The potential role of HIA within USEPA's Action Development Process

Tina Yuen, MPH MCP [1,2] & Devon Payne-Sturges, DrPH [1]

[1]U.S. Environmental Protection Agency (USEPA), [2]Associations of Schools of Public Health (ASPH)

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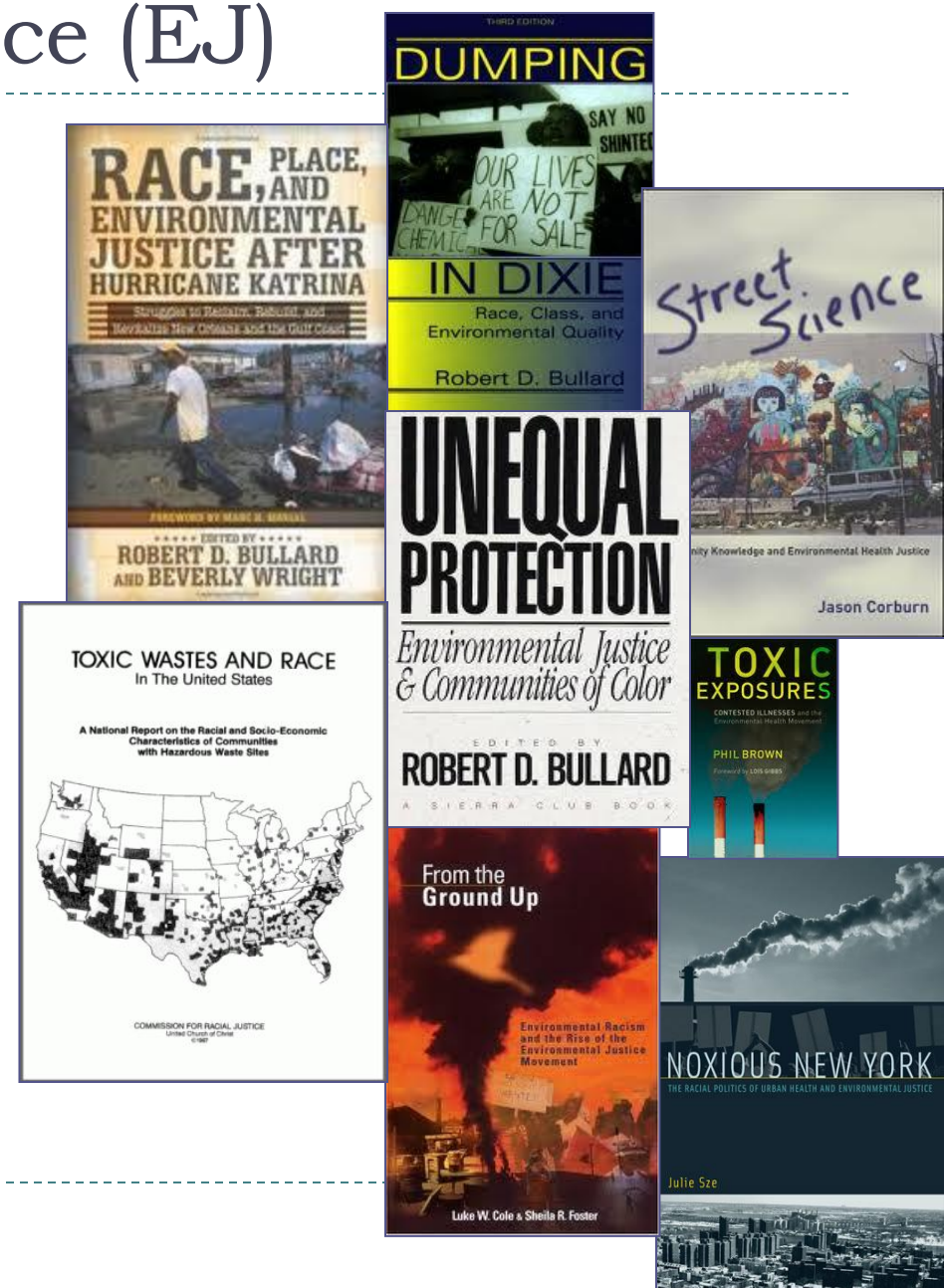
Contact email: yuen.tina@epa.gov

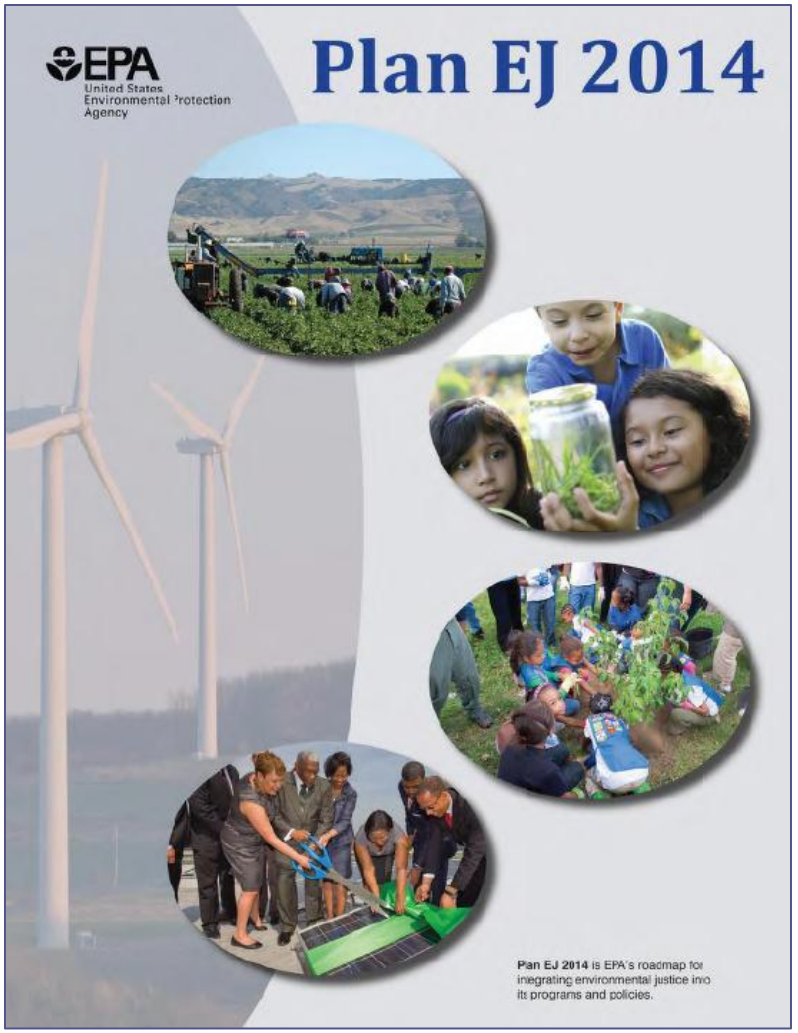
Environmental Justice (EJ)

- The struggle for EJ is not new, but our ability to incorporate these concepts into our decision-making processes remains an ongoing challenge.
- Need to consider differential exposures and disproportionate impacts.
  - Opportunity to address environmental health disparities.



Plan EJ 2014

- USEPA's roadmap for integrating EJ into its activities.
- Marks the 20th anniversary of Clinton's Executive Order 12898 on EJ.
- The plan explicitly calls out the need to address EJ in rule making.



Other Executive Orders (EO) to Consider

- EO 12866 (1993) – Clinton
  - Requires that benefits, costs, and other economic impacts be examined
  - Benefits must justify costs
    - Costs and benefits, both quantitative and qualitative
  - Agencies consider distribution and equity effects
- EO 13563 (2011) – Obama
  - Reaffirms EO 12866
- EO 13045 (1997) – Clinton
  - An evaluation of health or safety effects for significant actions thought to disproportionately affect children

USEPA Decisions Balance Different Qualities

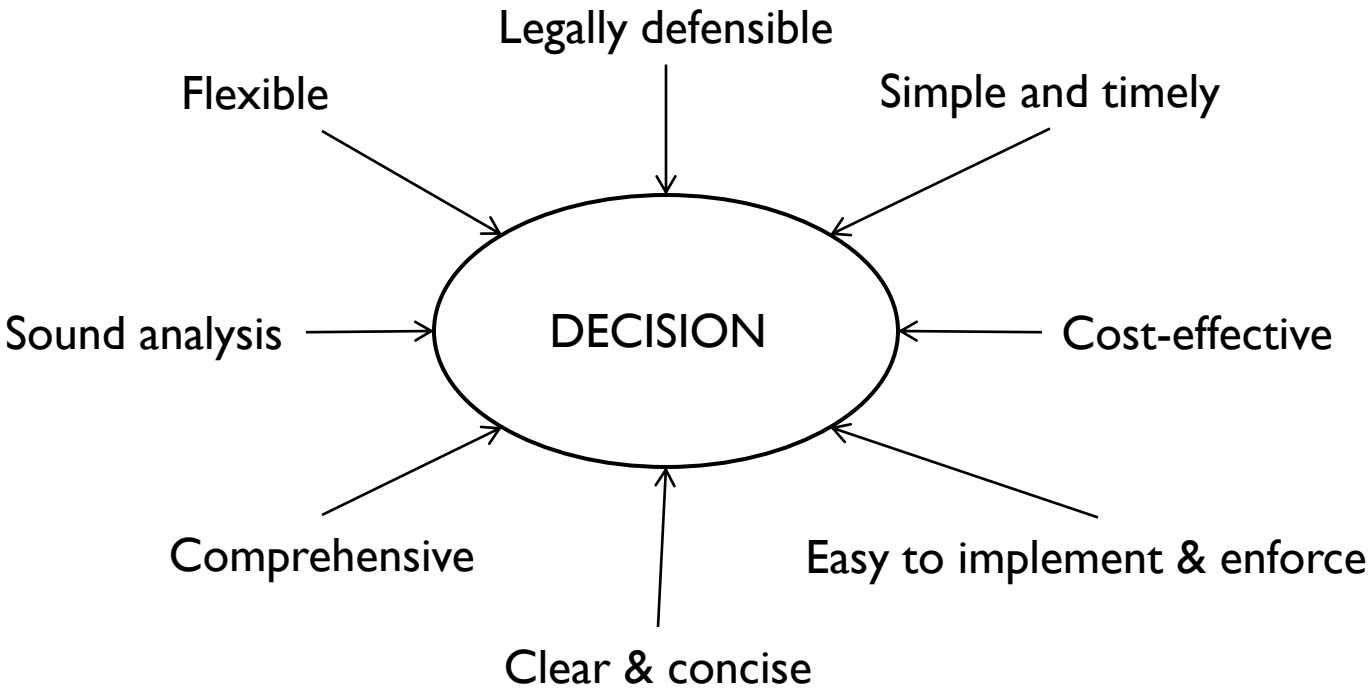


Image taken EPA's ADP Guidance for EPA Staff on Developing Quality Actions

USEPA's ADP

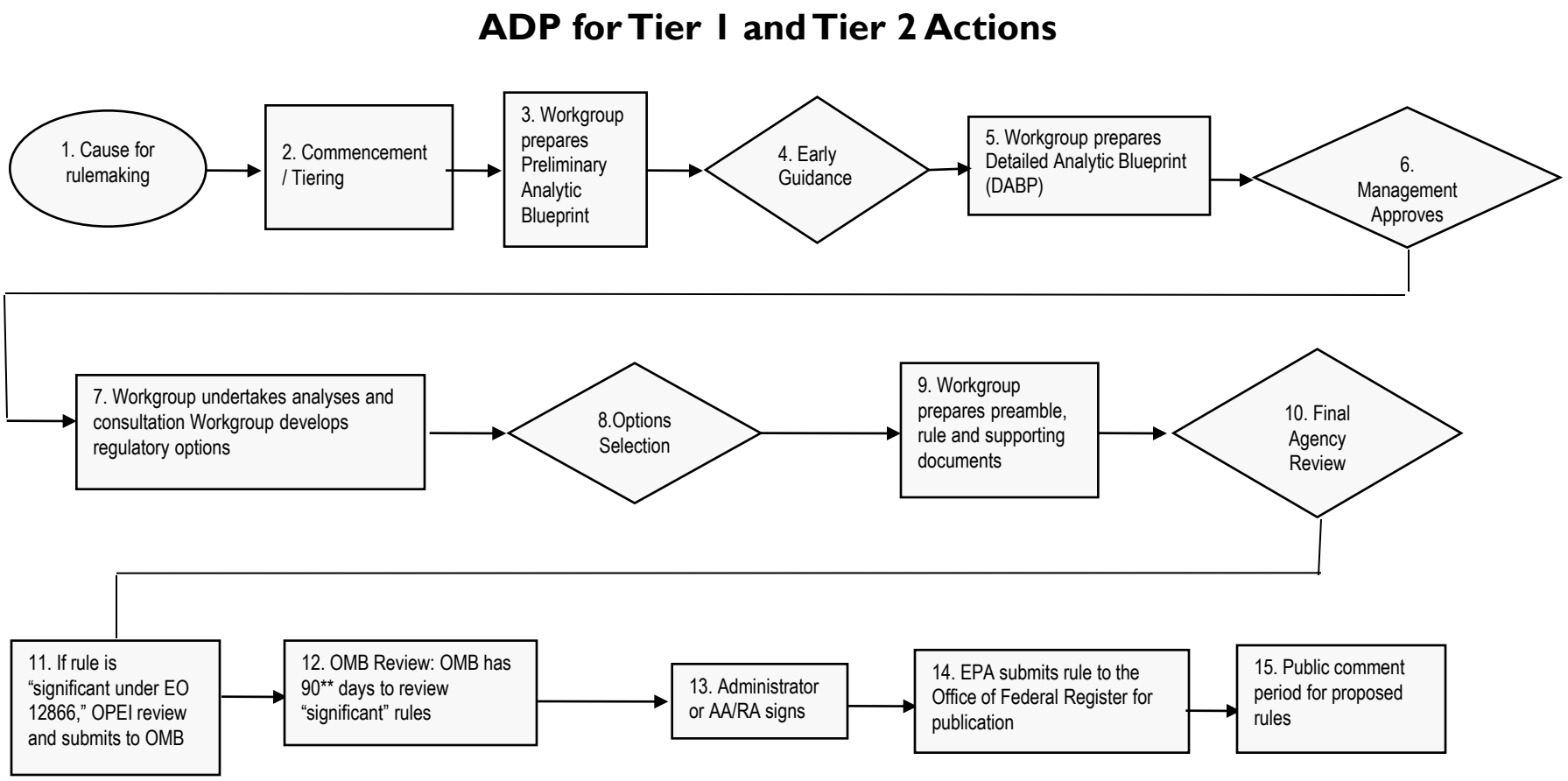


Image taken from USEPA's Office of Policy & Office of Regulatory Policy and Management

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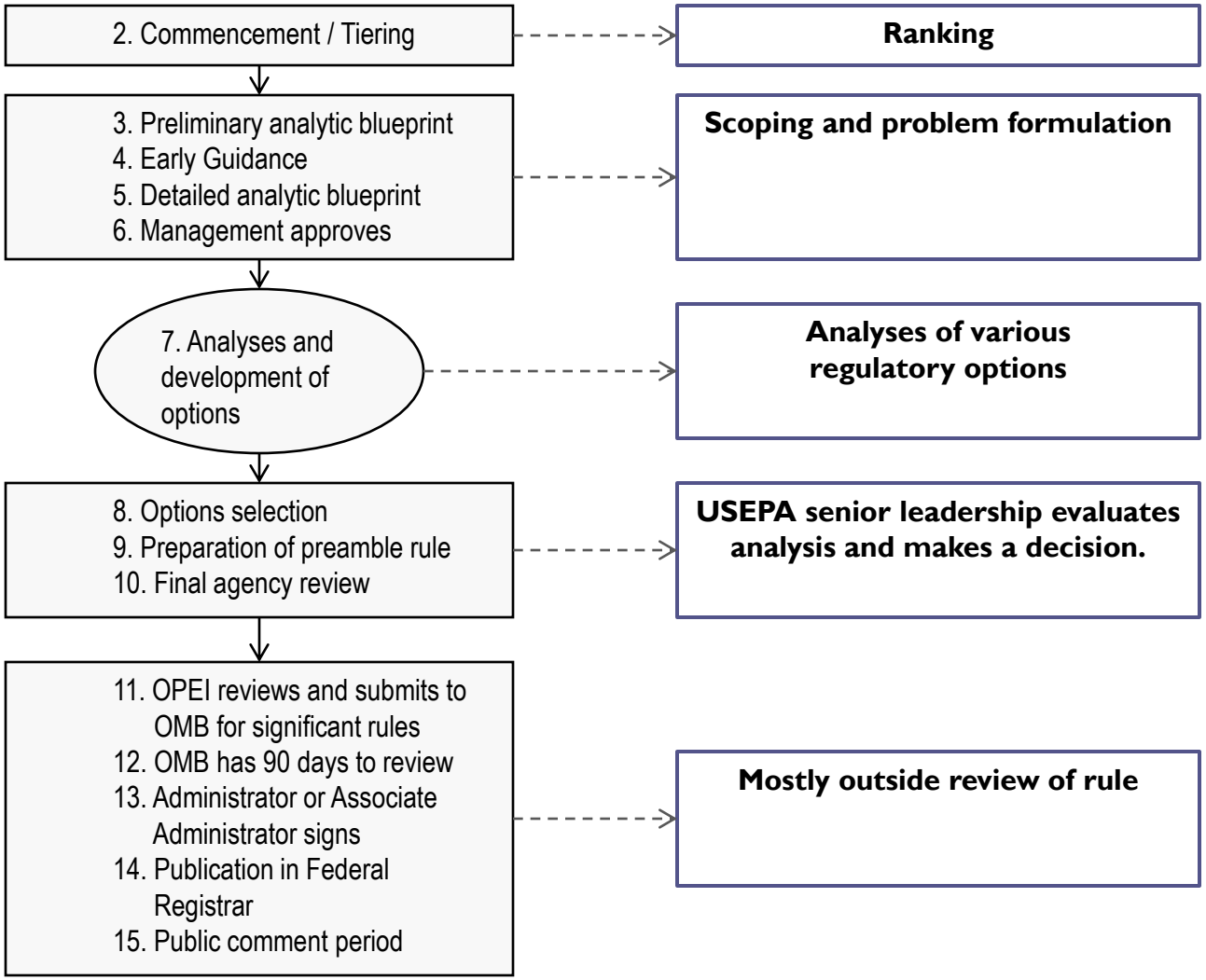
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4. Early Guidance
5. Detailed analytic blueprint
6. Management approves
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7. Analyses and development of options
Analyses of various regulatory options
8. Options selection
9. Preparation of preamble rule
10. Final agency review
USEPA senior leadership evaluates analysis and makes a decision.
11. OPEI reviews and submits to OMB for significant rules
12. OMB has 90 days to review
13. Administrator or Associate Administrator signs
14. Publication in Federal Registrar
15. Public comment period
Mostly outside review of rule

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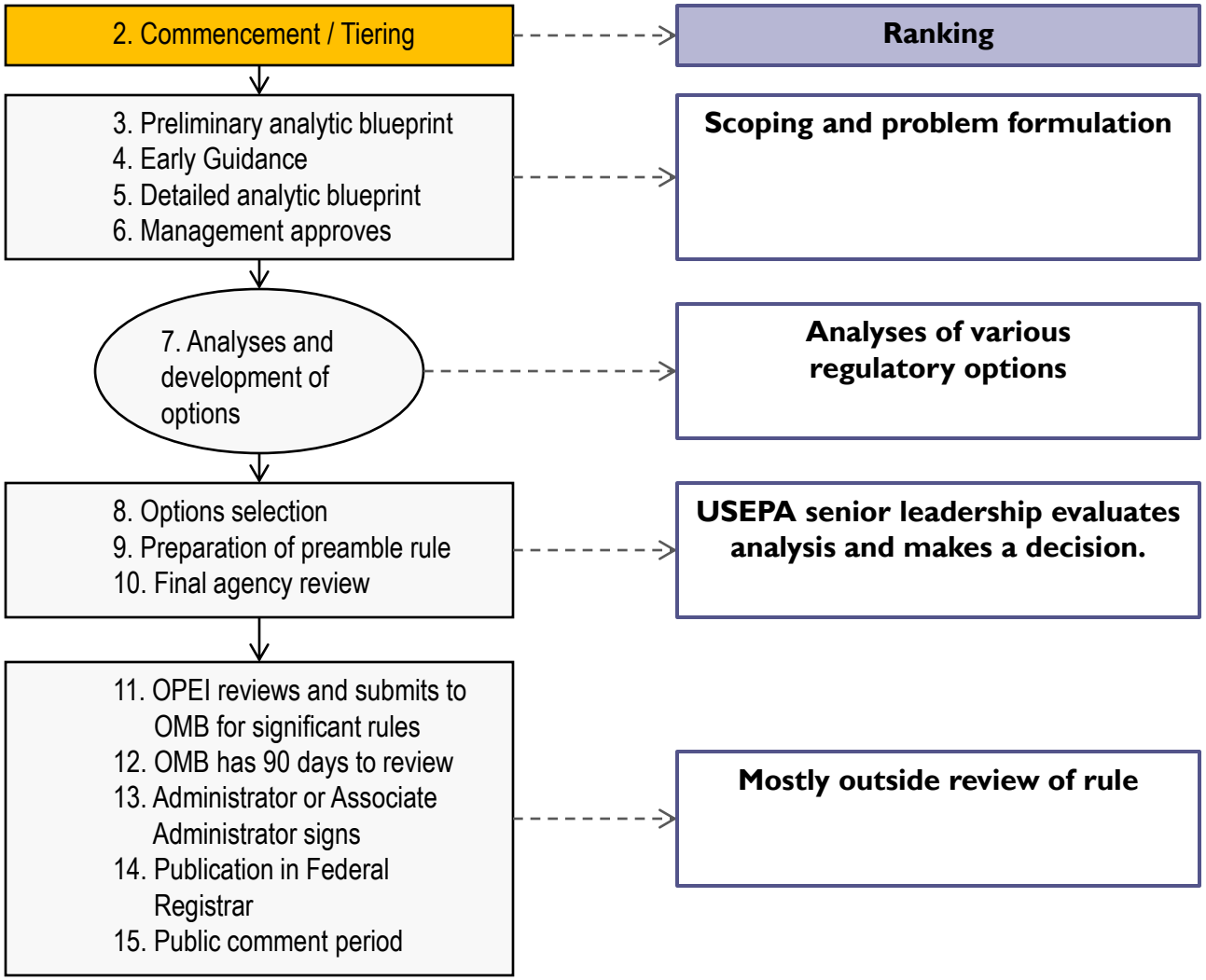
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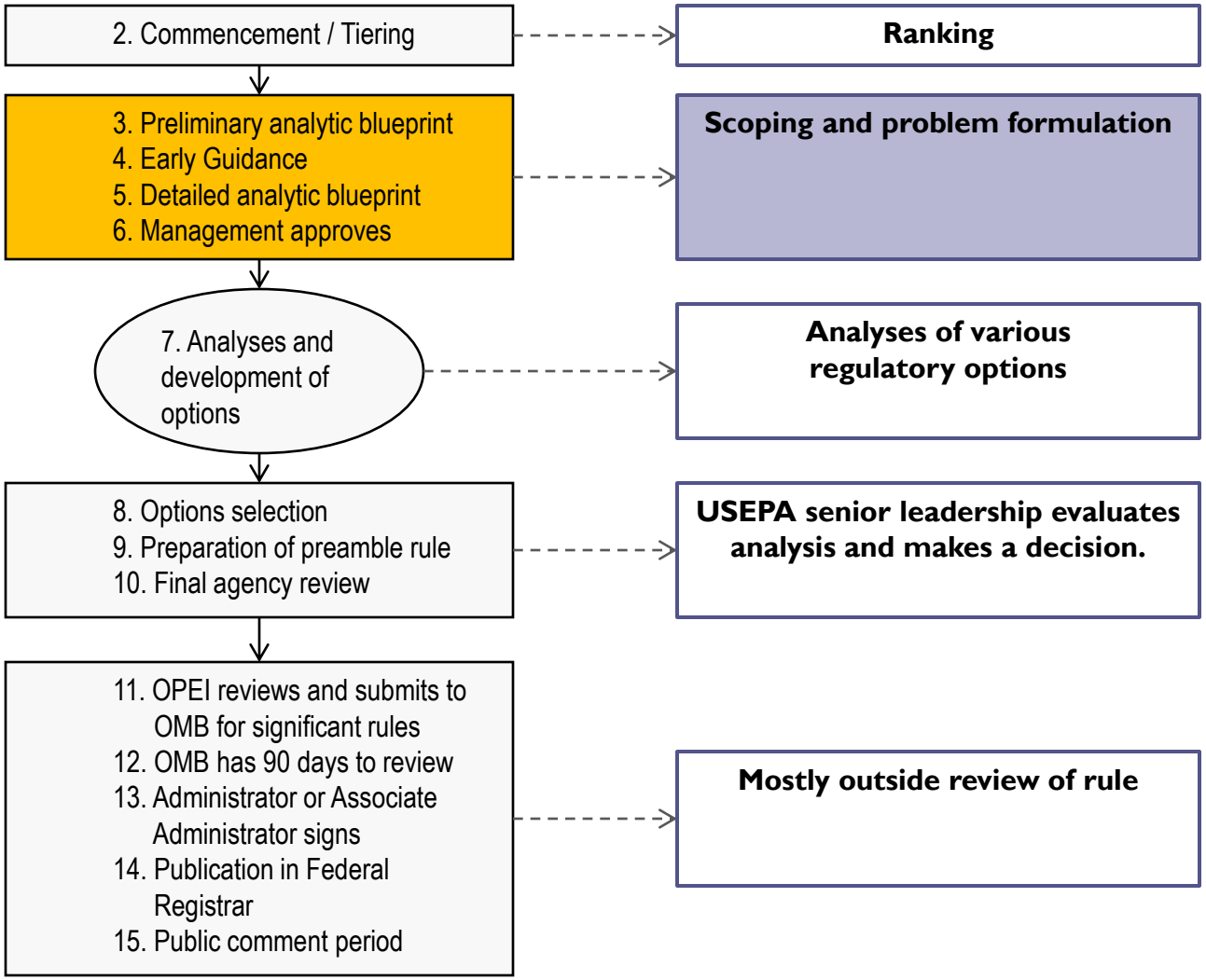
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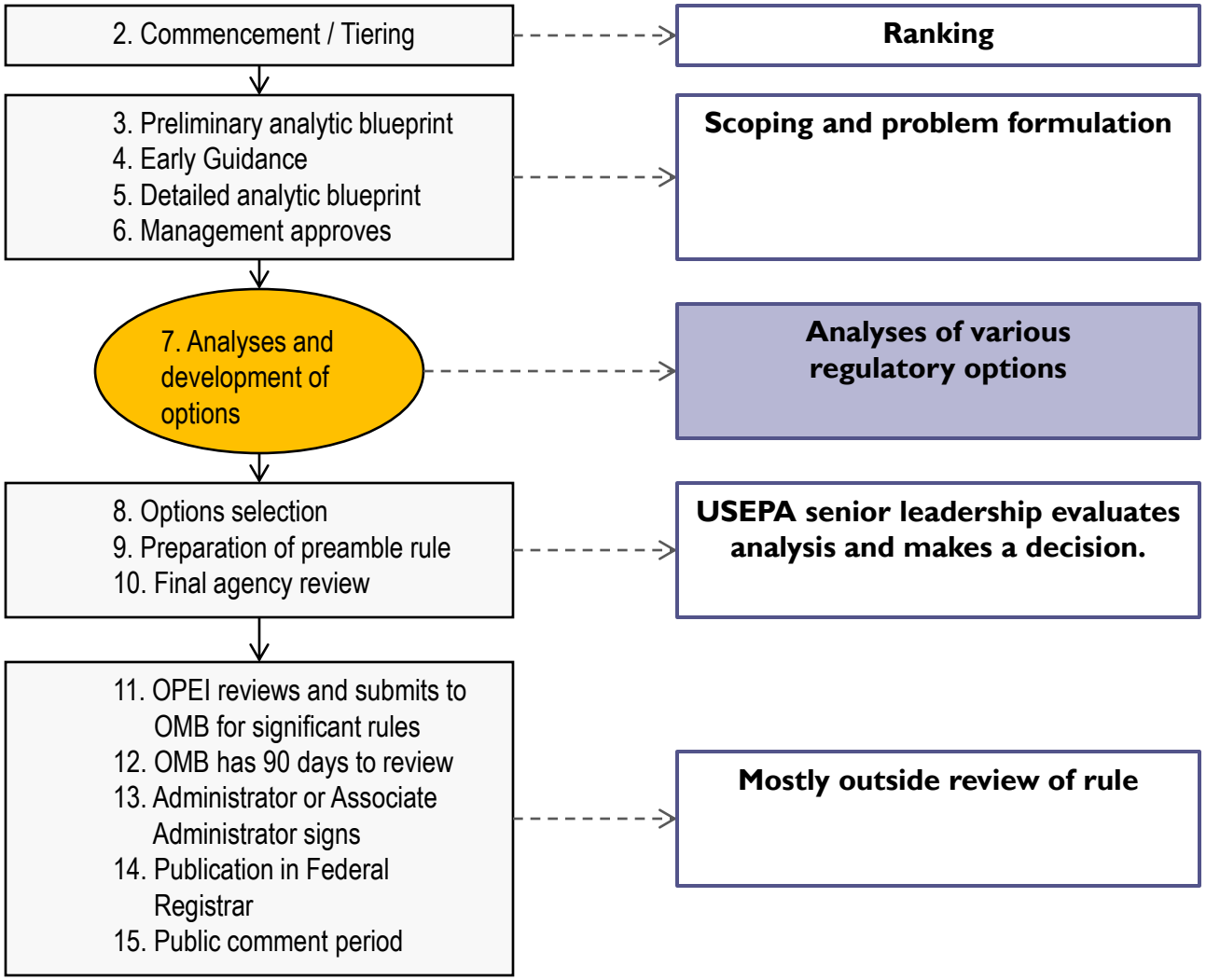
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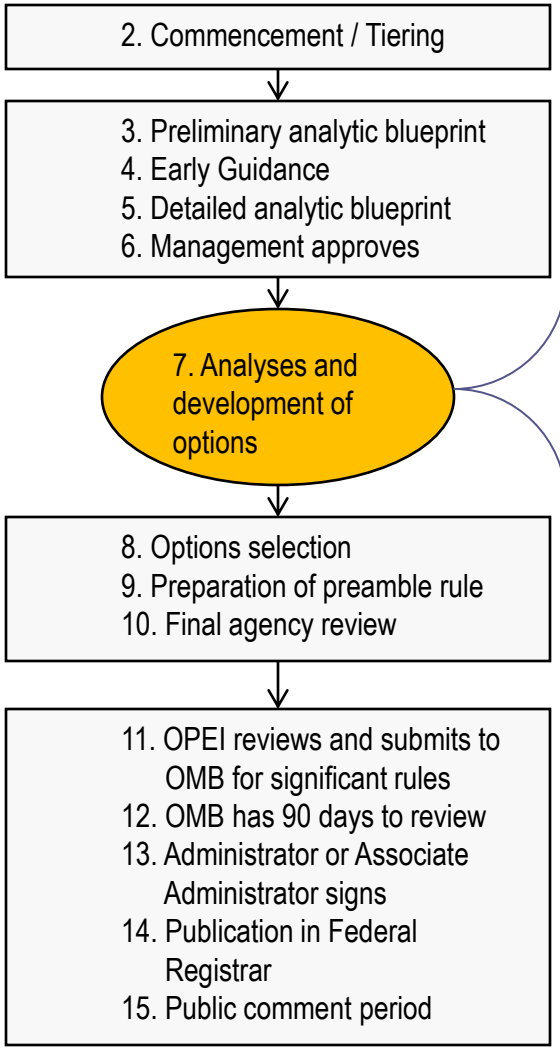

- Health Risk Assessment
- Cost Benefit Analysis
- Distributional Analysis
- Ecological Risk Assessment
- Engineering/ Technical Analysis

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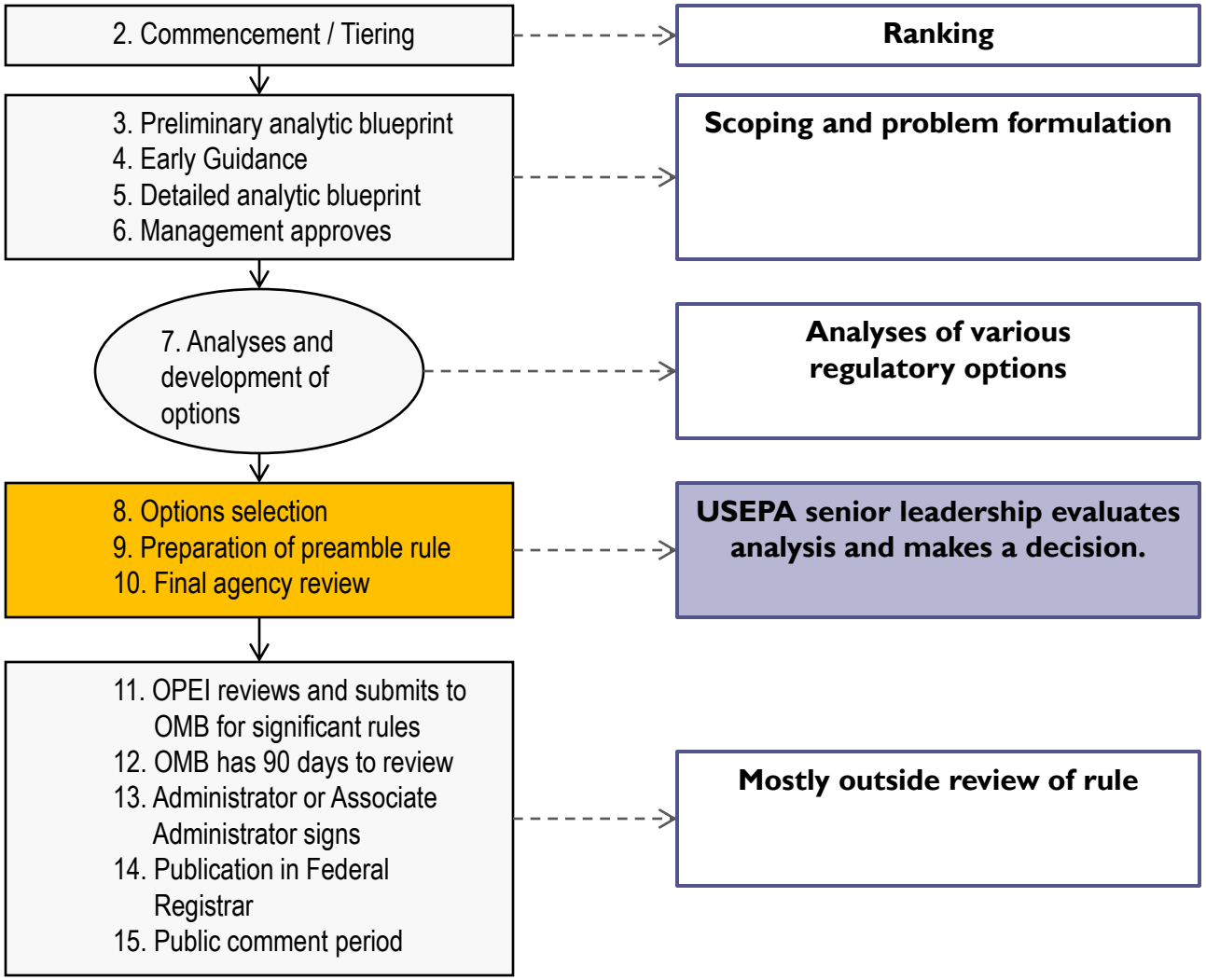
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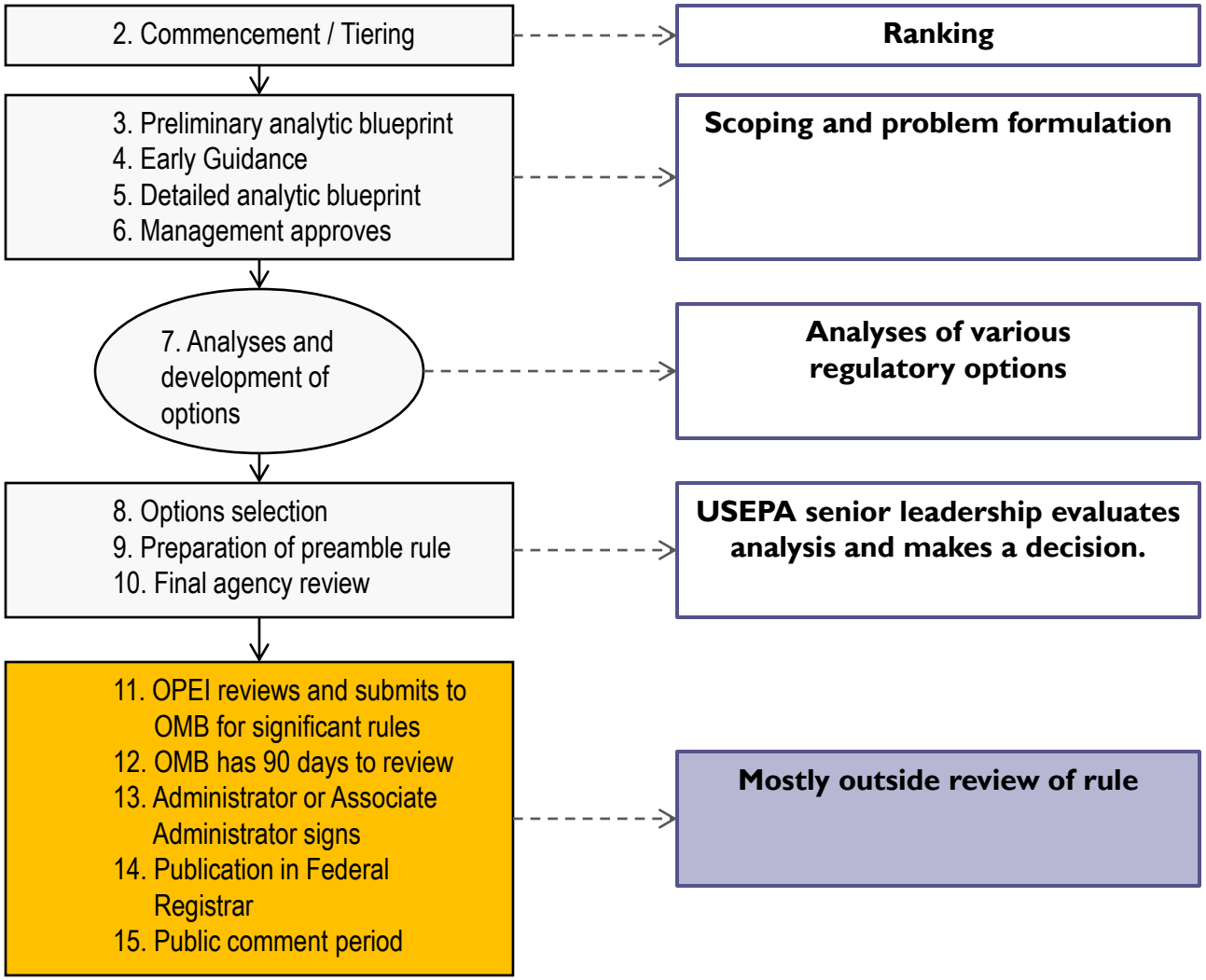
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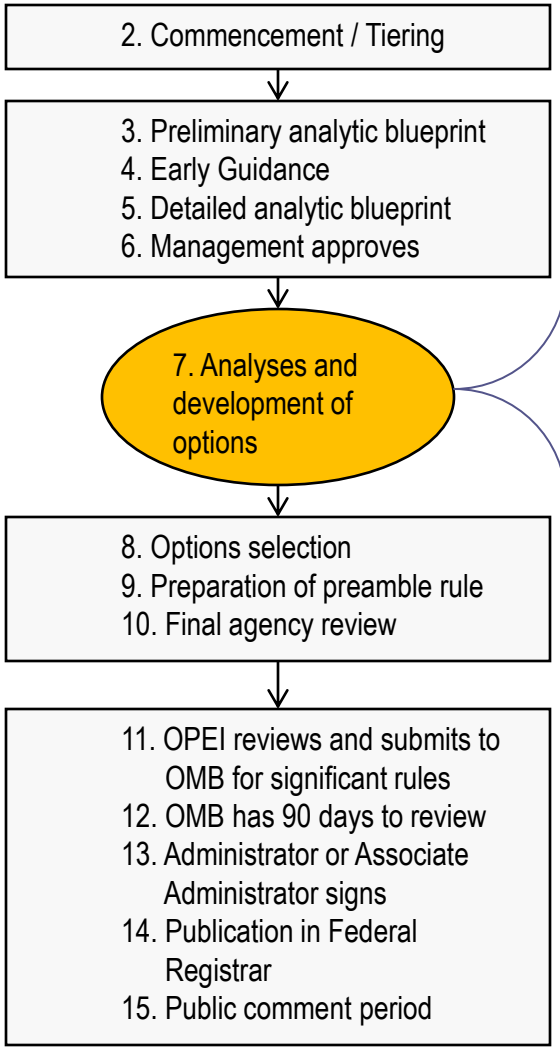

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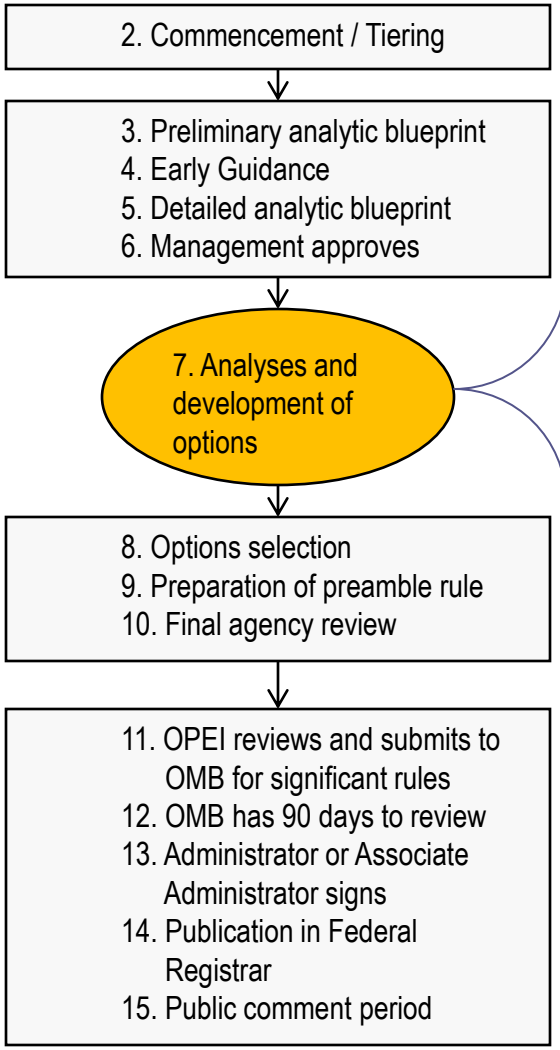

- **Human Risk Assessment**
- **Cost Benefit Analysis**
- **Distributional Analysis**
- Ecological Risk Assessment
- Engineering/ Technical Analysis

EJ Critiques of Risk Assessment

- Too simplistic and narrow; reductionist
- Analysis is too dense, technical, and difficult to understand
- Limited public or community participation

References: Corburn J, 2002; Guana E, 1998; Israel BD, 1994; Kuehn RR, 1996; Shrader-Frechette K, 2010.

EJ Critiques of Cost Benefit Analysis

- "Complete Costs – Incomplete Benefits" Analysis
  - Difficult to quantify and monetize benefits that do not have a direct market exchange value
- Limited to capturing physical effects
- Average cost to average person
- Analysis is too dense, technical, and difficult to understand

References: Ackerman F & Heinzerling L, 2004; Harrington W, Heinzerling L, & Morgenstern RD, 2009; Guana E, 1998.

EJ Questions to Consider

- How will public participation process provide transparency and meaningful participation?
- How do you plan to identify and address existing and new disproportionate impacts?
  - What is the baseline distribution?
  - What is the distribution of the environmental outcome for each regulatory option?
  - How do the policy options improve or worsen distribution with respect to vulnerable subgroups?
- How did the action taken under the first 2 questions influence the final decision?

References: USEPA's Interim Guidance on Environmental Justice During the Development of an Action ; Maguire & Sheriff, 2010.

What can HIA offer?

- Both process and methodological improvements
  - Process
    - Principles
    - Robust commitment to equity and public participation
  - Methods
    - Considers both benefits and unintended consequences
    - Considers qualitative and quantitative data
    - Focus on environmental, economic, and social determinants of health
      - Can more accurately account for potential health benefits

What can HIA offer?

- Should focus analysis to what is not currently accomplished in regulatory analysis:
  - Qualitative analysis of health outcomes lacking dose-response functions
  - Qualitative and quantitative analysis of health outcomes
    - Multiple exposures
    - Distribution of exposures and/or impacts
    - Health disparities: health gaps between social/ economic groups
  - Qualitative and quantitative analysis of how decision options may impact multiple social and environmental health determinative pathways

Benefits of Land Use Cleanup & Reuse

Table from *Handbook on the Benefits, Costs, and Impacts of Land Clean Up and Reuse* (USEPA, 2011)

Table 6.1 - Potential Benefits of Land Cleanup (c) and Reuse (r) Activities

Benefit Category	Examples	Commonly Used Valuation Methods
Human Health Improvements		
Mortality	Reduced risk of: ▪ Cancer fatality (c) ▪ Acute fatality (c)	◆ Averting behaviors ◆ Property value models ◆ Stated preference
Morbidity	Reduced risk of: ▪ Cancer (c) ▪ Accident & injury (c) ▪ Lead poisoning (c) ▪ Birth defects (c)	◆ Averting behaviors ◆ Cost of illness ◆ Property value models ◆ Stated preference
Ecological Improvements		
Market products	▪ Improved fish harvests (c)	◆ Production/cost function
Recreation activities and aesthetics	▪ Enhanced hiking, boating, fishing (c)(r) ▪ Scenic views (c)(r)	◆ Production/cost function ◆ Averting behaviors ◆ Property value models ◆ Recreation demand ◆ Stated preference
Valued ecosystem functions	▪ Reduced surface water runoff (r) ▪ Increased soil permeability (r)	◆ Stated preference ◆ Production/cost function ◆ Averting behaviors
Nonuse values	▪ Restored or preserved species or ecosystems (c)(r)	◆ Stated preference
Other Benefits		
Aesthetic improvements	▪ Improved neighborhood appearance (c)(r) ▪ Improved drinking water taste and odor (c)	◆ Averting behaviors ◆ Property value models ◆ Stated preference
Reduced materials damages	▪ Reduced corrosion and soiling (c)	◆ Averting behaviors ◆ Dual-profit function ◆ Production/cost function
Land productivity improvements	▪ Increased goods and services (c)(r) ▪ Increased labor productivity (c)(r)	◆ Production/cost function ◆ Property value models

Adapted from *EA Guidelines* (U.S. EPA 2010e).

Bio-physical health endpoints

Health separated from ecological & other benefits

Reduction in health risk for subsistence fishers

Health effects from improved economics opportunities

Health effects from increased physical activity

Decreased psychosocial stress

Health effects from improved economic opportunities

Other considerations with use of HIA in regulatory analysis

- Screening criteria for rules that would most likely benefit
- Commitment to principles of HIA: equity and democracy
  - Human Impact Partners' case study of HIA on I-710 expansion
- Standardization of analysis
- Legal defensibility
- Demonstrating value and realistic expectations

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