

Public Meeting on the Preliminary Effluent Guidelines Program Plan for 2004/2005



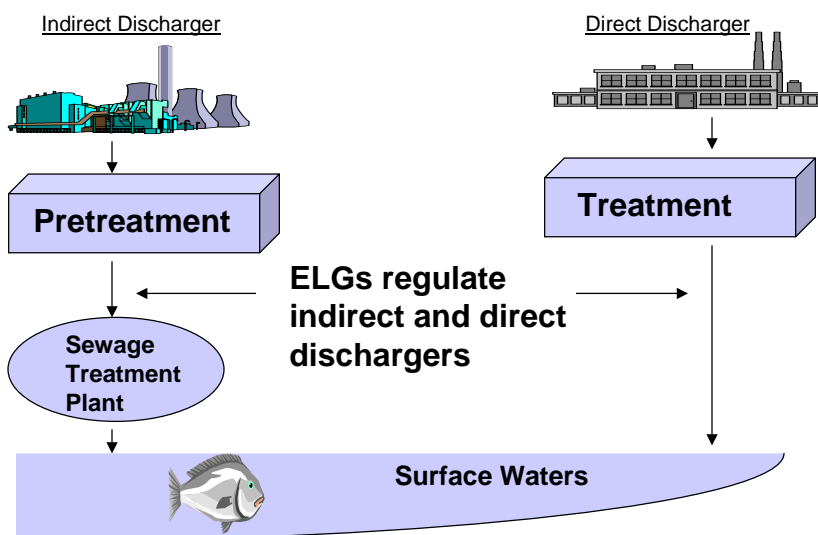
U.S. Environmental Protection Agency
EPA Headquarters, Washington, DC
January 28, 2004, 9:00 AM – 12:00 PM

I. Welcome and Overview of the 304(m) Planning Process

What are Effluent Limitations Guidelines (ELGs)?

- National industrial wastewater regulations for both direct and indirect dischargers
- Industry Specific (e.g., metal finishing, iron and steel)
- Numerical, technology performance-based limitations and standards (specific technology not required)
- Economically Achievable
- ELGs are incorporated into NPDES permits (direct dischargers) or into controls set by POTWs (indirect dischargers)

What are ELGs?



What are ELGs?

- Over 55 major industrial categories regulated over 30 years, since 1972 Clean Water Act
- National industrial regulations are estimated to result in the removal of 690 billion pounds of pollutants each year, and substantially contribute to improvements in the quality of water nationwide
- Limits on industrial indirect dischargers designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of publicly owned treatment works (POTW)
- General Pretreatment Regulations (40 CFR 403) set the framework for the implementation of categorical (technology-based) pretreatment standards

Major Issues Addressed During the Rulemaking Process

- Economic Impacts
 - Methodology
 - Compliance Costs
- Pollutant Loadings and Removals
- Achievability of Limitations and Standards
 - Addition of New Data
 - Engineering Review

Effluent Guidelines Planning Process

- The 1987 Clean Water Act Amendments added Section 304(m), which clarified Congress' intent that effluent guidelines keep pace with pollution prevention and treatment technology
- EPA must review all promulgated effluent guidelines annually
- Even years: after proposal and public comment, EPA must publish a two-year plan for the guidelines program which:
 - Identifies and establishes a schedule for any guideline revisions
 - Identifies any unregulated industries that discharge nontrivial amounts of toxics and establishes a schedule to regulate them w/in three years

Effluent Guidelines Planning Process

- EPA was sued in 1989 for failure to develop a plan that met the statutory requirements, and entered into a consent decree in 1992
- For the last 12 years, selections of industries for guidelines were substantially influenced by this consent decree
- Our final obligations under this consent decree will be complete by mid-2004

Effluent Guidelines Planning Process

- In November 2002, EPA issued a **Draft Strategy** that outlined a possible approach for conducting the annual review and planning required under Section 304(m)
- Built largely on recommendations from the Effluent Guidelines Task Force and lessons learned in recent effluent guidelines
- Available on EPA's website: <http://epa.gov/guide/strategy/>
- Intend to finalize strategy with the final 2004/2005 304(m) plan

Goals of the Draft Strategy

- Reduce risk to human health and the environment
- Involve stakeholders from the beginning
- Assure transparent decision-making
- Evaluate sound information against broad and balanced decision criteria

Major Factors for the Draft Strategy

- Risk to human health and the environment
- Technology, process change, or pollution prevention
- Economic considerations – cost, growth, affordability
- Implementation/efficiency considerations:
 - Industry changes made existing guidelines inappropriate or inadequate?
 - Current guideline a barrier to the use of new technologies?
 - Would revising an existing guideline allow reduction of more pollutants at lower cost?

304(m) Planning: Phased Process

- Screening level review to identify categories needing further investigation
- Prioritizing candidates using selection criteria
- In-depth review to characterize industry categories
- Decide on course of action

304(m) Planning: Stakeholder Involvement

Stakeholders have access to important information:

- Water quality concerns and possible risk concerns
- Pollutants currently being discharged
- Available technology, esp. innovative technologies
- Industry processes and practices essential to interpreting available data
- Changes to industry
- Multi-media opportunities
- Opportunities for voluntary reductions
- Barriers to implementing current regulations and potential solutions

II. Review of the Preliminary Plan

What Does the Preliminary 2004/2005 Plan Do?

- Describes the analytical framework and methodology EPA used to develop the Plan
- Presents the results of EPA's 2003 annual review of promulgated guidelines
- Presents preliminary decisions on potential new guidelines
- Solicits comment

What Analytical Framework and Methodology Did EPA Use?

- Began with the framework outlined in the draft Strategy for National Clean Water Industrial Regulations
- Developed Screening level estimates of hazard/risk
 - Used pollutant data from the Permit Compliance System and Toxic Release Inventory
 - Used Toxic Weighting Factors to evaluate hazard/potential risk

What Analytical Framework and Methodology Did EPA Use (cont.)?

- **Considered Regional and stakeholder input on implementation and efficiency issues**
 - Public comments on previous Plans and draft Strategy, Effluent Guidelines Task Force recommendations , informal meetings with stakeholder groups, Regional conference calls
- **Did not complete a detailed review prior to releasing the preliminary plan**
 - Limited information on technology cost, performance and economic affordability

2003 Annual Review of Promulgated Guidelines

- **To focus on industry categories with the greatest opportunities for risk/hazard reduction, excluded categories:**
 - With guideline revision already in progress or recently completed
 - With almost all indirect dischargers
 - Regulated by other CWA provisions
 - With unclear or uncertain hazard or risk scores
 - With one or a few facilities driving hazard/risk scores

Outcome of 2003 Annual Review of Promulgated Guidelines

- Two industries identified for detailed investigation in the 2004 annual review
 - Continue analyzing risk/hazard estimates
 - Analyze technology innovation, process changes, cost and affordability
- EPA will decide whether to propose revisions prior to publishing the final 2004/2005 plan
- If EPA decides to propose revisions for one or both guidelines, EPA will announce regulatory schedule(s) in the final plan

Outcome of 2003 Annual Review of Promulgated Guidelines (cont.)

- **Identified potentially high hazards or risks from two other industrial categories**
 - Not enough time to resolve data gaps and issues prior to the 2004/2005 final plan
- **Identified seven other categories with potentially high hazards or risk**
 - Will continue investigating data gaps and issues for future 304(m) plans
- **Regions and stakeholders suggested nine other categories**
 - Hazard/risk scores do not appear to warrant revision

Preliminary Decisions on Potential New Guidelines

- Used the list of “categories of sources” at section 306 as a guide
- Looked for non-trivial discharges of toxic pollution using TRI, PCS and other available data

Preliminary Decisions on Potential New Guidelines (cont.)

- **To focus on greatest opportunities to reduce risk/hazard, excluded categories with:**
 - Guideline revision underway
 - One or a few facilities driving hazard/risk estimate
 - Inadequate data to determine if discharges are nontrivial
 - All or nearly all indirect dischargers
 - Other CWA provisions applicable
 - No requirement for an NPDES permit
- **Identified no new categories for potential new guidelines**

III. Data Gathering Activities and Analyses for the Final Plan

Data Gathering Activities

- **Screening-level Data Sources:**

- Toxic Release Inventory data (current discharges)
- Permit Compliance System data (current discharges)
- WATERS Expert Query Tool (matching pollutant discharges from facilities to waterbodies listed as impaired for that pollutant)
- Effluent guideline technical development documents (raw pollutant loads, treatment-in place, treatment efficiency)
- Region 8 Draft Guidance Document for Coalbed Methane
- Public comment on Draft Strategy and 2002/03 304(m) Plan

Data Gathering Activities (cont.)

- **Examples of data sources considered and not used:**
 - Not linked to pollutant discharge or limited scope: fish tissue/sediment contamination databases, USGS ambient water quality monitoring, EMAP, Regional Vulnerability Assessments
 - Under development: Source Water Assessment Program

Data/Methodology Challenges

- **Data Challenges:**
 - Facilities with no release/monitoring data; primary industry SIC classifications that do not correspond to main processes generating wastewater (TRI, PCS)
 - Facilities with estimated or unknown discharge locations (impairments analysis using WATERS query tool)
 - Waterbodies not monitored or listed for impairment (impairments analysis using WATERS query tool)
 - Pollutants: unreported/unmonitored; reported incorrectly or as ranges or maximums; limited toxicity information (TRI, PCS)
- **Methodology Challenges:** Limitations in data in TRI, PCS and previous ELG documents limited EPA's ability to estimate current national pollutant loads and treatment efficiency

Additional Review: Top Candidate Industries

As an initial check on our screening analyses, we looked more closely at the industries with the most toxic discharges and tried to answer the following questions:

- What are the raw pollutant loadings in process wastewaters prior to on-site treatment?
- What percentage of these pollutants are already controlled by treatment in place?
- What pollutants are discharged? What is the potential hazard associated with these pollutants?
- What are the trends in pollutant discharges to surface water over time?
- Do pollutants in these industries line up with impaired waters? How many waters are impaired by these parameters nationally?

Detailed Study Approach

1. What is the industry?
2. What are the toxic pollutant problems?
 - Are these problems associated with a subsector w/in the category?
 - Are these problems associated with a few facilities?
3. What are the sources of the problem toxic pollutants?

Detailed Study Approach (cont.)

4. What pollutant reduction approaches might address these toxic pollutant problems?
 - Pollution prevention approaches
 - In-process treatment
 - End-of-pipe treatment

5. What are the costs and removals that would result from employing selected pollutant reduction approaches?

Categories for Detailed Review and Decision for the 2004/2005 Plan:

- Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF): 40 CFR 414
 - Includes previously unregulated subcategory Chemical Formulating Packaging and Reformulating

- Petroleum Refining: Part 419
 - Includes previously unregulated subcategory, Petroleum Bulk Stations and Terminals

- After considering all available data, EPA may decide to identify one or both of these categories in the final Effluent Guidelines Program Plan for 2004/2005 for effluent guidelines revisions.

Industry Specific Questions: OCPSF

- What is the source (raw material, process, product) of the TRI-reported releases of toxic chemicals, particularly dioxin and dioxin-like compounds, PACs, aniline, and sodium nitrite?
- What control technologies or techniques can be used to reduce wastewater contamination with these pollutants?
- What toxic chemicals are released from OCPSF facilities, but not reported to TRI or PCS?

Industry Specific Questions: OCPSF (cont.)

- Manufacturers of azo dyes and certain facilities in the rubber industry reported wastewater releases of aniline and sodium nitrite.
- Manufacturers of ethylene dichloride and vinyl chloride monomer reported wastewater releases of dioxin and dioxin-like compounds.
- For these pollutant discharges...
 - What is the source (raw material, process, product) of these releases?
 - What control technologies or techniques can be used to reduce wastewater contamination with these pollutants?

Industry Specific Questions: OCPSF (CFPR)

- As part of these detailed reviews, EPA will evaluate Chemical Formulating, Packaging and Repackaging (including Adhesives and Sealants) operations as a potential new subcategory under OCPSF (Part 414). Questions we hope to answer include:
 - What are the sources of wastewaters discharged from CFPR operations?
 - What pollutants (toxic, conventional, and nonconventional) are contained in these wastewaters and at what quantity?
 - What control technologies or techniques can be used to reduce the wastewater contamination with these pollutants?
 - What is the basis for the discharge limits in NPDES permits issued to facilities in these SIC codes?

Industry Specific Questions: Petroleum Refining

- In 2000, why did 19 refineries report surface water and POTW releases of PACs to TRI, while 164 refineries did not report releases?
- What control technologies or techniques can be used to reduce the PACs in refinery wastewaters?
- What is the source of dioxin and dioxin-like compounds in refinery wastewaters?

Industry Specific Questions: Petroleum Refining (cont.)

- What process modifications or control technologies have been implemented at refineries to reduce the generation of dioxins?
- In what internal refinery wastewater streams are vanadium and other toxic metals concentrated?
- What process modifications have been implemented at refineries to reduce the vanadium in refinery wastewaters? Of other toxic metals?
- What toxic chemicals are released from refineries, but not reported to TRI or PCS?

Industry Specific Questions: PBST

- As part of these detailed reviews, EPA will evaluate Petroleum Bulk Stations and Terminals (PBST) (SIC 5171) as a potential new subcategory under Petroleum Refining (Part 419). Questions we hope to answer include:
 - What is the discharge status (number of facilities with direct, indirect, and zero discharge) of facilities in this industry (SIC code 5171)?
 - Why or how do certain facilities discharge no wastewater (off-site disposal, segregation of contaminated stormwater, evaporation pond, etc.)?
 - What are wastewater sources and discharge volumes?
 - How many sites (or percentage of the industry) treat and discharge tank bottom water draws?

Industry Specific Questions: PBST (cont.)

- What are the typical contaminants in wastewater (e.g., PACs, BETX, n-Hexane, Ammonia) from facilities in SIC code 5171? What are the sources of these contaminants at these facilities?
- What is the discharge of toxic pollutants (pollutant concentrations and mass)?
 - What percent of the discharge is attributed to stormwater?
 - Are these discharges covered by general or individual permits?
- Do any sites treat or discharge continuous wastewater streams?
- What is the current level of treatment in place (e.g., number of sites with no treatment, oil/water separators, biological treatment, or other treatment)?

IV. Considering Voluntary Loading Reductions

Four Major Factors

1. Risk to human health and the environment
2. Technology, process change, or pollution prevention
3. Economic considerations
4. **Implementation/efficiency considerations**

Implementation and Efficiency Considerations

- Industry changes made existing guidelines inappropriate or inadequate?
- Current guideline a barrier to the use of new technologies?
- Would revising an existing guideline allow reduction of more pollutants at lower cost?
- **Is the industry engaged in voluntary loading reductions?**

Voluntary Loading Reductions

EPA agrees that voluntary efforts should be encouraged, especially those that:

- Are widely adopted within an industry

- Result in significant reductions in toxic and non-conventional pollutant discharges to surface water

Benefits of Voluntary Action

- Such reductions could mean a lower priority for regulatory action by EPA Office of Water

- Industry would have the flexibility to determine how to achieve the reductions:
 - Identifying which processes to adjust,
 - Determining which resources to recapture, and
 - Setting own goals

Issues

- What sources of data are there to verify voluntary loading reductions?
 - PCS
 - TRI
 - Progress Reports submitted to EPA's voluntary programs
 - Others?

Issues (cont.)

- How do we to determine and verify meaningful reduction quantities:
 - Set percent reduction to be achieved?
 - Compare hazard score after reductions to hazard of other industry categories?

Potential Approaches to Voluntary Loading Reduction

- Innovative approaches such as trading
- Existing EPA programs
- Industry-sponsored programs
- Others?

Select EPA Voluntary Programs



Performance Track Program
Dan Fiorino, Program Director



Resource Conservation Challenge
David Hockey, Program Director



Design for the Environment
Clive Davis, Program Director



National Environmental Performance Track Program: Progress Report

Presentation to Public Meeting on the
Proposed Effluent Guidelines Program Plan for
2004 / 2005

Washington, DC
January 28, 2004



Background

- Recognizes and supports top environmental performers that go beyond legal requirements
- Launched in mid-2000, now has over 300 members
- Led out of EPA's Office of Policy, Economics, and Innovation in collaboration with EPA regional offices and states





Program Entry Criteria

- Environmental management system in place
- Commitment to continuous environmental improvement
- Good compliance history
- Community outreach program



Membership Accountability

- Annual performance reports
 - Compliance certification
 - Progress on commitments
- Good faith efforts
- Maintain an EMS
- Conduct community outreach





Environmental Aspects for Continuous Improvements

- Air emissions
- Discharges to water
- Energy use
- Materials use
- Preservation/restoration
- Product performance
- Waste
- Water use



Annual Reporting

- Self-certify regarding entry qualifications
- Report on, and measure, progress regarding performance commitments and EMS objectives and targets
- Summarize results of compliance and EMS audits





Program Benefits

- Public recognition
- Networking
- Low priority for routine inspections
- Administrative, policy, and regulatory changes



Partnerships with States

- Agreements with CO, MA, TN, TX, and VA
 - Coordinate state and federal programs
 - Facilitate joint participation
 - Implement incentives, such as low priority for inspections, expedited permitting, and reduced reporting
 - Looking to develop up to 10 more MOAs





Performance Track Network Partners

- American Chemistry Council
- American Furniture Manufacturers Association
- American Textile Manufacturers Institute
- Associated General Contractors of America
- The Auditing Roundtable
- Cement Kiln Recycling Coalition
- Global Environment & Technology Foundation Public Entity EMS Resource Center
- Greening of Industry Network
- National Association of Chemical Distributors
- National Defense Industrial Association
- National Paint and Coatings Association
- National Pollution Prevention Roundtable
- National Ready Mixed Concrete Association
- National Stone, Sand and Gravel Association
- NORA, an Association of Responsible Recyclers
- North American Die Casting Association
- Screenprinting and Graphic Imaging Association International
- Steel Manufacturing Association
- Synthetic Organic Chemical Manufacturers Association
- Voluntary Protection Programs Participants' Association
- Wildlife Habitat Council

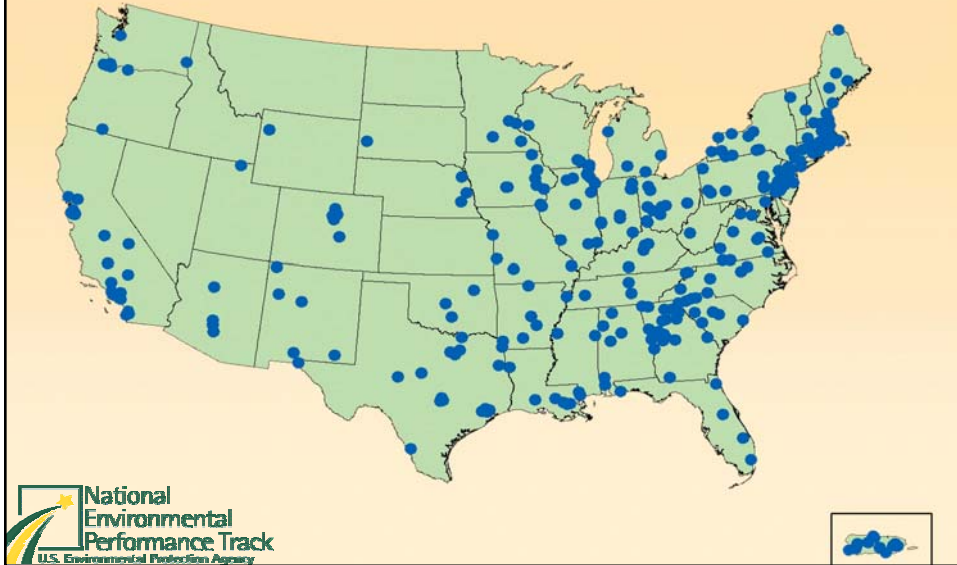


Membership

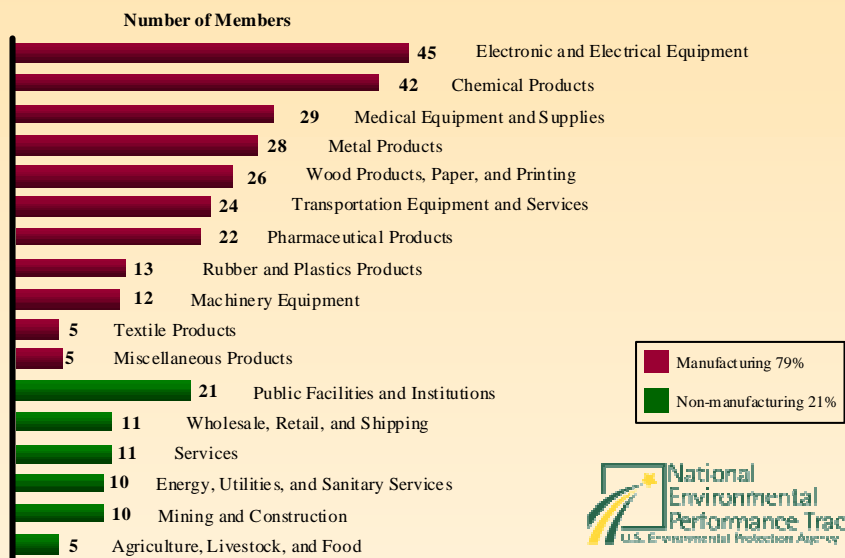
- 456 applications (with 52 pending)
- 370 acceptances
- 61 facilities left the program, due to:
 - EMS problems discovered at site visits
 - they did not produce an annual performance report
 - facility closures
 - other
- 309 facilities remain



Location of Performance Track Members



Distribution of Members Across Sectors





Some of Our Members

3M (9)	Johnson & Johnson (48)
Baker Petrolite (3)	Lockheed Martin (9)
Baxter Healthcare (8)	Louisiana Pacific
Chevron-Phillips Chemical	Marathon Ashland Petroleum
DOE - Strategic Petroleum Reserve	Motorola (5)
DuPont (4)	NASA (3)
IBM (6)	City of Scottsdale
International Paper (11)	Jefferson County
	Port of Houston

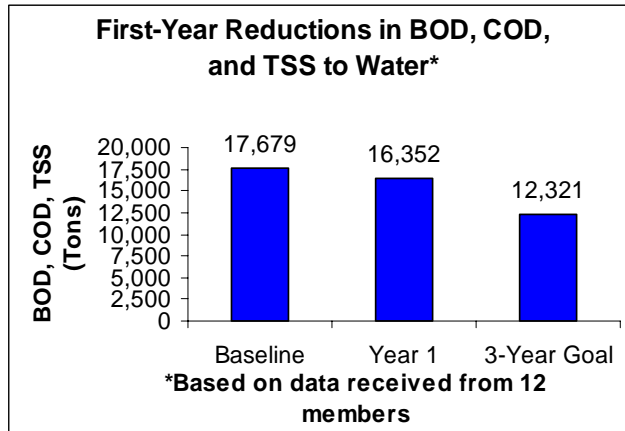


PT Members Commit ...

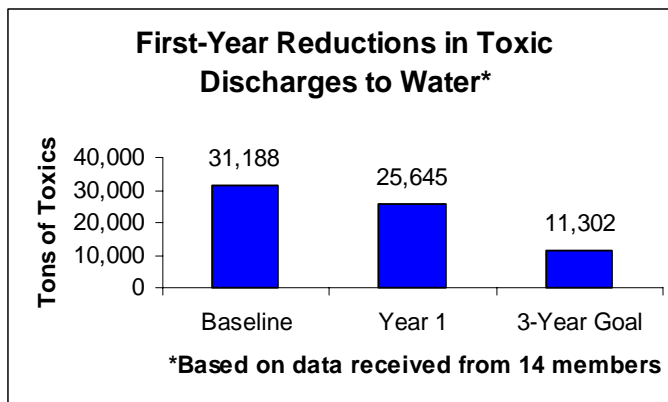
- 47% of PT members are committed to reduce total water use
- 17% of PT members are committed to reduce Toxic, BOD, COD, or TSS discharges to water
- Several PT members chose other water-related projects, like the creation of wetlands, to achieve their habitat preservation/restoration goals



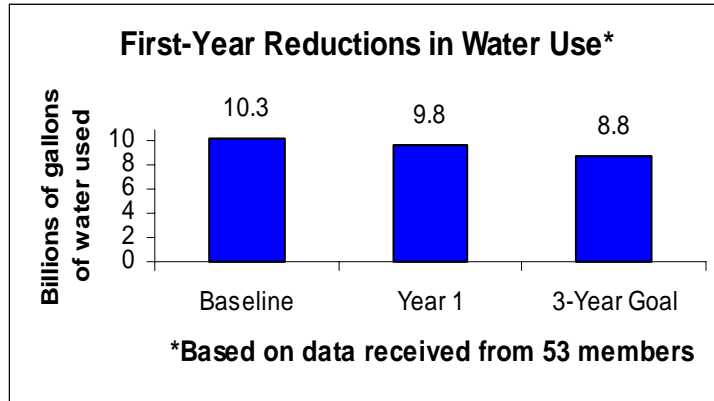
PT Members Perform ...



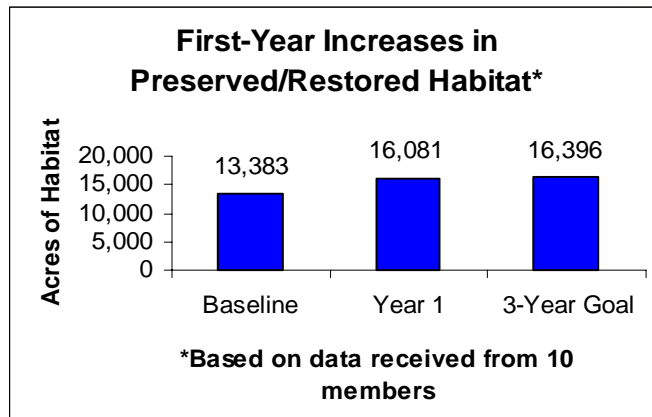
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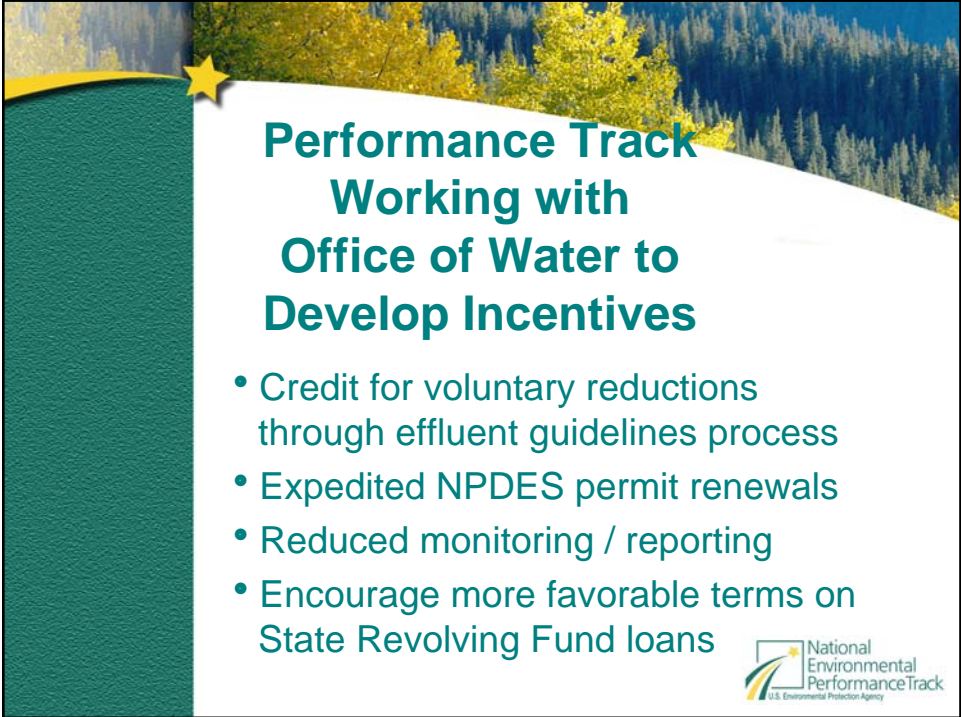


PT Members Perform ...



PT Members Perform ...





Performance Track Working with Office of Water to Develop Incentives

- Credit for voluntary reductions through effluent guidelines process
- Expedited NPDES permit renewals
- Reduced monitoring / reporting
- Encourage more favorable terms on State Revolving Fund loans



For More Information

Performance Track Web site:
www.epa.gov/performance-track



The Resource Conservation Challenge



Effluent Guidelines Program Plan Meeting
January 28, 2004
Washington, DC

Topics to Cover



- RCRA 2020 Vision
 - Resource Conservation Challenge
- Partnerships under the RCC
- Waste Minimization Partnership Program

“Beyond RCRA”



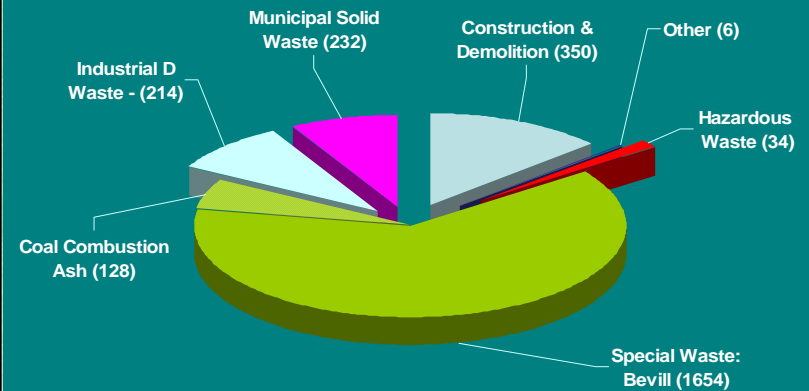
• A Vision of the Future:

- ... Materials that were once considered wastes suitable only for landfilling are now continually reused and recycled...
- ... It is likely that the current distinctions between wastes and materials (which in a large part are regulatory in nature) will become less meaningful.

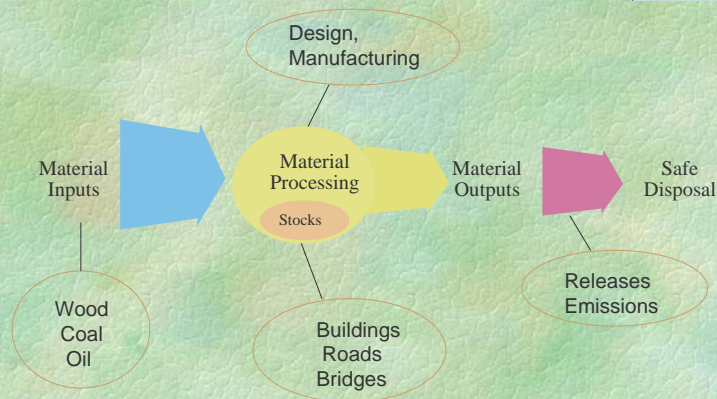
Resource Conservation Challenge

The RCRA Program

Total Quantity of Wastes (2.6 billion tons, excluding wastewaters)



Cradle to Grave Inefficient Materials Management



Resource Conservation Challenge

What Type of System Do We Need For the Future?



- A focus on materials management, not just waste management.
- We need to make significant gains in:
 - Pollution prevention, recycling, reuse of materials
 - Reducing the use of toxic constituents
 - Conserving energy and materials

Resource Conservation Challenge

Cradle to Cradle

Efficient Materials Management



RCC is part of C to C system

- **“Challenges”** to address specific national environmental problems through voluntary partnerships
- **Measurable outcomes** to drive environmental improvement
- **Agency coordination & alignment** to meet challenges

Resource Conservation Challenge

RCC Program Elements



• The RCC promotes and champions 6 ideals across the Agency as they relate to resource conservation:

- 1. Product Stewardship
- 2. Reducing Priority Chemicals
- 3. Greening the Government
- 4. Beneficial Reuse
- 5. Energy Conservation
- 6. Environmentally Friendly Design

Resource Conservation Challenge

How Are We Developing Partnerships



- The clusters happen behind the curtain
 - Allows formation partnerships with specific groups
- Started with 9 clusters:
 - Electronics, Priority Chemicals, Green Buildings, C & D Debris, Industrial D Wastes/Materials, Paper, Hospitals, Schools, Tires
- New clusters (areas of interest) being considered:
 - Organics, Industrial Design, Plastics, CPG/EPP
 - Using “wastewheel” to identify where we go
 - Also discussing priorities with key stakeholders

Resource Conservation Challenge

A Guide to RCC Partnerships



- Many different types of partnerships that can be developed – informal to formal
- Five Steps to Becoming a RCC Partner
 - Identify environmental problem and define challenge
 - Identify and dialogue with partners
 - Identify and develop solutions, objectives, targets, implementation plan & time line
 - Announce partnership & agreement
 - Publicize reaching major milestones

Resource Conservation Challenge

National Waste Min Partnership Program (NWMPP)



- RCC's key program to reducing priority chemicals
 - Focused on 30 highly-toxic, priority chemicals found in waste and products.
 - Voluntary approach to reductions.
 - Regions and States taking the lead on facility assistance.

Resource Conservation Challenge

Waste Minimization Partnership Program



- Priority Chemicals = three metals and 27 organics
 - Using TRI to identify States, industrial sectors, and even facilities generating these chemicals.
- Working with you to identify technical and training assistance at the State or local level.
 - Compliance assistance centers, universities, private contactors.

Resource Conservation Challenge

Waste Minimization Partnership Program



- Three steps to joining
 - Identify one or more priority chemicals for reduction at the source or recycling.
 - Develop a goal and project timeline for each chemical.
 - Sign up, report progress, & receive recognition.

www.epa.gov/wastemin

Resource Conservation Challenge

Protecting the Environment Through Cleaner Technologies



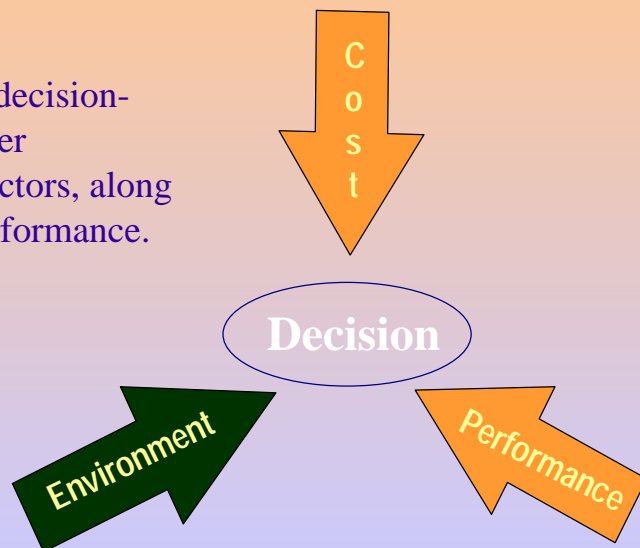
Design for the Environment Clive Davies

Economics, Exposure & Technology Division
Office of Pollution Prevention & Toxics
U.S. Environmental Protection Agency



DfE's Value

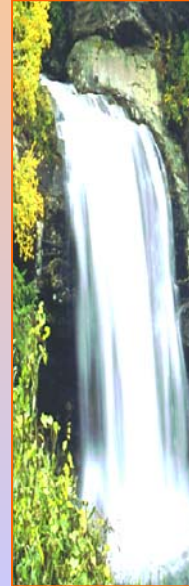
Enable business decision-makers to consider environmental factors, along with cost and performance.





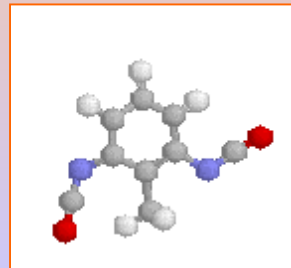
Collaborative Partnerships with Industry Sectors

- Industry leaders
- Trade associations
- Public interest groups
- Partnered with 18 Sectors since 1990
- Affecting more than 170,000 companies and 2 million workers nationwide



DfE's Focus

- Chemical user/industrial sector
- Chemical risk reduction and risk management
 - Increased use of cleaner chemicals (safer substitutes)
 - Lower environmental releases
 - Reduced human exposure



2,6-Toluene Diisocyanate



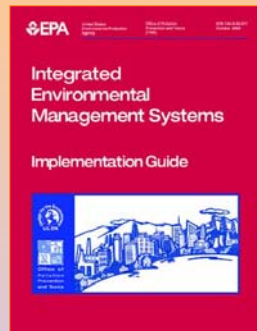
DfE's Value Added

- Access to EPA's chemical information and risk assessment models
- Experience assessing alternative technologies
- Convener, facilitator, information broker
- Consider cross-media impacts & risk shifting
- Challenge "presumption of safety"



Approaches

- Cleaner Technologies Substitutes Assessment
- Formulation Improvement
- Best Practices



- Life-Cycle Assessment
- Integrated Environmental Management Systems



Some DfE Sectors

- Industrial Design
- Flame Retardants
- Formulations (industrial laundry products, cleansers, bioremediation products...)
- Diisocyanate Reduction
 - Automotive Refinishing
 - Foam Manufacture and Applications
- Electronics
 - Lead-Free Solder
 - Wire and Cable



Flame Retardant Strategy

- Polybrominated diphenyl ethers detected in human breast milk, dairy products (butter and cow's milk), fish and shellfish, birds, and mammals
- Used in fabrics, rigid and flexible polyurethane foams, printed circuit boards, electrical wiring, electronic cabinetry
- Investigating possible alternatives in foam furniture
- May expand to other areas



DfE's Formulator Partnerships

Partnerships to improve chemical product formulation

- All ingredients in a formulation – focusing on chemical properties/hazard
- Potential safer substitutes – including performance characteristics, if possible
- Opportunities for environmental improvement – targeting chemicals of concern



DfE's Formulator Success

Safer Detergent – Noramtech's *Wash 'N Bleach Extra 2*

Reduces the use of chemicals of concern and saves resources.

These results were seen over a three year time period: 1999-2002.

- 316,000 lbs. of nonylphenol ethoxylates (NPEs)
- 116,160,000 gallons of water were saved along with the energy to heat it
- 61,000 gallons of liquid chlorine eliminated
- 157,000 gallons of extreme pH chemicals





Diisocyanates Strategy

- Extremely useful chemical with no substitutes
 - Foam
 - Coatings
 - Adhesives
- The leading cause of occupational asthma
- ATSDR/CDC report links high incidence of asthma in children with diisocyanate emissions



For More Information



www.epa.gov

www.epa.gov/dfe

Order publications through the Pollution Prevention Information Clearinghouse

Email: ppic@epa.gov

Telephone: 202-566-0799