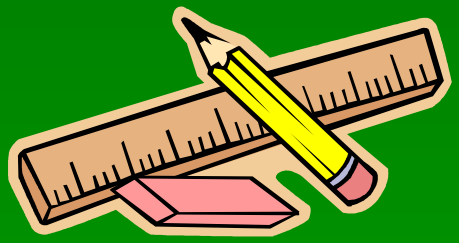
Organizational Approaches to Measurement and Evaluation



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U.S. Environmental Protection Agency
Office of Inspector General
Office of Program Evaluation

EEN Forum June 8, 2010

Presentation Overview

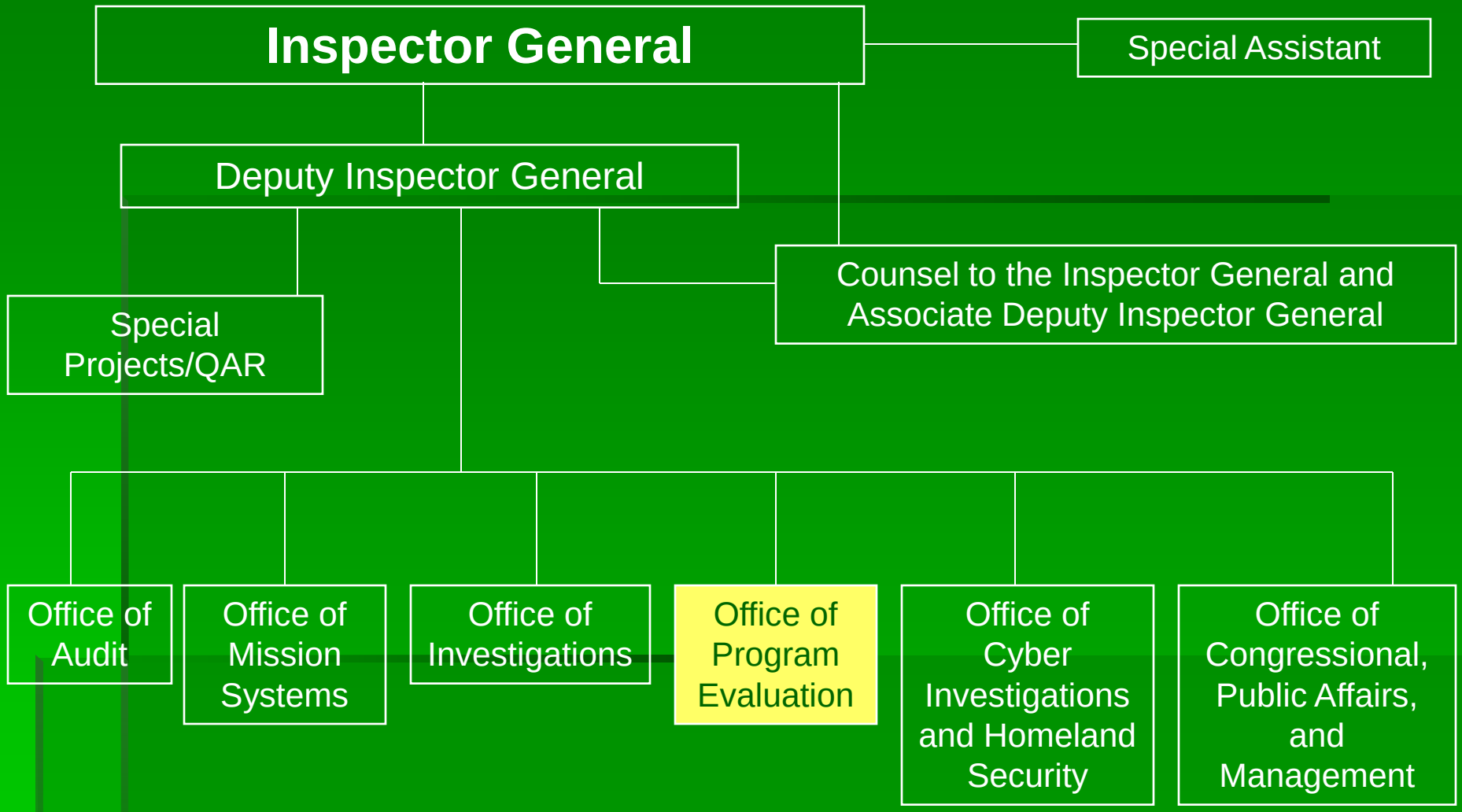
- Introductions and Format Overview
- Discussion Questions
- U.S. EPA Office of Inspector General Presentation
  - Who we are and what we do
  - Evaluation questions and areas to consider
  - Examples from recent evaluations and approaches
    1. Voluntary GHG Reduction Programs
    2. Great Lakes Areas of Concern
    3. Toxic Substance Control Act
- Swedish EPA Presentation
- Re-Visit and Discuss Questions
- List Recommended Approaches

Discussion Questions to Consider…

1. What is one example of a successful approach you've used to evaluate a program with data quality issues?
2. How do you weigh the input of evaluation stakeholders with differing points of view?
3. How can evaluators encourage acceptance and buy-in for negative findings?
4. What criteria can an evaluator apply to assess the impact of data quality issues on the integrity of evaluation findings?
5. What techniques have you applied to encourage the use of your evaluation findings?

U.S. Environmental Protection Agency
Office of Inspector General

- The Office of Inspector General (OIG) is an **independent** office within EPA that helps the Agency protect the environment in a more efficient and cost effective manner by performing audits, evaluations, and investigations.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Office of Program Evaluation
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OIG Office of Program Evaluation

- OPE was started in 2001 with 10 FTEs and as of 2007 was the second largest Inspection and Evaluation Unit in the IG community. Today, evaluators make up approximately 80 of the 300 + FTEs in the OIG.
- We have backgrounds in environmental science, engineering, accounting, social and political science, and are required to complete additional technical training each year.
- OPE evaluations are initiated in four ways:
  1. Self-initiated, based on our strategic plan,
  2. Requested by EPA,
  3. Requested by Congress or OMB, or
  4. Response to IG hotline information
- We address our reports to EPA program offices, and issue them to EPA, Congress, and the public.
- You can find our reports at: **http://www.epa.gov/oig/publications.htm**

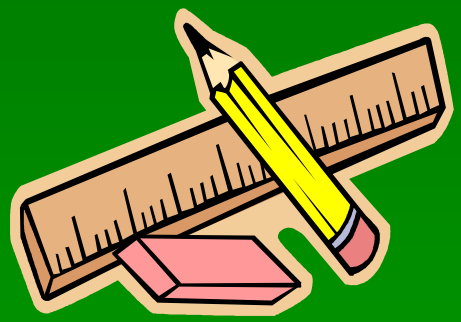
As with any evaluation making judgments about environmental programs requires answering:

- What will be evaluated? (i.e. what is "the program" and in what context does it exist) Goals and Objectives
- What aspects of the program will be considered when judging program performance? Scope
- What standards (i.e. type or level of performance) must be reached for the program to be considered successful? Criteria

Questions and Areas to Consider (Continued...)

- What evidence will be used to indicate how the program has performed? Data
- What conclusions regarding program performance are justified by comparing the available evidence to the selected standards? Analysis
- How will the lessons learned from the inquiry be used to improve environment or public health effectiveness? Conclusions and Recommendations

Approaches to Measurement and Evaluation



Examples from Recent Reports…

1. Voluntary Greenhouse Gas Reduction Programs Evaluation, July 2008

Concerns about human-caused global warming and the potential impacts of GHG emissions were first raised in the 1960s. In 1992, the United States signed and Congress ratified the UN Framework Convention on Climate Change Treaty. The treaty required the United States to implement programs to reduce greenhouse gas emissions. The United States decided to achieve this goal through implementing voluntary programs.

Evaluation Objectives:

To determine (1) the extent to which the voluntary GHG programs in our review can contribute to further GHG emission reductions; and (2) whether outcome data for the voluntary GHG programs in our review are accurate and complete.

- POTENTIAL, BARRIERS, AND DATA

- What We Found:
  - Its unlikely the voluntary programs can reduce more than 19 percent of projected emissions
  - Greatest barriers to participation were perceived costs and reporting requirements
  - Weaknesses in data collection and reporting caused by limited, unverified, and anonymous data reports.
  - No consequence for not reporting in MOU, little assurance firms are participating in program

Report: Voluntary Greenhouse Gas Reduction Programs Have Limited Potential, July 2008

What We Recommended:

- Annual review and update of cost analyses
- Adoption of written agreement with data quality provisions
- Policy to identify how programs without participants will link reported outcomes to program efforts.

2. Evaluation of Contaminated Sediments in the Great Lakes Areas of Concern, September 2009

Background

- In 1972 and 1978, the U.S. and Canada signed the Great Lakes Water Quality Agreement to reduce pollution in the Great Lakes
- In 1987, amendments defined an **Area of Concern** (AOC) as "a geographic area that fails to meet the General or Specific Objectives of the Agreement where such failure has caused or is likely to cause impairment of a beneficial use or of the area's ability to support aquatic life."
- In 2002, Congress enacted the Great Lakes Legacy Act to provide a funding source to cleaning up sites with contaminated sediment that did not fall under the jurisdiction of other environmental statutes.
- Through the Legacy Act, when a State or local sponsor commits 35 percent or more of the clean-up cost, the remaining amount (up to 65 percent is provided in Federal funds.

Figure 1.1: Geographic location of U.S. and Canadian AOCs

Source: GLNPO Website

Evaluation Objectives:

To determine (1) how effectively is GLNPO fulfilling its assigned role for managing contaminated sediment clean-ups in the AOCs, (2) how effectively does GLNPO coordinate AOC clean-ups within EPA, with States, and with non-federal stakeholders, (3) how effective is GLNPO's strategy in meeting its goals?

What we found:

- EPA is challenged by the overall extent of the contaminated sediment problem
- Agency is missing a coordinated approach
- Full extent of sediment contamination is unknown
- Local partners need to provide a match for clean ups
- Remediation will be conducted in order of local government and stakeholder ability to pay
- Given current rate of progress, clean up may take more than 77 years

Report: EPA Needs a Cohesive Plan to Clean Up the Great Lakes Areas of Concern, September 2009

What We Recommended:

- Establishment of a management plan with written designations of authority and responsibility for each EPA program office
- Assignment of a lead EPA office to each Sediment Remediation Site to determine volume of contamination
- Annual measurement and publication of Sediment Remediation Site sediment volumes, clean-up costs, and stakeholder progress for each site.

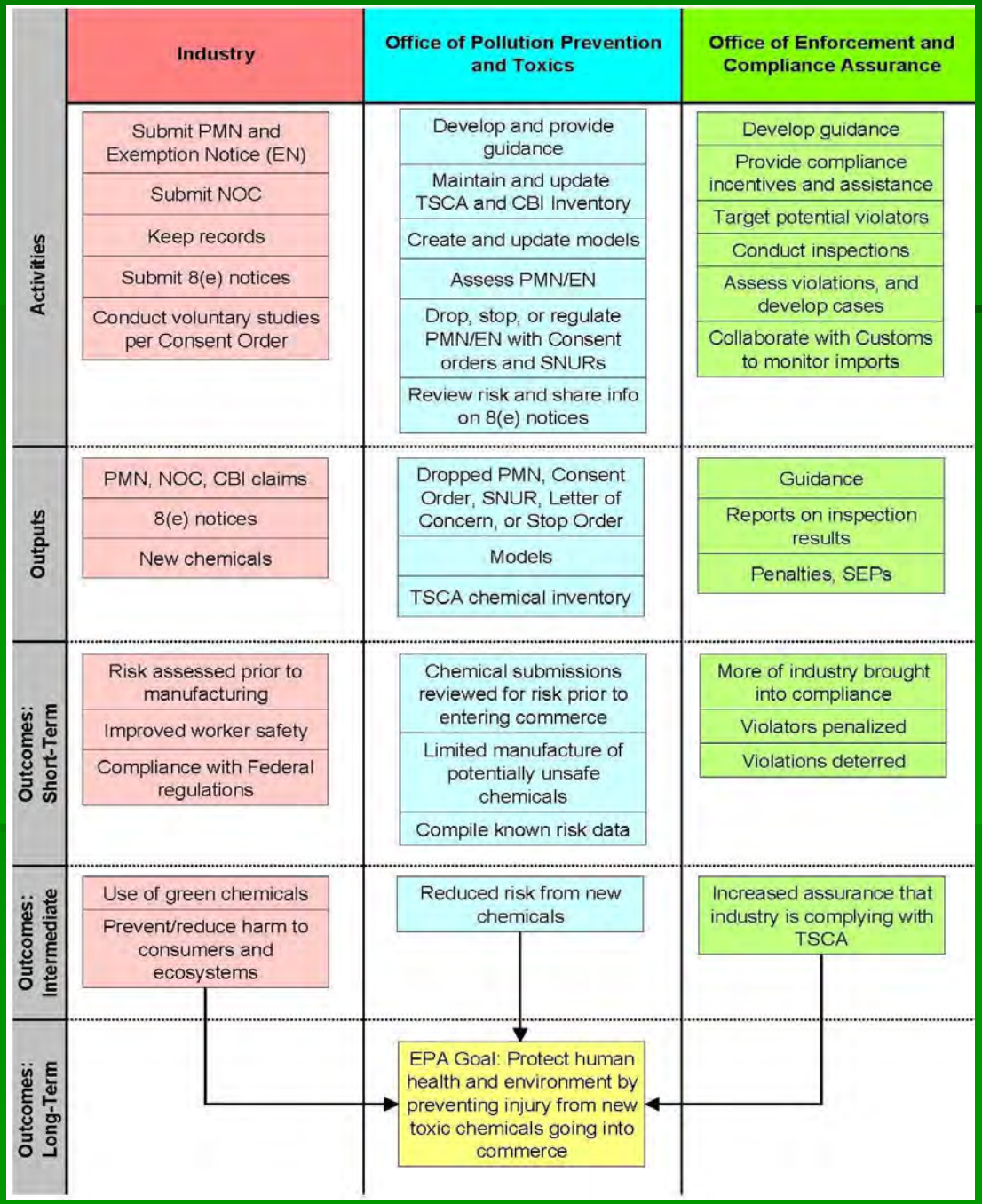
3. Evaluation of EPA's Toxic Substances Control Act Responsibilities, February 2010

Evaluation Objectives:

To answer (1) how well do EPA processes for new chemical oversight and regulation meet the objectives of TSCA and (2) do the performance measures accurately reflect EPA's assurance that the objectives of TSCA are being achieved?

What we found:

- Review of new chemicals relies on data from existing chemicals and models rather than test data
- Enforcement/compliance activities are low priority
- EPA offices (OECA & OPPT) do not collaborate on mutual goals/responsibilities
- Public access to health and safety data is not assured
- Fees do not defray EPA's costs
- Measures do not accurately reflect performance

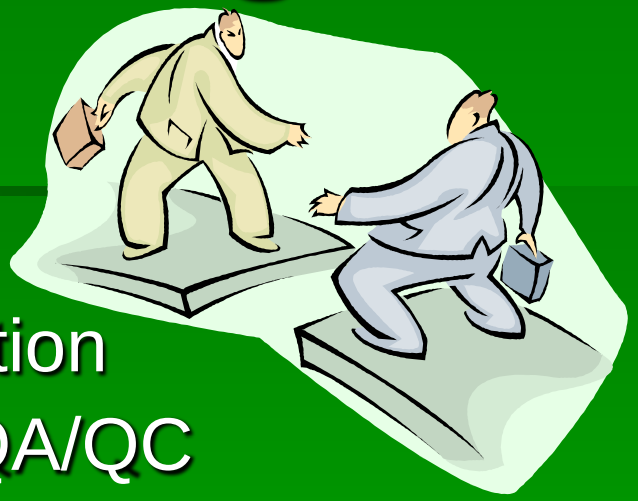

Industry
Office of Pollution Prevention and Toxics
Office of Enforcement and Compliance Assurance
Activities
Submit PMN and Exemption Notice (EN)
Submit NOC
Keep records
Submit 8(e) notices
Conduct voluntary studies per Consent Order
Develop and provide guidance
Maintain and update TSCA and CBI Inventory
Create and update models
Assess PMN/EN
Drop, stop, or regulate PMN/EN with Consent orders and SNURs
Review risk and share info on 8(e) notices
Develop guidance
Provide compliance incentives and assistance
Target potential violators
Conduct inspections
Assess violations, and develop cases
Collaborate with Customs to monitor imports
Outputs
PMN, NOC, CBI claims
8(e) notices
New chemicals
Dropped PMN, Consent Order, SNUR, Letter of Concern, or Stop Order
Models
TSCA chemical inventory
Guidance
Reports on inspection results
Penalties, SEPs
Outcomes: Short-Term
Risk assessed prior to manufacturing
Improved worker safety
Compliance with Federal regulations
Chemical submissions reviewed for risk prior to entering commerce
Limited manufacture of potentially unsafe chemicals
Compile known risk data
More of industry brought into compliance
Violators penalized
Violations deterred
Outcomes: Intermediate
Use of green chemicals
Prevent/reduce harm to consumers and ecosystems
Reduced risk from new chemicals
Increased assurance that industry is complying with TSCA
Outcomes: Long-Term
EPA Goal: Protect human health and environment by preventing injury from new toxic chemicals going into commerce

Report: EPA Needs a Coordinated Plan to Oversee Its Toxic Substances Control Act Responsibilities, February 2010

What We Recommended:

- Link execution of OPPT and OECA programs, establishing mutual responsibility
- Devise performance measures that demonstrate accountability and assurance of meeting objectives
- Request statutory authority to increase fees
- Establish criteria for low-level/cumulative risk assessments and periodically revise tools
- Revise CBI processing procedures
- Develop management plan for TSCA enforcement/compliance, to include training, protocols, and evaluation of techniques
- Ensure enforcement strategy maximizes resources across regions and leverages input from OPPT technical experts
- Create and periodically update list of known regulated entities.

Summary of Challenges Discussed



- Barriers to program participation
- Problems with data quality, QA/QC
- Difference in stakeholder perceptions
- Large scope of issue, unknown/incomplete assessments
- Disconnect between purpose and measures and program ability and authority