

## Ontario Ministry of the Environment EMS Study

EMS correlation with Pollution Prevention?

## Background

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- Major spills in the Sarnia region in 2003 and 2004
- June 13, 2005 - Bill 133, 'spill bill' passed (Environmental Enforcement Statute Law Amendment Act)
- Amended EPA and OWRA
  - penalties of up to \$ 100,000 / day
  - assessed by MOE Directors - not courts
  - provision for reduced penalties with 'specified' EMS
- Ontario legislation is not mandating companies have an EMS

## Study Methodology

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- Research and develop survey EMS elements  
(ISO 14001, Responsible Care, MOE Environmental Leader's Program, EnviroVista, US –EPA, CEC, etc.)
- Scripted telephone survey questionnaire
- Incorporate quantitative scoring
- Conduct and record survey
- Analyze, including pre-determined criteria and report



## EMS Survey Elements

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- Commitment
  - Policy
  - Resources
- Compliance Assurance
  - Environmental Requirements
  - Operational Control
  - Training
  - Monitoring
  - Emergency Response
  - Planning
- System Maintenance
  - Nonconformance
  - Document Control
  - EMS Audits
  - Management Review
- Beyond Compliance
  - Objectives & Targets
  - Outreach Programs

## Survey Process

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- Notify survey target facilities
- Train staff
- Conduct survey
- Monitor process
- Analyze results (pre-determined and other)
- Resulted in 79% participation rate
  - 107 of a potential 135 facilities participated in survey

## How Facilities Viewed Their EMS

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*“does your facility have a formal EMS in place?”*

- 11% had no EMS in place
- 39% had non-certified EMS
- 50% had externally certified EMS  
(industry sectors varied from 8% to 100% certified)

89% of facilities responded that a formal EMS was in place

## Survey Results for Key EMS Elements

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*Based on questions regarding implementation level of key EMS elements*

<u>Key EMS Element</u>	<u>Implemented</u>
■ Policy Statement	95%
■ Environmental Aspect Process (systematic review of aspects)	93%
■ Document Control	68%
■ Internal EMS Audit (annual)	82%
(including ad hoc reviews)	63%
■ Functioning Nonconformance process	83%
■ Formal EMS Management Review	74%

*Indicate a 68 – 74% range of formal EMS in place*



## Survey Results – EMS Focus

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*Based on facilities' actual scores as a percentage of maximum scores for section of EMS survey elements*

<u>EMS Section</u>	<u>Score .</u>
■ Commitment	88%
■ Compliance Assurance	67%
■ System Maintenance	77%
■ Beyond Compliance	74%

*indicates.....a 67% of facilities with complete EMS?*

# EMS Type & Environmental Preparedness

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## EMS type

- certified EMS
- Non-certified EMS
- no EMS

*correlated with*

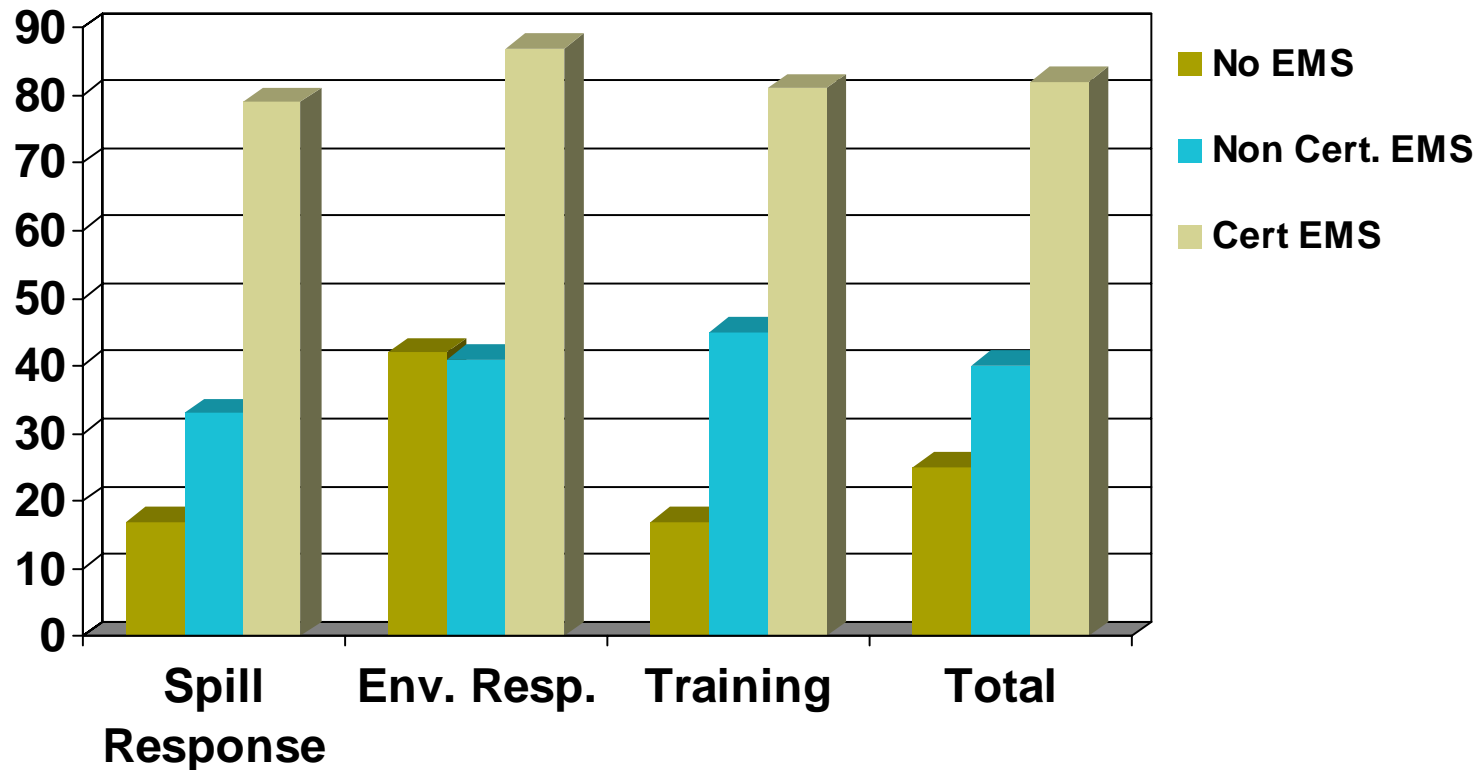
## Environmental Preparedness

- Spill Response Programs
- Environmental Responsibilities
- Integrated Environmental Training



# 'EMS Type' Facilities (%) with 'full scores' for Environmental Preparedness Categories

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# EMS Audits & Environmental Preparedness

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## EMS Audits

- External EMS audits
- External Compliance Audits
- no EMS Audits

*correlated with*

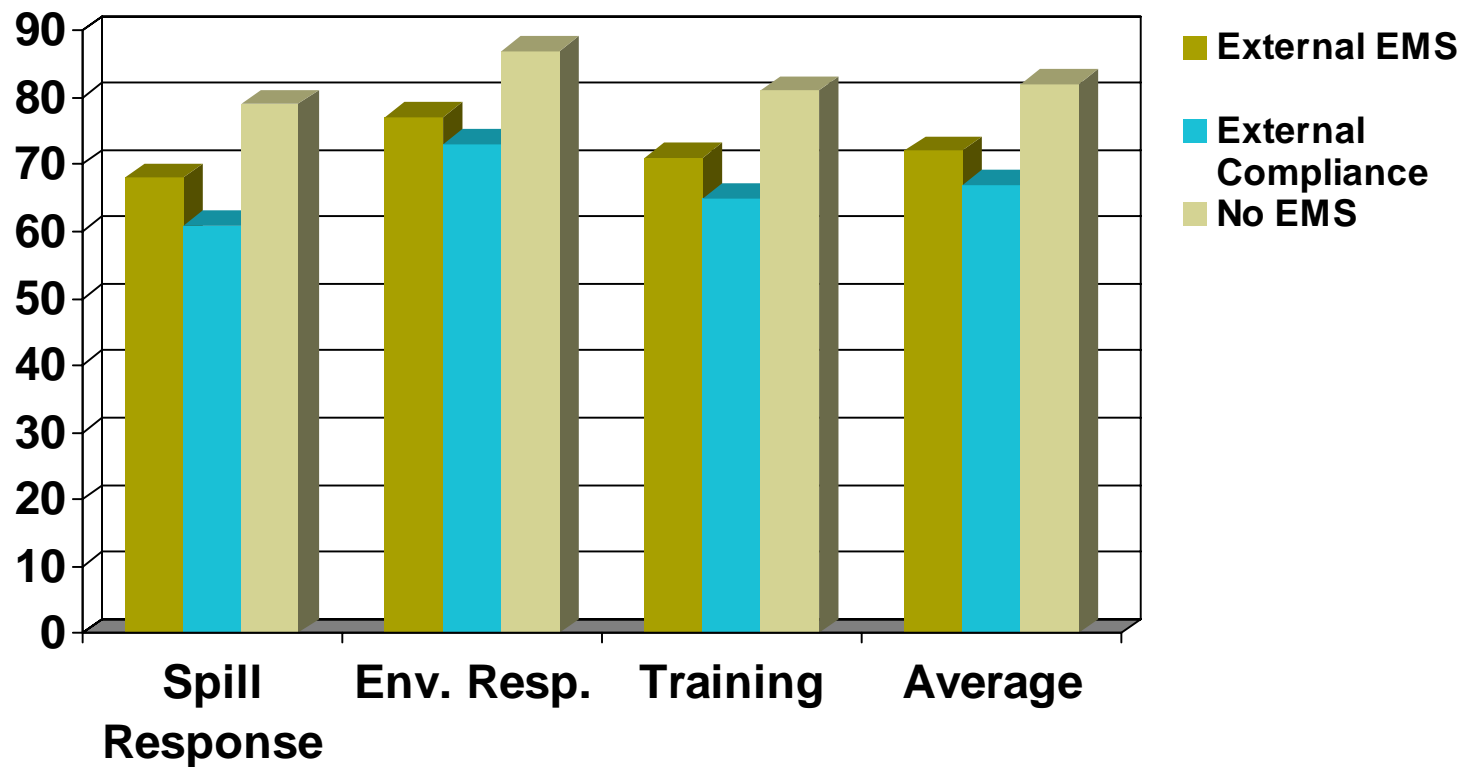
## Environmental Preparedness

- Spill Response Programs
- Environmental Responsibilities
- Integrated Environmental Training



# 'Audit Type' Facilities (%) with 'full scores' for Environmental Preparedness Categories

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## EMS Type & Implementation Level

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### EMS type

- certified EMS
- Non-certified EMS
- no EMS

*correlated with*

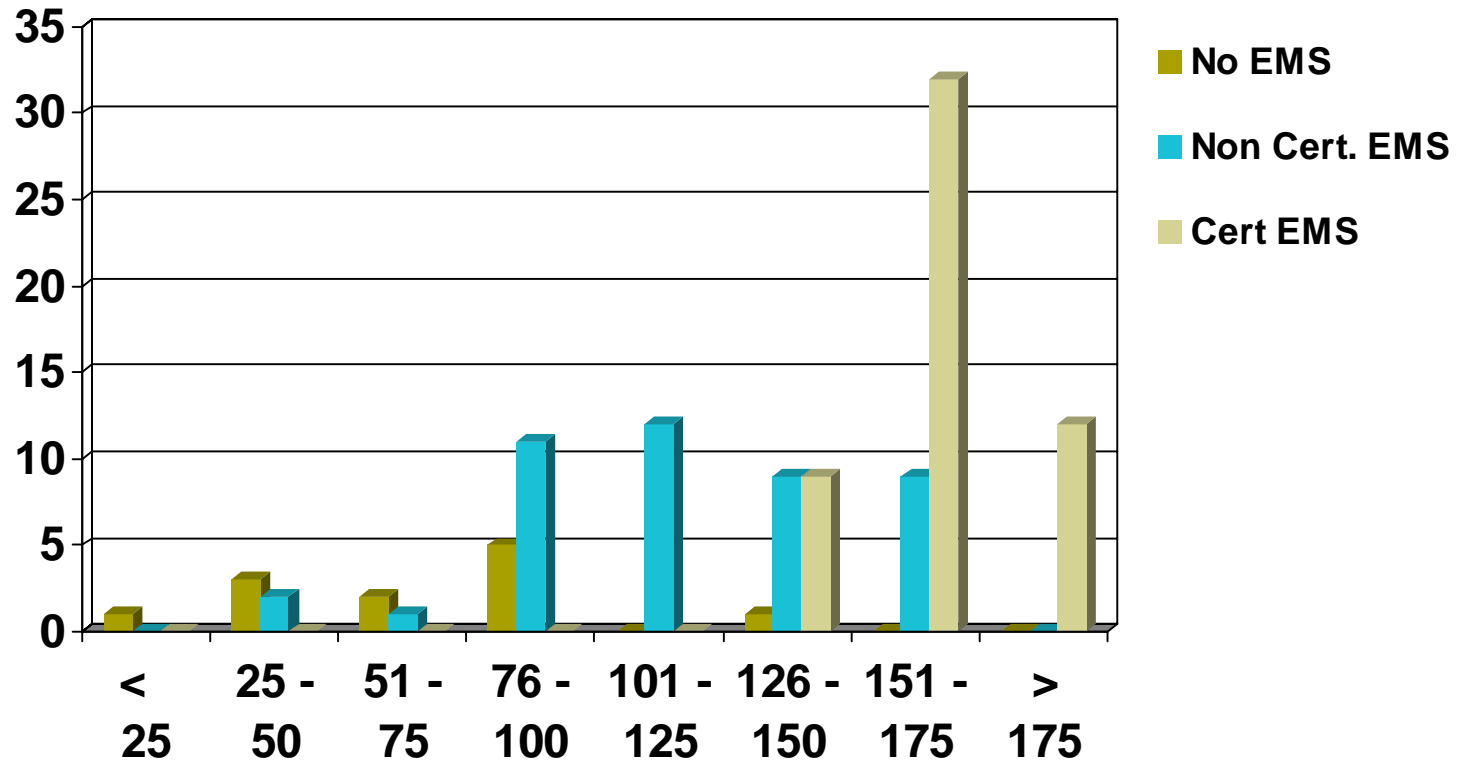
### Total Survey Scores

- Commitment
- Compliance Assurance
- System Maintenance
- Beyond Compliance



# Facilities (#) in each 'Total EMS Score' Category

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## EMS Motivation vs Benefits

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*“From the following list, select the 2 reasons for implementing an EMS that apply to your organization”*

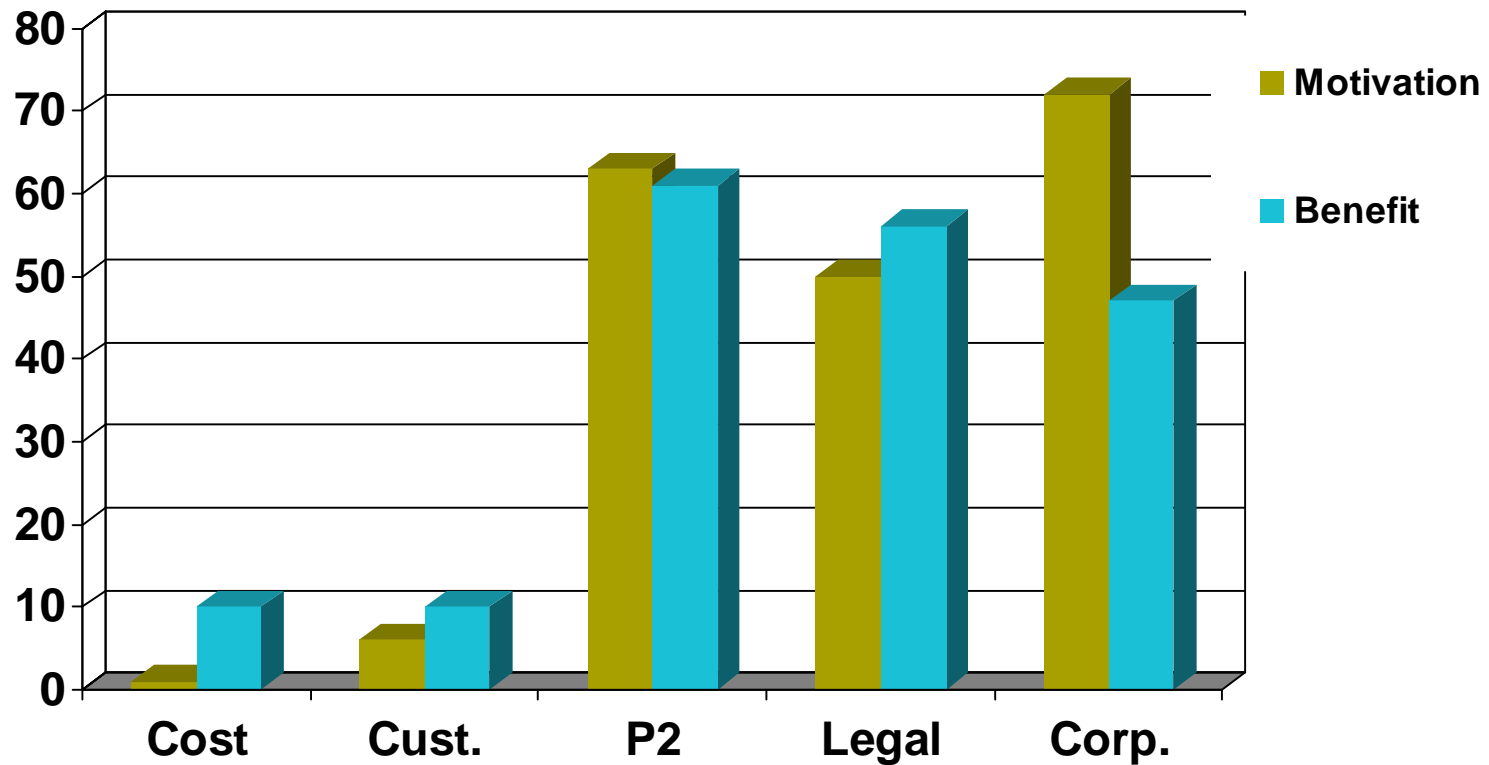
- *Assist in cost reductions*
- *Gain customer advantage*
- *Better manage pollution prevention and risks*
- *Maintain legal compliance*
- *Support internal management philosophy*

*“From the same list, select the 2 most important benefits arising from the EMS”*



# Facilities (#) Responding for Each EMS Motivation & Benefit Category

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## Implications

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- 50% of MISA sector facilities have certified EMS
- 15 – 20% of facilities seem to over estimate their EMS
- EMS scored high on Commitment, but lower with elements responsible for delivering EMS performance
- Correlation between certification and environmental preparedness
- Correlation between certification and level of EMS implementation
- Potential for a scored questionnaire EMS assessment tool