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## **DRAFT TECHNICAL GUIDANCE FOR ASSESSING ENVIRONMENTAL JUSTICE IN REGULATORY ANALYSIS**

### **Docket No. EPA-HQ-OA-2013-0320**

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#### **INTRODUCTION**

The Regulatory Studies Program (RSP) of the Mercatus Center at George Mason University is dedicated to advancing knowledge about the effects of regulation on society. As part of its mission, RSP conducts careful and independent analyses that employ contemporary economic scholarship to assess rulemaking proposals and their effects on the economic opportunities available to and social well-being of all members of American society.

#### **SUMMARY**

The United States Environmental Protection Agency (EPA) is seeking feedback on new technical guidance for assessing environmental justice (EJ) in its rulemaking processes. In the agency's draft report, the EPA focuses almost exclusively on the benefits that its rules are expected to generate for low-income and minority populations. The agency does so by explaining in detail how analysts should incorporate EJ practices into risk-assessment procedures and benefits estimates in agency regulatory impact analyses (RIAs). However, the EPA devotes only two pages in the 81-page document to evaluating the costs its rules will impose on vulnerable populations. Costs affect the welfare of poor and minority populations as much as environmental pollution does. Costs also affect general quality of life and have important adverse effects on health and safety.

The EPA should expand its guidance to take into account the full impact of its policies on vulnerable populations. This includes a broader analysis of how regulatory costs impact vulnerable populations, as well as examining ways in which standard benefit-cost techniques, such as valuing a statistical life, may not fully illustrate how vulnerable groups are benefiting from regulations. To achieve this, analysts should consider employment impacts on the poor, impacts on health as a result of lower income due to the costs imposed by regulations, and how risk mitigation strategies can be altered for vulnerable groups as a result of regulations. These important factors have to be included if the EPA is to pursue environmental justice in a manner consistent with presidential executive orders and the agency's own stated intentions.

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This comment can be broken down into the following sections. The first section contains a description of environmental justice as it has been defined under presidential executive orders and previous EPA guidelines. The second section examines why costs imposed by regulations are also important to EJ and why it is problematic that costs have been mostly overlooked in the new EPA guidance. The third section discusses how income is tied to environmental justice. The next two sections discuss ways in which current risk-assessment practices and benefit-cost analysis techniques can be improved upon to better gauge distributional impacts of regulations. This comment concludes with a call for the new EPA guidance to consider meaningful feedback and human dignity and provides a series of recommendations for improving the final draft of the EPA's report.

## DEFINING ENVIRONMENTAL JUSTICE

In 1994, President Clinton issued Executive Order (EO) 12898 related to environmental justice, which ordered each agency to consider “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...”<sup>1</sup> This executive order remains in effect today.

The EPA uses a more specific definition of environmental justice than the one the EO outlines. The EPA defines EJ as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”<sup>2</sup> Fair treatment is defined as requiring that “no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies.”<sup>3</sup> In its new guidance, “the Agency has expanded the concept of fair treatment to consider not only the distribution of burdens across all populations, but also the distribution of reductions in risk from EPA actions.”<sup>4</sup>

There are several important elements to these definitions:

First, the 1994 executive order specifically directs agencies to look at how their programs and policies affect the health and environment of low-income and minority populations. To the extent costs imposed by regulations have a significant impact on health and environmental concerns, they should be included in EJ considerations.

Second, the EPA's own definition of EJ emphasizes the need to consider the effect of its policies on low-income and minority populations, further reinforcing the need to include costs in any analysis of regulations.

Lastly, since the EPA is expanding its definition of fair treatment to include “the distribution of reductions in risk from EPA actions,” the agency should consider how its actions alter the risk-mitigation strategies of vulnerable groups. For example, if the EPA focuses its attention on reducing very low-probability risks (say, lifetime risks that affect one in a million people in the population) and the costs of these risk-reduction measures are spread evenly across everyone in society, then the poor may be disproportionately harmed by the policy.<sup>5</sup> This happens if people that are less well-off face higher risks in their private lives than those addressed by the EPA. These higher-probability risks must be mitigated by people with their own resources. In these cases, having to pay for EPA regulations can crowd out personal expenditures, raising overall risk exposure if the cost per unit of risk reduction is

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1. Exec. Order No. 12898, 59 Fed. Reg. 32 (Feb. 16, 1994).

2. See, for example, US Environmental Protection Agency (EPA), Administrator Whitman Reaffirms Commitment to Environmental Justice (Washington, DC: Environmental Protection Agency, August 21, 2001), <http://yosemite.epa.gov/opa/admpress.nsf/89745a330d4ef8b9852572a000651fe1/41a2df9798d627a185256aaf0067e435!OpenDocument>.

3. “Environmental Justice: Basic Information,” EPA, last modified May 24, 2012, <http://www.epa.gov/environmentaljustice/basics/index.html>.

4. EPA, *Draft Technical Guidance for Assessing Environmental Justice in Regulatory Analysis* (Washington, DC: Environmental Protection Agency, April 2013): 1.

5. For a more detailed discussion of how regulations can alter risk-mitigation strategies for different income groups, see Diana Thomas, “Regressive Effects of Regulation” (Working Paper No. 12-35, Mercatus Center at George Mason University, Arlington, VA, November 2012), <http://mercatus.org/publication/regressive-effects-regulation>.

lower for personal reductions in risk than for public (i.e., governmental) reductions in risk. As it becomes more expensive to regulate vanishingly small risks due to diminishing marginal returns to risk mitigation, the likelihood that income may be spent more effectively on mitigating private risks grows. These types of regressive effects of risk-reduction policies are highly relevant to the EPA's concerns for fair treatment of all groups.

## REGULATORY COSTS ARE RELATED TO ENVIRONMENTAL JUSTICE

Perhaps the most alarming part of the EPA's guidance on environmental justice is the almost complete lack of attention to the distribution of the costs of EPA regulations. In fact, the EPA even goes so far as to say:

Consideration of the distribution of costs in the context of EJ is not always necessary. Often the costs of regulation are passed onto consumers as higher prices that are spread fairly evenly across many households.<sup>6</sup>

This is a striking statement because regulatory costs are regressive exactly in the instances that the EPA describes in this statement. Any time costs of a policy are spread evenly across all citizens, the dollar amount paid to implement a regulation consumes a larger percentage of a poor person's income than a wealthy person's income. This is precisely why sales taxes are regressive. If the EPA does not consider costs, the entire EJ project runs the risk of failing to improve the social welfare for the very people it intends to help.

Further, OMB guidelines recommend that agencies consider distributional impacts of costs. For example, OMB Circular A-4, which gives guidance to analysts conducting RIAs, states, "Those who bear the costs of a regulation and those who enjoy its benefits often are not the same people." OMB goes on to suggest:

Your regulatory analysis should provide a separate description of distributional effects (i.e., how both benefits and costs are distributed among sub-populations of particular concern) so that decision makers can properly consider them along with the effects on economic efficiency.<sup>7</sup>

While the EPA states that "Circular A-4's focus is on benefits and costs, while 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*," this does not preclude consideration of costs in an EJ analysis. Costs interact with variables that influence factors at the stages "prior to monetization of benefits," such as income, which is correlated with both health and environmental concerns.<sup>8</sup>

These costs should be broken down in a clear and transparent manner, such as in an easy-to-read table that illustrates how costs are distributed by income group and ethnicity. Any costs that will directly impact prices of products that low-income consumers purchase (e.g., electricity, rent and fuel) should be given special attention because of the directly regressive nature of these regulations.

## INCOME IS TIED TO ENVIRONMENTAL JUSTICE CONCERNS

Regulations impact people's incomes in a variety of ways. One way is that regulations increase prices of goods and services, which reduces the real income of individuals and households. Regulations also eliminate jobs for some people, which reduces incomes, as well.

Income is tied to environmental justice in several important ways. First, as incomes fall, individuals have fewer

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6. EPA, *Assessing Environmental Justice*, 51.

7. Office of Management and Budget, *Circular A-4, Regulatory Analysis* (September 17, 2003).

8. The EPA cites several studies in its report that support this point, including Joel Schwartz, David Bellinger, and Thomas Glass, "Expanding the Scope of Risk Assessment: Methods of Studying Differential Vulnerability and Susceptibility," *American Journal of Public Health* 101, no. S1 (December 2011): S102-S109; and Robert D. Bullard, Paul Mohai, Robin Saha, and Beverly Wright, *Toxic Wastes and Race at Twenty: 1987-2007 Grassroots Struggles to Dismantle Environmental Racism in the United States* (Cleveland, OH: United Church of Christ Justice and Witness Ministries, March 2007).

resources available to use toward risk reduction and outlays related to improving health and well-being. Simply moving out of a low-income neighborhood can simultaneously reduce multiple health and environmental risks that the poor face.<sup>9</sup>

Second, job loss is correlated with many health issues. Recent estimates of earning losses resulting from job loss range from 1.4 years of earnings in times of low unemployment to 2.8 years during times of high unemployment, and research shows that after reemployment it can take as long as 20 years for workers to catch up on lost earnings, largely due to skill mismatches between the jobs lost and the new jobs created in the economy.<sup>10</sup> Job loss can also lead to distress that has further impacts on health,<sup>11</sup> and unemployed workers commonly lose their health-insurance coverage.<sup>12</sup> Additionally, low-income and minority populations often have chronically high unemployment rates, particularly when the economy is underperforming, as it is now.

The EPA may also want to consider the effect of its rules on income inequality. For example, if production occupations are lost at the expense of compliance jobs that require higher levels of education and training, there may be a redistributive effect from lower-skilled workers to higher-skilled workers.<sup>13</sup> This problem could persist over time if fewer opportunities are available for lower-skilled workers.

### RISK MEASUREMENT SHOULD CONSIDER REGRESSIVE EFFECTS

The EPA should identify the probability of exposure to the risk it seeks to mitigate as early in the regulatory process as possible. This would then identify potentially regressive regulations that are likely to contribute to environmental justice concerns. Risk reduction is a normal good, meaning as an individual's income rises, that person will demand more risk reduction. For example, a low-income person may choose to protect her home with barred windows and doors, while a high-income person might choose to move to a gated community.

Assuming individuals choose to mitigate high-probability, life-threatening risks first, they will mitigate lower-probability risks as income rises. Focusing on mitigating very low-probability mortality risks is more in line with the preferences of the wealthy for this reason. The poor will likely prefer to put resources toward more pressing, high-probability risks they face, rather than to expend them on the low-probability risks addressed by many regulations.

Utah State University economist Diana Thomas recently found that households may be able to mitigate the same level of mortality risks privately for about one-fifth the cost of public risk-reduction strategies.<sup>14</sup> Additionally, Thomas found that those who live in low-income neighborhoods face many higher-probability risks than people in high-income areas, including risks related to heart disease, diabetes, cancer, and homicide.<sup>15</sup> These risks are closely related to EJ concerns.

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9. Thomas, "Regressive Effects of Regulation."

10. Keith Hall, "The Employment Costs of Regulation" (Working Paper No. 13-06, Mercatus Center at George Mason University, Arlington, VA, March 2013), <http://mercatus.org/publication/employment-costs-regulation>.

11. See Sarah A. Burgard, Jennie E. Brand, and James S. House, "Toward a Better Estimation of the Effect of Job Loss on Health," *Journal of Health and Social Behavior* 48, no. 4 (2007): 369–384; Marcus Eliason and Donald Storrie, "Does Job Loss Shorten Life?" *Journal of Human Resources* 44, no. 2 (2009): 277–302; Mari Rege, Telle Kjetil, and Mark Votruba. (2009). "The Effect of Plant Downsizing on Disability Pension Utilization," *Journal of European Economic Association* 7, no. 4 (2009): 754–785; Daniel Sullivan and Till von Wachter, "Job Displacement and Mortality: An Analysis Using Administrative Data," *Quarterly Journal of Economics* 124, no. 3 (2009): 1265–1306; Kate W. Strully, "Job Loss and Health in the US Labor Market," *Demography* 46, no. 2 (2009): 221–246; and Martin Salm, "Does Job Loss Cause Ill Health?," *Health Economics* 18, no. 9 (2009): 1075–1089.

12. See, for example, Jonathan Gruber, "Health Insurance and the Labor Market," *Handbook of Health Economics* 1 (2000): 645–706; John Cawley, and Kosali I. Simon, "The impact of Macroeconomic Conditions on the Health Insurance Coverage of Americans," *Frontiers in Health Policy Research* 6 (2003); and Vasilios D. Kosteas and Francesco Renna, "The Impact of Job Displacement on Employer Based Health Insurance Coverage," *Journal of Labor Research* 30, no. 4 (2009): 317–327.

13. See for example Hall, "Employment Costs of Regulation."

14. Thomas, "Regressive Effects of Regulation."

15. Thomas, "Regressive Effects of Regulation."

An entire literature related to health-health analysis examines exactly these types of tradeoffs between health benefits that occur as a result of regulation and health costs due to income losses to citizens.<sup>16</sup> The EPA should incorporate the lessons from this literature into its RIAs when considering EJ impacts of its rules.

### COST-EFFECTIVENESS AND VALUE-OF-A-STATISTICAL-LIFE CONCERNS

In the past, scholars have found that environmental regulations tend to be less cost-effective than other types of regulations. For example, one study found the median cost of healthcare regulations to be \$19,000 per life-year saved, while the median cost of environmental regulations was found to be \$4,200,000 per life-year saved.<sup>17</sup> The less cost-effective a measure is, the more likely the regulation will be regressive if costs are spread evenly across society. For this reason, the EPA should attempt to implement its rules in as cost-effective a manner as possible.

Similarly, it should be noted that using a uniform value of a statistical life (VSL) across all individuals in society systematically overestimates benefits to the poor.<sup>18</sup> VSL is based on the mean estimate of the populations' willingness to pay (WTP) to reduce risks. Since the poor are generally willing to pay less than the wealthy to reduce risks, when the EPA uses a constant VSL, the agency is overestimating what the poor would be willing to pay to reduce risks, thereby overestimating the benefits to the poor resulting from the regulation. (The situation is different when the poor are at higher risks from the regulated compound.)

For example, the EPA uses a single value of WTP to avoid risks of cancer and eye irritation in its recent proposed rule related to formaldehyde emissions standards for composite wood products.<sup>19</sup> It is unclear whether low-income individuals really value risk reduction at this level, since this is a mean estimate of willingness to pay and is not broken down by income or ethnicity. The EPA provides evidence that minorities and (to a lesser extent) low-income individuals are disproportionately at risk to this type of exposure to formaldehyde, which implies minorities and low-income individuals could potentially have a WTP above the mean. However, no evidence is provided to support this view, in which case it is quite possible benefits to vulnerable groups are overestimated in this analysis. Even if the EPA continues to use a uniform VSL across all individuals, it should at least describe the distributional consequences of using a uniform VSL in a transparent manner in order to better inform decision-makers at the EPA, as well as the public.

When the EPA argues that groups it has identified as low-income or minority populations have a greater sensitivity or higher exposure to a risk, the agency should support such claims with evidence on a rule-by-rule basis, especially if the EPA is trying to claim higher benefits for these groups based on them being in the tail of the risk distribution. Where this is true, the EPA should use a WTP that is appropriate for the population at risk, to find out if the regulation will actually have overall net benefits. For example, for a 2008 EPA regulation related to Lead Renovation, Remodeling, and Painting,<sup>20</sup> the EPA stated:

Because these disadvantaged groups are more likely to reside in rental and older housing, they are more likely to be affected under the options that emphasize regulating older and/or rental housing. In addition, individuals and children with food insecurity (i.e., those who do not have healthy diets or

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16. See, for example, Fred Kuchler et al., "Health Transfers: An Application of Health-health Analysis to Assess Food Safety Regulations," *Risk* 10 (1999): 315; Randall Lutter and John F. Morrall III, "Health-health Analysis: A New Way to Evaluate Health and Safety Regulation," *Journal of Risk and Uncertainty* 8, no. 1 (January 1, 1994): 43–66; and Ralph Keeney, "Estimating Fatalities Induced by the Economic Costs of Regulations," *Journal of Risk and Uncertainty* 14, no. 1 (January 1, 1997): 5–23.

17. Tammy O. Tengs et al., "Five-Hundred Life-Saving Interventions and Their Cost Effectiveness," *Risk Analysis* 15, no. 3 (1995): 369–390.

18. For discussion along these lines, see Cass Sunstein, "Are Poor People Worth Less than Rich People: Disaggregating the Value of Statistical Lives" (Working Paper 04-05, AEI-Brookings Joint Center For Regulatory Studies, Washington, DC, January 2004).

19. EPA, "Economic Analysis of the Formaldehyde Standards for Composite Wood Products Act Implementing Regulations Proposed Rule," (May 2013).

20. EPA, "Lead; Renovation, Repair, and Painting Program," 73 Fed. Reg. 78 (Apr. 22, 2008).

do not eat enough because of poverty) are more susceptible to ill health effects from lead dust. Thus, they stand to accrue greater benefits under all of the options considered.<sup>21</sup>

In instances where regulations are directly impacting vulnerable populations, it may make sense to use an alternative measure of WTP so as not to overestimate the benefits to disadvantaged groups, especially if the EPA is claiming these populations will accrue greater benefits.

### MEANINGFUL FEEDBACK

The EPA is well aware that low-income and minority populations are often less engaged in the rulemaking process than organized businesses and other interest groups. For this reason, the EPA seeks to engage vulnerable populations by publicizing rulemakings “via newsletters, EJ listserves, and the internet, including the Office of Policy’s Rulemaking Gateway Web.”<sup>22</sup>

As part of engaging these groups, the EPA should do a distributional analysis of costs and benefits of various regulatory options *prior* to any proposed rulemaking, and the EPA should seek feedback from minority and low-income groups about the impacts of these potential EPA regulations. This is well in line with the EPA’s efforts “to ensure that relevant information is accessible to affected communities and population groups of concern.”<sup>23</sup>

The EPA may also want to consider conducting surveys of low-income and minority populations to ask them what they prefer in terms of environmental improvements relative to cost increases. This would be a way to engage the EJ community on the specifics of an individual rule to assess what they prefer. For example, a survey could attempt to measure the EJ community’s willingness to receive environmental improvements at the expense of lost jobs, higher prices of goods and services, and higher rents.

Even if the EPA does not consider the distribution of costs as a means to comply with presidential executive orders and OMB guidelines, it should consider costs on the basis of transparency. The EPA states, “A basic analysis should support conclusions with regard to potential distributional effects to improve the transparency of the rulemaking process and provide the decision maker and public with more complete information regarding the expected effects of the policy.”<sup>24</sup> Cost estimates fit this description of a basic analysis.

### HUMAN DIGNITY AND FAIRNESS

The choice to mitigate one’s own risks is tied to important issues like human dignity, equity, and fairness, all of which are mentioned explicitly in President Obama’s 2011 executive order related to regulatory review.<sup>25</sup> The EPA should not ignore the dignity people lose when they are no longer able to make choices about risk-reduction strategies in their own lives. It is also a matter of equity and fairness that people are able to make these decisions and not have the preferences of regulators substituted for their own, unless there is a very strong reason to do so.

### Recommendations

Given the above concerns, below is a list of recommended changes the EPA should make in the final version of its *Technical Guidance for Assessing Environmental Justice Concerns*.

- The EPA should include as one of its “Overarching Questions and Objectives for Analysis of Potential EJ Concerns” a question related to the distributional implications of the costs of its rules.
- The EPA should conduct an Advance Notice of Proposed Rulemaking (ANPRM) containing distributional information on costs and benefits, and the EPA should elicit feedback from impacted

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21. EPA, *Assessing Environmental Justice*, 52.

22. EPA, *Assessing Environmental Justice*, 13.

23. *Ibid.*, 30.

24. *Ibid.*, 37.

25. Exec. Order No. 13563, 76 Fed. Reg. 14 (Jan. 21, 2011).

groups, perhaps in the form of surveys, when a regulation has potential environmental justice consequences.

- At the risk-assessment stage, the EPA should identify regulations catering to low-probability mortality risks as potentially regressive regulations since the poor are likely focused on mitigating higher-probability risks.
- The EPA should conduct a health-health analysis for vulnerable populations as part of its regulatory impact analyses.
- Employment impacts on different groups should be considered, including effects on income inequality and the long-term effects on income and health from job losses.
- The EPA should consider the degree to which its own regulations directly increase prices of products low-income populations purchase (e.g., electricity, rent, and fuel). This acts like a regressive sales tax and also lowers real income, which is correlated with many health concerns, and it leaves less money available for other risk mitigation.
- Human dignity, equity, and fairness are closely tied to the ability of individuals to make decisions about their own lives. The EPA should not override people's private risk-mitigation strategies unless there is a very strong reason to do so.

## CONCLUSION

Given the EPA's obvious concern for creating benefits for vulnerable populations in society, it is odd that the EPA is only looking at half of the equation. By ignoring costs and looking solely at how regulations may benefit low-income groups, the EPA is committed to a policy of ignoring the overall welfare of vulnerable populations. In addition, even the EPA's benefits estimates may prove flawed since analysts may overestimate the benefits to vulnerable groups with the way the EPA currently measures the value of a statistical life. Without a proper accounting of benefits and costs and how these impact low-income and minority populations, the EPA cannot hope to satisfy the important goal of improving the health and environment of low-income and minority populations in the United States.