What is LEAN?

- LEAN is a growth strategy
- Manufacturing process improvement approach
- Eliminates non-value added activities or waste
- Provides opportunity for continuous improvement
- Customer-focused – public, business, staff
LEAN at DEEP

- To date, 42 teams have participated in Kaizen events
- More than 300 staff participants
- Wide range of projects including permitting and enforcement of air, waste, and water pollution control and land use programs; wildlife, fisheries, boating; and energy management
- Working with DOT, DECD and OPM on interagency processes

Why LEAN? Making Government Work for You

- Internal operations are more efficient
- Staff is more engaged and has developed greater capacity
- DEEP has an increased ability to address new challenges
- Customer experience: improved timeliness, responsiveness, transparency, predictability

A Streamlined Future State of the OLISP Structures, Dredging and Fill Permit Application Process.
What is the Impact on Our Customers?

- **Businesses**
  Wastewater discharge permitting program (NPDES) – reduce time to process permit by 77%

- **Homeowners**
  Office of Long Island Sound Programs (OLISP) Permitting - reduced permit review time by 70%

- **Municipalities**
  Clean Water Fund – payment processing reduced by more than 170 days

What is the Impact on Our Customers?

Lean Team identified strategies to streamline and simplify environmental land use restriction application and approval process.

Measuring Results:

Key Performance Indicators (KPIs)

- A way to measure progress
- Know whether efforts are achieving goals
- Be aware of whether adjustments are needed (Plan/Do/Check/Act)
- Sample Common Key Performance Indicators:
  - % of applications deemed “complete” on 1st submittal
  - # days to determination of administrative completeness

The Solid Waste Enforcement Team’s KPIs, which includes percent of formal actions drafted and average number of days it takes to draft a formal action.
Industrial Storm Water General Permit E-file LEAN Project

The “Opportunity”

- Industrial Storm Water General Permit
  - Wide range of pollutants potentially affecting water quality
  - Large regulated universe (1500+ permits)
  - Many small business w/ no environmental expertise
- Old process cumbersome
  - Time consumed by physical movement of paper
  - Limited staff resources to thoroughly review registrations
- Changes in the Law compounded the problem. DEEP must now:
  - Provide public participation process
  - Provide additional compliance assistance
**LEAN Project**

- Lean project goals (program & IT staff)
  - Develop an electronic registration process
  - Include logic in e-registration to improve adequacy of information submitted
  - Eliminate waste and/or non-value added steps
  - Incorporate new permit requirements in process

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**The “Now”**

- LEAN team met weekly for 6 months to create e-forms in-house
- Successfully deployed e-forms in April, 2011
- Scan Applications into SIMS (fee & wet ink signature limitations)
- Streamlined and more efficient workflow by paperless processing
- Online status of registrations to allow 24/7 public access and participation
- Steps eliminated: no more lost time due to physical transport of paper, no more printing registration certificates, no more incomplete applications
The “Future”

• Full online registration w/ electronic submission of fees and with a verified signature
• Benefits:
  • more environmental protection,
  • more efficient,
  • more effective,
  • more transparent
• Model for agency-wide permit processing

UNDERGROUND STORAGE TANK (UST)

Inspection and Enforcement
Lean Projects

Photo by Gary Robbins
UST Inspection Pre Lean Challenges

Opportunity Statement
The US Environmental Protection Agency mandated new program requirements (with no new money or staff):
• Inspect 4,000 facilities at least once every 3 years
• Return facilities in violation to compliance
• Improve facility compliance rates.

UST Inspection LEAN EVENT

Value Stream Mapping

<table>
<thead>
<tr>
<th>Underground Storage Tank Inspection Process</th>
<th>Pre Lean Prior State (Steps)</th>
<th>Post Lean Current State (Steps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Inspection Prep</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>Inspection</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td>Post Inspection Processing</td>
<td>65</td>
<td>9</td>
</tr>
<tr>
<td>Total Steps</td>
<td><strong>118</strong></td>
<td>47</td>
</tr>
<tr>
<td>Total Process Time</td>
<td><strong>47.6 days</strong></td>
<td><strong>1.4 hours</strong></td>
</tr>
</tbody>
</table>
Tools for Success

“UST Inspector” Software

Panasonic TOUGHBOOK – CF-19

Olympus – Stylus TOUGH digital camera

HP 470C Bluetooth Printer

GlobalSAT USB GPS Receiver

Sprint USB Mobile Internet AirCard

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Benchmarks

UST Compliance Rates up as much as 10%

CT

MA

Compliance with Release Prevention Regulations as Reported to EPA (shown in %)

2011

2010

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**Results**

**WIN – Public and Environment**
- Reduced impact to soil and ground water
- Clean Groundwater and Safe Drinking Water

**WIN – Regulated Community**
- Compliance = Loss prevention. Avoid cleanup costs and down time
- Clear, consistent, transparent, inspection and enforcement process
- Improved compliance assistance services

**WIN – DEEP**
- Increased Compliance = Fewer Releases = Reduced Expenditures from UST Fund
- More inspections with same amount of staff
- Staff can provide better customer service

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**What is the Impact on Our Customers?**

Application wait time eliminated by applying LEAN:
- In two of our already “short” process programs (aquatic pesticides and marine terminals) we expect to save 355 applicants a total of 11,550 days each year
- Five major wastewater discharge renewal applications processed in the first year after Lean saved a cumulative 3,950 days; lessons learned are being applied across the water discharge program
- Lean applied to 123 Coastal applicants last year saved a total of 47,970 days
- Though still in the process of implementing Lean recommendations, two categories of application for new Air sources have already saved 51 applicants a total of 11,273 days

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Making Government Work: LEAN is a key enabler for our transformation efforts

<table>
<thead>
<tr>
<th>Transformation goals</th>
<th>Immediate next steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faster</td>
<td>• Investing in information technology solutions to achieve efficiencies (bond ask)</td>
</tr>
<tr>
<td>More effective</td>
<td>• Identify statutory and regulatory obstacles to change</td>
</tr>
<tr>
<td>More efficient</td>
<td>• Pursue shift from a “command and control” focus toward market based approaches</td>
</tr>
<tr>
<td>More responsive</td>
<td>• Developing core metrics with measurable environmental and programmatic improvements</td>
</tr>
<tr>
<td>More predictable</td>
<td></td>
</tr>
<tr>
<td>More transparent</td>
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</tbody>
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