

US EPA ARCHIVE DOCUMENT

Potential Adverse Impacts Under the Definition of Solid Waste Exclusions (Including Potential Disproportionate Adverse Impacts to Minority and Low-Income Populations)

Executive Summary

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Office of Solid Waste and Emergency Response
U.S. Environmental Protection Agency
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Executive Summary

To achieve the goals of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, EPA must consider environmental justice when developing a regulation. Because decisions involving a regulation must be informed by a consideration of a number of different issues, an environmental justice analysis is one of several analyses the Agency uses when developing regulations. The environmental justice analysis may be qualitative and/or quantitative and is designed to provide the appropriate information on disproportionately high and adverse impacts to minority and/or low-income populations to decision-makers. To the extent an environmental justice analysis reveals potential disproportionately high adverse impacts on minority and/or low-income populations, this result can affect how EPA uses its policy discretion in pursuing specific regulatory options or engaging the public in the implementation of regulations.

In October 2008, EPA published the Definition of Solid Waste (DSW) final rule which, among other things, sought to increase the levels of hazardous secondary materials recycling.^{1,2} Recycling hazardous secondary materials fulfills two goals of the Resource Conservation and Recovery Act (RCRA) by reducing the consumption of raw materials and by reducing the volume of waste materials that must be treated and disposed. Recycling can mean less air, water, and soil pollution caused by extracting, refining, and processing of raw materials. However, the goals of resource conservation and waste reduction must never occur at the expense of one of the other fundamental goals of RCRA: protecting human health and the environment from hazardous waste management.

The 2008 DSW final rule revised the definition of solid waste under RCRA for certain types of hazardous secondary materials being recycled. The hazardous secondary materials recycled under the DSW final rule would no longer be regulated as hazardous waste, as long as certain conditions were met. The intended effect of the DSW rule was to encourage safe recycling of hazardous secondary materials and answer long-standing questions about the RCRA definition of solid waste.

In January 2009, the Sierra Club submitted an administrative petition³ requesting EPA revoke the DSW rule. The petition raised a number of issues questioning the protectiveness of the rule, particularly for minority and low-income communities. In June 2009, EPA held a public meeting asking for comment on the issues raised in the petition. Many of the commenters echoed Sierra Club's concern about potential disproportionate impacts to minority and low-income communities from the rule, and the adequacy of EPA's analysis of the potential for these impacts under the 2008 DSW final rule. Under the 2008 DSW final rule, EPA determined that the conditions of the rule would prevent any increase in risk, and therefore there would be no

¹ A hazardous secondary material is any material that would be a hazardous waste if discarded.

² A material is recycled if it is used, reused, or reclaimed. RCRA hazardous waste regulation makes an important distinction between materials that are used or reused without reclamation and those that must be reclaimed before being reused. A material is reclaimed if it is processed to recover a usable product or if it is regenerated. For information on what constitutes legitimate recycling, refer to Attachment A of this document.

³ The Sierra Club petition is available at <http://www.regulations.gov#!documentDetail;D=EPA-HQ-RCRA-2009-0315-0002>.

disproportionate adverse impacts to minority or low-income communities. However, the 2008 analysis did not take into account whether the conditions of the rule would operate as effectively in the real world as the more detailed requirements of the RCRA hazardous waste regulations.

In response to comments by Sierra Club and other stakeholders, EPA committed to producing an expanded analysis of the potential disproportionate impacts of the 2008 DSW final rule. A draft methodology for the analysis was shared with the public in January 2010, and three public roundtable discussions were held to discuss the draft methodology.⁴ EPA considered the comments raised in those discussions and conducted the new analysis. The draft environmental justice analysis of the DSW rule was peer reviewed, and then presented for public comment. The final environmental justice analysis reflects both peer review and public comments.

The methodology for the DSW environmental justice analysis consists of two parts. The first part, the hazard characterization step, includes two phases: (1) identifying potential hazards that could pose risks to human health and the environment from the recycling of hazardous secondary materials, including accidental releases of hazardous constituents, and (2) analyzing the likelihood of such hazards occurring under the requirements of the DSW exclusions as compared to the pre-2008 DSW hazardous waste regulations.

The hazard characterization step assesses the potential for adverse impacts independent of the demographics of the populations potentially impacted. The methodology and results of this step are presented in volume 1 of this analysis, *Potential Adverse Impacts Under the Definition of Solid Waste Exclusions (Including Potential Disproportionate Adverse Impacts to Minority and Low-Income Populations) Volume 1 – Hazard Characterization*.

The second step of the DSW environmental justice analysis includes five phases: (1) identification of potentially affected communities, (2) analysis demographics of potentially affected communities, (3) identification other factors that affect vulnerability in potentially affected communities, (4) information synthesis (assessment of disproportional impact), and (5) identification of potential preventive and mitigation strategies. The methodology and results of this step are presented in volume 2 of this analysis, *Potential Adverse Impacts Under the Definition of Solid Waste Exclusions (Including Potential Disproportionate Adverse Impacts to Minority and Low-Income Populations) Volume 2 – Assessment of Disproportionate Adverse Impacts*.

Below is a summary of findings from the final analysis.

Finding 1: Hazardous Secondary Material Recycling Does Pose Significant Potential Hazards

The first step of the DSW environmental justice analysis methodology is hazard characterization, which includes both identifying the potential hazards that discarded hazardous secondary materials recycling could pose to human health and the environment, and evaluating the

⁴U.S. EPA. *Draft Environmental Justice Methodology for the Definition of Solid Waste Rule*, January 2010, <http://www.epa.gov/epawaste/hazard/dsw/ej.htm>

likelihood of such hazards resulting in increased risk under the DSW exclusions. EPA conducted the first part of the hazard assessment, identifying the potential hazards that discarded hazardous secondary materials recycling could pose to human health and the environment, independent of any presumption or consideration of health and safety or regulatory controls. In the second part of the hazard assessment, EPA considered such controls in conjunction with the hazards identified in the first part to assess the likelihood of such hazards resulting in increased risk.

Hazardous secondary materials sent to recycling are physically and chemically similar, if not identical, to many of the hazardous wastes sent for treatment and disposal. The most commonly recycled hazardous secondary materials are spent solvents and electric arc furnace dust (which is recycled to reclaim metals). Spent solvents present particular management challenges associated with storage of liquids containing volatile organic chemicals and include both halogenated and non-halogenated organic chemicals, which represent a broad range of chemicals and associated hazards. Electric arc furnace dust is usually in a solid state and presents different management challenges, including storage in waste piles and the potential for wind-blown dust, and can contain high concentrations of toxic metals.

These two classes of hazardous secondary materials (as well as other hazardous secondary materials that are recycled) can pose risks via a wide variety of exposure routes and include a range of potential adverse health effects, both carcinogenic and non-carcinogenic, and a potential for acute impacts, including fire and explosions for certain types of hazardous secondary materials, such as solvents.

Finding 2: Possibility of Hazards from Hazardous Secondary Materials Recycling Adversely Impacting Human Health and the Environment is Increased under the 2008 DSW Exclusions

The second part of the hazard characterization step —determining whether these hazards could result in increased risk to human health and the environment —is a complex issue because of the interactions between how the regulations are written and how they are implemented. Under the 2008 DSW final rule, EPA presumed that the conditions of the rule would prevent any increase in risk.

However, what the 2008 analysis failed to take into account was whether the conditions of the rule would operate as effectively in the real world as the more detailed requirements of the RCRA hazardous waste regulations. One of the most common criticisms of EPA analysis of environmental justice impacts in 2008 was that it glossed over some of the important protections of the hazardous waste regulations, particularly public participation requirements, which were not considered under the 2008 DSW final rule.

A more detailed comparative analysis of the regulatory requirements under the 2008 DSW final rule with the existing RCRA hazardous waste regulations reveals potentially significant gaps in environmental protection under the 2008 DSW final rule. Examples of these gaps include the absence of measures to ensure proper oversight, incentives to accumulate larger volumes of hazardous secondary materials, the lack of prescriptive standards for waste storage and containment, potential issues associated with the interstate transport of hazardous secondary

material for recycling, and reduction in access to information and the opportunity for public participation. The specific gaps vary depending on the baseline scenario and the post-DSW scenario being considered, and in some cases, there is also a potential for increased benefits, primarily from resource conservation and from reduced transportation distances.⁵

**Summary of Potential Impacts of the 2008 DSW Final Rule
Under Different Recycling Scenarios**

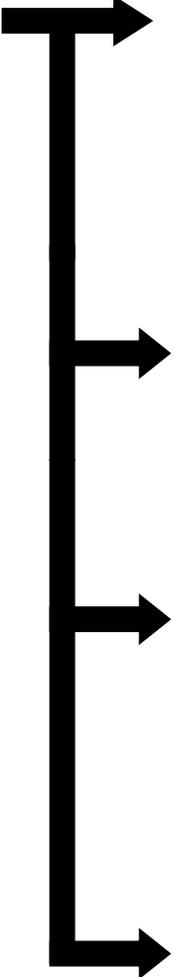
Hazardous Waste Baseline		DSW Practices	Summary of Potential Impacts
Scenario 1: Generator continues current recycling practices			
Generator recycles material onsite under hazardous waste regulations		Generator recycles material onsite under generator-controlled exclusion	Potential increased risk to human health and the environment at generator due to longer accumulation times, greater quantities, lack of explicit preventative measures
Generator sends material offsite for recycling to RCRA-permitted facility under hazardous waste regulations		Generator sends material offsite for recycling at a RCRA-permitted facility under transfer-based exclusion	Potential increased risk at generator due to longer accumulation times, greater quantities, lack of explicit preventative measures No change in risk at recycling facility.
Generator exports material under hazardous waste regulations for recycling in another country		Generator exports material under the transfer-based exclusion for recycling in another country	Potential increased risk at generator due to longer accumulation times, greater quantities, lack of explicit preventative measures. No change in risk at recycling facility.

⁵ By reporting the potential for increased benefits under certain scenarios, EPA does not intend to imply that such benefits could justify increased risk to human health and the environment from discarded hazardous secondary material. Promoting resource conservation and recovery is a major goal of RCRA, but this goal does not supersede the mandate to assure that hazardous waste management practices are protective of human health and the environment.

Hazardous Waste Baseline		DSW Practices	Summary of Potential Impacts
Scenario 2: Generator switches from off-site disposal to on-site recycling			
<p>Generator sends material offsite to a RCRA permitted facility for treatment followed by landfilling under hazardous waste regulations</p>		<p>Generator recycles material onsite under generator-controlled exclusion</p>	<p>Potential increased risk to human health and the environment at generator due to longer accumulation times, greater quantities, lack of explicit preventative measures</p> <p>Potential reduced transportation risk due to switch from off-site disposal to on-site recycling</p> <p>Potential reduced risk in communities surrounding existing off-site treatment/disposal facilities.</p> <p>Potential increased resource conservation benefits due to switch from disposal to recycling and reduction of miles traveled.</p>
Scenario 3: Generator switches from off-site disposal to off-site recycling under the control of the generator			
<p>Generator sends material offsite to a RCRA permitted facility for treatment followed by landfilling under hazardous waste regulations</p>		<p>Generator sends material offsite for recycling at a facility that it controls under generator-controlled exclusion</p>	<p>Potential increased risk to human health and the environment at generator due to longer accumulation times, greater quantities, lack of explicit preventative measures.</p> <p>Potential increased risk in communities surrounding generator off-site recycling facilities</p> <p>Potential increased resource conservation benefits due to switch from disposal to recycling and reduction of miles traveled (if distance to reclamation facilities is closer).</p> <p>Potential reduced risk in communities surrounding existing off-site treatment/disposal facilities.</p>

Hazardous Waste Baseline		DSW Practices	Summary of Potential Impacts
Scenario 4: Generator switches from off-site disposal to off-site recycling at RCRA-permitted facility			
<p>Generator sends material offsite to a RCRA permitted facility for treatment followed by landfilling under hazardous waste regulations</p>		<p>Generator sends material offsite for recycling at a RCRA-permitted facility under transfer-based exclusion</p>	<p>Potential increased risk to human health and the environment at generator due to longer accumulation times, greater quantities, lack of explicit preventative measures</p> <p>Potential increased resource conservation benefits due to switch from disposal to recycling and reduction of miles traveled (if distance to reclamation facilities is closer).</p> <p>Potential increased resource conservation benefits due to switch from disposal to recycling.</p> <p>Potential reduced risk in communities surrounding existing off-site treatment/disposal facilities.</p>
Scenario 5: Generator switches from off-site disposal to off-site recycling at a U.S. facility without a RCRA permit			

Hazardous Waste Baseline		DSW Practices	Summary of Potential Impacts
<p>Generator sends material offsite to a RCRA permitted facility for treatment followed by landfilling under hazardous waste regulations</p>		<p>Generator sends material offsite for recycling at a facility in the United States without a RCRA permit under transfer-based exclusion</p>	<p>Potential increased risk to human health and the environment at generator due to longer accumulation times, greater quantities, lack of explicit preventative measures.</p> <p>Potential increased risk at recycler due to longer accumulation times, greater quantities, lack of explicit preventative measures, and lack of oversight and public participation.</p> <p>Potential increased resource conservation benefits due to switch from disposal to recycling.</p> <p>Potential reduced risk in communities surrounding existing off-site treatment/disposal facilities.</p>
<p>Scenario 6: Generator switches from off-site disposal to exporting for recycling</p>			
<p>Generator sends material offsite to a RCRA permitted facility for treatment followed by landfilling under hazardous waste regulations</p>		<p>Generator exports material under the transfer-based exclusion for recycling in another country</p>	<p>Potential increased risk to human health and the environment at generator due to longer accumulation times, greater quantities, lack of explicit preventative measures.</p> <p>Potential increased risk at recycler due to longer accumulation times, greater quantities, lack of explicit preventative measures.</p> <p>Potential increased resource conservation benefits due to switch from disposal to recycling.</p> <p>Potential reduced risk in communities surrounding existing off-site treatment/disposal facilities.</p>

Hazardous Waste Baseline		DSW Practices	Summary of Potential Impacts
Scenario 7: Generator switches from off-site recycling at a facility without a permit⁶ to another type of recycling under the 2008 DSW final rule			
<p>Generator sends material offsite for recycling at a facility in the United States without a RCRA permit under hazardous waste regulations</p>		<p>Generator sends material offsite for recycling at a facility under generator-controlled exclusion, <i>or</i></p> <p>Generator exports material under the transfer-based exclusion for recycling in another country, <i>or</i></p> <p>Generator sends material offsite for recycling at a RCRA permitted facility under transfer-based exclusion, <i>or</i></p> <p>Generator sends material offsite for recycling at a facility in the United States without a RCRA permit under transfer-based exclusion.</p>	<p>Potential increased risk to human health and the environment at generator due to longer accumulation times, greater quantities, lack of explicit preventative measures.</p> <p>Potential increased risk at new recycler due to longer accumulation times, and greater quantities accumulated.</p> <p>Potential reduced risk at new recycler due to “contained” standard, legitimacy condition and (for the transfer-based exclusions) reasonable efforts audit and financial assurance conditions.</p> <p>Potential reduced risk in communities surrounding previously used off-site recycling facility.</p>

⁶ Under the RCRA hazardous waste regulations, facilities that recycle immediately without storing the hazardous waste do not need a RCRA permit.

Hazardous Waste Baseline		DSW Practices	Summary of Potential Impacts
Scenario 8: Generator switches from off-site recycling at a RCRA-permitted facility or exporting waste for recycling to another type of recycling under the 2008 DSW final rule			
Generator sends material offsite for recycling to RCRA-permitted facility under hazardous waste regulations or exports waste for recycling in another country		<p>Generator reclaims material onsite under generator-controlled exclusion, <i>or</i></p> <p>Generator sends material offsite for recycling at a facility that it controls under generator-controlled exclusion, <i>or</i></p> <p>Generator sends material offsite for recycling at a facility in the United States without a RCRA permit under transfer-based exclusion, <i>or</i></p> <p>Generator exports material under the transfer-based exclusion for recycling in another country</p>	Same as corresponding scenarios 2 – 6, but with no resource conservation benefits.

Finding 3: Many of the Communities Potentially Impacted by this Increase in Risk of Adverse Impacts are Minority and Low-Income Communities, and in Some Cases the Populations Potentially Impacted are Disproportionately Minority and/or Low Income

The second step of the DSW environmental justice portion of this analysis help determine whether the potential adverse impacts detailed above are likely to occur disproportionately in minority and low-income communities.

Under this step, EPA identified facilities operating under the 2008 DSW final rule, or that could represent the demographics of facilities likely to operate under the rule in the future.

These facilities are grouped into four different categories:

1. Facilities that have already notified EPA that they will be managing hazardous secondary materials under the 2008 DSW final rule (hereafter referred to as “notification facilities”);
2. Facilities in EPA’s *An Assessment of Environmental Problems Associated with Recycling of Hazardous Secondary Materials*⁷, many of which operated under exclusions or reduced regulations (hereafter referred to as “damage case facilities”);
3. Hazardous waste facilities that would have economic incentives to recycle under the rule, including hazardous waste generators producing more than a truckload (25 tons) of recyclable hazardous secondary materials annually, and hazardous waste recyclers (hereafter referred to as “hazardous waste facilities”); and
4. Facilities currently recycling non-hazardous industrial waste (e.g., antifreeze) that could most easily switch or expand to recycling under the 2008 DSW final rule (hereafter referred to as “non-hazardous industrial waste facilities”).

This portion of the analysis also characterized the demographics of the communities within a three kilometer radius around these facilities, and determined whether they were disproportionately minority or low-income compared to the nation as a whole, and compared to the population in the state. Disproportionality was evaluated both at the community and at the population level.

For the community-level analysis, the question is whether the communities in a facility category had a higher or lower percentage of minority and/or low-income population as compared to the comparison population (i.e., national or state population). In general, some communities will have a higher percentage than the comparison population, some will have a lower percentage. As long as these differences have a regular distribution, they would not indicate disproportionate impact. However, if the number of communities with a higher percentage of minority and/or low-income population is greater than that of the comparison populations, then there is a potential for disproportionate impact. The higher the average difference between the potentially affected communities and the comparison group, the greater the potential disproportionality.

In the chart below, the damage case facilities are the only category that consistently demonstrates the potential for disproportionate impact on both minority and low-income communities. For both the national and the state comparison populations, more than 50% of the damage case facilities are located in communities with minority and low-income populations that have a higher representation than the comparison populations. In addition, the average difference in these cases (i.e., the average amount that the damage case facilities have a higher-than-average percentage of minorities or low-income populations) range from 7-9%. Hazardous waste facilities demonstrate a potential for disproportionate impacts to minority communities in the state comparison but not the national.

Notification and hazardous waste facilities consistently demonstrate the potential for disproportionate impact on low-income communities at both the national and state level, an increase as compared to the results in the draft 2011 DSW environmental justice analysis, likely

⁷ This document contains information about environmental damage cases and the types of potential hazards from the mismanagement of the hazardous secondary materials. It is available online at: <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-RCRA-2002-0031-0355> .

attributable to the fact that EPA revised the standard for identifying “low income” community to two times the poverty level in response to peer review and public comments.

**Community-Level Analysis of Potential Disproportionate Impacts
of the DSW Exclusions to Minority and Low-Income Communities**

Highlighted Values Indicate Potential Disproportionate Impact

	National Comparison % communities with <u>higher minority representation</u> (average difference)	National Comparison % communities with <u>higher low-income representation</u> (average difference)	State Comparison % communities with <u>higher minority representation</u> (average difference)	State Comparison % communities with <u>higher low-income representation</u> (average difference)
Notification Facilities (60 total)	26.7% (-11.84%)	51.7% (1.17%)	48.3% (0.23%)	68.3% (5.25%)
Damage Case Facilities (250 total)	52.4% (6.97%)	68.0% (8.65%)	52.4% (7.20%)	71.2% (8.98%)
Hazardous Waste Facilities (2,115 total)	46.8% (1.37%)	59.7% (4.17%)	53.5% (5.07%)	60.4% (4.37%)
Non-Hazardous Industrial Waste Facilities (25 total)	36.0% (-4.0%)	48.0% (-0.08%)	44.0% (-0.82%)	44.0% (-0.73%)

The population-level analysis examines the demographics of the total potentially affected population as compared to the total comparison population to determine (1) whether there is a substantially greater probability of members in a population group of concern (minority or low-income) being present as compared to members of the comparison population, and (2) whether members of the population group of concern comprise a substantially greater proportion of the potentially affected population than the comparison populations. These two comparisons are referred to as (1) the Affected Population Ratio, and (2) the Demographic Ratio. In both cases, if the ratio is greater than 1.0, then there is a potential for disproportionate impact to the population of concern, and the larger the ratio, the greater the disproportionality.

**Population-Level Analysis of Potential Disproportionate Impacts
of DSW Exclusions to Minority and Low-Income Communities**

*Highlighted Values Indicate Potential Disproportionate Impact to Population of Concern
All Results Statistically Significant (p-value <0.05)*

	National Comparison Minority Population Affected Population Ratio Demographic Ratio	National Comparison Low-Income Population Affected Population Ratio Demographic Ratio	State Comparison Minority Population Affected Population Ratio Demographic Ratio	State Comparison Low-Income Population Affected Population Ratio Demographic Ratio
Notification Facilities (60 total)	0.83	1.00	1.39	1.31
	0.89	1.00	1.26	1.21
Damage Case Facilities (250 total)	2.45	1.60	2.28	1.76
	1.64	1.36	1.49	1.46
Hazardous Waste Facilities (2,115 total)	1.68	1.26	1.41	1.09
	1.42	1.19	1.22	1.06
Non- Hazardous Industrial Waste Facilities (25 total)	1.23	1.13	1.41	1.09
	1.14	1.09	1.22	1.06

The population-level analysis shows a greater incidence of potential disproportionate impact to minority and low-income populations than the community-level analysis. For the population-level analysis, the potential for disproportionate impact (i.e., ratios greater than one) occur under all categories. This difference can occur when the populations of those communities that do have a greater percentage of minority or low-income individuals also have a significantly higher total population than those communities that do not.

Finding 4: Underlying Vulnerabilities Traditionally Associated with Minority and Low-Income Communities Pose the Potential to Exacerbate Potential Adverse Impacts of the DSW Rule

In addition to considering the potential for the DSW exclusions to result in adverse impacts that disproportionately affect minority and low-income communities, the DSW EJ analysis also considers other factors that could affect the impacts of the rule, based on categories from EPA's interim guidance on incorporating environmental justice into rulemaking.⁸ These factors are described under five broad categories: (1) susceptible populations, (2) multiple and cumulative effects, (3) unique exposure pathways, (4) ability to participate in the decision-making process, and (5) physical infrastructure. All of these factors have the potential to exacerbate adverse impacts to minority and low-income communities, but two of these factors are of particular concern to the 2008 DSW final rule: ability to participate in the decision-making process, and multiple and cumulative effects.

Ability to Participate in the Decision-Making Process

A key element of environmental justice is ensuring that all people have an opportunity for meaningful involvement in decision-making which may impact them. Certain groups may not have historically participated in decision-making because of economic (e.g., income), social (e.g., language barriers, education levels, distrust of government), and infrastructural reasons (e.g., access to public transportation). In addition, community organizations representing such groups may face higher barriers to participation than government or private sector entities. For example, taking advantage of existing public participation mandates may require a significant investment of community resources or volunteer effort, while government and private sector entities may have more resources or paid staff to perform these functions. A critical concern is whether, and the extent to which, communities have the ability to influence the types and number of regulated activities taking place in their community as well as the requirements, conditions, and parameters by which such activities must operate (e.g., permit conditions). Under the 2008 DSW final rule, facilities claiming an exclusion must submit an initial and biennial notification to EPA or the state, providing general facility information and describing hazardous secondary material types and activities under the exclusion.

However, under the 2008 DSW final rule, this information is not made directly available to potentially affected communities, and facilities and regulators are not required to solicit or consider community input into the decision-making process as is the case with RCRA permitted facilities. Thus, by removing the RCRA permitting requirement for facilities that manage excluded hazardous secondary materials, the 2008 DSW final rule also removed one of the key provisions for allowing communities to participate in the regulatory process (at least as it concerns the management of the hazardous secondary materials excluded under the rule). Communities with lower participation levels may experience greater adverse impacts from environmental decision-making because their input has not been considered fully, particularly if competing interests are set forth more effectively. This effect is most likely to occur in communities that have traditionally been excluded from the decision-making process.

Multiple and Cumulative Effects

⁸ U.S. EPA *Interim Guidance on Considering Environmental Justice During the Development of an Action* July 2010. <http://www.epa.gov/environmentaljustice/resources/policy/considering-ej-in-rulemaking-guide-07-2010.pdf>

Minority, low-income, and indigenous communities that have been affected by multiple pollution sources may be at risk for increased health consequences. Potential sources of pollution can include, for example, industrial facilities, landfills, transportation-related air emissions, poor housing conditions (e.g., lead-based paint), leaking underground tanks, pesticides, and incompatible land uses. In particular, releases of contaminants that may occur over long periods of time, such as leaking septic tanks or underground storage tanks, may be less likely to be diagnosed quickly, and tend to be addressed more slowly, and thus pose a higher health risk, in low income communities.

An analysis of the cumulative effects from multiple stressors can provide a more complete evaluation of a population's health risks from pollutants. For example, an analysis of discrete stressors and effects on a population might conclude that nearby pollution sources are within regulatory limits; however, an analysis of cumulative effects might determine that a person's collective exposure to a contaminant from multiple sources exceeds a health-based limit.

An examination of the facilities that have notified under the 2008 DSW final rule shows that multiple environmental hazards are a potential concern for communities around these facilities. All have multiple facilities reporting to EPA, either under RCRA, the Clean Air Act (CAA), or Comprehensive Environmental Response, Compensation and Liability Act, (CERCLA - also known as Superfund) within a three-kilometer radius of the facility. Twenty-six of the forty facilities had communities with cancer rates greater than the 80th percentile, and twenty-seven showed a greater than the 80th percentile in neurological hazard rates. Twenty-seven facilities also had no hospital facilities within the three kilometer area.

Finding 5: The 2014 DSW Final Rule Includes Preventative and Mitigative Steps to Address the Potential Adverse Impacts to Minority and Low-Income Communities

1. Regulatory Changes

The 2014 DSW final rule includes regulatory changes to the 2008 DSW final rule that address the potential adverse impacts from the current 2008 DSW exclusions, including potential adverse impacts to minority and low-income communities. As discussed in further detail in the preamble to the 2014 DSW final rule, these changes were made according to EPA's authority under RCRA to regulate discarded material. Because of these changes, the 2014 DSW final rule is expected to increase the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population.

Below is a summary of the major changes to the current DSW exclusions promulgated in the 2014 DSW final rule, and how they address the potential adverse impacts to human health and the environment (including impacts to minority and low-income populations).

Replacement of the Transfer-Based Exclusion with Verified Recycler Exclusion

The withdrawal of the transfer-based exclusion and its replacement with the verified recycler exclusion addresses the concerns regarding third-party recyclers. Under the new exclusion,

generators must send their hazardous secondary materials to a RCRA-permitted reclaimer or to a verified hazardous secondary materials reclaimer who has obtained a solid waste variance from EPA or the authorized state.

For reclaimers without a RCRA permit, in order to obtain a variance and become verified, the third-party reclaimer must address criteria that essentially mirrors the criteria under the reasonable efforts condition in the transfer-based exclusion. The reclaimer: (1) must demonstrate their recycling is legitimate, (2) must have financial assurance in place to properly manage the hazardous secondary material, (3) must not have had any formal enforcement actions for RCRA violations in the previous three years and must not be classified as a significant non-complier with RCRA Subtitle C, or must provide credible evidence that the facility will manage the hazardous secondary materials properly, (4) must have the proper equipment, trained personnel, and meet emergency preparedness and response requirements to safely reclaim the material, (5) must manage the residuals from reclamation properly, and (6) must address risk to nearby communities from potential releases of the hazardous secondary material and in consideration of existing environmental stressors.

Before a variance can be granted, the reclaimer must also go through a public notice and comment process, allowing communities the opportunity to have a voice in the environmental decisions that may affect them.

Because of the additional oversight, public participation and controls under the verified recycler exclusion, the potential for increased adverse impact is minimized at third-party recyclers.

Codified “Contained” Standard

In addition, the codification of the “contained” standard addresses the lack of preventative measures and the lack of RCRA air standards under the generator-controlled exclusions. Under the 2014 DSW final rule, the hazardous secondary materials must be contained in a unit (including a land-based unit) that meets the following criteria:

- (1) The unit is in good condition, with no leaks or other continuing or intermittent unpermitted releases of the hazardous secondary materials to the environment, and is designed, as appropriate for the hazardous secondary material, to prevent releases of the hazardous secondary materials to the environment. Unpermitted releases are releases that are not covered by a permit (such as a permit to discharge to water or air) and may include, but are not limited to, releases through surface transport by precipitation runoff, releases to soil and groundwater, wind-blown dust, fugitive air emissions, and catastrophic unit failures;
- (2) The unit is properly labeled or otherwise has a system (such as a log) to immediately identify the hazardous secondary materials in the unit; and
- (3) The unit holds hazardous secondary materials that are compatible with other hazardous secondary materials placed in the unit and is compatible with the materials used to construct the unit and addresses any potential risks of fires or explosions. Hazardous secondary materials in units that meet the applicable requirements of 40 CFR parts 264 or 265 are presumptively contained.

This contained definition provides both the regulated community and the implementing agencies with an approach that helps address the potential for fires/explosions, environmental contamination and human exposure.

Emergency Preparedness

New emergency preparedness and response requirements under the generator-controlled exclusion and the verified recycler exclusion address the risk of fires, explosions and other accidents. Specifically, EPA is requiring that generators that accumulate less than or equal to 6,000 kg of hazardous secondary material on site comply with the emergency preparedness and response requirements equivalent to those in part 265 subpart C, which discuss maintaining appropriate emergency equipment on site, having access to alarm systems, maintaining needed aisle space, and making arrangements with local emergency authorities. A generator must also have a designated emergency coordinator who must respond to emergencies and must post certain information next to the telephone in the event of an emergency. For generators that accumulate more than 6,000 kg of hazardous secondary material on site, EPA is requiring that generators comply with requirements equivalent to those in part 265 subparts C and D, which includes all the requirements already discussed above for those accumulating less than or equal to 6,000 kg, as well as requiring a contingency plan and sharing the plan with local emergency responders.

These new requirements help address the potential for fires/explosions, environmental contamination and human exposure.

Additional Recordkeeping Requirements For Speculative Accumulation and for Transfers Under the Tolling and the Same-Company Provisions Under the Generator-Controlled Exclusion

Under the 2014 DSW final rule, all persons subject to the speculative accumulation requirements of 40 CFR § 261.1(c)(8) (including, but not limited to, persons operating under the generator-controlled exclusion)) must place materials subject to those requirements in a storage unit with a label indicating the first date that the material began to be accumulated. If placing a label on the storage unit is not practicable, the accumulation period must be documented through an inventory log or other appropriate method. This provision will allow inspectors and other regulatory authorities to quickly ascertain how long a facility has been storing an excluded hazardous secondary material, and, therefore, whether that facility is in compliance with the accumulation time limits.

In addition, the 2014 DSW final rule includes revisions to the generator-controlled exclusion for tolling and “same-company” recycling that require recordkeeping for shipments sent and received under the exclusion. The records must contain the name of the transporter, the date of the shipment, and the type and quantity of hazardous secondary material shipped or received. These records may consist of normal business records. Such recordkeeping will facilitate enforcement of the exclusion and will allow tracking of hazardous secondary materials to ensure that these materials remain within the control of the generator and are not discarded.

Together, these provisions help address the concern that hazardous secondary materials could become abandoned under the generator-controlled exclusions.

2. Implementation Measures

In addition to the regulatory changes to address potential adverse impacts of hazardous secondary materials recycling, EPA can take non-regulatory steps to help mitigate the potential adverse impacts. These steps include closely monitoring the facilities notifying under the 2014 DSW final rule, making information about the DSW facilities available to the public, and working with states and EPA Regions to ensure they have the information they need to ensure compliance with the provisions of the rule, and making available to the public information about the facilities that have notified. EPA has begun this process for the states and territories currently operating under the 2008 DSW final rule, and plans to continue these efforts in order to help prevent potential adverse impacts under the 2014 DSW final rule.

In particular, the notification condition will allow EPA (and the public) to know exactly who is operating under the DSW exclusions. EPA has the authority to inspect these facilities and enforce Subtitle C regulations if the facilities are not meeting the conditions of the exclusions. This enforcement authority, coupled with the new condition that EPA is imposing requiring third-party recyclers be verified prior to operating under the exclusion, will help ensure that recyclers operating under the DSW exclusions are capable of safely and legitimately recycling hazardous secondary materials prior to beginning operations, and that they continue to do so as long as they operate under the exclusions.