to 31.3%. See also Shelby D. Green, The Search for a National Land Use Policy: For the Cities’ Sake, 26 FORDHAM URB. L.J. 69, 73 (1998).
\(^{14}\) See Bullard, supra note 1, at 392. For instance, manufacturing employment decreased in twelve of the thirty largest United States cities between 1951 and 1970. See also Green, supra note 13, at 74. In 1959, only 27% of the nation’s poor resided in central cities, but that statistic increased to 43% by 1985. See id.
\(^{15}\) James T. O’Reilly, Environmental Racism, Site Cleanup and Inner City Jobs:
non-college graduates arise in the manufacturing sector, and the remainder of the economy, such as the retail and service industries, can gain financial stability as hourly workers pour their resources back into the community. The siting of new manufacturing facilities has the potential to return lost benefits to these communities by training local residents for new employment positions, thereby reducing the number of welfare recipients.

The withdrawal of industry from the inner-city core caused municipal and urban public school budgets to dwindle considerably. Public school programs such as adult education and vocational training suffer as a result. In the past, industry has also produced other tangible benefits, like Carnegie libraries and the Ford Foundation. Thus, politicians and local officials understand that the benefits from manufacturing facilities can “trickle down” to these disadvantaged communities in the form of high-paying jobs, industry-sponsored programs, and an increased tax base.

With the onset of economic depression from decreased job opportunities in the inner-city, many host communities recognize these potential benefits and feel obliged to welcome additional environmentally noxious facilities into their neighborhoods. State and federal officials oftentimes dominate and subsidize these sitings in an effort to spur industrial development in communities that already suffer disproportionately from environmental pollution. In addition, local officials often attempt to entice manufacturing facilities to these areas with tax breaks and other amenities. Many politicians inadvertently exploit the residential communities adjacent to proposed facilities in an effort to attract employment opportunities to the larger geographic area.

Instead of relying entirely upon local officials for representation, residents theoretically have the opportunity to participate in siting

Indiana's Urban In-fill Incentives, 11 YALE J. ON REG. 43, 46 (1994).
16 Id.
17 Id. at 47.
18 Smith & Graham, supra note 6, at 10,570.
19 O’Reilly, supra note 15, at 48.
20 Id.
21 Id. at 47.
22 Smith & Graham, supra note 6, at 10,570.
23 O’Reilly, supra note 15, at 70.
24 See Bullard, supra note 1, at 393.
25 See id.
decisions through the public participation process.\textsuperscript{26} With an emphasis upon compliance with notice and article provisions, regulators overemphasize the technical aspects of the process and exclude socioeconomic considerations.\textsuperscript{27} This mechanical public participation model leads the public to believe that its participation has little influence upon agency decisions.\textsuperscript{28} This pluralistic approach silences certain groups, especially those in racially and economically oppressed communities, and contributes to the environmental and social problems that are prevalent in these areas.\textsuperscript{29}

Certain communities become inundated with environmental contamination and are forced to contend with multiple sources of pollution,\textsuperscript{30} creating a vicious cycle where host communities become increasingly unable to escape the pollution. As a neighborhood becomes increasingly environmentally noxious, residents who can afford to relocate leave the community, driving down property values and deterring higher income families from locating in the area.\textsuperscript{31} Community demographics reflect a continual increase in the number of poor minorities who move to the area or remain there because of low property values.\textsuperscript{32} Corporations continue to propose facilities in these communities and local officials are eager to gain regulatory approval.

In the worst case scenario, facilities site in environmentally saturated communities and residents receive virtually no incentives for the additional units of pollution, as is illustrated in the Genesee Power Station example, discussed \textit{infra}. In the event of siting, communities need to ensure that residents are adequately compensated for hosting additional facilities, using industrial benefits to restore these economically disadvantaged neighborhoods.

\textsuperscript{27} \textit{Id.} at 833.
\textsuperscript{28} \textit{Id.}
\textsuperscript{29} \textit{Id.} at 833-34.
\textsuperscript{30} Bullard, \textit{supra} note 1, at 397.
\textsuperscript{31} \textit{See generally} Been, \textit{supra} note 10, at 1388-91.
\textsuperscript{32} \textit{Id.} at 1390.
B. Cumulative Effects

Incremental and cumulative impacts are largely responsible for health problems and environmental degradation in urban communities. The existing regulatory framework fails to account for the cumulative effects associated with multiple source pollution, and consequently, regulators tend to underestimate environmental health impacts.

In recent years, members of the environmental justice movement have argued that regulators should replace traditional single-medium, single-source risk assessment with a more synergistic approach that considers cumulative impacts. Since most studies indicate that minority and low-income residents experience greater exposure to environmental toxins than their affluent white counterparts, inadequacies with risk assessment disproportionately affect these communities. Regulators have the tendency to underestimate environmental health risks in minority communities because they fail to adequately consider multiple, cumulative, and existing exposures to environmental toxins.

Assessing multiple source pollution involves examining how various environmental impacts interrelate. More specifically, regulators must understand the relationship between direct, indirect, and cumulative impacts. Indirect impacts arise from direct impacts and their effects are generally delayed temporally or geographically. All three types of impacts affect minority communities, but residents in these areas are especially vulnerable to cumulative impacts, which “represent incremental impacts of an action added to other past, present, or reasonably foreseeable future actions.” If an individual has already been exposed to a

33 Lord, supra note 6, at 732.
34 See infra Part III.
35 Foster, supra note 26, at 739.
36 Michael Gerrard et al., The Past, Present and Future of Title VI of the Civil Rights Act as a Tool of Environmental Justice, 10 FORDHAM ENVTL. L.J. 393, 408 (1999).
38 See Sheila R. Foster, Meeting the Environmental Justice Challenge: Evolving Norms in Environmental Decisionmaking, 30 ENVTL. L. REP. 10,992 (2000). See also Kuehn, supra note 37, at 117.
39 Bullard, supra note 1, at 378.
40 Id.
41 Id.
42 Id.
significant amount of pollution, additional exposure will have a greater impact upon that person than one whose exposure is significantly less.\(^{43}\)

Regulators use a process called quantitative risk assessment in the environmental permitting process. Risk assessment uses toxicity and exposure data to estimate the probability and magnitude of adverse environmental health impacts, such as cancer deaths attributable to hazardous toxins.\(^{44}\) In an effort to avoid complex multi-variable assessments, regulators oftentimes focus on a single dimension, generating results that underestimate environmental harm.\(^{45}\) However, some argue that regulators use conservative assumptions in the assessment process that overestimate risk, relying on data from highly sensitive test animals, unrealistic exposures, and high-dose response models.\(^{46}\)

As indicated above, risk assessment generally fails to consider cumulative and multiple exposures to environmental pollutants. Regulators tend to focus upon a single pollutant, medium, or facility without accounting for pre-existing or reasonably foreseeable environmental conditions.\(^{47}\) If the risk assessment does account for cumulative effects, “they are [generally] calculated by adding together the separate risks of exposure to single chemicals instead of measuring the ‘synergistic or antagonistic interactions among multiple chemicals.’”\(^{48}\) Research indicates that the combination of two or three toxic chemicals can potentially increase environmental health effects by thousands of times.\(^{49}\) Additive cumulative effects cause serious environmental health concerns, but the synergistic effects of adding multiple toxins together poses a more serious problem. Cumulative impacts are especially acute in minority and low-income communities where residents are plagued by a disproportionate amount of environmental pollution.\(^{50}\)

Peggy Shepard of the West Harlem Environmental Action

\(^{43}\) Kuehn, supra note 37, at 117.


\(^{45}\) Foster, supra note 38, at 10,997-11,000.

\(^{46}\) Kuehn, supra note 37, at 125.

\(^{47}\) Bullard, supra note 1, at 376.

\(^{48}\) Foster, supra note 38, at 10,998 (emphasis added) (quoting Catherine A. O’Neill, Variable Justice: Environmental Standards, Contaminated Fish, and “Acceptable” Risk to Native Peoples, 19 STAN. ENVTL. L.J. 3, 29 (2000)).

\(^{49}\) Bradford C. Mank, Reforming State Brownfield Programs to Comply with Title VI, 24 HARV. ENVTL. L. REV. 115, 141 (2000).

\(^{50}\) Kuehn, supra note 37, at 119.
Committee suggested that regulated as well as unregulated sources of pollution should be assessed as a part of the regulatory process. Small-scale impacts that fall below the threshold for government regulation may go virtually unnoticed individually, but may collectively exacerbate environmental health problems. Congress directed the Administrator of the Environmental Protection Agency ("EPA") to list area sources (stationary sources of hazardous air pollutants that are not considered major sources) that constitute a human health threat either individually or in the aggregate, under section 112(c)(3) of the Clean Air Act ("CAA"). Thus, Congress has recognized the importance of evaluating multiple sources even if the EPA has been slow to respond. In addition to the aggregate effects from stationary sources, factors such as contamination from lead-based paint in local housing units, emissions from nearby freeway traffic, and pollution from unregulated sources such as dry cleaners should also be considered. Environmental effects must be assessed periodically because pollution accumulates and changes form over time.

The risk assessment process should also account for recognizable variations within the community such as age, genetic composition, sex, and ethnicity because these factors affect susceptibility to environmental health problems. Even aspects of an individual's lifestyle such as dietary habits influence environmental health risks. The challenge associated with accounting for individual variables is that susceptibility to risk varies considerably. For instance, five percent of individuals may be twenty-five times more susceptible to cancer than the average person; one percent may be a hundred times more susceptible. Although it would be unrealistic to assume that regulators could produce an individualized risk

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51 See Gerrard et al., supra note 36, at 408.
52 Lord, supra note 6, at 732.
54 Id. § 7412(c)(3).
55 See Lord, supra note 6, at 732; see also Bullard, supra note 1, at 397.
56 See Collin & Collin, supra note 12, at 53.
57 See id. at 56; see also Kuehn, supra note 37, at 122.
59 Kuehn, supra note 37, at 122.
60 Id.
assessment for every resident, the process could certainly account for general trends in the host community.

Some members of the environmental justice movement recommend using risk assessment to help determine cumulative effects. Some express concerns about relying extensively upon risk assessments because of the inadequacies associated with current methodology such as a lack of reliable information. For example, some of the data necessary for an accurate assessment is controlled exclusively by regulated entities that selectively release this information for risk assessment purposes and consequently can shape results. The goal is to adopt a permitting system that accounts for multiple source impacts using cumulative impact data, but does not demand so much information that it overburdens regulators and hinders the process. Among the criticisms of risk assessments are that they are conducted without sufficient public involvement and residents are forced to defend results from inaccurate and incomplete studies.

Communities with multiple facilities are exposed to more pollution than their counterparts in other neighborhoods, and therefore, these residents suffer more from the shortcomings of cumulative impact risk assessment than communities with fewer facilities. Regulators should utilize risk assessment data in a manner that does not decrease public involvement or disadvantage the residents of minority communities.

C. Empirical Evidence of Cumulative Environmental Health Effects in Flint

The condition of the air basin in an urban community often reflects the collective environmental quality of an area because it encompasses transportation, permitted facilities, and under-regulated sources, and consequently provides a useful framework for analyzing cumulative environmental health effects. One such cumulative impact study conducted in Flint, discussed infra, provides an interesting example of the

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62 Kuehn, supra note 37, at 150.
63 See Campbell-Mohn & Applegate, supra note 44, at 100.
64 See Kuehn, supra note 37, at 161.
65 Campbell-Mohn & Applegate, supra note 44, at 119.
67 Kuehn, supra note 37, at 161.
68 Lord, supra note 6, at 725.
Daniel R. Thorell at the Genesee County Health Department conducted a comprehensive study entitled “The Effect of Ambient Air Pollution on Childhood Asthma Hospital Admission and ER Visits in Flint, Michigan” that reflects the cumulative impacts of multiple source air pollution in this community. The study analyzes the connection between the amount of particular National Ambient Air Quality Standards (“NAAQS”) pollutants released into the atmosphere and asthma related hospital visits for children residing in ten different Flint zip codes, including 48505, which encompasses the North Flint neighborhood, discussed infra in Part III.

The study utilized medical records for children under age sixteen who received hospital treatment for asthma from the Hurley Medical Center in Flint from August 4, 1992 to December 31, 1996. During the study period, there were a total of 856 hospital admissions and 1,944 emergency room visits related to asthma, and children residing in zip code 48505 had the most hospital admissions and emergency room visits for asthmatic symptoms. More specifically, with a population of 12,226 residents, 48505 had the second highest incidences of asthma, 546 cases, encompassing 4.47% of the zip code population. Of the other twenty-four zip codes studied, seven zip codes had a percentage of incidences per unit of population below one percent.

Researchers elsewhere have also studied environmental health effects from cumulative air pollution. See Clifford P. Weisel et al., Relationship Between Summertime Ambient Ozone Levels and Emergency Department Visits for Asthma in Central New Jersey, 103 ENVTL. HEALTH PERSP. 97 (1995) (suggesting a correlation between ozone exposure and respiratory response at the present air quality levels). See also Lord, supra note 6, at 726 (citing DIV. OF PUB. HEALTH OFFICE OF RESEARCH AND HEALTH STATISTICS, BOSTON DEP’T OF HEALTH AND HOSP., BOSTON NEIGHBORHOOD HEALTH STATUS REPORT: THE HEALTH OF ROXBURY (1994) (concluding that the minority community of Roxbury had a 138% higher incidence of hospital admissions for adult bronchitis and asthma than the remainder of Boston, Massachusetts)).


Id. Statistics were calculated from the “Incidence of Asthma in Genesee County For Children” chart. See id.

Id.
Researchers also concluded that 48505 was among the three zip codes with the lowest socioeconomic status, with most of the housing in the area dating from before 1959.  

The study indicated that multiple source air pollution in this community can be attributed to the 177 facilities in Genesee County operating under Michigan Department of Environmental Quality ("DEQ") issued air permits as well as unregulated sources such as small paint and machine shops, automobiles, and up-wind pollution. At the DEQ Whaley Park Monitoring Station, researchers measured three NAAQS pollutants: particulate matter, sulfur dioxide, and ozone. The study concluded that emergency room visits increased by 38.5% when ozone increased 135.1 \( \mu \text{g/m}^3 \) above the mean daily maximum concentration of 94.5% \( \mu \text{g/m}^3 \) and hospital admissions increased by 30%. Emergency room visits increased by 9.2% when sulfur dioxide increased 21.8 \( \mu \text{g/m}^3 \) above the mean daily maximum of 27.5 \( \mu \text{g/m}^3 \).

This particular study found a strong correlation between low level exposure to ozone and sulfur dioxide and asthmatic health effects in children. Researchers further noted that the existing NAAQSs for industrialized areas such as Flint might be ineffective at protecting urban residents from the adverse health effects associated with multiple source pollution. The NAAQS are currently set too low to protect the health of residents in communities faced with multiple source pollution.

It is useful to consider the legal significance of cumulative impact data such as the Thorell study. This data is probably insufficient to support a tort claim against a specific facility because proving causation would be extremely difficult, and could not realistically reach the cumulative impact issue. Communities may be able to utilize this

81 Id.
information in a Title VI action to the extent that plaintiffs can demonstrate discrimination by a regulatory agency in allowing disparate cumulative impacts in their neighborhood. This data will probably be most effective during the permitting process. If communities can provide regulators with concrete data demonstrating cumulative environmental health impacts from multiple sources of pollution, agencies may be prevented from issuing additional permits in these areas.

D. Cumulative Effects and the EPA

The EPA has recently begun to recognize the importance of accounting for cumulative effects in the regulatory process. In 1994, President Clinton issued Executive Order 12,898 requiring governmental agencies to consider adverse and disproportionate environmental impacts in minority and low-income communities in agency decision-making. The EPA’s Draft Guidance for Addressing Environmental Justice under the National Environmental Protection Act (“NEPA”) also recently listed multiple exposure sources and/or paths for the same pollutant as among the variables to consider when assessing environmental health impacts.

The EPA released “Guidance for Performing Aggregate Exposure and Risk Assessments” (“Guidance”) on October 29, 1999. Developed by the Office of Pesticide Programs, the document details a ten-step procedure for performing risk assessments on chemical pesticides. The Guidance focuses primarily upon pesticides at this time, but the Agency plans to add non-pesticidal chemicals as technology and resources become increasingly available. While the EPA’s heightened interest in cumulative impact assessment is indicative of a shift towards incorporating multiple source pollution evaluations into the regulatory process, the Agency recognizes that further research and development is necessary to produce comprehensive aggregate pollution assessments.

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84 Id.
85 Id. at 29-41.
86 Id. at 4-5.
87 Id.
III. **FLINT, MICHIGAN: A COMMUNITY PLAGUED BY MULTIPLE SOURCE POLLUTION**

A. *The North Flint Community*

Jacob Stevens, from the state of New York, was the first to settle in the area now commonly known as Flint, Michigan in 1825.\(^{88}\) Prior to his arrival, indigenous peoples inhabited the area, operating a trading post at what they referred to as Grand Traverse.\(^{89}\) The area underwent a series of name changes, and the City was ultimately incorporated in 1855 under the name Flint, after the rocky Flint River bed.\(^{90}\) Flint emerged as an industrial powerhouse for auto manufacturing.\(^{91}\) The first vehicle designed by Louis Chevrolet was produced in Flint, with the assistance of Will Durant, who ultimately founded General Motors Corporation.\(^{92}\)

As Michigan’s third largest city and the Genesee County seat, Flint’s economic stability has prospered and faltered with the auto industry. Flint suffered from local economic depression after General Motors, the city’s primary employer, laid off thirty thousand employees in the 1980s.\(^{93}\) The economic recession continued in Flint when General Motors closed its Buick City Assembly Center in 1999, which employed 2,900 hourly and 225 salaried employees.\(^{94}\)

An urban neighborhood located on the northern edge of Flint epitomizes the problems associated with multiple source pollution faced by communities nationwide. The Flint case study illustrates that the existing legal framework fails to account for multiple source pollution and that residents should receive incentives for hosting additional facilities, where siting is unavoidable or the community decides to voluntarily welcome new industrial development in an effort to economically revitalize the area.

This neighborhood is located on the North side of Flint, Michigan, but residents of this community have been affected by the economic instability of the greater metropolitan Flint area. The neighborhood

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\(^{89}\) *Id.*

\(^{90}\) *Id.*

\(^{91}\) *Id.*

\(^{92}\) *Id.*

\(^{93}\) *See* Moss, *supra* note 3, at 47.

consists largely of low-rise, single family dwellings on residential side streets. A few abandoned houses are dispersed throughout the neighborhood, but the majority are occupied and relatively well-maintained. Local businesses, churches, and the Carpenter Road Elementary School are located on the busy two-lane road that runs through the neighborhood. Numerous environmentally noxious facilities are scattered throughout the community, including oil refineries owned by Marathon and others, Consumers’ Power energy-generating transformers, multiple junkyards, resource scrap recycling facilities, and manufacturing facilities such as the abandoned site of the former General Motors Peregrine plant.

Small farms operated by white families occupied the area north of Flint forty years ago, but slowly the neighborhood began to change. As white families sold their farms, the African-American population began to rise and the community became a target for low-income housing and industrial facilities. Now, approximately sixty thousand individuals inhabit the densely populated North Flint neighborhood, while the community currently hosts 227 environmentally noxious facilities posing potential or proven health risks. "These include[] sites for hazardous waste generation, solid waste disposal, hazardous treatment, storage and disposal facilities; and other sources of known and potential environmental contamination." According to the EPA Toxic Release Inventory ("TRI") database, facilities in Genesee County released 6,381,284 pounds of chemical waste during 1998.

Seventy to ninety-eight percent of North Flint residents are African-American according to 1994 United States Census data. The African-American population accounts for fourteen percent of the State of Michigan, but it comprises nearly fifty-five percent of the residents within a one-mile radius of the Genesee Power Station, one of the major neighborhood polluters, discussed infra.

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96 Id.
97 Moss, supra note 3, at 45-46.
98 Id. at 46. See also Tammy Webber, Power Plant Ruling a Blow to Residents, FLINT J., Dec. 10, 1996, at A1.
99 TRI Explorer, supra note 3.
100 Webber, supra note 95, at A1.
101 Id. Unfortunately, these population statistics are not unique to this particular site. The African American population averages forty-three percent within a one-mile radius of
B. *Genesee Power Station*

For decades, the North Flint neighborhood has increasingly become the site of junkyards, industrial plants, and other environmentally noxious facilities. In 1991, CMS Energy proposed constructing a ninety million dollar wood-burning incinerator in the community. Flint residents announced that the facility would generate energy by burning wood products, including demolition wastes. In addition to the health concerns typically associated with incinerators such as asthma, CMS planned to burn wood waste from old demolished buildings, which may have been coated in lead-based paint and other toxic chemicals. The power station is located directly across the street from the North Flint community; more specifically, the students at the Carpenter Road Elementary school look out their classroom windows to see the large red and white incinerator smoke stack. The incinerator provided only limited opportunities for employment.

Local residents were also concerned about the cumulative effects associated with adding more toxins to the local air supply when neighborhood children already tested high for lead. According to local resident and activist Lillian Robinson, "[w]e are people and we need to breathe." Fifty percent of all children in Flint between the ages of six months and five years exhibited elevated lead readings above the natural background level of twenty-one parts per million according to a report generated by the Governor’s Science Board in 1995. In addition, the Genesee County Health Department reviewed cases of elevated lead blood levels referred by clinics and physicians in the Flint area. The Department

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Michigan's five largest municipal solid waste and demolition wood waste incinerators.


105 Lead poses significant health concerns such as mental retardation, decreased IQ levels, and learning disabilities. Moss, *supra* note 3, at 45.


107 Moss, *supra* note 3, at 47 (noting only twenty new jobs were anticipated).

108 Id. at 48.


110 Moss, *supra* note 3, at 44.
encountered numerous cases, especially in North Flint (where the above-discussed facilities are sited), where patients' levels exceeded ten micrograms per deciliter, the Centers for Disease Control and Prevention's threshold for health concern. Furthermore, soil samples taken within one mile of the Genesee Power Station exceeded natural levels and readings from other Flint areas.

Refusing to consider the cumulative health impacts associated with multiple pollution sources in the community, the DEQ promptly granted the Genesee Power Station the necessary operating permits under the CAA. Guided by community leaders Reverend Philip Schmitter and Sister Joanne Chiaverini of the St. Francis Prayer Center, local residents attempted to enjoin the facility by using both administrative and judicial tactics. The residents submitted a civil rights complaint to the EPA and filed a suit in Genesee Circuit Court against CMS Energy and various governmental entities.

In 1992, the residents filed one of the first Title VI complaints with the EPA's Office of Civil Rights, In re Genesee Power, alleging racial discrimination in the siting process. As discussed above, governmental entities receiving federal funding risk losing that funding if they discriminate against individuals based upon race, color, national origin, or sex. The regulations also prohibit recipients of federal funding from "choos[ing] a site or location of a facility that has the purpose or effect of . . . subjecting them to discrimination under any program . . . on the grounds of race . . . ." The DEQ currently receives $127 million dollars, or approximately one-third of its budget from federal funding, and thus must comply with the Title VI regulations or risk losing

111 See id. at 48.
112 See id. at 46.
113 Id.
114 See Webber, supra note 104, at A9.
115 Id. The Flint site was one of six complaints nationwide that the EPA selected to evaluate whether states violate citizens’ civil rights when issuing permits to facilities in predominantly minority areas. The EPA also chose to assess the connection between civil rights and the permitting process in Button Willow, California; Salinas, California; Hartford, Connecticut; Jacksonville, Florida; and Austin, Texas. Id.
116 Tammy Webber & Jeff Karoub, Steel Mill Builder: Money, Not Probe to Determine Fate, FLINT J., Aug. 27, 1998, at A15. See also Moss, supra note 3, at 44.
118 Id. (citing 40 C.F.R. § 7.35(c)).
this funding.\textsuperscript{119} The residents' Genesee Power Station Title VI complaint remained dormant, with the EPA failing to take prompt action because of limited resources.\textsuperscript{120} Frustrated with the delays associated with the administrative process, the residents decided to pursue judicial remedies.\textsuperscript{121}

The Guild Law Center in Detroit, Michigan sued CMS Energy, the DEQ, Genesee County, and Genesee Township on behalf of the citizen group United for Action, the Flint chapter of the NAACP, and several neighborhood residents.\textsuperscript{122} The Plaintiffs contended that the DEQ violated the Michigan Environmental Protection Act ("MEPA"), the state counterpart to NEPA, the state constitution, and the state civil rights act when it issued permits for the wood-burning incinerator in a predominantly African-American community that was already disproportionately burdened by environmentally noxious facilities.\textsuperscript{123} The DEQ countered that it did not have the authority to deny permits based on demographic factors or cumulative environmental risk, and that it was simply issuing permits in compliance with the NAAQS.\textsuperscript{124}

In November 1995, the DEQ, Genesee Township, and CMS Energy tentatively settled out of court, but the State rejected the agreement in the final stages of negotiation, maintaining that neither race nor socioeconomic factors contributed to the Genesee Power Station permitting decision.\textsuperscript{125} Despite the DEQ's withdrawal, CMS Energy and Genesee Township agreed to the following settlement terms: 1) Genesee Power Station agreed not burn more than twenty percent demolition waste; 2) The facility must remain in compliance with updated federal air emissions standards for lead and other toxins; 3) Genesee Power Station agreed to hire an employee to administer tests and monitor emissions results for six years; and 4) Genesee Township passed an ordinance implementing a comprehensive process for notifying local residents of environmentally noxious projects pending in their community.\textsuperscript{126} This

\textsuperscript{119} Webber, \textit{supra} note 104, at A9.
\textsuperscript{120} Id.
\textsuperscript{121} See Moss, \textit{supra} note 3, at 44.
\textsuperscript{123} Webber, \textit{supra} note 98, at A1.
\textsuperscript{124} Moss, \textit{supra} note 3, at 50.
\textsuperscript{125} Webber, \textit{supra} note 98, at A11.
agreement focuses largely on environmental monitoring mechanisms and provides virtually no compensation or benefits to the local community for assuming the risk associated with this facility.\textsuperscript{127} The contract lacks terms that guarantee local employment opportunities, enhanced tax revenues, or updated public services.\textsuperscript{128}

Since the residents were unable to reach a settlement agreement with the State, Genesee Circuit Court Judge Archie L. Hayman heard the Plaintiffs' case against the DEQ. He issued a permanent injunction against the DEQ on May 29, 1997, ruling that its permitting process failed to protect the health, safety, and welfare of all citizens.\textsuperscript{129} This lack of protection is especially acute in minority and low income areas, where residents are disproportionately exposed to environmental pollution.\textsuperscript{130} Although Judge Hayman acknowledged that the DEQ followed the permitting process, he concluded that these procedures were inadequate to protect the health and welfare of all citizens.\textsuperscript{131}

Judge Hayman recognized that minorities and low-income residents are disproportionately plagued by pollution, but rejected the Plaintiffs' argument that the decision to site the incinerator was racially based.\textsuperscript{132} He stated that environmental pollution presents serious problems for all citizens residing in communities plagued by multiple facilities, regardless of race.\textsuperscript{133}

Instead of focusing on race, Judge Hayman framed the issue in terms of the cumulative impacts associated with siting additional environmentally noxious facilities in communities that already host multiple sources of pollution.\textsuperscript{134} In his opinion, he wrote:

\begin{quote}
The Michigan Department of Environmental Quality's failure to take into consideration the multiple pathways of lead exposure in analyzing the risk to the community is violative of its duty under the Constitution to protect the health, safety and welfare of the citizens of this State.
\end{quote}

\textsuperscript{127} See Tietenberg, supra note 10, at 489-90.
\textsuperscript{128} Id.
\textsuperscript{129} Id. at A1.
\textsuperscript{130} Id. at A11.
\textsuperscript{131} Id.
\textsuperscript{132} Id.
\textsuperscript{133} Id.
\textsuperscript{134} See id.
Quality’s failure to take into consideration the urban environment and the existing sources of pollution therein is violative of its duty under the Constitution to protect the health, safety and welfare of the citizens of this [S]tate.\textsuperscript{135}

More specifically, he questioned whether the DEQ should be required to consider environmental conditions in the surrounding community or whether permits could be issued by only considering emissions from the proposed facility in compliance with the NAAQS.\textsuperscript{136}

After weighing numerous competing factors, Judge Hayman concluded that the DEQ must consider the cumulative impacts from multiple sources and ruled that the State must conduct an environmental impact statement at each applicant’s expense evaluating all of the pollution sources in the community.\textsuperscript{137} The State required the Department of Natural Resources (“DNR”) to conduct environmental impact statements for large-scale and controversial projects in the 1970s and 1980s.\textsuperscript{138} Governor John Engler abandoned this practice and granted the DEQ Director Russell Harding the authority to require the State Environmental Science Board to conduct similar project evaluations, but only when Harding deemed it necessary.\textsuperscript{139} Thus far, Director Harding has not exercised this authority, and as a result, the State of Michigan has failed to examine cumulative environmental impacts for numerous projects.\textsuperscript{140} Judge Hayman’s decision forced the State to consider the total pollution load in the area, thus enjoining the DEQ from issuing new air permits to significant sources of air pollution in Genesee County.\textsuperscript{141} The court of appeals stayed Judge Hayman’s decision and then reversed it (2-1)

\textsuperscript{135} Moss, \textit{supra} note 3, at 53-54.
\textsuperscript{136} Webber, \textit{State Failed, supra} note 4, at A11.
\textsuperscript{137} \textit{See id.}
\textsuperscript{138} \textit{See Webber, supra} note 5, at A9. The DNR had jurisdiction over all environmental and natural resources matters until the 1990s when the State formed a separate agency, the DEQ, to handle the more traditional aspects of regulating environmental conditions. The DNR retained jurisdiction over natural resources management such as forestry, fisheries, and wildlife.
\textsuperscript{139} \textit{Id.}
\textsuperscript{140} \textit{See id.}
\textsuperscript{141} \textit{See Tammy Webber, Air Quality Ruling Limited, Judge Says, FLINT J., June 6, 1997, at A1. At the time of Judge Hayman’s ruling, there were twelve air permits for Genesee County pending before DEQ, but the State obtained a stay of the injunction and was able to continue issuing permits to applicants. Id. at A11.}
per curiam in an unpublished decision. The plaintiffs did not appeal the decision to the Michigan Supreme Court. The Genesee Power Station started operations in 1992 and is currently one of the top fifteen polluters in Genesee County.

The Genesee Power Station epitomizes failure for a host community, producing virtually no incentives to compensate residents for bearing the additional units of pollution. Creating few new jobs or tangible benefits, the facility did not produce benefits that could “trickle down” to the rest of the community and restore economic stability. Instead, the siting further degraded the environment, driving down property values and contributing to the vicious cycle that further depresses such neighborhoods. In the event of siting, community leaders need to ensure that residents receive incentives for hosting additional facilities that can help revitalize these economically depressed areas.

C. *Select Steel*

The Dunn Industrial Group of Kansas City, Missouri publicly announced a proposal to construct a steel processing facility two miles from the Genesee Power Station in 1997. After Judge Hayman’s trial court decision enjoining the Genesee Power Station and the DEQ’s permitting process, the State obtained a stay of the injunction and granted a permit to the Dunn Industrial Group. The Select Steel proposal indicated that the $160 million dollar, 300,000 square foot mini-mill would produce 280,000 tons of industrial grade steel annually.

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142 E-mail from Todd Adams, former Michigan Assistant Attorney General and current Professor at Michigan State University Broad School of Business in East Lansing, Michigan, to Emily Dawson (Mar. 31, 2001) (on file with the author) (Mr. Adams represented the DEQ in the Genesee Power Station litigation).
143 Id.
144 Id.
145 Moss, *supra* note 3, at 47.
146 Id.
150 See Moss, *supra* note 3, at 56.
company planned to implement the latest pollution control technology, emitting one-third the pollution of similar plants, but the facility still would have further degraded air quality conditions by releasing pollutants that pose significant health risks, such as lead. Unlike the Genesee Power Station, the Select Steel facility promised to create over two hundred jobs paying an average of sixteen dollars an hour.

After the DEQ issued the permits to Select Steel in May 1998, Sister Chiaverini and Reverend Schmitter filed a short complaint with the EPA Office of Civil Rights on June 9, 1998, alleging that the mini-mill would impose an "unfair and disparate burden of pollution [upon] a group of minority [residents]."

Located near the corner of Stanley Road and Dort Highway, the proposed Select Steel site is two miles North of the Genesee Power Station and the predominantly minority North Flint community. Within a one-mile radius of the Select Steel site, the population is ninety-three percent white. However, the residents of the North Flint neighborhood live just outside this radius, and consequently, the minority population is thirty-five percent within one and a half miles of the facility. Since the racial composition of the area immediately adjacent to the proposed site is predominately white, this presented interesting challenges for a race discrimination claim. The Plaintiffs argued that the impacts of this facility would create a "disparate impact of pollution" on minority communities within three miles of the facility. The EPA found that the population was 13.8% minority within a one mile radius of the facility, 37.2% minority within a two mile radius, and 51.1% minority within a three mile

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152 See id. at A11.
153 Id. Particulates, nitrogen oxide, sulfur dioxide, volatile organic compounds, carbon monoxide, chlorine, and various heavy metals were among the pollutants authorized for release under Select Steel's permit. Id.
156 Webber & Chiapetta, supra note 151, at A11.
158 Webber & Karoub, supra note 116, at A15.
The residents' Title VI Select Steel complaint ignited considerable political controversy. Concerned about the depressed state of the economy and high unemployment rates, political leaders criticized the residents' opposition to such a promising source of employment. Detroit Mayor Dennis Archer, Governor John Engler, United States Senator Carl Levin, and United States Representative James Barcia were among those who vocalized their disapproval about the residents' opposition to the facility. Senator Levin and Representative Barcia said that the opposition would not improve environmental conditions, but would simply cause the area to lose a potential source of employment.

Faced with pressure from industrial leaders and politicians to resolve the matter before the community lost the facility, the EPA finally responded to the environmental justice issue. The Agency responded promptly to the residents' Select Steel Title VI complaint, producing a decision seventy-four days after filing that dismissed the residents' complaint because air quality protection and public participation were adequate. Meanwhile, the residents' Title VI complaint for the Genesee Power Station was left pending. The EPA's Select Steel Title VI administrative decision contains very little discussion of disparate impact, focusing mostly upon general air quality impacts and public participation. The decision briefly discusses proximate population characteristics, but fails to delve deeply into the race discrimination issues.

In support of its finding that there was no Title VI violation

161 Id. at 13-14.
163 See id. at A1.
164 Id.
165 Id. at A13.
167 Cole, supra note 117, at 381-87. The EPA likely responded to the Select Steel complaint, the first of its type, because of pressure initiated by Governor John Engler, DEQ Secretary Russell Harding, and the Detroit News.
168 See id.
169 See Webber, supra note 166, at A1.
170 Webber & Karoub, supra note 116, at A15.
because public participation was adequate, the EPA interviewed the DEQ employees and examined agency documents concerning public notice and location.\textsuperscript{172} The EPA noted that the DEQ held a public hearing in near proximity to the proposed site, at the Carpenter Road Elementary School, and announced the meeting in three local newspapers, instead of just one, exceeding its regulatory requirements.\textsuperscript{173} The EPA employed a mechanical assessment of public participation, considering only whether the DEQ properly announced and sited the hearing and failing to reach the residents' actual involvement in the process. One of the main criticisms of the existing public participation model is that residents oftentimes feel as if they have little influence upon agency decision-making.\textsuperscript{174} The residents' frustration with the Select Steel public participation process was articulated by community leader Reverend Schmitter, "It was obvious this was a done deal . . . from the beginning. (Public meetings) were a charade so the state could look like it is policing big business."\textsuperscript{175}

Ensuring that minority communities have an opportunity to participate meaningfully in the process is essential because local residents may be in the best position to draw attention to cumulative impacts and environmental health concerns.\textsuperscript{176} In order to be successful at these hearings, environmental justice leaders must utilize public health and environmental impact data to show regulators the disparate effects in their communities.\textsuperscript{177}

Since this was the EPA's first civil rights decision, and seventeen similar complaints, including the one filed for the Genesee Power Station, were still pending, parties on all sides awaited the EPA's Select Steel decision.\textsuperscript{178} The residents promptly appealed the decision, along with twelve other neighborhood groups from five different states, alleging that the "EPA decision to allow the mill stymies attempts to prove environmental racism."\textsuperscript{179} The EPA also announced its intention to conduct a civil rights investigation of the neighborhood that they predicted could take six months, further delaying construction at the Select Steel

\textsuperscript{172} \textit{Id.} at 40-42.

\textsuperscript{173} \textit{Id.} at 41-42.

\textsuperscript{174} Foster, \textit{supra} note 26, at 833.

\textsuperscript{175} Webber & Chiapetta, \textit{supra} note 151, at A11.

\textsuperscript{176} Lord, \textit{supra} note 6, at 732.

\textsuperscript{177} \textit{Id.}

\textsuperscript{178} Webber, \textit{supra} note 166, at A1.

\textsuperscript{179} Area Loses Steel Mill, Report Says, \textit{supra} note 154, at A11.
Despite the EPA's Title VI decision, lucrative tax incentives, and support from many politicians, the Dunn Industrial Group grew frustrated with the public opposition, site uncertainty, and lengthy delays. In April 1999, the Dunn Industrial Group abandoned the Genesee Township site, and announced its intention to site the mini-mill near Lansing, Michigan instead.

Politicians and project proponents were disappointed by Select Steel's withdrawal because the community lost a potential source of employment. But more importantly, some civic leaders expressed concern that "this could send definite future signals that the welcome mat is not out for any other heavy industrial clients that might be looking at Flint and Genesee County." According to Kary Moss, one of the attorneys who represented the community and the current Executive Director of the American Civil Liberties Union of Michigan, "[i]n Michigan, it is easy to scare people over jobs, it sets the framework of jobs vs. environment." Her statement indicates the struggle constantly facing local residents between maintaining a healthy environment and avoiding unemployment. In the event that new facilities are sited in these neighborhoods, community leaders need to ensure that residents receive sufficient incentives for hosting additional environmentally noxious facilities, and that these industries are properly regulated. Facilities offering employment opportunities are oftentimes under-regulated because the community depends upon these jobs to restore and maintain economic stability. Thus, regulators and local governmental officials tend to be more lenient with permitting and avoid enforcement where possible.

In addition to the Dunn Industrial Group, at least four other steel

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180 Webber & Karoub, supra note 116, at A15.
182 Id.
183 See id.
184 Webber & Karoub, supra note 116, at A15.
185 Moss, supra note 3, at 66.
187 Lord, supra note 6, at 726-27.
188 O'Reilly, supra note 15, at 47.
189 See id. For instance, in the minority community of Roxbury, Massachusetts, seventeen auto-related businesses are a source of local employment and most operate without the proper environmental permits. Id.
processing firms have expressed an interest in this particular site because of its close proximity to water, electricity, highways, and railways.\textsuperscript{190} Residents were pleased to have prevented the Select Steel siting, but were also concerned that other firms would continually target the site.\textsuperscript{191} Each newly proposed facility presents similar concerns about cumulative health effects.

Unlike the Genesee Power Station, Select Steel provided enticing benefits for the North Flint community and an interesting starting point for contract negotiation. In addition to promising to employ high-tech pollution control technology,\textsuperscript{192} industrial leaders estimated that the facility would create over two hundred jobs averaging sixteen dollars per hour.\textsuperscript{193} These high paying manufacturing jobs had the potential to boost the local economy, restoring financial stability as workers poured their paychecks back into the community.\textsuperscript{194} Select Steel provides an example of a proposed facility with concrete benefits, promising employment opportunities in an area where few well-paying private manufacturing jobs are available.\textsuperscript{195} Community leaders obviously should strive to prevent the siting of dirty facilities where few incentives exist, but their strategy becomes less clear when presented with a facility like Select Steel that guarantees technologically advanced pollution control technology and concrete benefits such as high-paying manufacturing jobs. Even though the residents successfully impeded the Select Steel siting, this facility provided interesting opportunities for North Flint and demonstrates the type of facilities that should be introduced if siting is unavoidable or residents decide to welcome new industrial development to the area in an effort to restore the economy.

\textsuperscript{191} *Area Loses Steel Mill, Report Says, supra* note 154, at A1.
\textsuperscript{192} Webber & Chiapetta, *supra* note 151, at A11.
\textsuperscript{194} O'Reilly, *supra* note 15, at 47.
\textsuperscript{195} *Id.* at 46.
IV. ASSESSING CUMULATIVE EFFECTS UNDER EXISTING LAW IN FLINT, MICHIGAN

The North Flint site accurately illustrates the challenges that many minority communities face when forced to host multiple environmentally noxious facilities. Economically depressed after General Motors laid off thirty thousand employees in the 1980s, Flint desperately needed new sources of employment. As a result, local governmental officials, as well as state and federal politicians such as Governor John Engler and Senator Carl Levin, encouraged economic development in a community that was already environmentally saturated, hosting 227 other pollution-emitting facilities.

With each new facility and the passage of time, pollution accumulates and cumulative impacts become more acute, causing additional environmental health impacts. Neighborhoods like North Flint often lack political support from government officials who compromise environmental health conditions for manufacturing jobs. Lacking the financial means necessary to relocate their families to communities with less environmental contamination, residents in North Flint and other environmentally saturated communities must utilize the existing legal framework to contend with multiple source pollution. This Section analyzes the Flint case study under the existing legal framework, illustrating the weaknesses associated with relying upon current environmental statutes, zoning ordinances, and Title VI to prevent and redress multiple source pollution.

A. Environmental Statutes

The existing environmental statutory framework does not adequately assess cumulative effects or impose regulations that provide sufficient protection against multiple source pollution. Although most environmental statutes fail to consider cumulative impacts, this Article will focus exclusively on the NEPA and the CAA because both are invoked in the Flint case study. NEPA and media-specific statutes such as

196 Moss, supra note 3, at 47.
197 See Webber, supra note 162, at A1.
198 Moss, supra note 3, at 46.
199 See Webber, supra note 162, at A1.
200 See Bullard, supra note 1, at 391-93.
the CAA have the potential to protect residents from the dangers associated with multiple source pollution. However, the judicial system has weakened NEPA by limiting its application to procedural errors, and the EPA has declined to take cumulative effects into account when setting the NAAQS under the CAA.

1. NEPA

Signed into law in 1970 by President Nixon, NEPA was the first federal environmental statute of its kind. NEPA articulated a national policy vision and implemented procedural mechanisms for integrating environmental values into agency decision-making. The text of the federal act remains virtually unaltered after thirty years, and more than twenty-five states have adopted equivalent state statutes.

NEPA and its state counterparts provide host communities with one mechanism to compel governmental entities to respond to environmental concerns, but critics denounce the statute as wholly procedural and lacking substantive force. In addition to requiring meetings and hearings on proposed projects, NEPA requires agencies to file environmental impact statements, assessing the environmental effects associated with large-scale projects. As a part of this statutory mandate, agencies must consider the "profound impact of man's activities—including the influences of population growth, increased high-density urbanization, and industrial expansion."

Many environmental justice representatives were optimistic that NEPA and its state counterparts would provide a mechanism for redressing environmental disparity, but the statute's practical application is limited, especially after the United States Supreme Court narrowed its scope to procedural errors. In a 1997 study, the Council on

202 Id.
203 Id.
204 See Foster, supra note 38, at 3. Most states have implemented a state statute equivalent to NEPA.
206 Green, supra note 13, at 102.
207 In two unanimous decisions in 1989, Robertson v. Methow Valley Citizens Council
Environmental Quality ("CEQ") concluded that agencies oftentimes simply comply with the procedural requirements of the statute, ignoring the substantive purpose for engaging in this process. The EPA acknowledges the weaknesses associated with NEPA, and as Kathleen McGinty, former CEQ Chair stated, agencies act "as if the detailed statement called for in the statute is an end in itself, rather than a tool to enhance and improve decision-making."

The most crucial criticism of NEPA from the multiple source pollution perspective is that environmental impact statements only assess the impacts of a particular project at a certain point in time, failing to account for trends in development. Requiring agencies to consider multiple source pollution in the NEPA process would be cumbersome, time-consuming, and expensive. If multiple source assessment was incorporated into the NEPA process, regulators could constantly monitor impacts on the community as a whole, with the preparation of each new impact statement. However, agencies may have difficulty defining the scope of the analysis if the statute required multiple source assessment because they would have to define the geographic range and type of facilities to be considered.

Incorporating multiple source assessment into the NEPA process may be unrealistic under the current political structure even though the CEQ regulations require cumulative impact analysis. Preparation of impact statements by federal agencies is becoming increasingly rare, and in Michigan, the process is virtually non-existent. Since Governor John Engler dismantled MEPA, Director Harding has yet to conduct an environmental impact statement through the State Science Board, and consequently, DEQ never assessed cumulative impacts for either the Genesee Power Station or Select Steel. Under the new administrative


208 Lindstrom, supra note 201, at 262

209 Id. at 263 (quoting Kathleen A. McGinty, Preface to COUNCIL ON ENVTL. QUALITY, EXECUTIVE OFFICE OF THE PRESIDENT, THE NATIONAL ENVIRONMENTAL POLICY ACT: A STUDY OF THE ITS EFFECTIVENESS AFTER TWENTY-FIVE YEARS (1997)).

210 See Green, supra note 13, at 105.

211 Lindstrom, supra note 201, at 263.

212 See Webber, supra note 5, at A9.

213 See id.
regime, the DEQ was not required to consider multiple sources of pollution or other large-scale environmental impacts before issuing permits to these facilities.

2. Media-Based Statutes

The media-based statutes have also proven to be inadequate at accounting for cumulative effects in communities like North Flint because they fail to consider the environment as an integrated whole. Under the CAA, the EPA issues health-based standards called NAAQS which are designed to protect public health within a certain margin of safety and account for sensitive subpopulations such as asthmatics and the elderly.

A facility may create a localized "hot spot," where the impact is dangerous in a certain area, but deemed acceptable because its effects are assessed by looking at the entire air basin. Thus, facilities in compliance with the NAAQS are deemed environmentally safe for purposes of the statute, but pollution may still adversely affect community members.

In Flint, even though DEQ's permitting decisions for the Genesee Power Station technically complied with the NAAQS requirements, Judge Hayman ruled that these standards were insufficient to protect the health, safety, and welfare of the residents of North Flint, and thus violated the Michigan Constitution. The judge stated that cumulative effects of multiple source pollution must be considered when issuing permits, even if the emissions comply with the NAAQS. Dr. Stewart Batterman of the University of Michigan and Dr. Rebecca Bascom of the University of Maryland School of Medicine both testified that the lead standard under the CAA of 1978 does not adequately protect human health, even when a facility complies with these standards. Experts maintain that insufficient protection results from studies conducted on animals, delays in scientific research, shifts in pollution from one medium to another, and high emission levels in these communities. Even the DEQ's

214 See Green, supra note 13, at 105.
216 See Foster, supra note 38, at 13.
217 Webber, State Failed, supra note 4, at A1.
218 Id.
219 Moss, supra note 3, at 51.
220 Id.
toxicologist conceded that the existing lead standards are outdated and inconsistent with technological advancements.\textsuperscript{221}

The existing NAAQSs do not adequately account for multiple source pollution because these standards only account for multiple sources of a particular pollutant, not for the cumulative effects of multiple pollutants. Consequently, the existing NAAQS framework provides insufficient protection against health risks in certain communities that are disproportionately burdened by environmental contamination.

Some environmental justice leaders might suggest incorporating cumulative impact assessments into media-based statutes to provide increased protection against cumulative impacts. Although the EPA is not currently utilizing the CAA framework to address the concerns associated with cumulative effects, the Agency could issue stricter primary NAAQS nationwide, with a larger “margin of safety,” to account for cumulative effects in communities plagued by multiple source pollution. “The [CAA] . . . instructs EPA in developing ‘air quality criteria’ upon which NAAQS are based to include information on ‘those variable factors . . . which of themselves or in combination with other factors may alter the effects on public health or welfare.’”\textsuperscript{222} If the Agency considered multiple source pollution as one of the “variable factors” in setting the NAAQS, the EPA could promulgate stricter standards that provide more protection to host communities nationwide.\textsuperscript{223}

The existing NAAQSs provide insufficient safeguards for protecting the environmental health of residents, like those in North Flint, but the current framework also fails to account for quality of life issues. Regulators should consider revitalizing the secondary NAAQS under section 109(b)(2) of the CAA, which sets the standards “requisite to protect the public welfare,”\textsuperscript{224} to help improve the quality of life for residents in multiple source communities.

Congress should also consider adopting “hot spot” provisions in the CAA that account for multiple source pollution in highly saturated areas, parallel to section 307 of the Clean Water Act (“CWA”). Section 307(a) of the CWA orders the Administrator of the EPA to consider in the listing of toxic chemicals, the “toxicity of the pollutant, its persistence, degradability, the usual or potential presence of the affected organisms in

\textsuperscript{221} Id. at 53.
\textsuperscript{222} Lazarus & Tai, supra note 215, at 631.
\textsuperscript{223} Id. at 632.
\textsuperscript{224} Clean Air Act, 42 U.S.C. § 7409(b)(2) (1994).
any waters, the importance of the affected organisms, and the nature and extent of the effect of the toxic pollutant on such organisms." Adding such a provision to the CAA would help protect residents from the effects of multiple source pollution in "hot spot" areas.

B. **Zoning Ordinances**

Zoning emerged in the 1920s as the primary mechanism for regulating urban land use in the United States. In an effort to preserve property values, especially in neighborhoods with single-family dwellings, most communities adopted basic zoning. Zoning regulations articulate use classifications for tracts of land and impose additional restrictions such as setback requirements and maximum lot size. Unfortunately, race and class limit the protection that certain communities receive under local zoning ordinances. Zoning ordinances can be used to perpetuate or enforce class differences.

The zoning process is designed to separate inconsistent uses and has been effectively utilized to protect the value of single-family dwellings by preventing environmentally noxious facilities from locating in most middle and upper class residential communities. However, zoning has not proven to provide similar protection to members of minority and lower income communities.

Zoning disputes often arise between residents and industrial leaders over competing property interests. Minority communities tend to be more vulnerable to unregulated industrial growth, inadequate environmental regulation, and insufficient involvement with public policy decisions relating to land use, but they receive less protection under zoning laws than their suburban counterparts. Local officials have historically utilized exclusionary zoning, rezoning, and variances to turn minority communities into "toxic havens" hosting multiple environmentally

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226 See Bullard, supra note 1, at 394. See also J. Peter Byrne, Are Suburbs Unconstitutional?, 85 Geo. L.J. 2265, 2268 (1997).

227 See Bullard, supra note 1, at 394.

228 Id.

229 See id.

230 Byrne, supra note 226, at 2268.

231 Id. at 2270.

232 See Bullard, supra note 1, at 393.
noxious facilities. Local zoning boards rarely consider environmental health effects and rely upon public health departments to contend with the repercussions associated with sited facilities. Thus, the traditional zoning regulations that govern land use decisions in most minority host communities do not help to alleviate the cumulative effects associated with multiple source pollution, but in fact, seem to further perpetuate the problem.

Zoning classifications determine permissible property uses, so if tracts of land are zoned industrial, corporations will likely purchase these parcels to construct environmentally noxious facilities even if the land is adjacent to a residential community like the North Flint neighborhood. Despite the fact that the empty tract of land was properly zoned for a steel manufacturing facility, the residents prevented Select Steel from locating in their neighborhood by placing pressure upon its corporate officers. However, the property is still zoned heavy industrial and so another firm will likely purchase the property and construct an equally environmentally noxious facility on the parcel. At one point, there were four or five other steel manufacturing companies interested in the Select Steel site, so another facility will likely locate on that property unless local officials rezone the parcel.

In an effort to reduce the effects of multiple source pollution, local officials should consider rezoning empty or abandoned heavy industrial parcels to commercial or light industrial grade. Local officials need to rezone parcels, where possible, because otherwise the State will continue to use zoning as a justification for issuing permits. For instance, in the Genesee Power Station dispute, the DEQ argued that zoning ordinances dictate the location of facilities, not the state regulatory permitting process. There is some merit to the DEQ’s argument, so municipalities should rezone property classified as heavy industrial where possible to help reduce cumulative effects and create a buffer for residential inhabitants.

Local officials are presented with an interesting challenge when faced with rezoning environmentally noxious areas. Although they may be

233 See id. at 394.
234 Lord, supra note 6, at 729-730.
235 See Bullard, supra note 1, at 394.
237 Webber & Karoub, supra note 116, at A15.
238 See Webber, supra note 5, at A9.
sincerely interested in rezoning parcels in host communities to improve environmental conditions, political pressure to create economic development may force them to maintain the status quo.

C. Title VI of the Civil Rights Act of 1964

Since the environmental and zoning frameworks provide residents with limited opportunities to challenge discriminatory permitting, many minority communities have sought relief under Title VI of the Civil Rights Act of 1964. President Clinton's Executive Order 12,898 directed all federal agencies, including EPA, to ensure that the programs they fund comply with Title VI. 239

Title VI prohibits discrimination in the disbursement of federal funds, stating 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." 240 Title VI provides minority communities with leverage because the EPA has the ability to terminate federal funding to state agencies that discriminate in the permitting process. 241 State agency actions that create a disparate impact upon racial minorities violate Title VI, and procedures denying, suspending, or terminating funding are supposed to be implemented once the EPA discovers such violations. 242

Residents of minority communities may file Title VI complaints directly with the EPA, which in turn, is ordered to conduct an investigation and issue an administrative decision. 243 Under the EPA's Title VI regulations, the Agency is supposed to render a determination within 180 days, but numerous complaints remained dormant within the EPA for extended periods of time. 244 Fifty environmental justice complaints were filed with the EPA between 1993 and 1998 challenging permitting decisions, and approximately half of those complaints are still

239 See Lazarus & Tai, supra note 215, at 627.
241 See id. at 62.
242 See id. at 62-63.
244 See id.
unresolved.\textsuperscript{245} Even if the EPA issues a favorable decision under Title VI, the injustice is difficult to correct and remedies involve retroactive, not proactive relief. Minority communities have the ability to file a Title VI complaint where regulators have failed to account for multiple source pollution under other areas of law.

Since existing environmental statutes and the traditional zoning process proved ineffective at reducing disparate impacts in Flint, the community sought relief under Title VI. The North Flint residents filed a complaint for the Genesee Power Station in 1992\textsuperscript{246} and one for Select Steel in 1998,\textsuperscript{247} alleging disparate environmental impact in their community. The EPA had the authority to terminate the DEQ’s federal funding upon determining that its environmental permitting process discriminated against the North Flint residents\textsuperscript{248} because the DEQ receives $127 million dollars in federal funding annually.\textsuperscript{249}

The North Flint residents found administrative action under Title VI to be slow and ultimately unsuccessful. Numerous complaints from minority communities nationwide, including the Genesee Power Station complaint, remained dormant with EPA for extended periods of time.\textsuperscript{250} When the residents filed their second Title VI action for Select Steel in 1998, the Genesee Power Station complaint from 1992 was still unresolved.\textsuperscript{251} Pressure from politicians and industrial leaders forced EPA to promptly investigate the Select Steel complaint,\textsuperscript{252} and the Agency ultimately issued a decision, ruling against the residents.\textsuperscript{253}

Select Steel illustrates the problems and benefits associated with legal and administrative action. While the litigation opposing the facility was pending, Select Steel grew frustrated with the slow judicial and administrative process, and abandoned the site, creating a victory for the local residents.\textsuperscript{254} The community could have used this litigation to create bargaining power with the Dunn Industrial Group if corporate officials had continued to pursue the site. In the Genesee Power Station case, the

\textsuperscript{245} Mank, \textit{supra} note 49, at 146.
\textsuperscript{246} See Webber, \textit{supra} note 104, at A9.
\textsuperscript{247} See Cole, \textit{supra} note 155, at 10776.
\textsuperscript{248} See Collin & Collin, \textit{supra} note 12, at 62
\textsuperscript{249} See Webber, \textit{supra} note 104, at A9.
\textsuperscript{250} See Webber, \textit{supra} note 166, at A11.
\textsuperscript{251} See id.
\textsuperscript{252} See Cole, \textit{supra} note 155, at 3.
litigation did not generate many positive outcomes for the local residents. Although the residents negotiated a settlement agreement with the corporation, the terms of the contract lacked concrete benefits for the community and focused instead upon reducing environmental impact and increasing public participation for future sitings.\textsuperscript{255} Thus, local residents gained little bargaining power from the Genesee Power Station litigation.

V. LEARNING FROM FLINT: RECOMMENDATIONS FOR MANAGING THE MULTIPLE SOURCE POLLUTION PROBLEM

Flint epitomizes the multiple source pollution problem faced by many minority communities nationwide. As illustrated through North Flint, the existing legal framework fails to properly account for the cumulative effects associated with multiple source pollution. Therefore, governmental entities should work to better incorporate cumulative impact assessment into the regulatory process. Furthermore, if siting is unavoidable or residents decide to voluntarily welcome new industrial development in an effort to provide economic revitalization, communities like North Flint should receive substantial incentives, such as guaranteed employment opportunities and improved public services,\textsuperscript{256} for hosting these additional facilities.

A. Incorporating Cumulative Impacts into the Regulatory Process

Agencies definitely need to consider cumulative impacts, but the challenge is determining where to account for multiple source pollution in the regulatory process. Local, state, and federal governments regulate environmental impacts, and each of these governmental entities can help incorporate cumulative impact assessment into the regulatory process. Governmental organizations vary in their access to information, technology, and financial resources, but together they have the potential to comprehensively assess cumulative environmental effects in minority communities.

At the local level, publicly elected governmental officials receive pressure to create employment opportunities in economically depressed communities.\textsuperscript{257} Many governmental officials are unable to rezone parcels

\textsuperscript{255} See Webber, supra note 126, at A1, A9.
\textsuperscript{256} See generally O’Reilly supra note 15, at 44-48.
\textsuperscript{257} See Bullard, supra note 1, at 392-93.
or pass ordinances designed to reduce cumulative effects because they feel that they would be doing so at the expense of jobs. Therefore, communities need a neutral entity to manage cumulative impact analysis.

With proper funding and support, community health departments may be able to effectively address the cumulative impact problem at the local level because these organizations have access to health information and are subjected to limited political pressure. The San Francisco Department of Public Health executed a program designed to create an environmental profile of the community, assessing health risks, and cumulative impacts from multiple sources. Local environmental justice leaders in San Francisco utilized this information to educate the public and to organize a community response campaign against a proposed facility. Other environmental justice activists such as Peggy Shepard of the West Harlem Environmental Action Committee are recognizing that residents can benefit from such programs, stating that her community “needs a health risk assessment . . . [because] it is imperative to determine whether the cumulative impact of exposure to multiple toxins increases health risks.”

In Flint, Daniel Thorell’s comprehensive study of the relationship between ambient air quality and asthma provides an interesting example of how local entities can gather and analyze cumulative impact data. The next step in the process involves incorporating this type of information into the state permitting and siting decisions. Local entities can begin by ensuring that state regulators receive updated copies of cumulative impact environmental health studies as they become available.

Since facilities must acquire permits from state regulatory agencies to release pollutants over certain threshold levels into the environment, the State plays a fundamental role in ensuring that cumulative impacts are properly assessed. State agencies should consider any cumulative impact data available about the particular community, especially information on local environmental health effects. State health departments could conduct

259 See id. at 415.
260 Id. at 416 (quoting Peggy Shepard, Issues of Community Empowerment, 21 FORDHAM URB. L.J. 739, 749 (1994)).
cumulative health profiles for environmentally polluted communities, where local data is unavailable or incomprehensive. Regulators should also be required to consider other permits issued in the area before granting new permits. Based upon these considerations, state agencies should deny permits to new facilities in communities that are overly saturated with environmental contamination. The main challenge at the state level will be ensuring that agencies actually take a "hard look" at cumulative impacts, and do not simply gloss over this critical information in an effort to fulfill a procedural requirement.

At the federal level, the EPA has recently begun to recognize that ignoring cumulative effects underestimates environmental health risks.\textsuperscript{262} The Agency has access to resources and technology that far exceed that of state and local governments, and consequently, is in the best position to develop a comprehensive cumulative risk assessment program, employing the most recent technological advancements.

In the past, the EPA has attributed its failure to account for cumulative effects to the financial and logistical burdens associated with collecting multiple source pollution data, but it has recently begun to develop more comprehensive risk assessment tactics. New technology can identify and evaluate multiple source pollution using Geographic Information Systems ("GIS") and the EPA's TRI database.\textsuperscript{263} Regulators can use this cutting-edge technology to assess cumulative impacts in communities like North Flint. For instance, the new Landview III GIS software can locate environmentally noxious facilities and determine the levels of pollution being emitted from these sites.\textsuperscript{264} In addition to considering individual facilities and media, EPA also needs to develop mechanisms that evaluate neighborhood conditions and community characteristics. Once the EPA develops such mechanisms, the Agency needs to force state and local governments to consider cumulative impacts when executing regulatory tasks.

B. \textit{Ensuring Substantial Benefits from New Sitings}

Urban communities like North Flint become overburdened with environmental pollution and other social problems such as gang violence

\textsuperscript{262} See Foster, \textit{supra} note 38, at 10,998.

\textsuperscript{263} See Bullard, \textit{supra} note 1, at 377.

\textsuperscript{264} \textit{Id.}
and poor public school systems, creating a vicious cycle whereby residents are unable to escape. As environmental contamination increases, the residents who can afford to do so relocate elsewhere, further reducing property values. Meanwhile, these communities experience local economic depression from widespread unemployment as industry leaves the inner cities for the Third World and the suburbs. These issues become increasingly acute when corporate entities propose siting new facilities in communities that are already disproportionately plagued by environmental and social problems.

The siting of new facilities can create high-paying employment opportunities in areas where few well-paying private manufacturing jobs are available, restoring financial stability as workers pour their paychecks back into the local community, and decreasing the number of welfare recipients. Industry produces other tangible benefits and adds considerably to the tax base, thereby improving schools and municipal services. Many host communities and local politicians understand that new manufacturing facilities have the potential to help revitalize the neighborhood, and therefore welcome new industry to the area.

Regulators and the community should conduct a comprehensive multiple source analysis to determine whether the neighborhood can sustain an additional environmentally noxious facility, as discussed in Part A of this Section. After this point, residents can either attempt to prevent the siting or decide that the collective benefits from the facility, such as employment opportunities and an increased tax base, outweigh the harm from the additional units of pollution. Where siting is unavoidable or the neighborhood decides to voluntarily embrace the facility, community leaders need to ensure that residents are adequately compensated, bargaining for terms that will significantly revitalize the area.

The Flint case study epitomizes two extreme siting examples, the Genesee Power Station and Select Steel. The Genesee Power Station illustrates the worst case scenario for host communities, where residents were unable to impede the siting of an environmentally noxious wood-burning incinerator that generated very few tangible benefits and created

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265 Moss, supra note 7, at 151.
266 See generally Been, supra note 10, at 1388-89.
267 See Bullard, supra note 1, at 392; see also Green, supra note 13, at 74.
268 O’Reilly, supra note 15, at 47.
269 Smith & Graham, supra note 6, at 10,570.
270 O’Reilly, supra note 15, at 48.
only a handful of jobs. This environmentally saturated community must contend with one of the top fifteen polluters in Genesee County\textsuperscript{271} and the larger social, economic, and environmental problems that it generates, yet the neighborhood receives only marginal benefits for this added burden.

Conversely, Select Steel epitomizes the potential for success. Residents forced corporate leaders from Dunn Industrial Group to withdraw,\textsuperscript{272} preventing the siting and thus meeting the goals of community environmental justice movement. Select Steel also exhibits potential, demonstrating many of the qualities that host neighborhoods should look for when siting is unavoidable or the community decides to embrace the facility in an effort to reap the benefits associated with new industrial development.

Select Steel provides an interesting starting place for host communities when negotiating with corporate entities. At the forefront, Select Steel promised to create hundreds of well-paying manufacturing jobs,\textsuperscript{273} and to employ the latest pollution control technology to reduce environmental impacts.\textsuperscript{274} Additional incentives likely could have been elicited through aggressive negotiation. The North Flint community could have utilized this opportunity to help restore the economically depressed neighborhood, but chose instead to fight the siting and prevent further environmental degradation at the expense of hundreds of jobs. The course of action for cases like the Genesee Power Station is relatively clear-cut where few concrete benefits exist, but host communities are faced with difficult decisions when opportunities like Select Steel arise because the various quality of life issues and value judgments so strongly conflict.

\textsuperscript{271} Moss, supra note 3, at 47.
\textsuperscript{273} Id. at A1.
\textsuperscript{274} Webber & Chiapetta, supra note 151, at A1.