



Environmental Management Systems and Strong Environmental Governance Result in Effective Pollution Prevention

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Comparing P2 and EMS Programs



Pollution Prevention

Strategy or Goal?

Comparing P2 and EMS Programs



Six Steps for Developing a Pollution Prevention Plan*

- Commitment & Policy
- Baseline Review
- Planning
- Implementation
- Monitoring & Reporting
- Review, Evaluation & Feedback

Pollution Prevention

* Source: CEPA Pollution Prevention Planning Handbook. Modified and reported in Pollution Prevention Workbook for Business in Nova Scotia (Feb. 2003).

Comparing P2 and EMS Programs



Environmental Management Systems (ISO 14001)

Six Steps for Developing a Pollution Prevention Plan*

- Commitment & Policy
- Baseline Review
- Planning
- Implementation
- Monitoring & Reporting
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Pollution Prevention

Prevention of Pollution

(ISO 14001)

- Commitment & Policy
- Planning
- Implementation & Operation
- Checking
- Review & Feedback

* Source: CEPA Pollution Prevention Planning Handbook. Modified and reported in Pollution Prevention Workbook for Business in Nova Scotia (Feb. 2003).

Prevention of Pollution



- Pollution Control
 - Treatment
 - Disposal
 - Off-site Reuse & Recycling
- Pollution Prevention
 - Source Reduction
 - Conservation & Efficiency
 - On-Site Reuse & Recycling
- Remediation
 - Mitigation
 - Clean-up

ISO 14001 Yields More than Prevention of Pollution



ISO 14001 HAS
A BROADER FOCUS THAN
PREVENTION OF POLLUTION

ISO 14001 Is Focused on Environmental Performance



- Satisfy Commitments in Environmental Policy
- Comply with Applicable Legal and Other Requirements.
- Implement Prevention of Pollution
- Demonstrate Continual Improvement



Manage Environmental Risk

Sources of Environmental Risk



- Changes to the Business
- Changes to Legal and Other Requirements
- Public Inquiries / Feedback
- Results of Environmental Audits
- Environmental Incidents

Managing Environmental Risk Leads to Pollution Prevention



CHANGES TO THE BUSINESS

- Addition of New Energy Production

TUFTS COVE UNITS 4 AND 5

- Ready access to clean burning Natural Gas enabled installation of gas-fired turbines
- These units are also 5% to 10% more energy efficient than conventional coal/oil fired units
- Both qualities result in pollution prevention through reductions in GHG emissions as well as reductions in SO₂, Hg and particulates

Managing Environmental Risk Leads to Pollution Prevention



CHANGES TO LEGAL AND OTHER REQUIREMENTS

Air Quality Regulations amended in 2005 (NSEL)

Provided opportunities for Pollution Prevention

SO₂ Emissions reduced by 25% in 2005

- Reducing emissions of Oxides of Nitrogen over next 3 years (~30% below 2005 values)
- Mercury < 168kg effective 2005



- Research into tidal energy and clean coal generation
- Contracts in place for 100 MW renewable

Managing Environmental Risk Leads to Pollution Prevention



PUBLIC INQUIRIES / FEEDBACK

Customer Energy Forum
Renewable Round Tables

A Detailed, workable ***Conservation and Energy Efficiency Plan 2006*** (<http://www.nspower.ca/environment/>)

72 GWh reduction in annual electricity usage
50 thousand tonne reduction of green house gases

Managing Environmental Risk Leads to Pollution Prevention



RESULTS OF ENVIRONMENTAL AUDITS

Reductions in Inventories of Chemicals

Reductions in Inventories of Lubricating Oils

Switching to “Friendlier” Products / Processes

Improved Quality Assurance

Heightened Environmental Awareness

Managing Environmental Risk Leads to Pollution Prevention



GAINING KNOWLEDGE FROM ENVIRONMENTAL INCIDENTS

Powerful Source of Information, But:

Need Agreed Definitions for Various Incidents

Need Well Defined Tracking System

Need Mature Management System

- To Implement Monitoring and Recording
- To initiate Review and Continual Improvement

Managing Environmental Risk Leads to Pollution Prevention



LINKING POLLUTION PREVENTION TO ENVIRONMENTAL INCIDENTS

Hydro: Comprehensive assessment of potential sources for oil leaks

- Changing some hydraulic oil equipment to pneumatic
- Redesigning older oil cooling systems

Customer Operations: Assessing root cause for releases of electrical oil

- Enhance oil-filled equipment inspection and replacement programs and right-of-way maintenance along distribution lines

Thermal Production: Atmospheric emissions

- Reduction in emissions of S, N, Hg, GHG, Particulates

Concluding Remarks



1. Managing Environmental Performance is important to NSPI
2. Method of choice for NSPI is comprehensive, ISO 14001 Environmental Management System
3. ISO 14001 includes opportunities for Pollution Prevention, although Pollution Prevention is a recognized benefit and not the driver of our EMS programs.

Concluding Remarks



4. Pollution prevention opportunities are identified during reviews of potential impacts of
 - Changes to the Business
 - Changes to Legal and Other Requirements
 - Public Inquiries and Feedback
 - Results of Environmental Audits
 - Environmental Incidents

5. Environmental Incident review and management is an excellent tool to identify emerging environmental risks hence, opportunities for Pollution Prevention.

6. NSPI has achieved Pollution Prevention in many areas of its complex and diverse operations.