

Draft Technical Guidance for Assessing Environmental Justice in Regulatory Analysis

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**BRIEFING FOR SCIENCE ADVISORY BOARD
ENVIRONMENTAL JUSTICE TECHNICAL GUIDANCE
REVIEW PANEL**

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Outline

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- Provide an overview of the draft guidance
- Highlight review process
- Answer questions

Draft EJ Technical Guidance

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- Provides guidance on how to conduct analyses to assess EJ concerns for regulatory actions
 - Intended for analysts, both risk assessors and economists
 - Pertains to national *rules* only
- Draft guidance developed by
 - Core writing team led by Office of Environmental Justice, Office of Policy and Office of Research and Development
 - Sub-groups for risk and economics/regulatory analysis with 30+ technical experts from 12 program offices and 5 regions
 - Revised and recirculated internally based on EPA review
 - ✦ Almost 800 comments from 9 program offices and 6 regions

Draft EJ Technical Guidance

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- **Goals of the guidance:**
 - Consider EJ early in the analytic process
 - Ensure quality, rigor, and greater consistency in analyses of potential EJ concerns for national rulemakings
- **But allow discretion and flexibility to account for:**
 - Program Office constraints (time, resources, data)
 - Analytic burden associated with regulatory packages
 - Interdisciplinary nature of EJ analysis (risk assessment, economics, and other behavioral sciences)
 - Evolution in our learning and understanding of EJ

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- Section 2: Key Analytic Principles and Definitions
- Section 3: Contributors and Drivers of Environmental Justice
- Section 4: Consideration of Environmental Justice when Planning a Human Health Risk Assessment
- Section 5: Conducting Regulatory Analyses to Assess Environmental Justice Concerns
- Section 6: Research Gaps (*to be drafted following peer-review*)
- Glossary
- References
- Appendices

Section 1: Introduction

Overview

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- Identify overarching analytic questions for the analyst and decision maker
- Provide key analytic steps to guide assessments
- Recommendations to guide assessments

Section 1: Introduction

Key Analytic Questions

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- 1. Is a potential EJ concern associated with the affected environmental stressors prior to the rulemaking?
- 2. For each of the regulatory options under consideration, is a potential EJ concern created or mitigated for these affected environmental stressors?

Section 1:

Key Analytic Steps

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At Baseline:

1. Assess exposures, relevant health and environmental outcomes, and other relevant effects by population group in the baseline; and
2. Assess differences in these exposures, relevant health and environmental outcomes, and other relevant effects across population groups in the baseline.

For Each Regulatory Option:

3. Assess exposures, relevant health and environmental outcomes, and other relevant effects by population group for each option;
4. Assess differences in these exposures, relevant health and environmental outcomes, and other relevant effects across population groups for each option; and
5. Assess how estimated differences in these exposures, relevant health and environmental outcomes, and other relevant effects across population groups increase or decrease as a result of each option compared to the baseline.

Section 1:

Recommendations

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- For rules where impacts or benefits are quantified, some level of quantitative analysis for EJ is recommended
- When impacts or benefits will not be quantified or disaggregated by race/ethnicity or income, present information that is insightful with regard to potential EJ concerns
- Integrate scoping questions at the planning stage of a risk assessment
- Use the same baseline and regulatory scenarios as the other types of regulatory analyses
- Analysts should follow identified best practices
- Consider distribution of costs when appropriate

Section 2: *Key Analytic Principles*

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- **Analyses should:**
 - Be designed to inform the pending decision
 - Rely on generally accepted procedures for conducting risk assessment and economic analysis
 - Integrate consideration of EJ into existing analytical efforts
 - Use existing frameworks and data from other parts of the regulatory analysis
 - Be transparent with regard to data sources, assumptions, analytic techniques, and results
 - Use the best available science and data

Section 2: *Definitions*

- **Key Definitions**
 - Minority and indigenous populations
 - Low-income populations
 - Populations that primarily subsist on fish and wildlife

- **Differences versus Disproportionate**
 - For this guidance document, the terms “differential risks” or “differences in impacts” refer to a distinct concept from “disproportionate” impacts or risks.
 - Specifically, the terms difference or differential are used to indicate an analytically measurable distinction in impacts or risks across population groups.
 - The term disproportionate is used to refer to differences in impacts or risks that are substantial enough that they may merit Agency action.”

Section 3: *Contributors and Drivers*

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- **Key scientific reasons health risks may be unevenly distributed across social groups in the population**
- **Some key contributors to and drivers of the uneven distribution of health risks that are of concern in environmental justice**

Section 3: *Contributors and Drivers*

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- **Contributors to higher exposure among minority, low-income or indigenous populations include:**
 - Proximity to emission sources;
 - Unique exposure pathways;
 - Physical infrastructure (e.g., housing conditions, water infrastructure);
 - Exposure to multiple stressors/cumulative exposures;
 - Community capacity to participate in decision making.
- **Individual's susceptibility is important determinant of the occurrence and severity of an adverse effect.**
 - Factors include genetics, diet, nutritional status, pre-existing disease, psychological stress, co-exposure to similarly acting toxics, and cumulative burden of disease.
 - These risk or effect-modifiers influence the outcome of exposure through biological interactions and may be correlated with socioeconomic status.

Section 4: *Considering EJ When Planning a Human Health Risk Assessment (HHRA)*

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- **Key elements of planning a HHRA**
 - Ensuring it is “Fit for Purpose”
 - Planning and Scoping
 - Problem Formulation
 - Developing a conceptual model and analysis plan
- **Examples of ways analysts can plan when conducting a risk assessment for rule development**

Section 4: *Considering EJ When Planning a Human Health Risk Assessment (HHRA)*

- Scoping helps identify which population groups, health effects, chemicals, and exposure pathways will be included in the human health risk assessment
- Examples of scoping questions:
 - Which population groups – defined by income, ethnicity or race, geographic location, etc. - should be part of the assessment?
 - ✦ Are there specific risk or effect modifying factors that mean some types of individuals are at greater risk for experiencing adverse effects?
 - What health endpoints are to be addressed by the assessment?
 - ✦ When selecting health endpoints, are there specific health endpoints that may be significant in particular population groups?
 - ✦ Do health endpoints for a given exposure differ across population groups?
 - What exposure routes and pathways are relevant, and are there specific exposure pathways that may lead to specific effects, and what exposure scenarios should be modeled?
 - ✦ Do particular population groups have different exposure routes, pathways, or contact scenarios from the general population?

Section 4: *Considering EJ When Planning a Human Health Risk Assessment (HHRA)*

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- **Problem formulation**
 - Generates and evaluates preliminary hypotheses on whether minority, low-income or indigenous populations may experience potentially disproportionate risks
 1. Clarify source and characteristics of stressors relevant to potential disproportionate risks
 2. Identify factors that may influence exposures contributing to risks
 3. Characterize susceptibilities/vulnerabilities of population groups that may exacerbate differences in exposure or risk.

- **Key products of problem formulation are:**
 - Assessment endpoints
 - Conceptual model
 - Analysis plan

Section 5: *Conducting Regulatory Analyses to Assess EJ Concerns*

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- **How to assess feasibility of quantitative assessment of EJ concerns**
 - Quantitative generally preferred to qualitative assessment
 - When information on risk and incidence by groups is available, may be able to characterize baseline and likely response to change in exposure quantitatively
 - When quantitative information on risk is unavailable, may use surrogate quantitative information when appropriate (e.g., proximity-based analysis)
 - When literature/data do not allow for characterization of how risk/exposure or health outcomes are distributed across population groups, qualitatively characterize evidence, key limitations and sources of uncertainty
- **Defines baseline and incremental changes for analysis of EJ concerns**
 - OMB defines baseline as “the best assessment of the way the world would look absent the proposed action.”
 - Use same baseline and regulatory option scenarios as other types of regulatory analyses (e.g., benefit-cost, economic impact analyses)

Section 5: *Conducting Regulatory Analyses to Assess EJ Concerns*

- Summarizes quantitative methods for assessing potentially disproportionate impacts (e.g., summary statistics, visual displays, proximity-based analysis)
- Regardless of analytic method, information useful to decision makers includes:
 - Who is affected by regulatory action;
 - Main exposure pathways and expected health and environmental outcomes;
 - Evidence for why risk, exposure, or outcomes may vary by population group;
 - Relevant geographic scale and main methods of analysis used;
 - Summary statistics for baseline and each regulatory option;
 - Easy-to-understand description of summary statistics;
 - Conclusions based on information available;
 - Robustness of results across options presented, and
 - Data quality and limitations that affect conclusions.
- When limited quantitative data, evidence on whether minority, low-income or indigenous populations may be more susceptible, may be exposed through unique pathways, and how that may change with the regulation should be discussed.

Section 5: *Conducting Regulatory Analyses to Assess EJ Concerns*

- Discusses key analytic issues such as geographic scope, how to define comparison groups, how to spatially identify and aggregate effects, and statistical significance
- Discusses distribution of costs
 - When costs are passed onto consumers as higher prices that are spread fairly evenly across many households or when price increases are small, effect on an individual household will likely be small and not warrant further analysis.
 - Whether to examine the distribution of costs is a case-by-case determination but may be warranted when: costs to consumers are concentrated among particular types of households; there are identifiable plant closures or relocation of facilities; or we expect behavioral changes in response to the regulation.
- Discusses non-health impacts
 - Data on distribution of non-health endpoints often not easily available or difficult to quantify.
 - Identify non-health endpoints that may be affected, noting any of cultural importance for population groups, and how they may be distributed across population groups in baseline.
 - When data are available, use in the evaluation. At least qualitatively discuss if feasible.

Review Process

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- **Internal Agency Review (Nov. 2012)**
- **Public Comment Period**
 - Two webinars: May 29 and June 6
 - Extended an additional 60 days; now closes on September 6
 - Comments posted on regulations.gov
- **Tribal Outreach**
 - Outreach to 565 Tribes
 - Runs May 10-June 24, 2013
 - Two webinars: May 22 and June 3
- **External Peer Review by Science Advisory Board**