



Connecticut Department of
Energy and Environmental Protection



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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



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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



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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.



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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



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

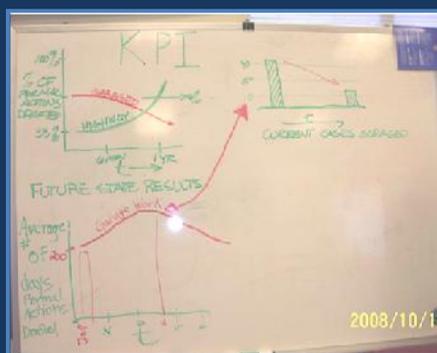


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Measuring Results:

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.



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Industrial Storm Water General Permit E-file LEAN Project



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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



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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



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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



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UNDERGROUND STORAGE TANK (UST)

Inspection and Enforcement Lean Projects



Photo by Gary Robbins



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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.



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UST Inspection LEAN EVENT

Value Stream Mapping

Underground Storage Tank Inspection Process	Pre Lean Prior State (Steps)	Post Lean Current State (Steps)
Pre-Inspection Prep	19	3
Inspection	34	35
Post Inspection Processing	65	9
Total Steps	118	47
Total Process Time	47.6 days	1.4 hours



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Tools for Success

"UST Inspector" Software



Panasonic TOUGHBOOK – CF-19



Olympus –Stylus TOUGH digital camera



HP 470C Bluetooth Printer



GlobalSAT USB GPS Receiver



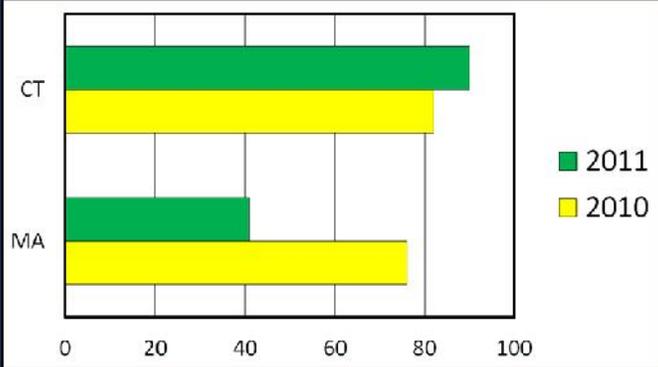
Sprint USB Mobile Internet AirCard



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Benchmarks

UST Compliance Rates up as much as 10%



State	2011 (%)	2010 (%)
CT	~90	~82
MA	~42	~75

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



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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

Transformation goals

- Faster
- More effective
- More efficient
- More responsive
- More predictable
- More transparent



Immediate next steps

- Investing in information technology solutions to achieve efficiencies (bond ask)
- Identify statutory and regulatory obstacles to change
- Pursue shift from a “command and control” focus toward market based approaches
- Developing core metrics with measurable environmental and programmatic improvements



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