



# Connecticut Department of Energy and Environmental Protection



# LEAN – Key Enabler for IT Transformation

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Presented by Nicole M. Lugli

Office of Planning and Program Development



Connecticut Department of Energy and Environmental Protection

# 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



# CT DEEP - WHY LEAN?

- **Tough budget climate**
- **Staff Attrition**
- **Merging entities**
- **Ambitious agenda**



**The load is heavy,  
change is hard and the work  
can seem thankless**



# LEAN at DEEP

- To date, 65 teams have participated in Kaizen events
- More than 400 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 Statewide LEAN Steering Committee 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

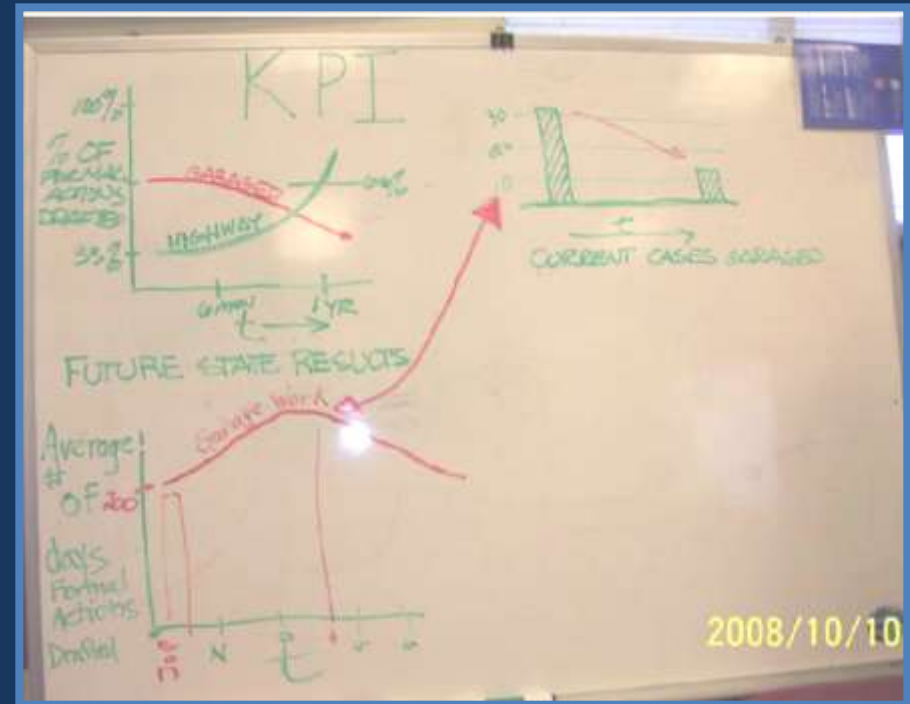


*Lean Team identified strategies to streamline and simplify environmental land use restriction application and approval process.*



# 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.*





# 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
- 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



# 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



# The Future Industrial Storm Water General Permit

- Streamlined/more efficient workflow by paperless processing
  - No more lost time due to physical transport of paper, no more printing registration certificates, no more incomplete applications
- Online submittal of registrations and allows 24/7 public access and participation
- **Model for agency-wide permit processing**
- Benefits:
  - more environmental protection,
  - more efficient,
  - more effective,
  - more transparent



# UNDERGROUND STORAGE TANK (UST)

## Inspection and Enforcement Lean Projects



Photo by Gary Robbins



Connecticut Department of Energy and Environmental Protection

# 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

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
<b>Total Steps</b>	<b>118</b>	<b>47</b>
<b>Total Process Time</b>	<b>47.6 days</b>	<b>1.4 hours</b>





# 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



# Results

## **WIN** – Public and Environment

- Reduced impact to soil and ground water
- Clean Groundwater and Safe Drinking Water

## **WIN** – Regulated Community

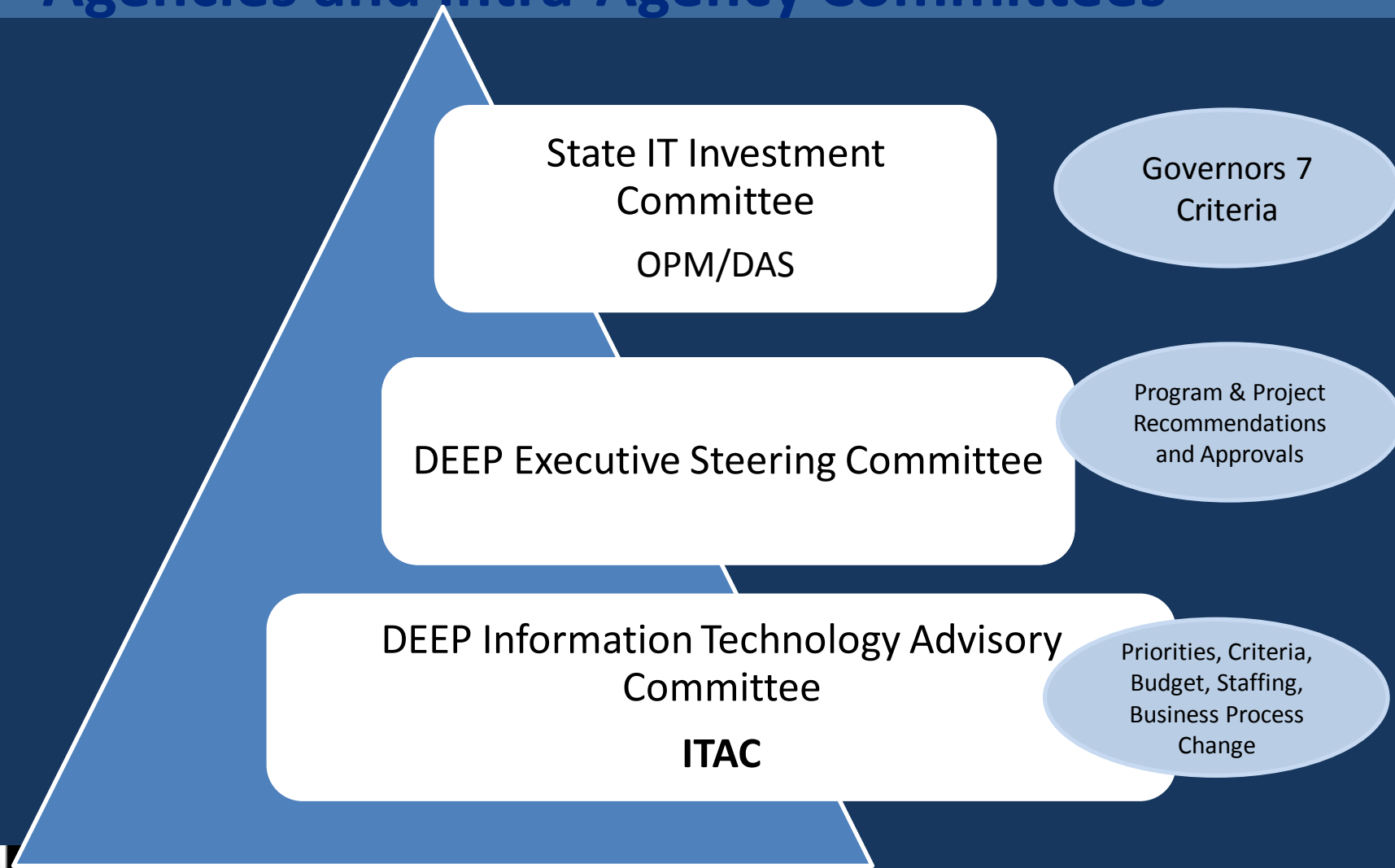
- Compliance = Loss prevention. Avoid cleanup costs and down time
- Clear, consistent, transparent, inspection and enforcement process
- Improved compliance assistance services

## **WIN** – DEEP

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



# IT Improvements are Governed by Multiple Agencies and Intra-Agency Committees



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## ➤ Efficiency

- Logic based forms
  - ✓ Automated checks for completeness, consistency
  - ✓ Information prompts based on user's responses
- Compliance assistance information imbedded in form ("Help" tools)
- Streamlined intra-agency coordination (End. Species, Aq. Protection)
- Paperless-processing (\$15,390 saved per year in paper for Industrial GP)

## ➤ Transparency

- General Public
  - ✓ 24/7 public access to review filing, comment on pending applications, and view DEEP responses to comments
- Regulated Community
  - ✓ 24/7 e-portal access to manage filings, receive DEEP email notifications confirming filing, registration status and disposition



# E-Enterprise Focus Areas

Focus areas:

- Case Management
- Records Management
- Data Management
- Infrastructure



# DEEP's Enterprise Case Management Program Will Create a Public Online, Paperless Interface for Licensing, Permitting, Docket Activities and Registrations

Program	Quarter/Fiscal Yr		Q2						Q3						Q4						FY14						FY15					
	Month		Q2		Q3		Q4		Q1		Q2		Q3		Q4		Q1		Q2		Q3		Q4		Q1		Q2		Q3			
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
UST			██████████		██████████		██████████																									
Storm Water Construction			██████████		██████████		██████████																									
Storm Water Industrial <b>Active</b>			██████████		██████████		██████████																									
PURA e-Filing			██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████			
Site CMS (Remediation)			██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████	
EC – Tournament Permits			██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████	
Radiation DTX			██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████	
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Natural Diversity Database <b>Pending</b>									██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████		██████████	
HW Transporters <b>Planned</b>																																
Pesticide Apps Surface Water																																
Marine Terminals																																
OLISP Certificate Permission																																

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# DEEP with BEST will Build an Online Document Repository and Portal Accessible by the Public and Comply with State Records Management Laws and Regulations

Program	Quarter/Fiscal Yr Month	Q4		Q1 FY14			Q2			Q3			Q4			Q1 FY15			Q2			Q3
		May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
<b>Active</b> Manifest - Taxonomy Oil Chemical Spills Taxonomy Records Management Admin (Indexing, Taxonomy, Redaction, Retention)																						
<b>Pending</b> Document Portal Bulk Scanning Pilot (Manifest) Bulk Scanning of Records Center																						



# The Data Management Program will Integrate Critical Data Systems and Develop a Data Warehouse to Provide a Common Source for DEEP Data

Program	Quarter/Fiscal Yr Month	Q4		Q1 FY14			Q2			Q3			Q4			Q1 FY15			Q2			Q3
		May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
		Ambient Water Quality Lab Results -Chemistry <b>Active</b>																				
AWQ Lab Results -Fish																						
BEES Utility Company Transfer																						
Air Monitoring Website																						
Spatial View of Permits																						
Marine Fisheries <b>Planned</b>																						
E-Lev (Low Emissions Vehicle)																						
Electronic Wetlands and Watercourse Reporting																						
Electronic Diversion Rptng																						
Air Bureau GIS Proposal																						
Electronic Reporting Storage																						

DATA MANAGEMENT





# DEEP Information Management Infrastructure Improvements will Replace Outdated Audio and Telephone Systems and Computer Software and Hardware

Program	Quarter/Fiscal Yr Month	Q2			Q3			Q4			Q1 Q3			Q2 Q4			Q3 Q1 FY15			Q4 Q2			Q1 Q3
		May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	
		<b>Active</b>																					
New Britain Hearing Rooms (No IT Inv Funds)																							
Hartford HQ Core Improvements																							
VoIP -Voice over Internet Protocol																							
<b>Pending</b>																							
Refresh																							
Infrastructure Assessment																							
Infrastructure Deployment																							

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# Questions?

Nicole M. Lugli

Planning & Program Development  
Office of Commissioner

[Nicole.lugli@ct.gov](mailto:Nicole.lugli@ct.gov)

860-424-3611

