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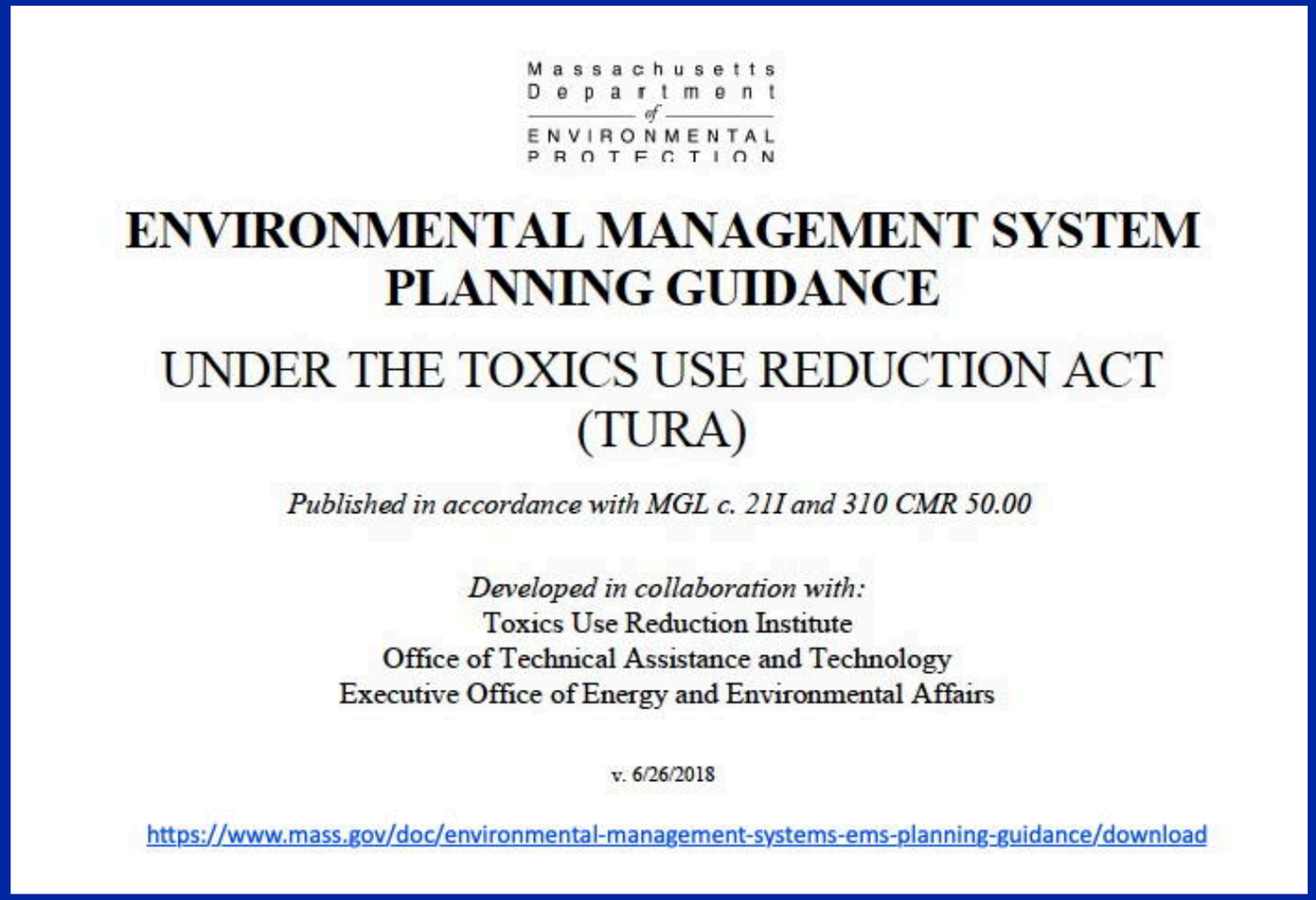

Massachusetts Department of Environmental Protection

ENVIRONMENTAL MANAGEMENT SYSTEM PLANNING GUIDANCE

UNDER THE TOXICS USE REDUCTION ACT (TURA)

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Developed in collaboration with:
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Toxics Use Reduction Transition from TUR Planning to EMS Option

- Amendments to the statute in 2006 allowed TURA facilities to choose alternative planning options if they have completed
  - a TUR plan and
  - at least two plan updates.
- One option is to implement an Environmental Management System (EMS) that integrates toxics use reduction planning in lieu of continuing TUR plan updates.
  - Allows companies that have established an EMS to integrate TUR planning into this system without having to continue to prepare separate TUR plan updates.

What is an Environmental Management System?

- An Environmental Management System (EMS) is a systematic approach to effectively integrate environmental considerations into an organization's day-to-day operations and management culture.
- The EMS structure recognizes that environmental and economic performance are directly linked.
- An EMS offers the opportunity for a facility to integrate its chemical and product quality management and planning efforts, so that the focus is not just on hazardous chemicals or waste, but on the prudent use of all materials and resources by the organization.

Contributing Frameworks to a TURA EMS

- Common frameworks that companies have used to create their EMSs include ISO 14001 and Responsible Care.
- These systems share the same common 17 elements.
- The TURA EMS contains 14 of these elements (actually, 16 of the 17 but some are combined).
- Comparing the Elements of an ISO 14001 EMS to the TURA EMS (next slide).

EMS Element Crosswalk

Details for these elements are contained at the end of this presentation for your reference

	ISO 14001 EMS		TURA EMS
1	Environmental Policy	1	Environmental Policy
2	Environmental Aspects and Impacts	2	Aspects and Impacts
3	Legal and Other Requirements	3	Legal Requirements
4	Objectives & Targets	4	Objectives and Targets
5	Environmental Management Programs	5	Environmental Management Programs
6	Structure and Responsibility	6	Roles and Responsibilities
7	Training, Awareness and Competence	7	Training
8	Communication	8	Communication
9	Operational Control	9	Operations Controls
10	EMS Documentation	10	Documentation and Document Control (TURA EMS combines EMS Documentation, and Documentation and Control)
11	Document Control		
12	Emergency Preparedness and Response	11	Emergency Preparedness and Response
13	Monitoring and Measurement	12	Monitoring and Measuring
14	EMS Audit	13	Audits and Corrective Action (TURA EMS combines EMS Audit, Nonconformance and Corrective Actions)
15	Nonconformance and Corrective and Preventative Action		
16	Management Review	14	Management Review
17	Records	X	TURA does not have a separate category for Records

Elements of 14001 that will require modification for TURA EMS

- Policy (TURA EMS Element #1) - TURA EMS requirement to commit to pollution prevention through source reduction, and continual improvement not only of the EMS as a system, but of the company's environmental performance.
- The focus on pollution prevention through source reduction of TURA listed chemicals and other toxics is a pivotal component of the TURA EMS as an alternative to TUR planning.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Aspects and Impacts (TURA EMS Element #2) - In EMSs this is the process where companies evaluate various activities and operations, identifying those that, based on the company's own rating system, warrant classification as significant.
- For a TURA EMS, all TURA reportable toxic substances must be identified as significant aspects!
  - The aspects and impacts assessment process must describe how the EMS will monitor use of all potentially reportable toxics to ensure that any covered toxics will indeed be classified as significant.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Auditing (TURA EMS Element # 13) - The TURA EMS requires EMS auditing on at least a two-year cycle by an independent auditor, and that senior management reviews the audit results.
- The audit program must include procedures for preventing and detecting non-conformance with legal and other requirements of the EMS, and procedures for implementing corrective actions to ensure timely compliance and commitment to continual improvement.
- To ensure that the company's independent EMS auditor is familiar with the particular TURA aspects of the EMS (e.g., emphasis on source reduction, continual improvement in environmental performance), the company needs to review its EMS audit procedures to ensure that the auditors consider the TUR elements of the EMS.

Elements of 14001 that will require modification for TURA EMS (Con't)

Elements of Audit Procedures and Modifications that May be Necessary:

- Purpose and scope – Mention the goals of assessing continual improvement of the EMS and environmental performance, and whether source reduction is considered in establishing and meeting objectives and targets.
- Responsibilities – An additional person who may be included in the audit, or referred to during the audit, is the EMS Professional who certifies the EMS progress report. Defined responsibilities in the audit procedure must make the distinction between auditor and certifying EMS Professional clear, unless they are one in the same.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Definitions - Include definitions of:
  - Significant aspects – i.e., including covered toxic chemicals, and
  - Source reduction – i.e., any change in the design, manufacture, purchase, or use of materials, products, or energy to reduce their amount or toxicity before they become a waste (i.e., before recycling, treatment, release or disposal). Source reduction includes toxics use reduction.

Things to consider before committing to an EMS in lieu of a TUR Plan

- Does your company currently have a structured management policy in place such as an ISO 9001 Quality Management or ISO 14001 EMS? Why might this be important?
- This is a very structured approach to managing your company environmental policies, issues and chemical throughput information.
- A TURA EMS requires:
  - Designating company individuals to manage the EMS, schedule and host annual meetings, and participate in the biennial audits and associated meetings [including senior management].
  - Senior management commitment to the EMS to be integrated into the other policies and procedures for conducting daily operations.
  - Committing financial resources that may cost less or more than preparing a TUR Plan Update, including that which is necessary to overcome deficiencies noted during the audit.

When might implementing an EMS in lieu of a TUR Plan NOT be a good idea?

- If your company currently does NOT have a structured management policy in place such as an ISO 9001 Quality Management or ISO 14001 EMS? Why might this be important?
- When a company already has a formal management system in place, they are already acclimated to the extra responsibilities and time associated with implementing such a system. It's company policy!
- This approach can be overwhelming to small to medium size companies where resources are already over-burdened – this applies to ISO 14001, EPA's EMS or the TURA EMS!
- If the company has a history of noncompliance with environmental agencies. Why might this be a problem?
  - If a company has not developed good practices for managing regulatory requirements, permit requirements, reporting requirements - implementation of a TURA EMS will probably be premature. Then where do I go from here?

Possible first step towards creating a TURA EMS: EPA Compliance Management System

- EPA Compliance Management System (CMS) is NOT as formal as an EMS, and it does NOT replace the requirement to prepare a biennial TUR Plan Update.
- CMS mission is to maintain regulatory compliance with Local, State and Federal environmental regulations, and to provide a mechanism for continuous improvement.
- The system is adaptive and will continually evolve as needed to meet regulatory compliance requirements and is NOT meant to serve as a stand-alone replacement for various permit requirements and associated regulations.
- Must include compliance policies, standards and procedures that identify how employees and agents are to meet the requirements of laws, regulations, permits, enforceable agreements and other sources of authority for environmental requirements.

EPA Compliance Management System Elements

- CMS is a “written” and organized procedural manual that includes:
  - An initial Audit to determine the facility’s regulatory universe.
  - Appropriate incentives to managers and employees to perform in accordance with the compliance policies, standards and procedures, including consistent enforcement through appropriate disciplinary mechanisms, and
  - Procedures for the prompt and appropriate correction of any violations, and any necessary modifications to the regulated entity's compliance management system to prevent future violations.
  - Mechanisms for systematically assuring that compliance policies, standards and procedures are being carried out, including monitoring and auditing systems reasonably designed to detect and correct violations, periodic evaluation of the overall performance of the CMS, and a means for employees or agents to report violations of environmental requirements without fear of retaliation.
  - Efforts to communicate effectively the regulated entity's standards and procedures to all employees and other agents.

Industrial Compliance Group, Inc.

Questions?

My contact information:

William D. Judd
President
INDUSTRIAL COMPLIANCE GROUP, INC.
123 Franklin Street
Framingham, MA 01702
508-875-1197 Tel
508-405-4101 Fax
508-864-8807 Cell
BJudd@IndCompGroup.com
www.indcompgroup.com

Required Elements of a TURA EMS!

- Environmental Policy - A written environmental policy that expresses management support for and makes a commitment to: compliance with legal requirements; pollution prevention through source reduction; and continual improvement of the EMS and environmental performance.

- Aspects and Impacts - A process for identifying significant environmental aspects and impacts from current and future activities at the facility. All covered toxics shall be identified as significant environmental aspects!

Required Elements of a TURA EMS (Con't)

- Legal Requirements - Identification of environmental legal requirements, including a system for tracking compliance and learning about and integrating changes to legal requirements into the EMS.
- Objectives and Targets - A process for establishing measurable objectives and targets that address significant environmental aspects and other EMS commitments and that emphasize preventing pollution at its source.

Required Elements of a TURA EMS (Con't)

- Environmental Management Programs - Environmental Management Programs (EMPs) designed to monitor progress toward documented objectives, targets, and commitments in the EMS, including the means and time-frames for their completion.

- Roles and Responsibilities - Established roles and responsibilities of the facility's staff and management, on-site service providers, and contractors for meeting objectives and targets, and complying with legal requirements, including a senior management representative with authority and responsibility for the EMS.

Required Elements of a TURA EMS (Con't)

- Training - Environmental and compliance training for those whose jobs and responsibilities involve activities directly related to significant aspects, achieving objectives and targets and compliance with legal requirements, and initiation training for new personnel.

  Note: Whoever is trained MUST be "competent" in their ability to execute their designated responsibilities!

- Communication - Procedures for communicating environmental and EMS information throughout the facility, including EMS awareness programs for all employees.

Required Elements of a TURA EMS (Con't)

- Operations Controls - Operational controls to ensure that equipment and other operations comply with legal requirements and address significant environmental aspects.
- Documentation and Document Control - Documentation of key EMS elements and procedures for document control and records management.

Required Elements of a TURA EMS (Con't)

- Emergency Preparedness and Response - Emergency preparedness and response procedures.
- Monitoring and Measuring - Procedures for monitoring and measuring key operations and activities to assess environmental performance.

Required Elements of a TURA EMS (Con't)

- Audits and Corrective Action - Procedures for preventing and detecting non-conformance with legal and other requirements of the EMS, including an established compliance audit program and an EMS audit program, and procedures for corrective actions to ensure timely compliance and commitment to continual improvement.

- The EMS audit program shall require independent auditing on at least a two-year cycle, and senior management review of audit results.

- Management Review - Documented management review of performance against established objectives and targets, and the effectiveness of the EMS in meeting policy commitments.

Elements of 14001 that will require modification for TURA EMS

- Policy (TURA EMS Element #1) - TURA EMS requirement to commit to pollution prevention through source reduction, and continual improvement not only of the EMS as a system, but of the company's environmental performance.

- The focus on pollution prevention through source reduction of TURA listed chemicals and other toxics is a pivotal component of the TURA EMS as an alternative to TUR planning.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Aspects and Impacts (TURA EMS Element #2) - In EMSs this is the process where companies evaluate various activities and operations, identifying those that based on the company's own rating system, warrant classification as significant.
- For a TURA EMS, all TURA reportable toxic substances must be identified as significant aspects!
  - The aspects and impacts assessment process must describe how the EMS will monitor use of all potentially reportable toxics to ensure that any covered toxics will indeed be classified as significant.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Objectives and Targets (TURA EMS Element #4) - The TURA EMS requires there be a process for establishing measurable objectives and targets that address significant environmental aspects.
- In addition, the TURA EMS requires that those objectives and targets emphasize preventing pollution at its source (i.e., toxics use reduction).
- Examples:
  - We will reduce Hydrofluoric Acid use (Objective) by 20% (Target).
  - Chemical transfer operations will be modernized (Objective) to reduce unnecessary spills by 90% (Target).

Elements of 14001 that will require modification for TURA EMS (Con't)

- Training (TURA EMS Element # 7) - Training be provided to appropriate facility staff about the EMS itself as well as about environmental and compliance activities, and that initial training about the EMS be provided for all new personnel.
- TURA EMS Training must also consider training opportunities to help facility staff, contractors and on-site service providers understand how to recognize TUR opportunities.
- Examples:
  - Internal employees and HVAC Contractors must receive training on our GHG / ODS Policy in order to help us meet our emission reduction goals.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Examples (Con't):
  - Company specific lists of Objectives and Targets will be Monitored and Measured on <Frequency> basis to assess whether out training is appropriate to maintain compliance with our permits and safety programs.
  - All WWT Operators must be Certified and Licensed by MassDEP, as well as receive the appropriate training required to maintain compliance with our discharge permit based on our specific issues related to Nitrate formations in our wastewater; and receive continuous training to maintain Operator's Licenses.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Examples (Con't):
  - Facility inspections must be done in accordance with internal policies and those as specified by outside Agencies in order to maintain licenses and permits to operate (EPA: SPCC, RMP, MSGP, Tier 2 for Verification).
  - EMS Training must be modified accordingly and repeated when it is determined that errors, excursions or other environmental impacts have occurred, where appropriate training would have prevented the issue (Corrective Action).
  - If specialized employee training is required in order to meet the Objectives and Targets of the EMS, it must be provided to the employee.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Operational Controls (TURA EMS Element #9) - As part of a TURA EMS, specific provisions for operational control of all activities associated with the use of covered toxic chemicals need to be addressed, and facilities need to consider source reduction opportunities in the evaluation of operational controls.
- Operational controls of equipment and other operations must function appropriately to ensure compliance with legal requirements.
- Examples:
  - There must be at least one Grade 4 WWT Operator on-site any time during wastewater treatment and discharge operations, and to monitor pH for accidental chemical slug discharges (Local POTW / MassDEP Permit Condition - Legal).

Elements of 14001 that will require modification for TURA EMS (Con't)

- Examples (Con't):
  - Chemical transfer operations are ONLY allowed when appropriate personnel are present to monitor gauges to prevent over pressurization of receiving vessels [(OSHA Process Safety Management (PSM) and EPA Risk Management Plan (RMP)].
  - No permitted emission units can be in operation unless the "permitted" Pollution Control Devices are in place and in good working order (MassDEP Air Permit Conditions - Legal).
  - Other permit provisos and permit conditions that require site-specific operational procedures MUST be in place and revised as often as necessary to maintain compliance (Various Permit Conditions Local, State and Federal - Legal).

Elements of 14001 that will require modification for TURA EMS (Con't)

- Auditing (TURA EMS Element # 13) - The TURA EMS requires EMS auditing on at least a two-year cycle by an independent auditor, and that senior management reviews the audit results.

- The audit program must include procedures for preventing and detecting non-conformance with legal and other requirements of the EMS, and procedures for implementing corrective actions to ensure timely compliance and commitment to continual improvement.

- To ensure that the company's independent EMS auditor is familiar with the particular TURA aspects of the EMS (e.g., emphasis on source reduction, continual improvement in environmental performance), the company needs to review its EMS audit procedures to ensure that the auditors consider the TUR elements of the EMS.

Elements of 14001 that will require modification for TURA EMS (Con't)

Elements of Audit Procedures and Modifications that May be Necessary:

- Purpose and scope – Mention the goals of assessing continual improvement of the EMS and environmental performance, and whether source reduction is considered in establishing and meeting objectives and targets.
- Responsibilities – An additional person who may be included in the audit, or referred to during the audit, is the EMS Professional who certifies the EMS progress report. Defined responsibilities in the audit procedure must make the distinction between auditor and certifying EMS Professional clear, unless they are one in the same.

Elements of 14001 that will require modification for TURA EMS (Con't)

- TURA EMS work documents to be reviewed - This must include work instructions related to the audit as well as the EMS progress report.
- Audit procedure:
  - Auditor qualifications and competency - The auditor must be familiar with the requirements of the TURA EMS (310 CMR 50.80). If the auditor will also be certifying the TURA EMS via the EMS progress report, this individual must meet the eligibility requirements in 310 CMR 50.80.
  - Audit schedule - Independent auditing must be accomplished at least once every 2 years.
  - Preparation - Auditors must be instructed to review 310 CMR 50.80 as well as the TURA EMS, associated documentation and EMPs.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Audit procedure (Con't):
  - Conducting the audit – Auditors must make a particular effort to observe all activities and operations associated with the use of covered toxic chemicals.
  - Documentation - Documentation must include the significant aspects determination procedure and related information on the company's toxic chemical use reporting obligations, to confirm that all reportable toxic chemicals have been identified as significant.
  - Follow-up - If corrective actions are required and cannot be closed out by the next reporting cycle, they need to be indicated on the EMS progress report.
  - Records - Records indicating the auditor's assessment of continual improvement of environmental performance (as well as the EMS itself), and emphasis on source reduction in objectives and targets must be kept.

Elements of 14001 that will require modification for TURA EMS (Con't)

- Definitions - Include definitions of:
  - Significant aspects (i.e., including covered toxic chemicals) and
  - Source reduction [i.e., any change in the design, manufacture, purchase, or use of materials, products, or energy to reduce their amount or toxicity before they become a waste (i.e., before recycling, treatment, release or disposal). Source reduction includes toxics use reduction.]