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Pollution Prevention (P2) Tools & Techniques for NYSDEC Technical Staff

New York State Pollution Prevention Institute

Brooklyn, NY


October 26, 2009

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Agenda

- 8:30-8:45 Check-in and Registration
- 8:45-8:50 Opening Remarks from Brooklyn Public Library
- 8:50-9:05 Opening Remarks from NYSDEC
- 9:05-9:35 Introduction to NYSP2I; Objectives of Workshop
- 9:35-10:00 Media-specific P2
- 10:00-10:20 Break
- 10:20-12:00 Lean, Energy & Environment (LE2)
- 12:00-1:00 Lunch
- 1:00-2:00 Sector-specific P2
- 2:00-2:15 Break
- 2:15-3:05 Economic Analysis of P2
- 3:05-3:20 Break
- 3:20-4:20 P2 Case Studies
- 4:20-4:45 Discussion
- 4:45 Adjourn


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NYS Pollution Prevention Institute

Vision:

The vision for the NYS P2I is to foster the transformation and development of sustainable businesses and organizations in New York State in a collaborative program committed to making the State a leader in environmental stewardship.



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Mission:

The mission of the NYS P2I is to provide a state-wide, comprehensive and integrated program of technology research, development and diffusion, outreach, with training and education aimed at making New York State more sustainable for workers, the public, the environment and the economy through:

- reductions in toxic chemical use;
- reductions in emissions to the environment and waste generation; and
- the efficient use of raw materials, energy and water.



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NYS Pollution Prevention Institute RTDCs and Partner Universities

Clarkson UNIVERSITY
Council for International Trade, Technology, Education and Communication (CITEC)

Mohawk Valley Applied Technology Corporation (MVATC)
Center for Economic Growth (CEG)

Rensselaer


R·I·T
High Technology of Rochester (HTR)
Central New York Technology Development Organization (CNYTDO)

University at Buffalo
The State University of New York
Insyte Consulting (Insyte)

Alliance for Manufacturing and Technology (AM&T)

Hudson Valley Technology Development Center (HVOTC)

Long Island Forum for Technology (LIFT)
Industrial & Technology Assistance Corporation (ITAC)


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P2I: Serving NY Business

- **One-on-One Help:** Hands-on Direct Assistance
- **Solving Problems:** Targeted Research, Development, and Diffusion (RD&D)
- **Sharing Knowledge:** Awareness, Training and Education (e.g. workshops)
- **Sharing Information:** Information Exchange and Outreach (www.nysp2i.rit.edu)
- **Helping Communities:** Community Grants Program

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Top 8 Sectors


#	NAICS	Description
1	325	Chemical manufacturing
2	334	Computer and electronic product manufacturing
3	331	Primary metal manufacturing
4	332	Fabricated metal product manufacturing
5	339	Miscellaneous manufacturing
6	311	Food manufacturing
7	323	Printing and related support activities
8	327	Nonmetallic mineral product manufacturing

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Where Are We Working and What Are We Doing?




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Ongoing Projects and Proposals


- **Region 1 (Peter Scully, Long Island):**
 - Maloya Laser (Design for Air Emissions Reduction)
 - Huntington Breast Cancer Coalition (Community Grant - P2 in the Home and Community)
- **Region 2 (Suzanne Mattei, NYC):**
 - NYIRN (Community Grant – Green Manufacturing and Local Procurement)
 - Film Biz Recycling (Community Grant – Green Production Guide for Movie Producers)
 - ACME Smoked Fish (Proposed project for Solid & Hazardous Waste Reduction, Water Conservation)
- **Region 3 (Willie Janeway, Catskill Region):**
 - Children’s Furniture Manufacturing Company (Toxics Reduction)



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Children’s Furniture Manufacturing Assessment

- Manufacturer of maple furniture and spaces designed for children
- Produce ~4,000 cribs/year
- Goal: eliminate PVC from children’s cribs and replace the mattress with a more environmentally friendly alternative in order for the cribs to meet third party certification
 - Potential to eliminate 5,440lbs PVC per year from the bite guards and 1,520lbs from the mattress covers
- P2I’s role: identify alternatives for the bite guard and mattress and rank them according to EHS attributes to assist CP in decision making






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Ongoing Projects and Proposals

- **Region 4 (Gene Kelly, Capitol Region):**
 - Ducommun (Hazardous Waste Reduction, Water Conservation)
 - Clean New York (Community Grant – P2 in the Home)
 - RPI (Partner University)
- **Region 5 (Elizabeth Lowe, Adirondack Park):**
 - Green Engineering Workshop at Clarkson on 10/17/09
 - Ames Goldsmith (Water Recycling, Ethanol Recovery)
 - Clarkson University (R&D Proposals)
- **Region 6 (Judy Drabicki, Utica & Watertown):**
 - TECT Utica Corporation (Hazardous Waste Reduction)
 - Hubbell Galvanizing (Process Improvement, Hazardous Waste Reduction)



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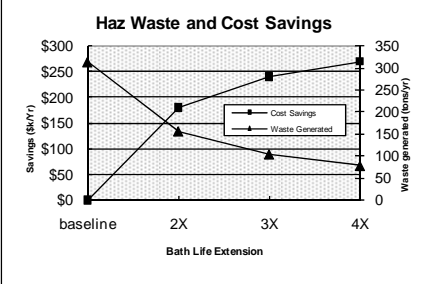
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TECT Utica


- Manufactures titanium turbine blades for aircraft engines
 - TECT generates ~313 tons/year of hazardous waste (titanium etching operation)
 - Spends ~\$450K/year on disposal

NYSP2I: Providing assistance to extend the bath life of nitric and hydrofluoric acid solutions, thereby reducing operating costs and generation of hazardous waste

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Bath Life Extension	Cost Savings (\$K/yr)	Waste Generated (tons/yr)
baseline	0	~313
2X	~180	~150
3X	~250	~100
4X	~280	~50



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Ongoing Projects and Proposals


- **Region 7 (Ken Lynch, Central NY):**
 - NYSERDA LE2 Training Workshop hosted on 11/10/09
 - D&W Diesel (Toxics Reduction)
 - Greening USA (Community Grant – Sustainability Academy)
- **Region 8 (Paul D'Amato, West Central NY):**
 - American Motive Power (LE2, Process Improvement)
 - American Aerogel Corporation (Haz Waste Reduction)
 - Monroe Plating (Water Conservation, Process Improvement)
 - First Niagara Bank (Greening Office Spaces)
 - Audubon International (Community Grant)
 - RIT (Partner University)
- **Region 9 (Abby Snyder, Western NY):**
 - California Closets, Williams Advanced Materials (LE2)
 - SUNY at Buffalo (Partner University, Wet Cleaning RD&D)
 - Tecmotiv Corporation (LE2, Process Improvement)

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Direct Assistance Project American Aerogel Corporation (AAC)


- Identified method for converting waste effluent back to influent indistinguishable from virgin material for this start-up high tech NY company
- Results:
 - Modified operation with no degradation in product quality
 - Reduced operating costs by 50-67%
 - Reduced generation of hazardous waste by over 90%
- With this change, changed an economically infeasible process to a profitable operation
- Assisted the company in procuring \$400K in funding from NYSERDA for facility expansion so that AAC could stay in New York, thereby retaining and creating jobs

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Moving Forward...


Short Term Goals	Long Term Goals
<p>Outreach/Education</p> <ul style="list-style-type: none"> • P2I Program • Benefits – cost/benefit analysis • Systems approach to problem solving <p>Prioritization of Projects</p> <ul style="list-style-type: none"> • Research & Development Opportunities • Sharing best practices • Metrics: Tracking and regular checks <p>Marketing</p> <p>Growth (Areas of Expertise)</p> <ul style="list-style-type: none"> • Toxics/Hazardous Waste Reduction • Water Conservation • Energy • Green Chemistry • Sustainable Manufacturing <p>Tools: Design for Environment; LCA</p>	<p>Prestigious Center well known throughout NY State</p> <p>Proven Value</p> <ul style="list-style-type: none"> • Extensive direct assistance program • Quantifiable metrics • Numerous case studies • Expertise in core competencies <p>National Model for benchmarking</p> <p>Continuous growth</p> <p>New York State to be at the forefront in P2 practices, tools & technologies</p>

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How NYSP2I Can Help


- Frees NYSDEC staff from having to both monitor compliance and provide assistance
- Allows NYSDEC staff instant access to experts in P2 across NY State
- Provides opportunities for multiple companies to receive assistance through sector technology diffusion initiatives (“level the playing field”)
- Increases likelihood that companies will come into compliance with regulations
- Frees overburdened staff from having to become experts in technical areas outside of their expertise

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Suggestions for NYSDEC Staff

- Keep eyes and ears open during inspections and site visits
- Look for opportunities:
 - “Up the stack, down the drain, into the dumpster”
 - Production bottlenecks and large energy users
 - Non-closed loop production systems
 - Low-yield processes, high waste generation
 - Outdated or obsolete processes
 - Systems using or generating toxic substances
- Refer issues to NYSDEC P2 Unit or NYSP2I

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Tools & Resources Used by Staff


- Lean Energy & Environment (LE2) Analytical Techniques (Green Value Stream Map)
- Cost Analysis Spreadsheets
- Life Cycle Analysis & Design for Environment Tools
- R&D Testbeds at Partner Universities
- P2 Experts at RTDCs and Partner Universities
- P2 Assessment Checklists

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How To Get Help

- Contact NYSDEC P2 Unit at 518-402-9469
- Or, contact NYSP2I directly via
 - Email: nysp2i@rit.edu
 - Website: www.nysp2i.rit.edu
 - Telephone: 585-475-2512
- NYSP2I Director is Anahita Williamson
 - Email: anahita.williamson@rit.edu
 - Telephone: 585-475-4561

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Let it Begin!



Allegro con brio
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