

# MASSACHUSETTS COMPLIANCE ASSURANCE PROGRAMS FOR TARGETED SECTORS:

Continuing evolution of  
“alternative approaches”

6/19/12

MassDEP

1

## CONSTANT EVOLUTION OF COMPLIANCE TECHNIQUES

Mid 1970s

Problem: Inspectors can't “prove” air pollution sources are violating emissions standards

Solution: Pre Construction Permits for Air Pollution Sources and Control Devices

Late 1980s

Problem: Issuing Hundreds of Air Pollution Permits Annually: Backlogs Overwhelming Program and stimeying development

Solution: Clear equipment, input, or operational procedure baseed queperformance standards in lieu of permits for smaller sources

6/19/12

MassDEP

2

## Compliance Assurance Evolution Continued

Late 1980s

Problem: Issuing Hundreds of Air Pollution Permits Annually: Backlogs Overwhelming Program and Stymieing Development

Solution: Clear "evaluatable" performance standards in lieu of permits for common operations

6/19/12

MassDEP

3

## By Late 90's Early 00's

Traditional Paradigm Unsustainable:

- Ever Growing Universe Under our Jurisdiction
- Proportion of Very Small Facilities Increasing
- Declining Staffing Levels

6/19/12

MassDEP

4

## Response: New Approaches to Compliance

We had to Expand our Tool Box Beyond:

- Individual Approvals
- Full Routine Onsite Inspections as the main Compliance Monitoring Tool
- Inspections as the main and Non Compliance Deterrence Tool

6/19/12

MassDEP

5

## We Had To

- Prevent Non Compliance at the Source
- Prevent Pollution at the Source
- Monitor Compliance in New Ways

6/19/12

MassDEP

6

## Solution: Deter Non Compliance –

.5-1 hours spent on enforcement for every hour on inspection

- Clear Standards
- Technical Assistance so Facilities Understand Responsibilities
- Financial Assistance so Facilities can Meet Environmental Obligations
- Periodic Compliance Certifications (audited by MassDEP)
- Incentives for Compliance & Beyond Compliance

6/19/12

MassDEP

7

## New Compliance Monitoring / Oversight Tools

- Third Parties (audited by MassDEP)
  - Approvals
  - Compliance Certifications
- Increased Reliance on Reported Monitoring & Operational Data
- New Inspection Types
- Use of Statistical Sampling to Monitor and Measure Group Compliance
- Careful Targetting of Inspections

6/19/12

MassDEP

8

## New Decision-Making Tools

- Use of Statistical Sampling to Monitor and Measure Group Compliance
- Measure Performance Not Just Beans
- Data Driven: Match the Oversight and Expectations to the Environmental Risk
- Careful Husbanding and Targeting of Inspections

6/19/12

MassDEP

9

## “New” MassDEP Programs

- Third Party Programs:
  - Licensed Site Professionals (LSPs) have overseen the clean up of 40,000 hazardous waste sites and spills
  - LSPs are certified and disciplined by an independent board
  - Toxics Use Reduction Planners certify compliance with Toxics Use Reduction planning requirements
  - Drinking Water and Wastewater is tested by private laboratories
  - Wastewater Treatment Plants are have certified operators also certified by an independent board
  - Underground Storage Tanks are inspected by MassDEP certified Inspectors
  - Independent Contractors oversee Waste Ban Compliance at Municipal Waste Combustors
  - Coming Soon: Expanded Third Party Inspections of Solid Waste Management Facilities

6/19/12

MassDEP

10

## “Routine” Certification Programs

- 500 Dry Cleaners (multi media and MACT)
- 500 Printers (multi media and MACT)
- 200 Photo Processors (multi media)
- 2000 Gasoline Stations with “Stage II” Controls
- 2000 Dentists (mercury management)
- 200 Auto Salvage (mercury switches)
- 180 Air Operating Permit Sources (air pollution)

6/19/12

MassDEP

11

## “One Time” Certification Programs

- Engines and Turbines (air pollution)
- Boilers (air pollution)
- Holding Tanks (industrial and sanitary wastewater)
- Underground Storage Tank Systems
- Various General Permits for Wastewater
- Certain Hazardous Waste Recycling Activities
- Coming Soon: Solid Waste Handling Facilities, Docks and Piers

6/19/12

MassDEP

12

## Statistical Evaluation of Group Performance

- Photo Processors
- Dry Cleaners
- Printers
- Dentists
- Small Quantity Generators (multi state effort)
- Minor "Process" Air Emissions Sources
- Underground Storage Tanks
- Industrial Wastewater Generators in Non Sewered Groundwater Protection Areas

6/19/12

MassDEP

13

## Use of Reported Data to Monitor Compliance / Target Inspections

- Drinking water and Wastewater Programs: most enforcement through this
- Air Majors: about 1/2 of "significant" enforcement from monitoring data
- Hazardous Waste shipment data to identify potentially out of status facilities
- Equipment age and proportional Perc use at dry cleaners
- Waste, solvent use and wastewater status at printers
- Toxics Use and Emissions
- Emissions and Equipment Age at minor air sources
- Complaints

6/19/12

MassDEP

14



## Use of Incentives and Assistance

- Mandatory toxics use reporting, and evaluation of the costs of toxic use and savings from use reduction options
- Financial assistance to drinking water and wastewater municipal utilities
- Clear workshops and guidance of new standards for drinking water utilities
- Simple workbooks for compliance certification programs

6/19/12

MassDEP

15

## RESULTS

- Do these techniques work? **YES**
- Are these techniques work? **YES**
- Are these techniques worth it? **YES**

6/19/12

MassDEP

16



## Licensed Site Professionals

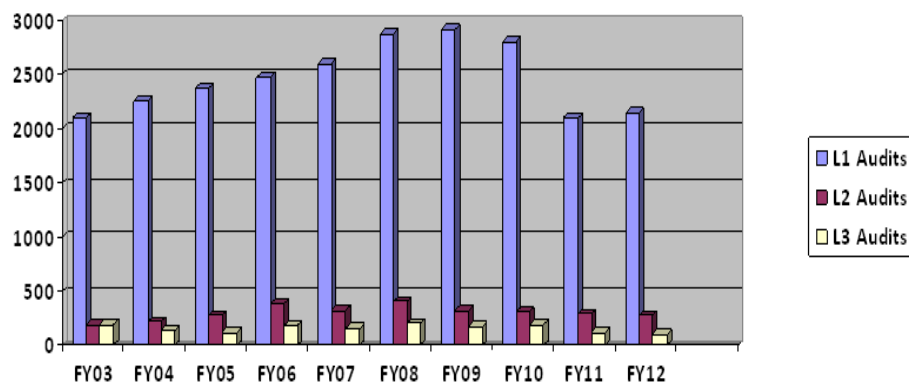
- About 500
- Handle about 1500 new sites/spills per year
- MassDEP Audits the most significant reports
- Report/File Review Screens for particular concerns
- Based on result of first audit may inspect or do a full file review

6/19/12

MassDEP

17

## LSP # of Audits and Results



In FY12 : 21 Higher Level Enforcement  
About 1-2 LSPs referred to LSP Board for discipline per year

6/19/12

MassDEP

18

## Self Certification

- Based on the results of inspections of a representative sample of facilities:
- Statistically significant initial improvement over baseline for all sectors (except UST)
- Performance maintained over subsequent years
- Certifications very reliable for equipment and materials use: 99% Photo processors, Dry Cleaners, Dentists had proper equipment

6/19/12

MassDEP

19

## DENTISTS RESULTS

**Findings:** (preliminary, the statistical analysis of confidence intervals and levels has not been completed as yet)

- 100% of dentists had purchased a compliant mercury amalgam separator, one had not installed it
- Of the dentists that had installed the required separator
  - 100% were maintaining it properly
  - 100% were recycling at least some mercury
  - 83% were recycling the mercury from "screen, traps, and filter"
  - 80% were using an "approved recycler" for at least some of their mercury waste
  - 83% were keeping mercury waste out of the "red bag" waste
  - 79% were using line cleaners that were compliant with the MassDEP regulations designed to prevent the mobilization of trapped mercury

6/19/12

MassDEP

20

## Dry Cleaner Compliance

Compliance Requirement	97 Rate	03 Rate	08 Rate
Monthly Perc Useecords	26%	63%	61%
Rolling Average Perc Purchases Recorded	26%	61%	59%
Weekly Leak Detection	32%	68%	64%
ALL Records Kept for 3 Years	17%	71%	49%
Seals and Gaskets Replaced in Timely Manner	>90%	100%	98%
Temperature Checked at Cycle End and recorded?)	17%	78%	51%
Separate, designated hazardous waste storage area, marked with line or tape (40)	28%	76%	59%
Storage area inspected weekly for leaks and is there adequate aisle space to allow inspections (46)	0%	89%	85%
Is the facility in compliance with quantity and time limits for HW storage?		100%	89%
Are containers in good condition and kept closed?		89%	86%
Are containers labeled properly?		89%	73%

6/19/12

MassDEP

21

## Enlightened Self Interest

### TURA Program

- Mandatory Reporting of Chemical Use and Waste
- Mandatory "Planning" certified by 3<sup>rd</sup> Party
- National TRI emissions Reduction 1989 – 2011 = 18%
- Massachusetts emissions Reduction =90%

6/19/12

MassDEP

22

## Careful Husbanding of Inspections

- Significant Compliance has improved at “major sources” despite reduced inspection frequency:
- LQGs: 91% in 2005 vs 95% at present
- Air Majors: 84% in 2005 vs 91% now
- Carefully Targeted inspections of minors result in more enforcement than majors:

6/19/12

MassDEP

23

## Targeting 2007 -present

PROGRAM	Routine Inspections (Majors)	Targeted Inspections (Minors)
Air	12% HLE	31% HLE
RCRA	10% HLE	14% HLE
IWW	10% HLE	28% HLE
SW	3% HLE	9% HLE

6/19/12

MassDEP

24

# ISSUES

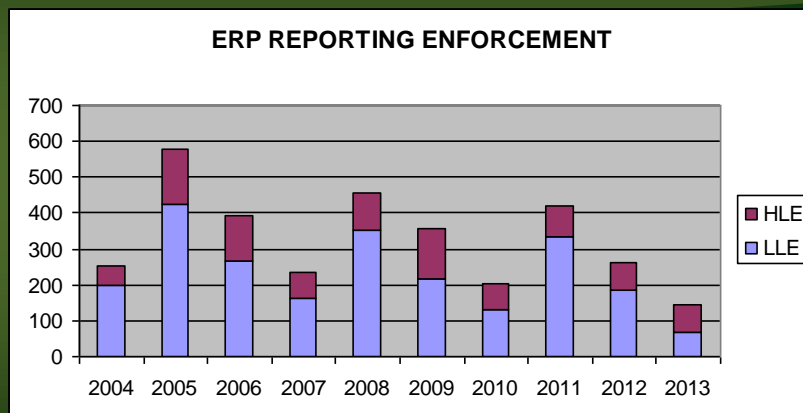
- There is resistance to random inspections
- Certification Programs are not a panacea:
  - They appear to be most effective at insuring the right equipment is installed
  - They appear to be most effective when an independent verification or contract is required
  - Compliance is not perfect, but commensurate with the risks
- Nimble Automation is Critical – to get reports in and to change them as needed to address sector compliance issues
- They are a lot of work:
  - Third Parties must be licensed, trained and audited
  - Certification Programs require a great deal of reporting enforcement

6/19/12

MassDEP

25

## ERP Reporting Enforcement



6/19/12

MassDEP

26

## Next Steps

- Better Offsite Monitoring Tools for use at LQGs, "Process" Air Majors, and Minors
- Improved Data Systems so we can adapt reporting forms
- Expanding third party approvals / certifications and audits to more sectors

6/19/12

MassDEP

27