Community Protection and Hazardous Waste Reduction Initiative Update

DTSC Independent Review Panel Meeting

CalEPA Building, Sacramento

June 14, 2017

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Policy and Program Support Division

Hazardous Waste Management Program
Hazardous Waste Reduction Initiative

Overview

• **Goal for the Initiative**
  - Reduce hazardous wastes that pose threats to human health and the environment, and that impact Environmental Justice communities in California.
  - Avoid shifting the burden from one community to another
Hazardous Waste Reduction Initiative

Overview

Collaborative Effort Between

- DTSC and government agencies
- Advisory Committee
- Businesses
- Impacted communities and other stakeholders

DTSC & CalEPA

Advisory Committee

Hazardous Waste Reduction Initiative

Business

Impacted communities
• Nine Committee members representing
  • Communities affected by hazardous waste (2)
  • Statewide environmental justice (1)
  • Statewide environmental advocacy (1)
  • Statewide industry and business advocacy organizations (3)
  • Local government (1)
  • Academic institutions that research pollution prevention (1)
Advisory Committee

- Requested applications from a range of diverse stakeholders
- Candidates were screened
- Selection Committee
Role of Advisory Committee

• Serve for duration of Initiative
• Participate in meetings
• Advise project selection
• Share information with stakeholder groups
• Share waste reduction experience
• Provide advice engaging broader public
Advisory Committee Activities
Hazardous Waste Baseline Data

Total Hazardous Waste Generation in California (in Millions of Tons)

- Total Tonnage
- Recurring (Other 76 codes)
- Nonrecurring (4 Codes: 511, 151, 261/731)

Notes: Total Shipped waste excludes transferred Waste.
California Manifested HW Trends 2000 to 2015.xlsx

Create date: 07/12/2012
Updated: 11/08/2016
Trends: Hazardous Waste Shipped to Landfills
Trends: Landfilled In-State versus Out-of-State

Trends where California Sends Hazardous Waste for Land Disposal -- 2000 through 2015

IN-STATE VS. OUT-OF-STATE TRENDS

Notes: Total Shipped waste excludes transferred waste. California Manifested HW Trends 2000 to 2015.xlsx

Note: Treatment, Storage, and Disposal Facility (TSDF)

Revised date: 5/1/2017
## Top 10 Hazardous Wastes Produced: 2015

<table>
<thead>
<tr>
<th>Waste Stream Description</th>
<th>Amount (in tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated soil from site clean-up</td>
<td>575,000</td>
</tr>
<tr>
<td>Waste oil and mixed oil</td>
<td>338,000</td>
</tr>
<tr>
<td>Other inorganic solid waste</td>
<td>225,000</td>
</tr>
<tr>
<td>Other organic solids</td>
<td>116,000</td>
</tr>
<tr>
<td>Unspecified oil-containing waste</td>
<td>57,000</td>
</tr>
<tr>
<td>Asbestos containing waste</td>
<td>55,000</td>
</tr>
<tr>
<td>Unspecified solvent mixture</td>
<td>34,000</td>
</tr>
<tr>
<td>Aqueous solution with total organic residues 10 percent or more</td>
<td>20,000</td>
</tr>
<tr>
<td>Unspecified organic liquid mixture</td>
<td>19,000</td>
</tr>
<tr>
<td>Oil/water separation sludge</td>
<td>19,000</td>
</tr>
</tbody>
</table>
## Pilot Project Topic Nominations

<table>
<thead>
<tr>
<th>Projects Nominated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent waste (3 nominations)</td>
</tr>
<tr>
<td>Petroleum refinery wastes (2 nominations)</td>
</tr>
<tr>
<td>Asbestos waste (2 nominations)</td>
</tr>
<tr>
<td>N-methylpyrrolidone</td>
</tr>
<tr>
<td>Automobile/metal shredder waste</td>
</tr>
<tr>
<td>Flares and pyrotechnics</td>
</tr>
<tr>
<td>Portable gas cylinders (2 nominations)</td>
</tr>
<tr>
<td>Flame retardants</td>
</tr>
<tr>
<td>DDT and PCB contaminated soil and groundwater</td>
</tr>
<tr>
<td>Petroleum contaminated soil and groundwater</td>
</tr>
<tr>
<td>Contaminated soil</td>
</tr>
<tr>
<td>Nitrate contaminated soil &amp; groundwater</td>
</tr>
</tbody>
</table>
Pilot Project Selection Criteria

• Technically feasible, implementable, scalable, measurable
• Larger volume/more toxic wastes
• Benefits impacted communities
Selected Pilot Project Topics

- Lead Acid Batteries
- Contaminated Soils
- Petroleum Refinery Wastes
- Organic Solvent Wastes
Pilot Project: Lead Acid Batteries

Why Lead Acid Batteries?

• Legacy environmental contamination
• Lead exposure affects communities and children
• Protects communities from future releases
Pilot Project: Contaminated Soils

Why Contaminated Soils?

• Largest hazardous waste generated in California
• Explore innovative treatment options
• Avoid shifting the burden from one community to another
• Integrate community involvement strategies
Pilot Project: Petroleum Refinery Waste

• **Why Petroleum Refinery Waste?**

  • 19 petroleum refineries in California
  • Many refineries located in impacted areas
  • 4% of California’s hazardous waste
  • Generate many types of hazardous waste
  • Build on previous waste reduction efforts
Pilot Project: Organic Solvent Waste

Why Organic Solvent Waste?

- Used in many industries
- 5% of California’s hazardous waste
- Toxic and poses a risk to workers
- Improper storage and handling poses the risk of environmental contamination
- Build on previous waste reduction efforts
- Potential for collaboration with ARB and Air Districts
Pilot Project Methodology

- Data gathering
- Source reduction documents prepared by generators
- Solicitation for proposals/partnerships
Hazardous Waste Reduction Initiative Report

• DTSC’s Report will include:
  • Summary of public and stakeholder engagement
  • Overview of waste topics (including data analysis)
  • Presentation of Findings and Recommendations
Observations and Opportunities

Contaminated Soils

• Community involvement
• Dialogue between impacted communities
• Costs of innovative cleanup options
• New/emerging cleanup technologies
Emerging Cleanup Technologies

Soil Washing Bench Scale Testing – Exide
Emerging Cleanup Technologies

Super Critical Water Oxidation (SCWO)
Emerging Cleanup Technologies

Evaporative Desorption Technology
Community Dialogue on the Management of Contaminated Soil

- Community Perspectives in Cleanups
- Understanding of Technical Options
- Role of Communities in DTSC’s Decisions
Observations and Opportunities
Lead Acid Batteries
Pilot Projects for Consideration

Lead Acid Batteries

- Reduction in lead use
- Extension of battery life
- Alternative recycling methods (non smelting)
Pilot Projects for Consideration
Lead Acid Batteries

- Reduction in lead use
Pilot Projects for Consideration
Lead Acid Batteries

• Extension of battery life
Pilot Projects for Consideration
Lead Acid Batteries

- Alternative recycling methods (non smelting)
Observations and Opportunities
Refinery Wastes and Organic Solvents
Observations and Opportunities

Topics to Explore

• Mandatory versus voluntary Source Reduction
• Mandatory versus voluntary technologies
• Short term versus external costs
• Influence of economic factors
• Local Government role and involvement
• Community role and involvement
Hazardous Waste Reduction Initiative

Next Steps

• Advisory Committee meeting late June
• Finalize Report
• Prioritizing opportunities
• Identifying resources and partnerships